

# PRM-IT V3 Reference Library - Consolidated

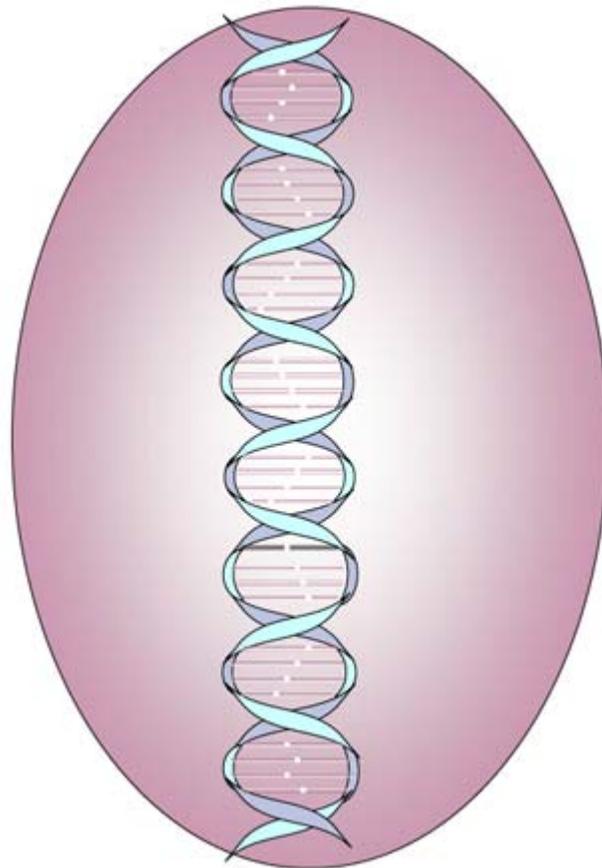
PRM-IT Version 3.0

April, 2008



## **PRM - IT** **IBM Process Reference Model for IT**

*Sequencing the DNA of IT Management*



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# Preface

The IBM Process Reference Model for Information Technology (PRM-IT) is a generic representation of the processes involved across the complete IT management domain. It contains a foundational examination of the IT process topic. It is for this reason the graphical image of the DNA double helix over the basic building block of a cell is used.

## About this book

As a reference manual, this book provides a detailed examination of the process categories that comprise the full model. It is not intended to be read in a sequential fashion.

Each reference manual begins with a summarization of the category, and then further considers each process in turn and the activities within each process.

Details are provided for:

- The definition of each activity
- Each control, input and output
- The sources and destinations of each control, input, and output (thereby showing the model linkages)

The full IDEF0 diagram for each category and each process is included.

The final page is a breakdown of the PRM-IT node tree for this category.

## Intended audience

An understanding of the full range of the processes relevant to IT in any business is of value to those within the IT function responsible for the specification, creation, and delivery of IT services (whether at the CIO or IT executive level), and who consider the direction and overall management of IT. Or, individuals who work within any of its competencies, needing to interface with other parts of the IT value chain or value net.

Equally, the stakeholders in the business of this IT capability will benefit from greater insight into how IT serves them. This insight will enable them to better influence IT decisions and activities, to their ultimate benefit.

## Next steps

PRM-IT is a powerful management tool for purposes of investigating and identifying areas for improvement. PRM-IT also provides a proven starting-point for the design and implementation of new and upgraded IT management capabilities.

IBM IT consultants, architects, and specialists in global services who, working from this common base, are equipped with a full range of methods, techniques, and tools to assist its customers achieve their purposes.



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# General Information

## Purpose

This book provides general information describing the processes identified in IBM's Process Reference Model for IT (PRM-IT) version one. PRM-IT describes the processes for exploiting IT in support of a business or enterprise. The processes described comprise **Level A** of the overall reference framework, Unified Process Framework for IT (UPF-IT).

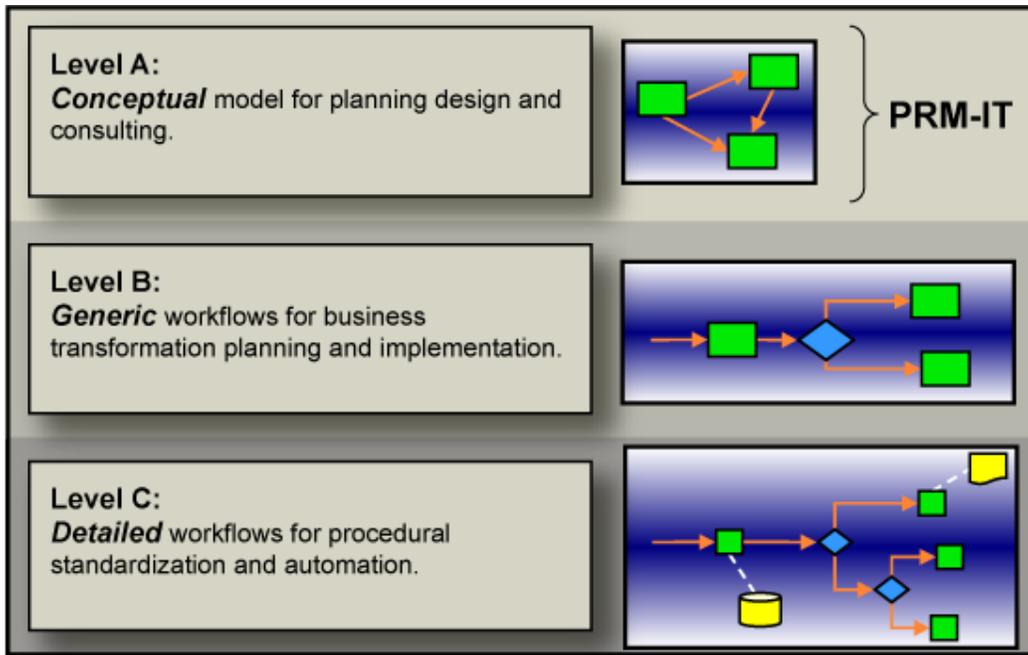


Figure 1. Unified Process Framework for IT (UPF-IT)

The reference model is a tool that can be employed in a variety of ways, like process scoping and assessment, and as a base for design and implementation. The model is IBM intellectual capital and is provided under normal copyright provisions.

Outlined in this book is the underlying integrated IDEF $\emptyset$ <sup>1</sup> model, which contains every process, its child activities, and the relationships between them. This book does not describe a method to apply this reference artifact.

A companion book set, the *Reference Manual Library*, expands on this general information by including the IDEF $\emptyset$  modeling. The library includes a model glossary, containing a definition of each activity and relationship item to the process definitions described.

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1. FIPS 183: Integration Definition for Function Modeling, December 1993.

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# Introducing the IBM Process Reference Model for IT

## Growth targets at risk

Executives are increasingly concerned that traditional sources of earnings growth cannot deliver the results necessary to reach announced profit targets across the next five years. Initial plans to reach those targets through incremental improvements in top and bottom-line performance are showing signs of weakness.

Several years of cost cutting and rollouts of productivity initiatives now leave little room for further material improvement of operating margins at most firms. After years of cost-cutting and efficiency campaigns, business leaders in companies of every size and across the industry spectrum are refocused on top line growth—and they are seeing innovation as the means to achieve it. With globalization, commoditization, and technological advances, all forcing significant change on the business, these organizations are being compelled to act in order to gain a competitive advantage. They know that exponential growth lies ahead for those who can lead the innovation movement and seize opportunities to differentiate themselves.

IBM's Global CEO Study 2006<sup>2</sup> was conducted to understand how CEOs view innovation, to capture current insights, and to learn what is on their innovation agendas. The study indicates that CEOs are expanding the innovation horizon. In fact, there is a categorical shift toward a more expansive and unconventional view of innovation, as well as a need for a greater mix of innovation types. While CEOs still believe that product, service, and operational innovations are important, they feel that innovation must also be applied to a company's very core to the way it does business.

Based on this study, three key considerations emerged for CIOs:<sup>3</sup>

- Deep business model innovation is critical

Product, service, and operational innovations remain important, but competitive pressures have pushed business model innovation much higher on the CEO's innovation agenda. Companies that can substantially change how they add value to their own or other industries differentiate themselves and gain a competitive edge. It is important to note the CEOs consider the IT organization as an important part of the enterprise. When the CEO's talk about deep business model innovation, they are including the CIO's domain.

- External collaboration is indispensable

CEOs stressed the overwhelming importance of collaborative innovation, not just internally across traditional silos, but also externally beyond company walls. Business partners and customers were cited as top external sources for innovative ideas.

- Innovation can be ignited by business and technology integration

Technology can enable and drive innovation. But to truly capitalize on technology's potential and unleash an organization's creative energy, technology know how must be combined with its business and marketing insights. CEOs view consistent business and technology integration as crucial to innovation.

CEOs were also asked to identify their top ten inhibitors to innovation. 2 shows the results. It is apparent that the majority of issues reside somewhere inside CEO's own organizations, including the IT organization controlled by the CIO. Culture, budget, people and process were cited as some of the most significant hurdles. The last two internal items should be of particular interest to CIOs.

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2. The IBM Global CEO Study 2006. Survey 05 765 CEOs. See [http://www-935.ibm.com/services/us/gbs/bus/html/bcs\\_ceostudy2006.html?re=bcstrategychange](http://www-935.ibm.com/services/us/gbs/bus/html/bcs_ceostudy2006.html?re=bcstrategychange)

3. "CEOs are expanding the innovation horizon: important implications for CIOs." CIO perspectives from the IBM Global CEO Study. See <http://www-935.ibm.com/services/us/imc/html/cio-implications.html?ca=WMYS&re=GTSHub#-2>

CEOs identified **Inflexible physical and IT infrastructure** and **Insufficient access [to information]** as two of the top ten obstacles to innovation.

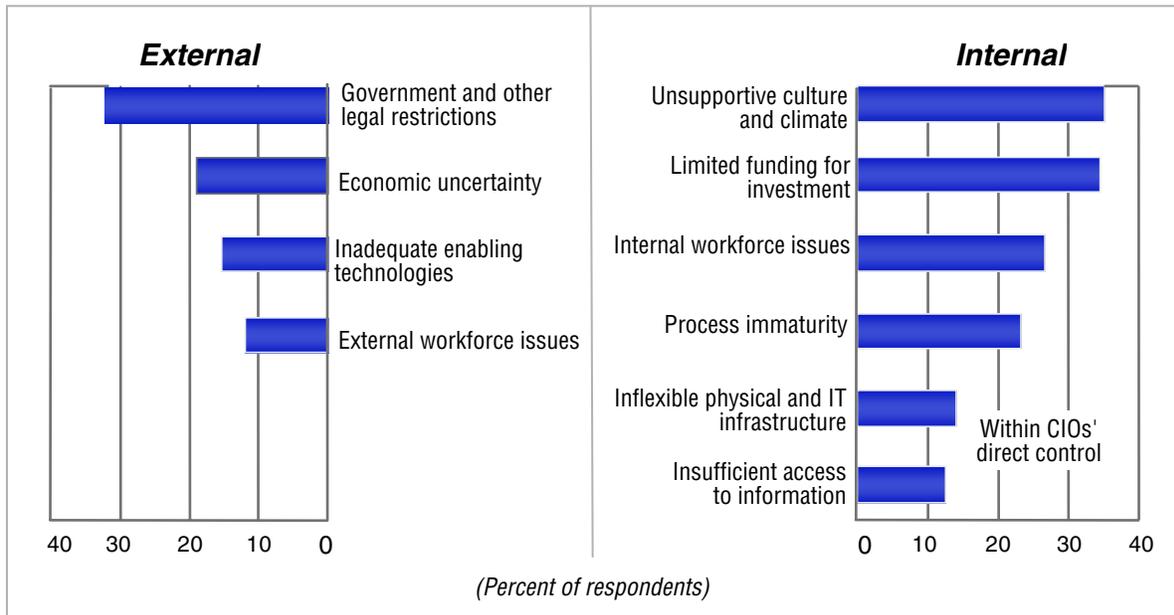


Figure 2. Top ten inhibitors to innovation

All too often, it is not just the physical infrastructure which is inflexible, but the IT organization itself. Clearly, the IT organization needs to become more agile and flexible to support and enable the business goals of the CEO. And for the organization, the path to flexibility and innovation starts with a robust enterprise architecture, including process standardization. While that might seem like a dichotomy, the patchwork collection of internal tools, ad hoc processes, and non-standard interfaces are what make many IT infrastructures inflexible. By adopting standards, the amount of time required for integration of new resources, and integrating with new business partners, is actually decreased, providing faster time to value.

At a high level, one could view the IT business model as the interaction of people, processes, and technology for the purpose of achieving specified business goals. The IT organization is responsible for a number of technical processes, and each requires a specific degree of interaction with the business. Each is executed by one or more people, often from different parts of the organization. If the processes are not adequately aligned to the needs of the business, achieving business goals can be difficult. With customer centricity as a guiding principle, the processes can be redefined, changing the way IT works within the company and increasing IT's ability to innovate in ways that positively impact the business.

To assist IT organizations in this critical challenge, IBM developed the Process Reference Model for IT.

## **Beyond ITIL: Driving IT management process excellence**

The Information Technology Infrastructure Library (ITIL) was developed by the United Kingdom's Office of Government Commerce (OGC), with the input of many organizations, including IBM, beginning in the late 1980s. ITIL V2, developed largely in the late 1990s, gained worldwide prominence for its treatment of service management and influenced the establishment of the ISO/IEC 20000 standards.

ITIL is very much aimed at identifying best practices. ITIL describes a systematic approach to creating a service oriented culture and practice for IT service management. The ITIL library emphasizes the central importance of meeting business requirements economically.

In May 2007, ITIL V3 was released at the culmination of a several year project involving global consultation (on requirements and strategy for the revision) and contribution to the ultimate content. Now known just as 'ITIL,' rather than the original words behind the acronym, V3 has used the organizing concept of the *Service Lifecycle* to strengthen the description of the contribution that service management can and should make to delivering value from IT services.

The increased emphasis that this gives to understanding the implications of managing services as early as possible, and preferably as a key strategic criterion, is perhaps the major added value of V3. Nevertheless, IT organizations will need to look beyond ITIL to understand the full set of IT management process disciplines that are central to delivering on the growth agenda. There are considerations beyond service management that must be tackled in parallel. These considerations include identification of optimal IT contributions to business processes, establishing and managing architectures, application development and maintenance, and infrastructure development and maintenance.

In the PRM-IT model, IBM has supplemented the content of ITIL V3 based on its extensive IT Management experience across the full range of IT considerations—experience from managing thousands of IT environments, both large and small. The Process Reference Model for IT identifies the set of IT management processes required to move beyond a singular cost focus to principled decision making that accounts for changing business and technology conditions while managing existing systems complexity.

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## **Dimensions of IT management process excellence**

### **From cost to beyond: The portfolio lens**

The most accomplished firms at IT management treat the function as less an art than a science, a standardized set of activities that can be measured and improved upon over time. Process frameworks are valuable tools, having already proven effective in many other business domains, such as manufacturing, accounting, or customer service, to name a few. To optimize organizational routines, it is necessary to identify and document the processes involved and their associated activities: where they start and stop, what they include and exclude, how they interact with one another, what resources are being allocated, and whether the investment in those resources is paying off. A process model for IT management provides a frame of reference against which an organization can assess whether it is doing the right things and whether it is doing those things right.

There are currently a variety of process frameworks and quality management systems for managing IT. Some of the more popular IT-specific frameworks include IT Infrastructure Library (ITIL); the Software Engineering Institute's System Engineering Capability Maturity Model (CMMI); and Control Objectives for Information and Related Technology (CobiT). Others such as Six Sigma, ISO 9000, and the Malcolm Baldrige Award are often leveraged in IT as part of a firm-wide initiative. Meta Group has categorized the frameworks in terms of their intended application: understanding a broad process change or understanding how to streamline a process. Both application categories are predominantly focused on driving operational efficiencies in the IT function.

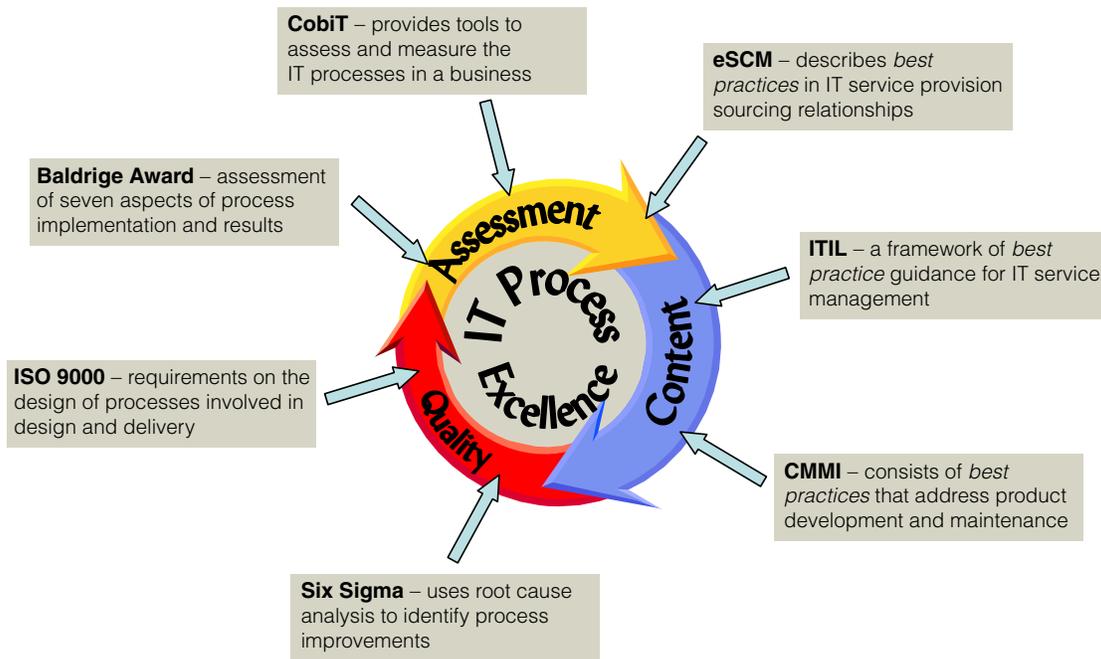


Figure 3. Frameworks for IT process excellence

PRM-IT evolves IT management process frameworks beyond operational efficiency to investment optimization. Using a portfolio lens, PRM-IT provides a reference process framework for managing the investment of people and resources in business technology initiatives intended to materially increase profitable revenue growth.

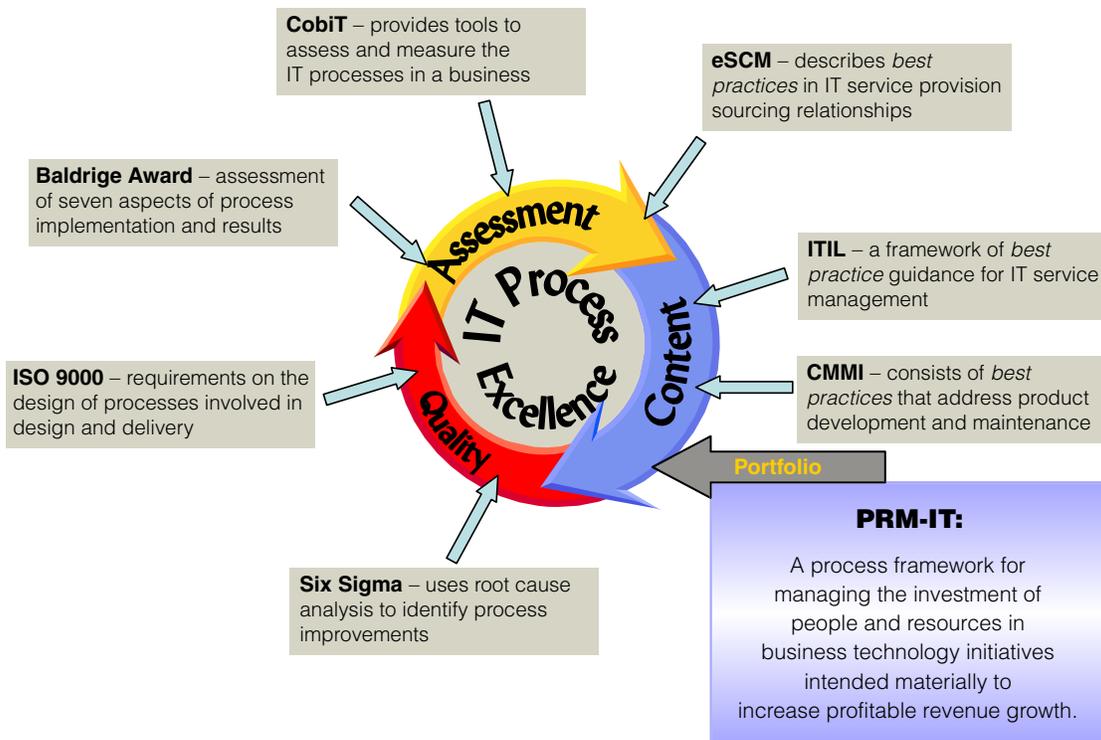


Figure 4. Adding PRM-IT to the process frameworks

## Principles and design points for the model

### Guiding principles

One key concept of the new process reference model is that IT can be viewed as an essential component of any business, and that it can be managed as an asset.

The basic hypotheses, or guiding principles, underlying the new process model are:

1. Regardless of organization or technology, there is a fundamental set of processes necessary to manage any information technology environment.
2. These processes do not exist or function in isolation, but in fact they interrelate and interact with one another.
3. There is no single, verifiable correct process decomposition or any means of demonstrating that a particular treatment of IT processes is always superior to any alternative treatment. Implementation specific context will always be required to make those judgments.
4. Nevertheless, the well established processes from ITIL represent a de facto standard for the subset of IT processes, which are known as Service Management.

### Design points

PRM-IT is designed to satisfy key design characteristics. These include:

- The model is comprehensive

Exhaustive efforts have been made to re-examine the entire IT structure of a business and design this model so that no fundamental process has been overlooked or excluded. It should be noted that not every IT entity within every business must engage in every process described in this model. For example, if a business does not sell its IT services, internally or externally, it need not be concerned with processes involved in pricing and contract management for those services. On the other hand, the nature of this model is comprehensive; we believe that all IT-related processes have been included in this model.

- The model is holistic

This model does not treat processes as separate entities, but rather indicates the interaction and interfaces among them. In any IT delivery structure, the fundamental processes affect one another. They do not function in isolation. One process might provide an input to another and receive output from yet another. Changes in one process will have an effect on other processes, and that effect must be taken into consideration whenever such changes are contemplated.

- The model is neutral with regard to technologies and organizational structure

This model is designed so it can be applied to any IT entity, thus avoiding any implicit assumptions or biases associated with specific technologies, organizational constructs, or management theories. By identifying those elements fundamental to any and all environments, this model provides a common basis for assessment, comparison, process improvement and management system design, including tool development and selection.

- This model is scalable

This model can be applied to any business of any size, from a small, neighborhood branch office, to the largest IT outsourcing operation. What happens, in terms of IT, in all of these environments is the same. Only the scale of what happens, how it happens, and who executes what happens is different.

- This model is flexible

This model is not the final word—it is a starting point. Its structure is not rigid but dynamic. The developers of this model recognize that no two businesses are alike, and any process model for IT management must be tailored to each business. This model is, therefore,

designed so that you can build on it, order it, and customize it to suit your specific IT environment or situation.

- It is not directly implementable

The corollary from all the characteristics is that the model represents a set of foundational building blocks, which must be developed, populated, and clothed in order to reach the state required for implementable processes. The nature of reference artifacts means that they are generic, rather than specific. (See figure 1 “Unified Process Framework for IT (UPF-IT)” on page 1 for a representation of this positioning.)

- There is no preferred place to start

Or, put another way, there is no prescribed sequence to work on process design or improvement. Using the Pareto principle or a similar approach will help identify the processes most in need of improvement or that will have the biggest impact on supporting IT's mission.

The model helps in two ways: first, it provides a concise summary of each selected process and, second, for those selected processes, it identifies the significant related processes and points of interaction.

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## Alignment with ITIL

The model is based on some additional design principles in order to achieve alignment with ITIL service management.

### Explicit process treatments in ITIL V3 are the basis for the equivalent PRM-IT process

The majority of topics identified in ITIL V3 as a process provide an explicit treatment of the process. In these cases, key definitions available in the ITIL Glossary<sup>4</sup> have been used within the PRM-IT overall process definition. Further, the activities listed in ITIL have been used for the PRM-IT activities (within the limitations of engineering them within the IDEF0 notation).

Conversely, there are many considerations covered in best practice documents that are not relevant to a formal process model, and so they are not included. In particular, this model does not cover the organizational and process implementation topics covered in the ITIL books.<sup>5</sup>

### PRM-IT provides a formal treatment of the more conceptual process descriptions in ITIL V3

The strength of the treatment of a number of process topics in ITIL V3 comes from its introduction of key concepts relating to those processes, and how they contribute to the overall service life cycle. The process content in these cases is less explicit. For these, PRM-IT provides rigorous process decomposition and modeling that extends and supplements the ITIL treatment, in a manner consistent with its principles and precepts.

### ITIL processes are presented in a single integrated model, resolving interfaces between them and with other IT processes

The ITIL best practices, including V3, were not developed from a formal process perspective. For V2, they were developed by largely independent teams, without a formal architecture. This was

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4. The ITIL V3 Glossary can be downloaded from the OGC Best Management Practice Web site at <http://www.best-management-practice.com/officialsite.asp?FO=1230366&action=confirmation&tdi=575004>
  5. IBM's Component Business Model for the Business of IT provides an organizational context for IT undertakings as a basis for determining opportunities for investment and improvement.

stated as a factor in the inconsistencies which were logged as part of the requirements gathering phase of ITIL V3.

In spite of this, the industry guidance to the ITIL V3 developers did not place a high priority on building the V3 books from this kind of foundation, and so a formal ITIL model still does not exist. PRM-IT provides such a model, covering service management as part of its examination of the full scope of IT.

In consequence, PRM-IT provides resolutions for any inconsistencies in inputs and outputs between ITIL processes and, in some cases, fill gaps.

(The outcome of following these alignment design principles is summarized in “Mapping PRM-IT processes to ITIL” on page 16.)

## Alignment with other reference frameworks

PRM-IT is designed to be complementary to several other bodies of knowledge, which have significant contribution to IT management

### CMMI

Capability Maturity Model® Integration (CMMI) is a process improvement approach for system engineering and software engineering. It originates from the Software Engineering Institute of the Carnegie Mellon University.<sup>6</sup>

This body of work incorporates several models and provides guidance and assessment on processes from several perspectives. For PRM-IT, the design point was to ensure that each of the *process areas* identified (as required) to achieve Level 3 maturity could be found in PRM-IT.

For reference, these are:

**Table 1:**

Level	Focus	Process Areas
2 (Managed)	Basic Project Management	<ul style="list-style-type: none"> <li>– Requirements Management (REQM)</li> <li>– Project Planning (PP)</li> <li>– Project Monitoring &amp; Control (PMC)</li> <li>– Supplier Agreement Management (SAM)</li> <li>– Measurement &amp; Analysis (MA)</li> <li>– Process &amp; Product Quality Assurance (PPQA)</li> <li>– Configuration Management</li> </ul>
3 (Defined)	Process Standardization	<ul style="list-style-type: none"> <li>– Requirements Development (RD)</li> <li>– Technical Solution (TS)</li> <li>– Product Integration (PI)</li> <li>– Verification (VER)</li> <li>– Validation (VAL)</li> <li>– Organizational Process Focus (OPF)</li> <li>– Organizational Process Definition (OPD)</li> <li>– Organizational Training (OT)</li> <li>– Integrated Project Management (IPM)</li> <li>– Risk Management (RSKM)</li> <li>– Decision Analysis &amp; Resolution (DAR)</li> </ul>

Because maturity levels are cumulative, achievement of Level 3 maturity requires Level 2 attainment also. Level 1 is the start point, and so has not requirements.

6. See <http://www.sei.cmu.edu/cmmi/general/index.html> for more information on CMMI.

## COBIT

COBIT<sup>®</sup>, published by the IT Governance Institute (ITGI) and promoted through the ISACA (previously known as the Information Systems Audit and Control Association), is a reference body of knowledge that aims to bridge across control requirements, technical issues, and business risks.<sup>7</sup> It supports the increasing requirements for businesses to comply with regulations and to manage risks, and thereby contributes to IT governance.

COBIT presents a detailed set of *control objectives* used to test the degree of governance embedded into IT activities. The control objectives are organized into 34 processes, across four domains:

- Plan and Organise (PO)
- Acquire and Implement (AI)
- Deliver and Support (DS)
- Monitor and Evaluate (ME)

It has a comprehensive assessment and maturity scheme as the basis for evaluation. Each control objective maps to one or more PRM-IT processes, with the result that these frameworks are complementary.

## eSourcing Capability Model

The eSourcing Capability Models, one for service providers and one for client organizations, were developed by a consortium led by Carnegie Mellon University's Information Technology Services Qualification Center (ITSqc).<sup>8</sup>

The eSourcing Capability Model for Service Providers (eSCM-SP) was developed specifically to provide a set of best practices and quality standards for service providers. It is composed of 84 practices associated with successful sourcing relationships. Each practice in the eSCM-SP is distributed along three dimensions: Sourcing Life-cycle (Phases), Capability Areas, and Capability Levels as shown in Table 1.

**Table 1. Distribution of eSCM Practices by Sourcing Life-cycle Phase, Capability Area, and Capability Level.**

Phase	Capability Area	Level			Totals
		2	3	4	
51 Ongoing	Knowledge Management	3	4	1	8
	People Management	3	7	1	11
	Performance Management	3	3	5	11
	Relationship Management	3	4	1	8
	Technology Management	4	1	1	6
	Threat Management	6	1	0	7
21 Initiation	Contracting	9	2	0	11
	Service Design and Deployment	6	2	0	8
	Service Transfer (in)	2	0	0	2
8 Delivery	Service Delivery	7	1	0	8
4 Completion	Service Transfer (out)	2	1	1	4
Totals		48	26	10	84

Within each practice is a set of activities that should be documented and performed to ensure the practice objectives are met. The model organization reduces the risk of sourcing failure and

7. See <http://www.isaca.org/template.cfm?Section=COBIT6>

8. See <http://itsqc.cmu.edu/>

encourages continual improvement. The model also provides a capability determination method for systematically assessing and improving an organization's capabilities.

The eSCM model's structure complements existing quality models such as ISO-9000, BS 15000, ISO 17799, the CMMs<sup>®</sup>, COBIT<sup>®</sup> and COPC-2000<sup>®</sup>, so they can be implemented in parallel with these other frameworks.

Additionally, the eSCM practice activities can all be found within PRM-IT V3.

## **Component Business Model for the Business of IT**

IBM has used the Component Business Modelling approach to create a model that describes the full scope of the IT *business* in a single perspective. In other words, aspects of process, organization, resourcing, and business contribution are treated in combination rather than individually. The result is a model, CBM-BoIT, ideally suited to strategic decision making on IT investment. CBM-BoIT uses the PRM-IT set of activities (one level of decomposition beyond the processes introduced in this book) to describe the work performed in each component and thereby ensures consistency between these alternative yet complementary perspectives.

The proceeding is a brief introduction to this approach:<sup>9</sup>

### **Introduction**

Component Business Modelling (CBM) is a technique for modelling an enterprise as non-overlapping components in order to identify opportunities for innovation and improvement. The modelling is of the business itself, not of applications or technology. CBM is complementary to process modelling techniques. A business process can be interpreted in CBM as a collaboration among a network of business components. Conversely, from a process perspective, a business component is a closely related group of sub-processes (activities).

CBM models a business as a set of business components. A business component is a part of an enterprise that has the potential to operate independently, in the extreme case as a separate company, or as part of another company. A business component is a logical view of part of an enterprise that includes the resources, people, technology and know-how necessary to deliver some value. The key characteristic of a business component is that a user of its services does not have to be aware of how the component works.

A business component map is a tabular view of the business components in the scope of interest. The columns of the table represent business competencies and the rows represent accountability levels. The business components are rectangles within the table. Normally each rectangle is within only one cell of the table. A business competency is a large business area with characteristic skills and capabilities, for example, product development or supply chain. An accountability level characterises the scope and intent of activity and decision making. The three levels used in CBM are directing, controlling and executing.

### **CBM-BoIT**

The CBM-BoIT business component map was created from the perspective of the role within an enterprise having overall responsibility for the investment and use of information technology. Typically, this role is referred to as Chief Information Officer (CIO) or Chief Technology Officer (CTO). This perspective is important in that it establishes the scope of components and activities defined within the map. The map was designed to be *stand alone*, meaning that it could be applied to a company whose sole business was IT services. When applied within a different context, there may be extraneous or duplicate components which can be eliminated.

The map is technologically agnostic, meaning that it does not assume any specific type of hardware or software. Rather, it takes the perspective that the IT function can be defined in a similar manner to any other component of the enterprise, and should be managed using the same

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9. Further information on CBM-BoIT is available at <http://www-935.ibm.com/services/us/imc/pdf/q510-6163-component-business-models.pdf>

business disciplines. Definitions of specific architectures or technologies must be done within context, and will affect a number of components accordingly.

## International Standard for Process Description

The IBM Process Reference Model for IT has been designed to align with the International Standard for Process Reference Models. The ISO IEC 24774 standard<sup>10</sup> is a technical report describing guidelines for process descriptions in the context of life cycle management and software and systems engineering. This technical report is designed to encourage consistency in standard process reference models. It describes the need for process reference models to include Title, Purpose, Outcomes, and Activities to provide an objective list of assessable items.

- **Title:** The title of a process is a short noun phrase intended to summarize the scope of the process, identify the principal concern of the process, and distinguish it from other processes within the scope of a process model.
- **Purpose:** The purpose should succinctly capture in a single sentence the goal or objective of performing the process. It should describe some tangible benefit to the stakeholders.
- **Outcomes:** The outcomes express multiple observable results expected from successfully carrying out the process
- **Activities:** Rather than describing the results of executing a process, activities describe a set of actions that might be undertaken to execute the process.

Generally, purpose statements are similar from model to model. Here is an example of a purpose statement. "The purpose of the Incident Management process is to respond to incidents in order to restore agreed services within agreed service level limits."

*Outcomes* do vary from model to model. One view of outcomes, that has been taken by some international standards work, is to take each activity and identify what the evidence is when the activity has occurred. Here is an example of written outcomes using this approach:

Outcomes: As a result of the successful implementation of the Incident Management process:

- An Incident Management strategy is developed
- Incidents are recorded, identified, and classified
- Incidents are analyzed and assessed to identify acceptable solutions

Here is another example with differing outcomes:

- IT service interruptions are restored to users within agreed service levels
- IT service availability is sustained at agreed service levels
- Workarounds to resolve similar service interruptions are created
- Potential improvements to services are identified

These examples demonstrate a difference in approach to the definition of outcomes. In the first example, the outcomes listed would provide evidence that the activities are being carried out. In the second example, the outcomes are focused on the business reason for carrying out the activities in the first place. Because the IBM Process Reference Model is focused on the business of IT, it is written in the second style, giving preference to the outcomes that describe business reasons for carrying out the process.

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10. See ISO/IEC TR 24774:2007 at [http://www.iso.org/iso/iso\\_catalogue/catalogue\\_tc/catalogue\\_detail.htm?csnumber=41544](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=41544)

## **A first look at the model**

### **Model purpose**

The IBM Process Reference Model for IT (PRM-IT) is an integrated collection of the processes involved in using information technology (IT) to assist businesses in carrying out many or all of their fundamental purposes. It describes, at a generic level, the activities that are performed in order that IT provides value to the stakeholding business or businesses.

For most of these businesses, this use of IT has been a means to improve the business processes that underpin their value propositions to the industry segments they serve. For others, IT services have been major value propositions in their own right. As the reach and range of IT-based solutions and services has extended and become, to all intents and purposes, pervasive, these two uses of IT have converged.

So, as IT exploitation becomes synonymous with business success, the basis of this model is to describe IT undertakings as if a business in its own right, and to apply the same business process description techniques to it as for any other business.

### **Viewpoint of the model**

The focal point for all IT activities, and the executive accountable for IT value, is the CIO. Accordingly, PRM-IT considers the work done within IT from this perspective.

It is only from this vantage point that all aspects of IT are visible. Within IT, all other viewpoints can see only a subset of the complete picture.

There are two main perspectives from the CIO's viewpoint:

1. Control over IT activities.
  - Such control can be direct, in that the activities are performed by the in-house IT department.
  - Some activities can be performed within parts of the business, but under the guidance of IT-developed or owned standards. A typical example is that of users within a business division developing applications, using technology and techniques established by IT.
  - Many activities can be assigned to one or more third parties, covering the range from complete outsourcing through limited IT service out-tasking.
2. Representing the IT endeavor to its stakeholders and to the wider operating environment. These interested parties provide the context in which the IT business operates.

## The context and scope of PRM-IT

The model focuses on all potential activities that could occur within the box **Manage IT**, but also recognizes that many of its workings rely upon interactions with other parties (external agents).

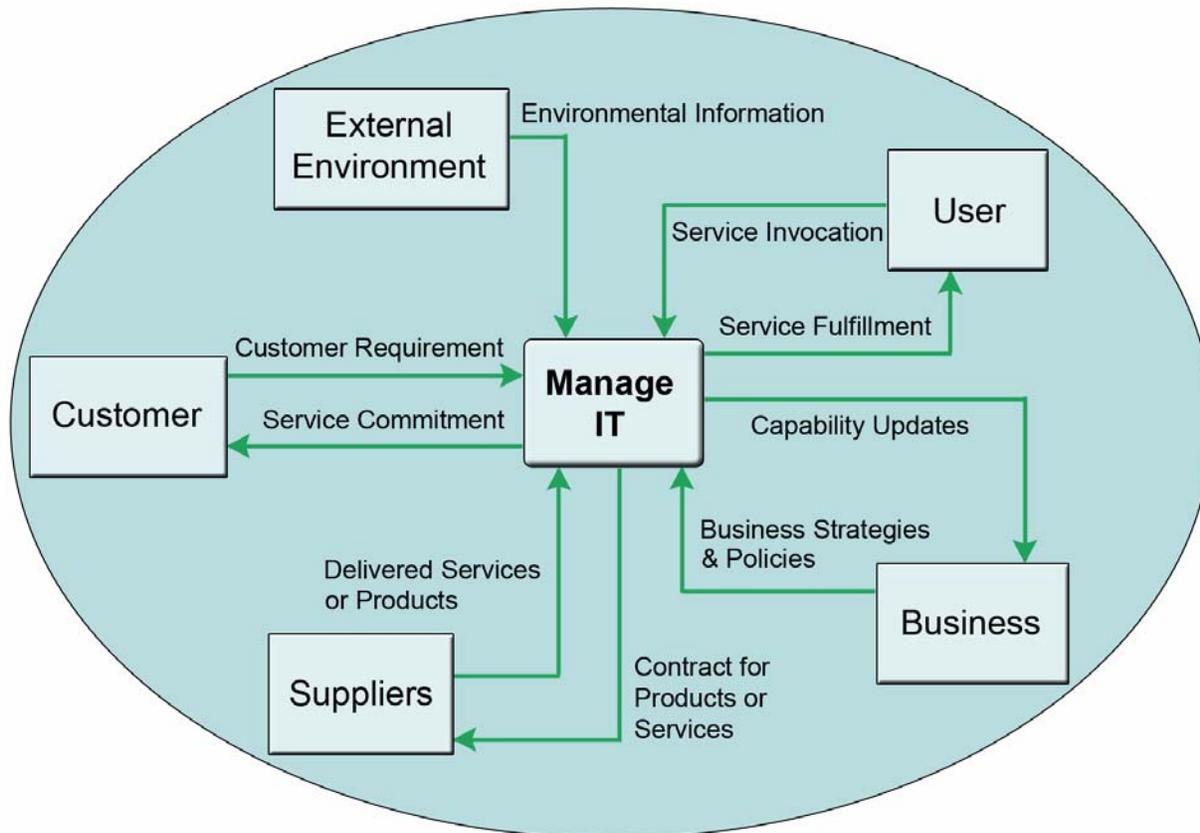


Figure 5. Comprehensive and effective activity sets in PRM-IT

## Drilling into the model: The process categories

PRM-IT presents a framework that uses eight process categories:

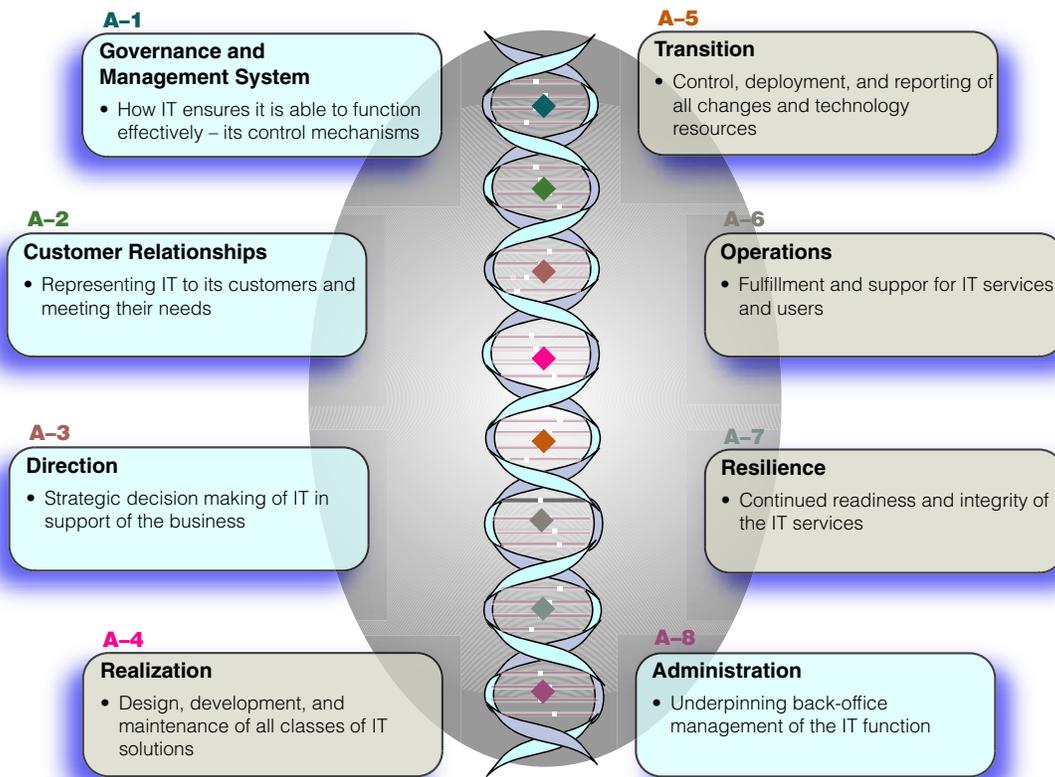


Figure 6. PRM-IT process categories

The categories convey several concepts:

1. The categories with no internal shading contain the primary processes, which produce and deliver the service needed by the customer of IT.
2. The most useful decomposition of the primary activities assumes a create, deploy, operate, and maintain approach. Thus producing this sequence:
  - a. Realization
  - b. Transition
  - c. Operations
  - d. Resilience
3. The shaded categories contain the supporting processes which facilitate the success of the primary processes.
4. The supporting processes are best split into those which focus on the *result* that IT must achieve, namely Customer Relationships and Direction, and those that describe the underpinning setup and ongoing maintenance of the IT functional capability: Governance and Management System, and Administration.

## The processes for the business of IT

PRM-IT contains a total of 46 processes across the eight categories.

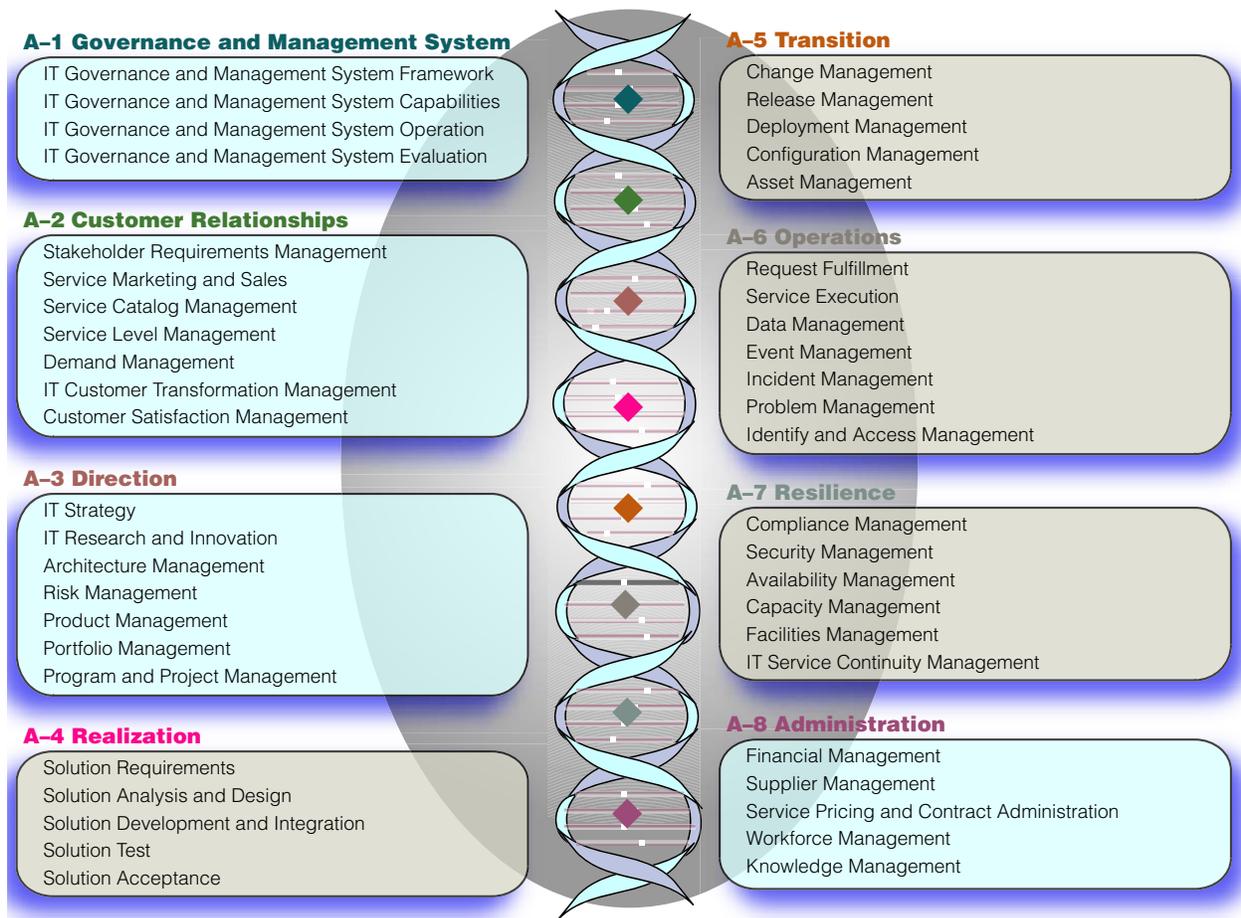


Figure 7. PRM-IT processes

PRM-IT Version 3 has a complete further level of decomposition of these processes, into 309 activities. The interactions between all the categories, processes, and activities are modeled in over 700 inputs, outputs, controls, and nearly four thousand individual links.

Every process is described in “Model Categories and Processes in IDEF0” on page 19. For each, this book includes a listing of the activities that comprise it.

Full details of the activities, inputs, outputs, and controls that characterize the relationships among processes and activities, are available in the PRM-IT *Reference Library*.

## Mapping PRM-IT processes to ITIL

This shows how the ITIL alignment (described earlier) is achieved. Details are further provided.

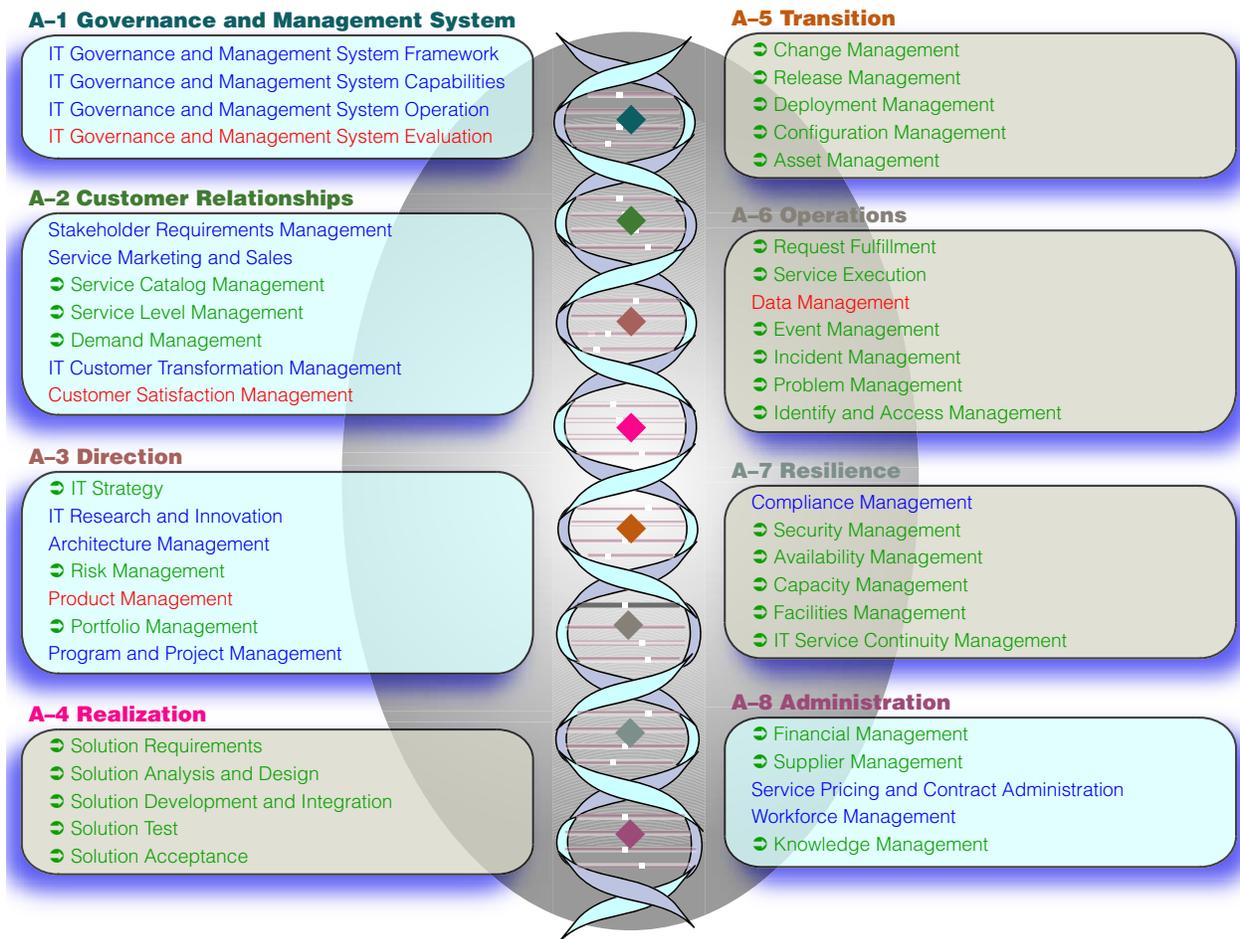


Figure 8. Key ITIL links

### Directly aligned processes

Twenty nine processes are shown in green text and preceded by the ➤ symbol. For these processes, there is an identical or nearly identical named process in ITIL.

As an example of variation, consider Identity and Access Management. The ITIL process is called Access Management. In our judgment, the concept of identity is a foundation of Access Management. The ITIL chapter makes significant reference to identity. In the absence of its being explicitly considered elsewhere in ITIL V3, these two items have been modeled here in a single process.

### Processes with implicit ITIL content

PRM-IT processes shown in red are implicitly represented as processes in ITIL books. ITIL covers concepts and practices relevant to the purpose and scope as defined in PRM-IT. For instance, Appendix B.2 “Product Managers” in the *ITIL Service Strategy* book, relates directly with PRM-IT as the Product Management process.

## **The value of this process reference model**

### **Who can benefit from this book?**

In any given organization, everyone from the top to the bottom, needs to understand the impact that information has on the business. How information is processed is a major determinant for how well the business operates and consequently how well the business is able to satisfy its customers. Indeed, it is a truism that without customer satisfaction, there will be no business.

This book is designed for the managers of an organization who want to take a serious look at how information supports their business and can be used to make that business prosper. It is designed for those who are responsible for designing and managing the information systems that will support the goals and objectives of the business. Finally, the book is designed to give some help to everyone in a given business to understand the importance of information and information technology to the success of their work.

### **To our clients**

The new process model for IT management provides clients with a starter set; an entry point for looking at their organization and determining what their IT delivery mechanisms are doing, versus what they need to be doing. Also, it can serve as a tool to examine those activities that are not working well and see if they are implementing the necessary processes to begin with. This model can help our clients discover what they need to do, in terms of IT, and help them organize around those needs, including organizing their business transformation initiatives. In short, the new process reference model for the business of IT can help our clients move toward finding out what they need to do to optimize the value of IT to their business by understanding which things they themselves should be doing, which things they might outsource, and how these must interact to be successful.

### **To IBM**

The new process model is the basis for a powerful assessment that we can use to determine what our customers are doing, versus what they need to be doing, and how well they are doing those things. It is an opportunity to add value to the customer relationship. For example, when helping a client develop an IT strategy, the use of this model can point out to the client all the processes that are influenced by that strategy. As a result, the use of this model can provide a springboard for working with the client and providing downstream services to optimize those processes.

In addition, the model can be used to increase the knowledge base of our own practitioners, augmenting their skills as we provide our services. It can also provide us a better base from which to design and build products. For example, before writing a new application to manage information technology, the model can be used to determine what processes and activities are involved.

Finally, the new model is the next evolutionary step in process model thinking as it applies to the management of IT. It is unique and leading edge. It reinforces IBM's leadership position in providing guidance and assistance to clients in the management of IT.

## How to use this book

The next chapters of this book provide descriptions of each process, organized by category. However, it is important to note that these groupings, and their labels, are somewhat arbitrary. We have provided one logical grouping, but it is not the only grouping possible. The model is really a starter set. It is a collection of building blocks that can be reordered and reshuffled to create a model that is applicable to your unique situation.

The process model (introduced in this book and presented in complete form in the related *Reference Manual*) is your starting point. In order to proceed, certain concepts, constraints, rules, and terminology need to be understood and taken into account. In other words, one must recognize this model for what it is, as well as for what it is not.

- This model is not intended to be implemented directly

The model focuses on what to do, not how to do it. One cannot take this model and apply it without modification. This model provides a starting point from which to build a process model customized to a given business.

- This model is not the final answer

The authors make no pretense of having discovered the best solution for every situation. We feel, however, that what we have provided are those elements that should be present regardless of how they are ordered. Regardless of how you pick and choose among the process categories and processes, it is important to make sure that any given process receives the inputs and outputs it needs to perform its function. Where a process gets those inputs and outputs could well change, depending on a particular implementation. So, use this book as a design guide for building your own process model, not as the final answer to all.

- This model is dynamic, not sequential—it is not a flow chart

Because this is a book (a two dimensional medium) it was obviously necessary to put the model down on paper in some kind of logical order. This does not mean that the processes contained in this model must function in that order, so do not let your thinking be constrained by the fact that processes and their activities are listed in a certain order on a given page of the book. You can rearrange these processes. The sequence of activities might change, but the relationships among the processes will not. In actual implementation, there can be multiple iterations of given processes or portions of those processes, and these iterations might happen in parallel, rather than in sequence. However, what process needs to be done remains the same, regardless of the number of iterations or sequence.

- This model is not an organizational chart

This model should not be viewed as an organizational construct. We have not delineated process owner roles and responsibilities in this work.

## One final thought

Keep in mind that there are no technology solutions to management problems. Automating a poor management process only makes undesirable things happen faster. The successful management of any IT environment depends on sound management processes, and the appropriate use of enabling technologies.

# Model Categories and Processes in IDEFØ

The decomposition of the model, using IDEFØ numbering:

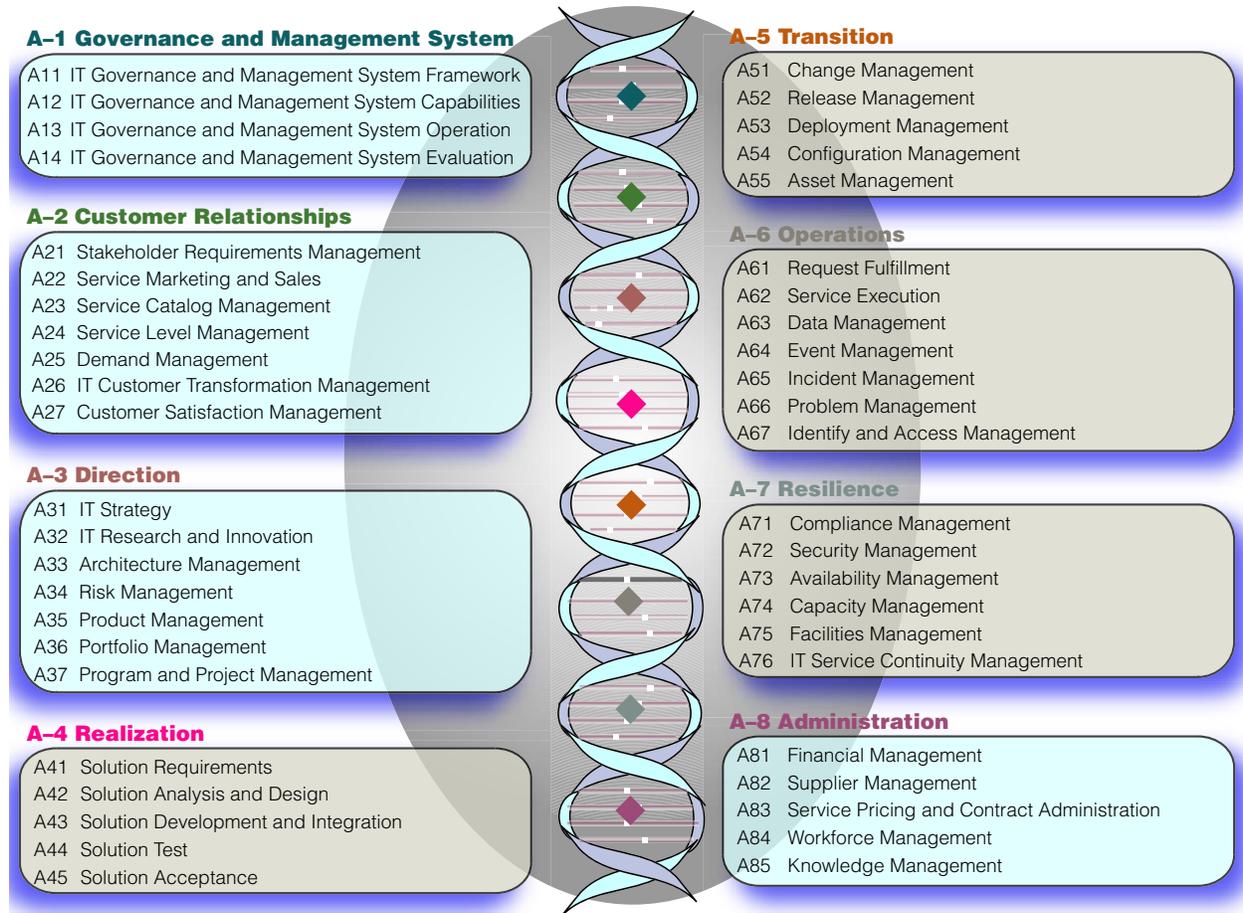


Figure 9. PRM-IT categories and processes in IDEFØ structure

The naming convention is that each main branch represents a *category*, and each of the items listed within it is a *process*.

This chapter examines each category and process in turn, moving in IDEFØ identification sequence.

(While this identification is not particularly significant at the level of detail in this book, it is provided for consistency with the *Reference Library*.)

## [A0] Manage IT

### Model Introduction

The IBM Process Reference Model for IT (PRM-IT) is an integrated collection of the processes involved in using information technology (IT) to assist businesses in carrying out many or all of their fundamental purposes. It describes, at a generic level, the activities that are performed in order that IT provides value to the stakeholding business or businesses.

For most of these businesses, this use of IT has been a means to improve the business processes which underpin their value propositions to the industry segments they serve. For others, IT services have been major value propositions in their own right. As the reach and range of IT-based solutions and services has extended and become, to all intents and purposes, pervasive, these two uses of IT have converged.

So, as IT exploitation becomes synonymous with business success, the basis of this model is to describe IT undertakings as if a business in its own right, and to apply the same business process description techniques to it as for any other business.

PRM-IT is independent of organizational design and makes no assumptions about the chain, network or mesh of IT business entities — or the nature of their inter-relationships (such as contractual, partnership, joint venture) — by which the IT service is provided to the primary businesses. Each of these IT business entities will need to understand both the activities they undertake to contribute to IT service provision and (perhaps increasingly) the interfaces they have with related parties.

### Viewpoint of the Model

The focal point for all IT activities, and the executive accountable for IT value, is the CIO. In some IT undertakings, these accountabilities are assigned to an executive body that has CIO-role responsibilities. Accordingly, PRM-IT considers the work done within IT from the CIO or CIO-role perspective.

It is only from this vantage point that all aspects of IT for the IT business entity within scope are visible. Elsewhere within that IT business entity, all other viewpoints can see only a subset of the complete picture.

There are two main perspectives from the CIO's viewpoint:

1. Control over IT activities.
  - Such control can be direct, in that the activities are performed by the in-house IT department.
  - Some activities can be performed within parts of the business, but under the guidance of IT-developed or owned standards. A typical example is that of users within a business division developing applications, using technology and techniques established by IT.
  - Many activities can be assigned to one or more third-parties, covering the range from complete outsourcing through limited IT service out-tasking.
2. Representing the IT undertaking to its stakeholders and to the wider operating environment. These interested parties provide the context in which the IT business operates.

### The context for the business of IT

IT does not operate in a vacuum; it has relationships of varying kinds with a variety of other parties. In modeling terms, these parties are known as external agents.

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PRM-IT contains five kinds of generic external agents:

1. The Business
2. Customers
3. Users
4. Suppliers
5. External Environment

The nature of the interactions between IT and each external agent is described in detail later.

## The Business

The Business is the owner of the IT undertaking. It provides the underlying funding for IT and receives from IT a corresponding return, in the form of value against the criteria which the business sets.

The Business provides resources to and exercises control over IT, beyond the financial aspect.

- It establishes the container in which each section of the business operates: manufacturing, distribution, IT, and others. Each such section probably has some degree of freedom to set its own tenor (or style) of operation, but each must conform to the overall management system and governance.
- Beyond this, IT might rely wholly or partly upon other, similarly common aspects of the business infrastructure. Key examples here include finance and accounting, and workforce management.
- The Business is the ultimate arbiter over the direction and the performance scorecard of IT.

## Customers

In contrast to the broad nature of The Business, the external agent, Customers, reflects that each IT service has an individual customer, or a collective set of them.

The role of the Customer covers aspects that specify and guide the makeup of the services, such as:

- Providing requirements that can eventually be satisfied by an IT service.
- Commissioning development of new or updated solutions. The agreement for this, and for the levels of service using the solution, can be formally or informally contracted, depending on the customer-provider relationship.
- Interactions relating to satisfaction (or otherwise) with delivered IT services.

The model does not differentiate between internal and external customers. The interactions depicted in the model cover both cases. In particular, the Customer can themselves be another IT service provider, perhaps in the role of a prime contractor to the ultimate customers or of a service integrator in a multi-sourcing arrangement.

## Users

This external agent is involved in the interactions with each of the services provided by IT.

- Primarily, the interactions are related to receiving service through initiating and providing data to individual transactions, and generalized services (such as e-mail and Internet access).
- Additionally, users will interact with support services (manually or electronically) for:
  - Requests for advice and guidance
  - Interruption to service (PC hardware failure, for example)

User interactions occur only within the specifications of agreed services. The Customer role is needed to commission and confirm new or extended services.

## Suppliers

No IT function can provide 100 percent of the value delivered in their portfolio of IT services. At some point in each value chain, there will be dependencies on one or more Suppliers. Suppliers, in this context, are organizations outside the control of the CIO and with whom the primary linkage is in the form of a supply agreement, formally or informally. The supply agreement can be for products, services, or both. In return for this supply, there will need to be a corresponding payment, which is usually of a monetary kind.

PRM-IT does not indicate the points when the value chain will invoke a supply agreement, it does acknowledge that an agreement will be required. Similarly, while it is likely that most agreements will be with suppliers external to the business, it is possible that some suppliers might be sister organizations in the wider business.

## External Environment

The policies, practices, methods and techniques the IT undertaking uses are subject to many other influences and constraints beyond the external agents thus far mentioned. Collectively, the term *External Environment* is used to convey these influences and constraints.

Examples of agents of this type are:

- Governments
- Regulatory agencies
- Industry trends
  - The industry segments of the business
  - The IT industry in general
- IT management frameworks and techniques, such as published *best practice* and bodies of knowledge

In general, the External Environment has a strong influence over an individual IT undertaking. In contrast, it is relatively unlikely, though possible, for the reverse to be true.

## Model Composition

This model is composed of these process categories:

- A1 Governance and Management System
- A2 Customer Relationships
- A3 Direction
- A4 Realization
- A5 Transition
- A6 Operations
- A7 Resilience
- A8 Administration

# [A1] Governance and Management System

## Description

### Purpose

The Governance and Management System process category defines a structure of relationships and processes to direct and control the IT undertaking. These processes must establish the capability to achieve the information technology (IT) goals. The governance and management system must add value by balancing *risk versus return* across IT and all processes.

The category defines, establishes, operates, and improves upon a management framework for conducting IT activities. The *management framework* outlines, as an example, the management model, guiding principles, methods, organization design, information framework, process structure, policies and practices to guide the IT organization towards its stated goals. Once the management framework is defined and implemented, a continuous evaluation process will be executed to make possible better decision making by executives on whether the business model is succeeding or should be modified to achieve the objectives better.

Governance considers and sets the fundamental direction for the management framework. Governance is a decision rights and accountability framework for directing, controlling, and executing IT endeavors in order to determine and achieve desired behaviors and results. Governance involves defining the management model and creating the governing or guiding principles. This includes:

- Who makes directing, controlling, and executing decisions, and defines the ultimate authority (final arbiter)
- How the decisions will be made, and the procedures for escalation and arbitration
- What information will be required to make the decisions
- The frequency of decision making must be executed or revisited
- The required decision making mechanisms
- How exceptions will be handled
- How decisions will be communicated to the concerned parties
- How the results of the implemented governance should be reviewed and improved

### Rationale

The Governance and Management System process category ensures that a framework is in place to integrate processes, technologies, people, and data in a manner consistent with the IT goals. This category also monitors the framework against the broader enterprise goals and quality metrics. When specific goals and quality metrics are consistently unmet, decisions will be made regarding the overall framework and whether it will be modified or restructured to ensure future success.

### Value

- Integrates and coordinates the workings of IT
- Enables informed and effective decision making
- Establishes responsibility for the implementation of a set of coherent, integrated capabilities that enables IT
- Optimizes strategic, tactical, and operational effectiveness of IT
- Ensures continuous improvement

## Processes

This process category is composed of these processes:

- A11 IT Governance and Management System Framework
- A12 IT Governance and Management System Capabilities
- A13 IT Governance and Management System Operation
- A14 IT Governance and Management System Evaluation

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## [A11] IT Governance and Management System Framework

### Purpose

The purpose of the IT Governance and Management System Framework process is to lay the foundation for building the governance and management of an IT organization or undertaking, taking into account such factors as vision, values, goals, and overall business objectives. Further, it establishes guiding principles (or a management philosophy) based on those factors.

This framework plays a key role in aligning the IT entity with the overall approach of the business. To be effective, the IT management system must focus on cultural as well as business aspects. This process does not identify the priorities of the business, but rather the approach to operating the various IT projects and processes in a coordinated fashion, that will manage their progress and health.

### Outcomes

As a result of the successful implementation of this process:

- Clear, unambiguous objectives and roadmaps for the overall IT Governance and Management System are set
- Overall IT governance meets the objectives provided by the owning business
- The IT management system aligns with the overall business management system
- Management system directions are transformed into a functional, workable, and implementable management system

### Scope

The framework for IT will be established within an overall governance and management framework set by the business. It adds IT-relevant characteristics to relevant aspects of the business framework and any items unique to IT undertakings.

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The framework for IT will be established within an overall governance and management framework set by the business. It adds IT-relevant characteristics to relevant aspects of the business framework and any items unique to IT undertakings.

### Includes

- ◆ Specifying:
  - Management models
  - Guiding principles
  - Policies and standards
  - Measurement and control approaches, such as CIO dashboard, balanced scorecard
  - Quality management approaches
  - Defining critical success factors

- ◆ Generating a list of decision areas and issues, and selecting decision options based on guiding principles, values, and assumptions
- ◆ Responding to any identified gaps between the current baseline and the desired framework
- ◆ Communicating direction

#### **Excludes**

- ◆ Identifying gaps between the current governance and management baseline and the desired framework (IT Governance and Management System Evaluation)
- ◆ Priorities and decisions on the business results of IT (Portfolio Management)
- ◆ IT strategy for the business (IT Strategy)

#### **Activities**

This process is composed of these activities:

- A111 Define IT Governance Framework
- A112 Define IT Management Goals
- A113 Establish IT Management Policies
- A114 Establish IT Management Practices

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## **[A12] IT Governance and Management System Capabilities**

### **Purpose**

The purpose of the IT Governance and Management System Capabilities process is to define, establish, and deploy an ecosystem for governing and managing an IT organization (or undertaking) in order that IT undertakings proceed within the philosophies and controls set by the parent business. It recognizes that this is not a one-off undertaking, but will be exercised at any time to create capability adjustments both small and large-scale.

### **Outcomes**

As a result of the successful implementation of this process:

- The desired scope for governance is established over a defined set of key decisions, with clear assignment of decision rights and accountability to appropriate organization units and roles.
- A management system that is consistent with the direction of information technology and with the enterprise as a whole, and is in control of all IT activities.
- The management system is both effective and efficient, ensuring the integrated and coordinated workings of IT.
- A set of coherent, integrated capabilities that enable and empower IT activities is established

## Scope

This process uses a simple model of a management system to illustrate the activities, and their key inputs and outputs, which will start with the directional frameworks and build a functioning management ecosystem. Many other models of a management system exist; the one used here can be summarized as follows:

- Governance aspects dictate the overall shape of the capabilities
- There are four main components in a management system: process, organization, (management) information, tools
- A management system is made effective by equipping it with measurement and control capabilities, built from aspects of all the components listed in item two

## Includes

- ◆ Defining information technology management system requirements and key indicators
- ◆ Building capabilities to realize the specified management models
- ◆ Creating instruments that conform to policies and standards, such as:
  - Methods
  - Measurement and control capabilities
  - Quality management system
  - Continual improvement techniques
- ◆ Organization design in relation to IT, such as:
  - Structure, behaviors, enablers
  - Roles and responsibilities definitions
  - Process structure
  - Implementation or change transition plans, including schedule

## Excludes

- ◆ Development of IT solutions for management system needs these compete for resources alongside other needs (Portfolio Management)

## Activities

This process is composed of these activities:

- A121 Establish IT Governance Capabilities
- A122 Establish IT Process Capabilities
- A123 Establish IT Organizational Capabilities
- A124 Establish IT Management Information Capabilities
- A125 Establish IT Operational Environment Capabilities
- A126 Establish IT Measurement and Control Capabilities

## [A13] IT Governance and Management System Operation

### Purpose

The purpose of the IT Governance and Management System Operation process is to operate and run the management system to satisfy the overall Business' needs.

### Outcomes

As a result of the successful implementation of this process:

- The balance of strategic, tactical, and operational effectiveness of IT is optimized
- Informed and effective decisions are made
- The workings of IT are integrated and coordinated
- Conditions are established to best ensure that key measurements can be and are met

### Scope

This process does not direct what IT activities should be performed to reflect the priorities of the Business (see A3 Direction category of processes). It does, however, oversee monitoring and control of the collected IT projects and processes, and makes corrective adjustments where needed.

### Includes

- ◆ Measurement and control, such as:
  - Issues management
  - CIO dashboard
  - Balanced scorecard
- ◆ Steering IT workings within the tolerances set by Governance
- ◆ Regulating the execution of IT processes

### Excludes

- ◆ Priorities and decisions on the business results of IT (a business responsibility, with participation from the processes in the Direction category)
- ◆ Portfolio Management
- ◆ Regulating IT services and solutions (processes in the Direction category)

### Activities

This process is composed of these activities:

- A131 Produce IT Measurements
- A132 Operate IT Governance and Management System Controls
- A133 Monitor, Analyze and Report IT Outcomes

## [A14] IT Governance and Management System Evaluation

### Purpose

The purpose of the IT Governance and Management System Evaluation process is to review and assess the execution and implementation of the IT governance and management system, and to identify potential improvements to it.

### Outcomes

As a result of the successful implementation of this process:

- The overall health of the IT governance and management system is visible to the key stakeholders of the IT endeavor
- Key measurements are effective in guiding the realization of IT goals
- Potential problems with the management system are identified and resolved before their impact results in other problems (for example, customer dissatisfaction)
- There is a continual focus on the identification of improvement opportunities to the IT governance and management system

### Scope

This process monitors the measurements from all IT processes in order to ensure that the system is functioning in the manner intended.

It provides the ability to audit all (or any part of) the IT governance and management system.

### Includes

- ◆ Validating the adherence to management system rules
- ◆ Identifying continuous improvement actions
- ◆ Quality management assessment
- ◆ Assessing the execution of IT processes

### Excludes

- ◆ Making changes to the IT Management ecosystem (IT Governance and Management System Framework, IT Governance and Management System Capabilities, depending on the scale of change)

### Activities

This process is composed of these activities:

- A141 Collate IT Management System Outcomes
- A142 Analyze IT Governance and Management System Performance
- A143 Audit IT Governance and Management
- A144 Communicate IT Governance and Management System Performance

## [A2] Customer Relationships

### Description

#### Purpose

The Customer Relationships process category gives IT service providers a mechanism to understand, monitor, perform and compete effectively in the marketplace they serve. Through active communication and interaction with customers, this process category provides the IT enterprise with valuable, current information concerning customer wants, needs, and requirements. Once these requirements are captured and understood, the process category ensures that an effective market plan is created to bring the various IT services and capabilities to the marketplace.

Use of a Service Catalog contributes to effective communication with customers, and also provides everyday usage details to approved users of services. In support of delivering these services, service level agreements (SLAs), underpinning contracts (UCs), and operational level agreements (OLAs) are planned, created, implemented, monitored, and continuously improved in this process category. A sound understanding of the real demand for services, categorized by the mix of user communities, helps ensure the vitality of SLAs and underpins achievement of targets.

As the dependence of business activities on technology-based support grows, assistance is needed to help customers understand and exploit the transformation potential from technology. While the IT services are in operation, customer satisfaction data is continuously gathered, monitored, and recorded to enhance IT service capabilities and IT's presence in the enterprise.

The governance and implementation details of each process will depend on the essential nature of the relationship with customers, most obviously indicated by whether they are internal or external. For an IT provider solely serving internal customers there can be little or no flexibility in the choice of marketplace. (ITIL uses the term Market Space, defined as "All opportunities that an IT Service Provider could exploit to meet business needs of Customers. The Market Space identifies the possible IT Services that an IT Service Provider may wish to consider delivering."<sup>11</sup>) This marketplace selection decision occurs in the Direction category; here, the customer-facing implications of those decisions are addressed and can result in more than one implementation of each process depending on the market complexity.

#### Rationale

The Customer Relationships process category ensures that the IT enterprise is effective in the marketplace, whether internal or external. Through active market research, the IT services are kept current with the dynamic wants, needs, requirements, and demand level of customers. Furthermore, customer satisfaction data is gathered and reported in order to find areas of the IT services that require improvement. Overall, this process category provides a means for the IT enterprise to understand customer requirements, market IT services to customers, ensure and monitor the quality of the delivered IT services, and contribute to the maximization of business value from technology usage.

#### Value

- Improves communication and understanding of customer wants and needs
- Identifies new market opportunities
- Coordinates the marketing and selling of IT services
- Establishes clear service level expectations

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11. ITIL V3 Glossary

- Highlights areas within IT services delivery requiring improvement
- Identifies updates to IT services for greater effectiveness in meeting customer requirements
- Guides customers in understanding where and how technology can transform their business
- Enhances customer satisfaction and loyalty

## Processes

This process category is composed of these processes:

- A21 Stakeholder Requirements Management
- A22 Service Marketing and Sales
- A23 Service Catalog Management
- A24 Service Level Management
- A25 Demand Management
- A26 IT Customer Transformation Management
- A27 Customer Satisfaction Management

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## [A21] Stakeholder Requirements Management

### Purpose

The purpose of the Stakeholder Requirements process is to capture, classify, qualify, promote, and maintain requirements for IT services, from the business and for the management of IT activities. This also involves providing information on the status of all requirements throughout their life cycle.

Definition of stakeholder: "All people who have an interest in an organization, project, IT service etc. Stakeholders may be interested in the activities, targets, resources, or deliverables. Stakeholders may include customers, partners, employees, shareholders, owners, etc."<sup>12</sup>

### Outcomes

As a result of the successful implementation of this process:

- IT service stakeholders provide input concerning individual services or collections of services
- An agreement can be defined between IT customers and providers concerning an IT service and IT service components
- Implemented requirements are justified
- IT service management can better meet the stated needs and expectations of customers

### Scope

This process is the starting point for the translation of customer needs, typically expressed in business terms, into functional requirements (in IT terms) that can be acted on by other processes. It begins with recognizing, verbalizing, and documenting needs. It ends with an established set of feasible and measurable requirements that is maintained until the requirements are satisfied, changed, or rejected.

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### **Includes**

- ◆ Handling requirements in support of business capabilities
- ◆ Handling requirements in support of infrastructure capabilities
- ◆ Initial feasibility analysis to confirm requirements
- ◆ Customer validation of requirements statements
- ◆ Tracking and communicating the status of requirements

### **Excludes**

- ◆ Order taking (Service Marketing and Sales)
- ◆ Detailed requirements analysis for any application or service (Solution Requirements)
- ◆ Activities that deliver solutions and services for the agreed requirements (Realization category of processes beyond Solution Requirements)

### **Activities**

This process is composed of these activities:

- A211 Establish Stakeholder Requirements Management Framework
- A212 Capture Stakeholder Needs
- A213 Transform Needs into Stakeholder Requirements
- A214 Monitor and Report Stakeholder Needs and Requirements
- A215 Evaluate Stakeholder Requirements Management Performance

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## **[A22] Service Marketing and Sales**

### **Purpose**

The purpose of Service Marketing and Sales process is two fold:

- Marketing – To understand the marketplace served by the providers of IT, to identify customers, to market to them, to generate marketing plans for IT services, and support the selling of IT services
- Sales – To match up customer wants and needs with IT service capabilities, and to sell appropriate IT services

### **Outcomes**

As a result of the successful implementation of this process:

- Existing and potential customers have visibility and understanding of IT capabilities
- Awareness of IT services and capabilities is stimulated
- Customer and marketplace trends and opportunities are understood
- IT service contracts are established at the optimum price point for both customer and provider
- The IT organization is promoted as the IT service provider of choice

### **Scope**

The process addresses marketing to both general and specific customer needs. It involves working with current internal and external customers as well as identifying potential customers. It supports the marketing and selling of both current services and potential solutions and services.

### **Includes**

- ◆ Understanding the market, customer segmentation, the opportunities and the competitive (to the IT service provider) threats
- ◆ Developing the list of prospects
- ◆ Generating marketing and sales collateral; communicating the features, advantages, and benefits for unique buying criteria
- ◆ Negotiating and closing sales within pricing guidance and rules

### **Excludes**

- ◆ Deciding to commission service and solution extensions (Portfolio Management)
- ◆ Developing solutions and services (Realization category of processes)
- ◆ Implementing solutions (Transition category of processes)
- ◆ Preparing contracts (Service Pricing and Contract Administration)
- ◆ Establishing pricing guidance and rules (Service Pricing and Contract Administration)

### **Activities**

This process is composed of these activities:

- A221 Establish Service Marketing and Sales Framework
- A222 Analyze Market Wants and Needs
- A223 Create Marketing Plan
- A224 Execute Marketing Plan
- A225 Manage Opportunities and Forecast Sales
- A226 Consult and Propose Services Solutions
- A227 Negotiate and Close Services Opportunity
- A228 Analyze and Report Marketing and Sales Results
- A229 Evaluate Service Marketing and Sales Performance

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## **[A23] Service Catalog Management**

### **Purpose**

The purpose of the Service Catalog Management process is to provide an authoritative source of consistent information on all agreed services and ensure that it is widely accessible to those who are approved to view this information.

### **Outcomes**

As a result of the successful implementation of this process:

- Customers and approved users trust the published service catalog as the authoritative description of the services available to them
- Accurate information on all operational services and those being prepared to be run operationally (details, status, interfaces and dependencies) is maintained and updated in the service catalog
- Role-based views of the Service Catalog are created and maintained in order for each role (such as customers, end users, service management support personnel) to understand service definitions and use the information effectively

- The services catalog is aligned and consistent with the Service Provider and Customer needs

## Scope

The primary output of the process is the Service Catalog itself. It includes a strategic view that allows the service manager, customers, and IT executives to see the list of services and their status (for example: available, soon to be available, or soon to be retired), and detailed service characteristics for negotiation, financial or strategic planning. It also contains a tactical view that allows IT end-users to request services available to them. Additional information will be available to personnel involved in the provision of the services represented in the catalog in order to facilitate the consistent, effective and efficient delivery of those committed services.

## Includes

- ◆ Entering and updating service definitions
- ◆ Navigation support
- ◆ View management
- ◆ Service selection and transaction tracking
- ◆ Education on how to use the Service Catalog

## Excludes

- ◆ Negotiating and closing Service Agreements (Service Marketing and Sales)
- ◆ Creating service level agreements (Service Level Management)
- ◆ Request management, user entitlement authorization and execution workflow (Request Fulfillment)

## Activities

This process is composed of these activities:

- A231 Establish Service Catalog Management Framework
- A232 Define Service Package Catalog Requirements
- A233 Build and Maintain Service Catalog Content
- A234 Create and Maintain Service Catalog Views
- A235 Publish Service Catalog
- A236 Monitor, Analyze and Report Service Catalog
- A237 Evaluate Service Catalog Management Performance

## [A24] Service Level Management

### Purpose

The purpose of the Service Level Management process is to ensure that the service delivered to customers matches or exceeds the agreed, committed service quality characteristics.

Definition of service level agreement (SLA): "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple customers."<sup>13</sup>

### Outcomes

As a result of the successful implementation of this process:

- Both the providers of IT service and their customers have a clear, unambiguous and consistent expectation of the quality of service to be delivered and received
- Service commitments are achievable
- Service attainments against targets are reported accurately and in a timely fashion to all defined service stakeholders
- Service quality is revived in an agreed way following any service level breach
- Opportunities for continual service improvement are identified and, where cost-justified, realized

### Scope

This process addresses life cycle management of service level agreements. It covers negotiation of them with IT customers, monitoring service level achievements against targets, performing service reviews, and initiating service improvement plans.

### Includes

- ◆ Establishing strong relationships with customers based on mutual trust
- ◆ Implementing SLAs from feasibility through monitoring, renewing, and improving
- ◆ Integrating the service characteristics of domain specialist processes (such as Availability, Capacity, and others)
- ◆ Evaluation of IT transactional service performance in relation to business services and their requirements
- ◆ Creation and maintenance of operational level agreements (OLAs) with providers further along the service supply chain, and consideration of resulting requirements for and performance defined in underpinning contracts (UCs)
- ◆ Reporting to customers on any aspect of service level attainment, including reviewing variation from target
- ◆ Oversight of the implementation (by other processes) of Service Improvement Plans related to service level quality

### Excludes

- ◆ Making decisions on requests from customers for new services and functionality (Portfolio Management)

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- ◆ Primary responsibility for contractual relationships with either customers or suppliers (Supplier Management)
- ◆ Pricing the elements within the service catalog and specific SLAs (Service Pricing and Contract Administration)
- ◆ Technical work to implement changes to any service component or operational procedures relating to service improvements (as appropriate: many individual processes, Change Management, Portfolio Management)

## Activities

This process is composed of these activities:

- A241 Establish Service Level Management Framework
- A242 Develop Service Level Relationships
- A243 Create and Maintain Service Level Agreements
- A244 Monitor and Report Service Level Achievements
- A245 Conduct Service Review
- A246 Formulate Service Improvement Plan
- A247 Evaluate Service Level Management Performance

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## [A25] Demand Management

### Purpose

The purpose of the Demand Management process is to understand the patterns of the customers' business behaviors and relate those patterns to the impact on the supply of IT services. The intent of this process is to synchronize the consumption (demand) with the capacity (supply) of IT resources.

The benefit of demand management is to maximize the business value (value defined as benefit minus cost of the business process or business service) from the investment in IT resources. (Capacity Management focuses on the behavior of those IT resources; Demand Management understands and influences the behavior of IT resource consumers.)

### Outcomes

As a result of the successful implementation of this process:

- IT understands defined and tracked patterns of business activity (user profiles and geographic distribution)
- Patterns of consumption are identified
- Service level package<sup>14</sup> recommendations are provided to Service Level Management
- Instances of insufficient and excess capacity are minimized
- Consumption and production of service capacity are synchronized
- Demand policies and incentives are defined (both positive and negative)

### Scope

This process understands the expected business behavior of all demand sources across all customers, both at an individual customer level and collated to represent the overall impact on IT. It translates demand from business terms into IT service terms (such as consumption units). It

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14. See the PRM-IT Glossary and the ITIL V3 Glossary

identifies gaps and misalignment between demand and supply, and proposes policies and incentives designed to minimize or close the gaps.

### **Includes**

- ◆ Definition of high-level strategy and policy to influence demand
- ◆ Consideration of all mechanisms that can influence demand, including:
  - Rewards
  - Penalties
  - Service availability restrictions
  - On demand capacity allocation
- ◆ Investigation of both internal and external inhibitors to demand
- ◆ Recommendations for IT resource investment (when demand management measures are unable to reduce demand to fit within available supply)
- ◆ Translation of patterns of business activity into IT service consumption
- ◆ Recommendations on cost and price elasticity

### **Excludes**

- ◆ Implementation of demand influencing activities, such as policies and incentives (Capacity Management, Service Pricing and Contract Administration)
- ◆ Service portfolio content definition (Portfolio Management)
- ◆ Service catalog content update (Service Catalog Management)
- ◆ Investment decisions (Portfolio Management)
- ◆ IT resource consumption monitoring and reporting (Service Execution, Capacity Management)

### **Activities**

This process is composed of these activities:

- A251 Establish Demand Management Framework
- A252 Value and Classify Business Demands
- A253 Consolidate Business Demand Patterns and Forecasts
- A254 Forecast Service Demand
- A255 Identify and Plan Demand Management Initiatives
- A256 Assess and Report Demand Management Outcomes
- A257 Evaluate Demand Management Performance

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## [A26] IT Customer Transformation Management

### Purpose

The purpose of the IT Customer Transformation Management process is to assist customers in the transformation of their business throughout the life cycle; from the genesis of transformation ideas through the measurement and optimization of the benefits from implemented transformation. While this process primarily exists to support technology-based transformation, a customer might request assistance under this process for other kinds of transformation (a quality improvement program, using an approach like LEAN).

### Outcomes

As a result of the successful implementation of this process:

- Transformation opportunities, both incremental and more foundational, are identified and prioritized
- Customers and the business are encouraged to adopt transformational capabilities
- The IT organization contributes to the exploitation of transformational capabilities by guiding and overseeing their introduction
- The benefits achieved by transformation are defined, measured, analyzed, improved and controlled
- Reports indicating both benefits missed as well as further, unanticipated benefit potential inform transformation leadership teams

### Scope

#### Includes

- ◆ Being able to deal with each identified customer in a manner relevant to their individual needs
- ◆ Gaining sufficient understanding of the customer's business in order to contribute at the desired level
- ◆ Where appropriate:
  - Establishing joint working arrangements with the designated customer representatives
  - Providing business modeling and business case development skills and capabilities
  - Supporting transformation based on cultural and procedural change that is not (significantly) technology based
- ◆ Contributing to the cultural changes and other organizational change management efforts needed for successful transformation
- ◆ Benefit measurement and reporting

#### Excludes

- ◆ Decision making on the portfolio impact (for example, new services) resulting from transformation proposals (Portfolio Management)
- ◆ Direct development of information technology solutions and services (Realization category of processes)

### Activities

This process is composed of these activities:

- A261 Establish IT Customer Transformation Management Framework

- A262 Understand IT Customer Context
- A263 Identify IT Customer Transformation Opportunities
- A264 Develop IT Customer Transformation Proposal
- A265 Enable and Promote IT Customer Capability Adoption
- A266 Optimize IT Customer Benefit Realization
- A267 Evaluate IT Customer Transformation Management Performance

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## [A27] Customer Satisfaction Management

### Purpose

The purpose of the Customer Satisfaction Management process is to determine if customers are satisfied, and the degree of their satisfaction with the services, solutions, and offerings from the providers of IT. In addition to this determination, the process aims to proactively predict what the customer satisfaction will be, and then to determine what must be done to maintain or, where appropriate, enhance satisfaction and customer loyalty.

Definition of customer satisfaction: An expression of perceived actual service received versus expected (committed) service.

### Outcomes

As a result of the successful implementation of this process:

- Customer satisfaction and loyalty will be sustained and enhanced
- Customer satisfaction can be measured and tracked
- Early signs of customer dissatisfaction can be addressed and resolved before major issues emerge
- Causes of customer dissatisfaction are remedied

### Scope

This process is active throughout the service life cycle. It begins at the first contact with a customer as part of the effort to determine wants and needs, and continues through either creating a satisfied customer or with the monitoring of remedial actions to correct any problems leading to customer dissatisfaction. It encompasses the entirety of IT services, solutions and offerings (the IT service catalog).

### Includes

- ◆ Identifying customer types and classes
- ◆ Understanding:
  - Customer expectations
  - Customer perceptions
- ◆ Analysis of the current services catalog
- ◆ Ongoing identification of the key factors contributing to customer satisfaction and loyalty or dissatisfaction
- ◆ Development and maintenance of measurements of satisfaction and loyalty
- ◆ Collection and analysis of such measurements
- ◆ Planning, directing, and monitoring of efforts to remedy customer dissatisfaction, as well as to increase satisfaction, on both a proactive and reactive basis

- ◆ Communicating constraints and decision criteria agreed with customers transparently to users

#### **Excludes**

- ◆ Fulfillment of specific customer requirements (handled through Service Marketing and Sales) Execution of specific corrective actions for resolving issues (any other process, depending on the issue)
- ◆ Ongoing activities for managing service agreements and service level attainment (Service Level Management)

#### **Activities**

This process is composed of these activities:

- A271 Establish Customer Satisfaction Management Framework
- A272 Capture Customer Satisfaction Data
- A273 Analyze Customer Satisfaction
- A274 Manage Customer Satisfaction Issue Resolution
- A275 Assess Customer Satisfaction Patterns
- A276 Communicate Customer Satisfaction Management Results
- A277 Evaluate Customer Satisfaction Management Performance

## [A3] Direction

### Description

#### Purpose

The Direction process category provides guidance on the external technology marketplace, aligns the IT outcomes to support the business strategy, minimizes risk exposures, and manages the IT Architecture and IT Portfolio. Using the business strategy, related business requirements, and overall technology trends as key inputs, this process category creates an IT Strategy within the manageable constraints of the existing IT architecture and portfolio. In addition to the IT strategy, the IT Portfolio and IT Architecture are planned, created, implemented, monitored, and continuously improved within this process category. Items put forward for inclusion in the IT Portfolio are managed throughout their life cycle using product management approaches well established in many industries.

The IT portfolio includes all items managed to deliver the IT Strategy, including, but not limited to, the services published to clients through the Service Catalog, internal services executed within the IT organization, and new and established development initiatives. Moreover, the process category supplies the IT organization with a Project Management process to manage initiatives driven by the IT Strategy, such as development projects. Finally, risks to the IT organization, such as those posed by regulatory requirements, are prioritized and managed through risk mitigation plans.

#### Rationale

Through a business aligned IT strategy, IT architecture and IT portfolio, this process category ensures that the IT enterprise is aligned with the overall business direction. Using these artifacts, the IT organization will have the capability to clearly communicate to its customers the value of the services they provide, while mitigating the overall risk posture. This process category also instills basic project management discipline and controls.

#### Value

- Aligns IT endeavors to business goals and strategy
- Identifies and explains new trends and directions in the technology marketplace
- Triggers new initiatives to meet dynamic business and technology requirements
- Incorporates new technology trends into IT strategy and plans
- Establishes architectural guidelines and standards for solutions and services in order to enhance consistency, reuse, and overall value across the range of capabilities, balancing the need for individual solution optimization
- Mitigates IT and business risks efficiently and effectively
- Translates the initiatives into a mix of products (services, solutions) which will be managed through their life cycle from vision and business case to value measurement and retirement
- Optimizes the allocation of IT resources through Portfolio Management
- Articulates the value of IT's contribution to the business
- Ensures methodical project management processes and controls for improved quality and predictability

#### Processes

This process category is composed of these processes:

- A31 IT Strategy
- A32 IT Research and Innovation

- A33 Architecture Management
  - A34 Risk Management
  - A35 Product Management
  - A36 Portfolio Management
  - A37 Program and Project Management
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## [A31] IT Strategy

### Purpose

The purpose of the IT Strategy process is to set the direction for the outcomes to be achieved by the use of information technology, ensuring that it supports the business and business strategy to the level desired and funded.

It exists “To set the goals, and decide on areas of change,”<sup>15</sup> for IT capability to support the business strategy.

Definition of an IT Strategy: The collection of goals, policies, and plans that specify how an IT organization should function over a specific period.

### Outcomes

As a result of successful implementation of the IT Strategy process:

- The business has an understanding and appreciation of the potential value of information technology to the business. Examples are’s role in providing the business with the capability to achieve competitive advantage, and ensuring the ability to readily respond to changes in the business environment
- All aspects of information technology strategy (such as infrastructure, applications and services) are aligned with the business strategy, and regularly examined to maintain that alignment
- Information technology strategy is cost effective, appropriate, realistic, achievable, business-focused, balanced, and timely
- Clear and concrete short term goals (which are then to be translated into operational plans) can be derived from and are traceable back to specific long term plans.

### Scope

The IT strategy should address long and short-term objectives, business direction and its impact on IT, the IT culture, communications, information, people, processes, technology, development, and partnerships.

### Includes

- ◆ Interacting with business strategy
- ◆ Setting strategic goals for IT
- ◆ Creating overarching guidance for specific IT functional areas
- ◆ Understanding the value, both the overall classes and the specific targets, which the business requires IT to provide or support
- ◆ Generating preliminary value propositions for the actual and proposed IT contributions to the business

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15. Source: IBM Academy of Technology Study AR221 (2004), “Enterprise Architecture in the era of on demand”.  
Definition of strategy.

### Excludes

- ◆ The creation of the first level of plans to realize the strategy (Portfolio Management, Product Management)
- ◆ The creation, recommendation, and adoption of IT architectures for the next layers of detail, like hardware and software (Architecture Management)
- ◆ Adjusting the way that the IT undertaking organizes and runs itself to realize the strategy (IT Governance and Management System category of processes)

### Activities

This process is composed of these activities:

- A311 Establish IT Strategy Process Framework
- A312 Understand Business Strategy
- A313 Determine IT Strategic Potential
- A314 Develop IT Strategy Initiatives
- A315 Consolidate and Communicate IT Strategy
- A316 Monitor and Assess IT Strategy Effectiveness
- A317 Evaluate IT Strategy Process Performance

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## [A32] IT Research and Innovation

### Purpose

The IT Research and Innovation process exists to identify new developments in technology, methods and solutions that have potential to create business value. It conducts research on the applicability and benefit of new approaches and technologies, and promotes the use of viable, innovative concepts in support of business objectives.

General definitions of:

- Research: (*Noun*) Scholarly or scientific investigation or inquiry (*Verb*) To study something thoroughly to present it in a detailed, accurate manner
- Innovation:
  1. The act of introducing new things or methods
  2. Innovation = creative idea + implementation

### Outcomes

As a result of successful implementation of this process:

- The business is fully aware of marketplace, industry and technology trends, and the potential impact of these forces
- Business value is created through the qualification and staging of the most appropriate advances and innovations in technology, methods and solutions
- Business objectives are met with improved quality and reduced cost as a result of the identification and promotion of viable innovative solutions for operational usage

## Scope

The process covers any selected combination of internal, external and cooperative efforts in any part of the range of research and innovation activities.

### Includes

- ◆ Identification of areas or fields to be researched
- ◆ Responding to research requests and identifying relevant developments within monitored fields of interest
- ◆ Monitoring, understanding, and promoting:
  - Market and industry trends
  - Emerging technologies
  - Technology-enabled solutions
  - Methods and techniques for exploiting technology and solutions
  - Solution strategies
  - Organizing the storage and retrieval of research results

### Excludes

- ◆ Decisions on adopting innovative technologies and solutions for productive use (Portfolio Management)
- ◆ Actual development and deployment of solutions for productive use (Realization and Transition processes)
- ◆ Project Management (Program and Project Management)

## Activities

This process is composed of these activities:

- A321 Establish IT Research and Innovation Framework
- A322 Identify IT Research and Innovation Candidates
- A323 Qualify Candidates and Define IT Research and Innovation Projects
- A324 Perform IT Research and Innovation Project
- A325 Promote IT Research and Innovation Results
- A326 Evaluate IT Research and Innovation Performance

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## [A33] Architecture Management

### Purpose

The Architecture Management process exists to create, maintain, promote and govern the use of IT architecture models and standards, across and within business change programs. IT Architecture thus helps the stakeholder community coordinate and control their IT related activities, in pursuit of common business goals.

Definition of IT architecture: “An overarching set of rules of construction, suitable for a defined range of external circumstances. Usually includes a definition of the parts permitted for use in the design, together with a specification of how the parts can be used within specific implementations and the range of values for which the part is valid.”<sup>16</sup>

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16. Source: IBM Academy of Technology Study AR221 (2004), “Enterprise Architecture in the era of on demand,” page 15.

## Outcomes

As a result of successful implementation of this process:

- From the boardroom to the desktop, all elements of business and IT solutions receive governance and guidance that has enhanced flexibility, consistency, integration, and reuse
- All information systems and information technology infrastructure exhibit improved manageability characteristics
- The exploitation of IT across the enterprise is effective and efficient

## Scope

An effective enterprise architecture (EA) should encompass:

- An architecture
  - This is the way our projects should be engineered.
  - An EA provides a specification of the business and IT architecture models that must be adopted by change programs and projects. This includes the overall business, application, data, services, infrastructure architectures, and together with the principles and guidelines needed to ensure these models are exploited properly.
- Governance
  - An EA must be flexible and evolve constantly if it is to support the business changes needed by an organization wanting to innovate and transform itself. Architectural governance has two aspects: ensuring that the architecture's specifications are adhered to (or formal exceptions granted), and ensuring that the architecture evolves in step with business demands.
- Transition Planning
  - These are the projects we should do and this is their scope.
  - An EA needs a collection of processes and tasks designed to support the selection and scoping of the right projects aimed at realizing the EA vision. The processes should be in concert with the business-as-usual business and IT project prioritization planning processes.

## Includes

- ◆ Business Architecture (BA)
  - The relationships and interactions between the various business units, at appropriate levels of decomposition
- ◆ Information Systems (IS) Architecture
  - The business-dependent aspects of IT; the automated parts of BA
- ◆ Information Technology (IT) Architecture
  - The business-independent aspect of IT; the underlying IT infrastructure

The architecture must consistently support several viewpoints across these three areas:

- ◆ The applications viewpoint ensuring functionality can track through the layers. For example, enabling an architect to link business activities and processes to applications and transaction management services
- ◆ The data viewpoint – ensuring an architect approach to information. For example, linking business entities to data definitions and into database technologies
- ◆ User viewpoint – facilitating the identification and support of an enterprise's user groups (whether internal or external, private or corporate), including the definition of how they are to be supported at the IS (user interface) and IT (interface technology) levels

The architecture must be:

- ◆ Maintained – An enterprise needs to keep its architecture fresh and vital, reacting to changes in the businesses strategy as well as changes in technology through a vitality process. In all probability, this will include the identification of new or changes to existing standards through a selection process
- ◆ Used and controlled – It is necessary to actively ensure that solution projects conform to the constraints of the architecture (while still assuring their ability to meet the project's business requirements) through a conformance process. Inevitably, there will be occasions when there is a conflict between the project's needs and the architecture, requiring an exception process
- ◆ Communicated – To be effective, the architecture must be understood by those who are required to use it, through the use of a communication process

### Excludes

- ◆ Portfolio Management, in which specific change programs are identified, prioritized, and managed to completion
- ◆ Requirements specification, in which specific business requirements are identified and translated into specifications (Solution Requirements)
- ◆ Solution design, in which specific IT systems are designed to meet particular business or IT operational needs
- ◆ Solution delivery and operation, including the procurement, commissioning and operation of IT components and systems
- ◆ Enterprise systems management, responsible for planning and execution of day-to-day management of the installed IT infrastructure

### Activities

This process is composed of these activities:

- A331 Establish Architecture Management Framework
- A332 Review Overall Environment and Architecture
- A333 Create and Maintain Architecture Models
- A334 Define and Maintain Architecture Baselines and Roadmaps
- A335 Promote Architecture Transition Initiatives
- A336 Govern Architecture Usage
- A337 Evaluate Architecture Management Performance

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## [A34] Risk Management

### Purpose

The Risk Management process exists to identify risks associated with the activities of the IT endeavor and to make measured, appropriate responses to mitigate, ignore, avoid or transfer those risks in line with the desired level of risk tolerance.

The definition of risk is “A possible Event that could cause harm or loss, or affect the ability to achieve Objectives. A Risk is measured by the probability of a Threat, the Vulnerability of the Asset to that Threat, and the Impact it would have if it occurred.”<sup>17</sup>

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17. ITIL V3 Glossary

## Outcomes

As a result of successful implementation of this process:

- All of the activities carried out within IT support the desired risk posture while providing the maximal benefit
- The business and IT are able to appropriately respond to threats and opportunities
- Minimal risk exists in the fulfillment of fiduciary responsibilities to stakeholders of the business

## Scope

This process provides the overall framework in which risks are handled. Other processes within IT work in conjunction with this process to ensure that specific risk areas are adequately responded to and covered.

Risks occur from a variety of internal and external sources, and cover the range of strategic, tactical, and operational activities. Consideration of risk covers the potential opportunity from a risk outcome happening in addition to the more traditional consideration of possible downside outcomes.

## Includes

- ◆ External risk sources<sup>18</sup> such as:
  - Financial: Interest rates, foreign exchange, credit
  - Strategic: Competition, industry and customer changes, mergers and acquisition integration
  - Operational: Regulations, Culture, Board Composition
  - Hazard: Natural events, environment, contracts
- ◆ Internal risk sources:
  - Employees
  - Information systems
  - Accounting controls
  - Cash flow
  - Research and development
  - Facilities
- ◆ Risk workshops
- ◆ Mitigation strategies

## Excludes

- ◆ Identification of compliance requirements and controls (Compliance Management)
- ◆ Security-specific risk management (Security Management), though overall decision making *is* part of this process
- ◆ Implementation and operation of the recommended risk controls (responsibility of the target IT processes)
- ◆ Business Continuity Management (Business responsibility in conjunction with IT Service Continuity Management)

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18. Taken from *A Risk Management Standard*. The Institute of Risk Management. 2002

## Activities

This process is composed of these activities:

- A341 Establish Risk Management Framework
- A342 Identify Threats, Vulnerabilities and Risks
- A343 Assess Risk
- A344 Define Risk Mitigation Plans and Countermeasures
- A345 Enact and Operate Risk Countermeasures
- A346 Assess and Report Risk Mitigation Results
- A347 Evaluate Risk Management Performance

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## [A35] Product Management

### Purpose

The purpose of the Product Management process is to guide any IT product (such as an application, an infrastructure component, an IT service, documentation, or combination thereof) throughout its life cycle from inception to retirement and to be the ultimate owner of that product.

Definition of Product: an application, asset, tool, or IT assembly that will be used in the delivery of a set of IT services to IT customers.

### Outcomes

As a result of the successful implementation of this process:

- Robust, resilient products meet the IT service needs of IT customers
- Evolving IT products meet business needs
- Adequate resources are provided to carry out product development and support needs
- Each product has a long-term vision and direction

### Scope

Product Management involves oversight through the entire life of a product.<sup>19</sup> This process will make the case for allocation of resources to this product (and hence its inclusion into the portfolio) and then provide stewardship over the efforts to create, launch, operate, maintain and finally retire the product. It will measure product value against objectives throughout the life cycle, and make recommendations for any modification of the product within the overall portfolio.

Designation as a product does not indicate the make-up of solutions and services that will be managed. It acts purely as the unit of management for this process. A product could be developed that becomes the basis for, or contributes to, many services. The converse is also possible.

This process has a symbiotic relationship with Portfolio Management; put another way, they could be seen as two sides of a coin. Whereas Portfolio Management takes an aggregate, balancing view across all IT activities, Product Management exists to champion the case for each IT solution, service or general capability which is managed as a product. In many cases, the Portfolio Management process will trigger a product life cycle by making a high-level, conceptual decision to pursue an opportunity area. Product Management is then responsible for developing the concept through to productive use while under the overall decision-making authority of Portfolio Management.

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19. See ITIL V3 *Service Strategy*, Appendix B2 for further discussion

### **Includes**

- ◆ Product vision
- ◆ Long-term product requirements management (as opposed to Solution Requirements, which manages requirements for a specific release)
- ◆ Product marketing and launch
- ◆ Ownership of the content that is included in the Service Catalog
- ◆ Oversight of ongoing product development and enhancement
- ◆ Approval authority over product change requests
- ◆ Initiation of necessary change requests to bring a new product release into production
- ◆ Product assessment and improvement
- ◆ Product retirement

### **Excludes**

- ◆ Development (Realization category of processes)
- ◆ Product sales (Service Marketing and Sales)
- ◆ Project management

### **Activities**

This process is composed of these activities:

- A351 Establish Product Management Framework
- A352 Formulate Product Concept
- A353 Plan and Control Product Lifecycle
- A354 Initiate and Oversee Product Realization
- A355 Guide Product Transition and Operation
- A356 Monitor and Assess Product Performance
- A357 Evaluate Product Management Performance

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## **[A36] Portfolio Management**

### **Purpose**

The purpose of the Portfolio Management process is to decide the content of and resource allocation for the set of IT investments. It includes both long-term and large-scale, as well as short-term limited-scope opportunities, based on the strategic intent and priorities of the business.

This includes assessing all undertakings that consume resources (such as applications, services, and IT projects) in order to understand their value to the IT organization.

Definition of Portfolio: The set of development projects and ongoing delivery services that are part of the IT budget.

### **Outcomes**

As a result of the successful implementation of this process:

- Customers participate in defining the IT Portfolio
- The strategic fit of IT investments to business intent and priorities is very well matched
- Business needs correlate very closely to IT expenditures

- The portfolio meets business needs
- The business receives maximum value from the IT Portfolio

## Scope

Provide for the continuous identification, evaluation, selection, control, and life cycle management of the aggregate collection of IT investments

### Includes

- ◆ Cognizance of key business drivers to influence investment decisions
- ◆ Decisions on what programs and projects to fund, often in conjunction with any business or customer stakeholders
- ◆ Application portfolio management
- ◆ Identification of in-sourced, out-sourced, business, and infrastructure applications and services to be included in the portfolio
- ◆ Determination of value obtained or projected from portfolio items

### Excludes

- ◆ Execution of projects (Program and Project Management)
- ◆ Asset management
- ◆ Delivery of services (Operations category of processes)
- ◆ Service Level Management
- ◆ Customer Satisfaction Management

## Activities

This process is composed of these activities:

- A361 Establish Portfolio Management Framework
- A362 Inventory IT Projects and Services
- A363 Create and Maintain IT Portfolio Categories
- A364 Assess and Prioritize IT Portfolio
- A365 Make IT Portfolio Decisions and Commitments
- A366 Conduct IT Portfolio Review
- A367 Communicate IT Business Value and IT Portfolio Performance
- A368 Evaluate Portfolio Management Performance

## [A37] Program and Project Management

### Purpose

The purpose of Program and Project Management is to plan and oversee programs and projects in support of their objectives.

The definition of a project is a team-based effort to meet specific objectives within a defined period of time.

The definition of a program is a long-term endeavor undertaken to implement a strategy or mission to meet business or organizational goals. A program is realized through multiple projects and ongoing activity.

### Outcomes

As a result of successful implementation of this process:

- Projects are completed by the committed target date and within the allocated budget
- Stakeholder value is maximized through continuous evolution with stakeholders of project parameters (scope, budget, time lines, quality) as necessary
- The risk within the customer's business environment is reduced through precisely defined projects with clearly identified and managed risks
- Programs controlling multiple projects achieve maximization of value through coordination of trade-offs between requirements and solution space, and of incremental project completion and delivery
- Productivity is increased by a clear definition of roles, responsibilities, and deliverables, which result in faster startup through the use of knowledge management, less rework, and more productive time available to the project
- Project resource commitments are clearly separated from operational workload demands
- Customer and project teams form more quickly and use common terminology, facilitated by clearer communication
  - Customer satisfaction increases through visibility of the project plans, schedule, and actual performance against the project objectives

### Scope

Programs and projects are similar in that they both require planning and oversight. However, they are different in a number of ways. Projects are a temporary endeavor with a simple management structure, whereas programs are long-term, have a more complex management structure (typically involving a steering committee), and are carried out by a number of projects. In addition, the success or failure of a program is more likely to affect the bottom line of a business.

The same activities apply to both Program and Project Management, but with differing scope and time scales. Activities within the Program and Project Management process can be classified into four basic groups:

1. Defining and initiating
2. Planning
3. Executing, monitoring and controlling
4. Closing

A project usually consists of a series of phases, known as the project life cycle, and these groups of process activities can be applied to each phase individually or to a set of multiple phases. Therefore, these groups do not necessarily correspond to the phases of the project life cycle. For example, in a waterfall project, executing and controlling activities can be completed in the design phase of a project, alongside or followed by planning activities for the development phase.<sup>20</sup>

The activities described represent a broad model for Project Management activities, which is largely applicable to both projects and programs alike. A program is realized through multiple projects and ongoing activity.

**Includes**

- ◆ Identifying program and project goals
- ◆ Establishing clear and achievable objectives
- ◆ Balancing the competing demands for quality, scope, time, cost factors and resources
- ◆ Creating project plans
- ◆ Program and project status reporting to stakeholders
- ◆ Reconciling the specifications, plans, and approach to the different concerns and expectations of various stakeholders
- ◆ Running joint projects with any external agent (such as business, customers, suppliers):
  - Such projects might need to establish agreed standards and conventions
  - Alternatively, in the case of multi-supplier projects, there can be reporting responsibilities to the prime contractor while in-house practices apply within each contractor's scope

**Excludes**

- ◆ Performance and delivery activities (many process categories carry out this work)
- ◆ Promotion of the end result to production (Deployment Management, usually within a program or project context)

## [A4] Realization

### Description

#### Purpose

The Realization process category exists to create solutions that will satisfy the requirements of IT customers and stakeholders, including both the development of new solutions and the enhancements or maintenance of existing ones. Development includes options to build or buy the components of that solution, and the integration of them for functional capability.

This process category encompasses the engineering and manufacturing of information technology products and services and includes the making or buying of solutions, systems, integration, and extensions to existing solutions. Maintenance and end-of-life shutdown activities (requiring solution adjustment) are also addressed in this category.

The basic unit of work is assumed to be a project. However, these projects can vary from quite small and of short duration to very large and long-term. The processes act together, often iteratively and in parallel, in a project-driven context to create information technology solutions for specific sets of stakeholder requirements.

Many engineering disciplines are relevant to the achievement of successful outcomes for these projects. Examples of such disciplines include:

- Performance engineering
- Test engineering
- Requirements engineering

#### Rationale

The Realization process category addresses a broad range of systems and service synthesis activities, including integration of hardware components, software and network components, applications development, and other modifications to the computing infrastructure. This process category accommodates all levels of the solution's configuration (individual parts, subassemblies, distributed components, among others) and component types (hardware, software, printed documentation, skills, architectures and designs, training).

#### Value

- Lays the foundation for the business to receive value from its investment in IT by creating solutions that meet customer requirements
- Ensures that standards and principles (such as buy or build guidelines) are followed
- Provides fully integrated solutions with predictable performance characteristics
- Obtains full stakeholder agreement that solutions are ready for deployment
- Produces high quality work products

#### Processes

This process category is composed of these processes:

- A41 Solution Requirements
- A42 Solution Analysis and Design
- A43 Solution Development and Integration
- A44 Solution Test
- A45 Solution Acceptance

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## [A41] Solution Requirements

### Purpose

The purpose of the Solution Requirements process is to provide “a systematic approach to finding, documenting, organizing, and tracking a system's changing requirements,”<sup>21</sup> so that an agreed understanding is reached as to what the solution should do.

Definition of solution requirement: “A condition or capability to which the system must conform.”<sup>22</sup>

### Outcomes

As a result of successful implementation of this process:

- Stakeholder agreement on high-level requirements is achieved before the solution is designed, developed, and deployed
- Detailed requirements are evolved iteratively with solution design, development, and testing
- Trade-offs between requirements and solution are managed to maximize stakeholder value
- An accurate understanding of solution requirements exists, enhancing the probability that the correct solution will be created
- Customer, stakeholder, and user requirements are clearly defined and documented
- Traceability is maintained between requirements and solution specifications derived from them
- Rework due to incorrect or misunderstood requirements is minimized

### Scope

This process focuses on translating or elaborating agreed customer (business) requirements and IT stakeholder-generated requirements or constraints into solution-specific terms, within the context of a defined solution project or program.

It includes establishing operational requirements engineering approaches. Examples often cited include IEEE 830 Recommended practice for software requirements specifications, IEEE Software Engineering Body of Knowledge, CMMI and the ITIL V-model (ITIL Service Transition).<sup>23</sup>

### Includes

- ◆ Business context modeling
- ◆ Collecting, understanding, validating, formalizing and documenting solution requirements
- ◆ Clarifying, analyzing, and refining the requirements from the Stakeholder Requirements Management process
- ◆ Ongoing management of requirements for this solution
- ◆ The complete Solution Requirements taxonomy, including:
  - Functional requirements
  - Non-functional requirements, under headings such as Service Management and Compliance
  - Deployment requirements (packaging, education, and training)
  - Usability requirements
  - Change cases and scalability requirements

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21. IBM Rational Unified Process

22. IBM Rational Unified Process

23. See *ITIL Service Design*, p167

- Testing requirements
- Stakeholder acceptance criteria
- Solution life cycle requirements, including solution shutdown and retirement
- ◆ Risk and feasibility analysis of requirements
- ◆ Requirements baseline generation and traceability audits
- ◆ Service management considerations
- ◆ Business modeling discipline and requirements management discipline

#### **Excludes**

- ◆ Translation from requirements to design specification (Solution Analysis and Design)
- ◆ The life cycle management of customer wants and needs through agreed, prioritized business requirements (Stakeholder Requirements Management)
- ◆ Configuration Management

#### **Activities**

This process is composed of these activities:

- A411 Establish Solution Requirements Framework
- A412 Refine and Verify Business Context
- A413 Document and Analyze Solution Requirements
- A414 Validate Solution Requirements with Stakeholders
- A415 Manage Solution Requirements Baseline
- A416 Evaluate Solution Requirements Performance

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## **[A42] Solution Analysis and Design**

### **Purpose**

The Solution Analysis and Design process exists to create a fully documented design from the agreed solution requirements, describing the behavior of solution elements, the acceptance criteria, and agreed measurements.

### **Outcomes**

As a result of successful implementation of this process:

- Solution designs optimize the trade-offs between requirements and constraints
- Stakeholder agreement on high-level solution design is achieved before major investments in solution development is done
- Reuse of existing solution designs and components minimizes time-to-implementation and improves solution quality
- Flexible and effective designs reduce the total cost of ownership over the complete solution life cycle

### **Scope**

Design of all aspects of the solution necessary to meet stakeholder requirements.

### **Includes**

- ◆ Creating and managing design baselines (specifications baseline, component architecture baseline) throughout the full range of the solution life cycle including solution shutdown and retirement
- ◆ Ensuring solution design compliance with the business and IT architectures
- ◆ Identification and consideration of constraints, such as budget, and making cases for constraint relief or seeking guidance when a sound solution design is not achievable against those constraints
- ◆ Creating different solution architectural views (component model, operational model, deployment model, data model)
- ◆ Evaluating trade-offs (such as financial cost alternatives) and making design and sourcing approach decisions (make versus buy versus reuse)
- ◆ Making architecture exception requests
- ◆ Modeling, simulation, and prototyping
- ◆ Design of all required solution elements (application, infrastructure, process, organization, data, training, deployment, technology, testing)
- ◆ Systems operation and management design, such as significant event definition, monitoring data definitionHigh and low level design
- ◆ Ensuring cross-functional participation in design acceptance from service management disciplines

### **Excludes**

- ◆ Enterprise architecture (Architecture Management)
- ◆ Requirements management (Stakeholder Requirements Management, Solution Requirements)
- ◆ Procurement (Supplier Management)
- ◆ Solution Development and Integration

### **Activities**

This process is composed of these activities:

- A421 Establish Solution Analysis and Design Framework
- A422 Create Conceptual Solution Design
- A423 Identify and Select Solution Components
- A424 Create Detailed Solution Design
- A425 Validate Solution Design With Stakeholders
- A426 Evaluate Solution Analysis and Design Performance

## [A43] Solution Development and Integration

### Purpose

The Solution Development and Integration process exists to bring together all of the elements specified by the solution design, regardless of whether they are to be created or acquired, and to complete their customization, configuration, and integration.

### Outcomes

As a result of the successful implementation of this process:

- Agreed solutions are produced to approved specifications, on time, within budget and generally maximizing stakeholder value
- Frequent demonstrations of capabilities to stakeholders are done to provide feedback on requirements, other specifications, and implemented assets
- Lessons learned are fed to key stakeholders so requirements and other specifications can be evolved as necessary
- Solutions are ready for testing and examination of solution capabilities
- All necessary elements exist to support Solution Management (life cycle, maintenance, known errors, documentation, best practice guidance, and others)
- All solution components are identified and tracked
- Solution characteristics are fully verified before Solution Acceptance activities

### Scope

#### Includes

- ◆ Establishing development standards
- ◆ Development of new functionality
- ◆ Integration of new and existing functionality
- ◆ Use of all design elements
- ◆ Prototyping
- ◆ Creating alpha, beta, and general availability versions of solutions
- ◆ Making any procured elements available to the solution development and integration team. These can come from external or internal providers
- ◆ Working in conformance with agreed version control policies and procedures for solution elements, at whatever level of assembly or integration

#### Excludes

- ◆ Testing (unit testing is considered to be in the Solution Test process, even if performed by the implementer or builder)
- ◆ Solution pilot and deployment (Deployment Management)
- ◆ Procurement (Supplier Management)
- ◆ Asset Management
- ◆ Administration of version control (includes Configuration Management of elements within the solution during the development phase)
- ◆ Called change management version control (CMVC) in CMMI

## Activities

This process is composed of these activities:

- A431 Establish Solution Development and Integration Framework
- A432 Define Solution Development and Integration Plan
- A433 Prepare Solution Development and Integration Environment
- A434 Acquire or Create Solution Components
- A435 Integrate Solution Components
- A436 Refine and Tune Integrated Solution
- A437 Verify Integrated Solution
- A438 Evaluate Solution Development and Integration Performance

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## [A44] Solution Test

### Purpose

The Solution Test process exists to validate prior to deployment that the solution and its features conform to design specifications and requirements. It also verifies that interim work products exist and conform to standards.

Testing is performed throughout the entire life cycle of the solution, including post-deployment.

### Outcomes

As a result of successful implementation of this process:

- Solution functionality is verified and documented
- The actual characteristics and behavior of the solution are well known. Any differences with the solution requirements and agreed design specifications are reported.
- Solution defects are identified before the decision is made to migrate to the production environment
- Developers and stakeholders receive thorough quantitative and qualitative assessments of solution quality. (It is intended that the developers and stakeholders take some action as a result of having received this information.)
- Stakeholder expectations match solution characteristics.

### Scope

The *ITIL Service Transition* book provides useful discussion and examples. See the discussions around the service V-model.<sup>24</sup>

### Includes

- ◆ All types of testing, such as:
  - Unit testing
  - Integration testing
  - Acceptance testing
  - Usability testing
  - Operability testing
  - Security testing
  - Regression testing
- ◆ Test case development

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24. *ITIL Service Transition*, figures 4.21 and 4.30

- ◆ Generating test results
- ◆ Managing the documentation of the test results
- ◆ Satisfying the requirements of the test management checklist

#### **Excludes**

- ◆ Fixing errors (depending on the nature of the error, this could involve any combination of Solution Requirements, Solution Analysis and Design, Solution Development and Integration)
- ◆ Design for testability (Solution Analysis and Design)
- ◆ Knowledge management
- ◆ Gaining acceptance (Solution Acceptance)
- ◆ Piloting (Deployment Management)
- ◆ Auditing (Solution Acceptance)

#### **Activities**

This process is composed of these activities:

- A441 Establish Solution Test Framework
- A442 Develop Solution Test Strategy and Plans
- A443 Prepare and Manage Solution Test Environment
- A444 Perform Solution Test
- A445 Analyze and Report Solution Test Results
- A446 Evaluate Solution Test Performance

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## **[A45] Solution Acceptance**

### **Purpose**

The purpose of the Solution Acceptance process is to validate that the proposed solution, either as individual artifacts or in its complete form, meets acceptance criteria at defined checkpoints

### **Outcomes**

As a result of successful implementation of this process:

- Stakeholders agree before deployment that all requirements have been met
- The solution's capability to meet service level agreements is validated
- Transition of the solution into live service presents minimum risk
- The production environment remains stable and predictable after incorporating this solution
- Those responsible for delivering service and support are properly prepared to do so

### **Scope**

ITIL defines acceptance as: "Formal agreement that an IT Service, Process, Plan, or other Deliverable is complete, accurate, Reliable and meets its specified Requirements. Acceptance is usually preceded by Evaluation or Testing and is often required before proceeding to the next stage of a Project or Process."<sup>25</sup>

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25. ITIL V3 Glossary

This process operates throughout and beyond the lifetime of a solution realization project. An instance of examining the acceptance of a service can be triggered post-deployment, perhaps as part of a pilot rollout.

### Includes

- ◆ Periodic review of solution project performance to date and status in respect of solution acceptance criteria
- ◆ Involvement of all relevant stakeholders, such as:
  - Solution customer
  - Solution developer
  - Provider of service for the solution once deployed—this includes operational staff as well as management
  - Interested parties in relation to non-functional concerns, like security, compliance, conformance to architectural and development guidelines)
  - Users
- ◆ Assisting in the development of approved solution plans and commitments
- ◆ Obtaining the customer perspective on prototype work products and accepted solutions
- ◆ Working with the customer to facilitate acceptance of the solution
- ◆ Working with the customer to facilitate acceptance of solution shutdown and retirement
- ◆ Documenting how the confirmed requirements are met in the accepted solution and in interim milestones
- ◆ Identifying and tracking of all acceptance review results and issues

### Excludes

- ◆ Testing (Solution Test)
- ◆ Providing education and training (Deployment Management)
- ◆ Establishing service levels (Service Level Management)

### Activities

This process is composed of these activities:

- A451 Establish Solution Acceptance Framework
- A452 Create Solution Acceptance Plan
- A453 Define Solution Acceptance Criteria
- A454 Perform Solution Acceptance Review
- A455 Certify Solution Acceptance
- A456 Package Certified Solution
- A457 Evaluate Solution Acceptance Performance

## [A5] Transition

### Description

#### Purpose

The Transition category of processes exists to support any aspect related to a life cycle status change in *solutions* and *services*. The processes provide defined and repeatable approaches to planning, effecting and recording these transitions and can be applied to all stages of the life cycle. They also serve to maintain control over the Information Technology (IT) resources that are subject to such status changes. Further, the processes in this category provide vital enabling information to other process areas related to the management of IT. Using these processes, developments in IT capabilities supporting the stakeholding businesses and customers achieve their desired operational status from which value can be derived.

#### Rationale

A transition can vary in scope and scale from a roll out of a major solution to a large population of users across multiple geographic territories to the installation of a fix or patch to a single configuration item or the controlled update of an individual software module during development. Transition instances can also be triggered by changes in the service provider arrangements, whether or not there is also a change in service capabilities and characteristics. Any modification to a known set of resources carries with it some risk of failure and so, whatever the motivation for the transition, there is a need to ensure that approaches which minimize that risk are followed and that information about the state of resources is maintained.

#### Value

- Improves the speed of innovation while balancing the business need for stability in the IT infrastructure
- Controls and maintains accurate information on the infrastructure, applications, and services
- Implements solutions that provide new functionality, eliminates the root causes of defects or performs tuning actions without business disruption
- Enables gradual and measured improvements in the way that changes are introduced into complex and interdependent live environments
- Supports the efficiency and effectiveness of other processes by providing accurate information on managed elements (configuration items (CIs), managed objects, among others)

#### Processes

This process category is composed of these processes:

- A51 Change Management
- A52 Release Management
- A53 Deployment Management
- A54 Configuration Management
- A55 Asset Management

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## [A51] Change Management

### Purpose

The purpose of the Change Management process is to achieve the successful introduction of changes to an IT system or environment. Success is measured as a balance of the timeliness and completeness of change implementation, the cost of implementation, and the minimization of disruption caused in the target system or environment. The process also ensures that appropriate details of changes to IT resources (assets, CIs) are recorded.

Basically, a change is anything that alters the status of a configuration item (CI). This typically includes anything that adds to, deletes from, or modifies the IT environment. The definition of a change is the addition, modification or removal of approved, supported or baselined hardware, network, software, application, environment, system, desktop build or associated documentation.

A change request (for which RFC is an established synonym) is the means for documenting proposed change and actual change activity in IT resources or capabilities. Change requests can be triggered for a wide variety of reasons, from a wide variety of sources. Change requests can be concerned with any part of the infrastructure or with any service or activity.

### Outcomes

As a result of the successful implementation of the Change Management process:

- Changes are introduced in a timely and controlled manner
- Proposed changes are not approved nor introduced without an accurate assessment of their costs and other effects
- Incidents resulting from the introduction of changes are minimized
- Service quality is measurably improved
- Appropriate balance is maintained between the business need to deploy innovation and the need to maintain the stability of IT service

### Scope

Change Management typically begins with the creation of a Change Request (RFC). The change request documents details of the proposed change in order to support a range of business and technical assessments, leading to approval (or rejection) and ultimately to application of the change.

The Change Management process represents a pattern of activities and work flow, which can be implemented over a range of contexts. The most prominent contexts include operations and development. Operations Change Management and Development Change Management are similar in a number of ways, including recording of all change requests, assessment of all change requests prior to approval, a team-based approach to change approval, and review of change effectiveness. However, they are different in a number of ways:

- Development Change Management addresses changes proposed to a system under development. These changes may include requests for new functionality, patches, or redevelopment. In contrast, Operations Change Management focuses on changes to operational CIs in the entire IT infrastructure. These changes can include capacity tuning, asset transfer, and system resets.
- Changes are assessed and approved using a team. Each context typically has its own change board and membership, addressing different types of changes, and using different assessment criteria. In development, the team is often known as the Change Control Board; in ITIL, the term Change Advisory Board is used. A higher level board can be established to ensure integration of changes across contexts.

Change Management can appear in other contexts besides operations and development. There can be a single implementation of the Change Management process or several, with each

implementation covering the scope of a defined context. Factors such as size of the organization and different start and end points defining a change can lead to multiple implementations of change management, with each following the process principles and pattern described but employing procedures and decision criteria customized for their context.

This process establishes classification and categorization schemes to assist with change assessment activities. It also defines the implementation approaches that will be assigned to approved changes in order to standardize the supervisory control levels, consistent with the assessment recommendations. ITIL, in the context of managing production environments, uses the term Change Model for these schemes.

Definition of Change Model: "A repeatable way of dealing with a particular Category of Change. A Change Model defines specific pre-defined steps that will be followed for a Change of this Category. Change Models may be very simple, with no requirement for approval (e.g. Password Reset) or may be very complex with many steps that require approval (e.g. major software Release)."<sup>26</sup>

Examples of change models:

- A standard change is "A pre-approved Change that is low Risk, relatively common and follows a Procedure or Work Instruction. For example password reset or provision of standard equipment to a new employee. RFCs are not required to implement a Standard Change, and they are logged and tracked using a different mechanism, such as a Service Request."<sup>27</sup>
- An emergency change is "A Change that must be introduced as soon as possible. For example to resolve a Major Incident or implement a Security patch."<sup>28</sup>
- For software development, there will frequently be different change types based on the impact to the overall system, and hence requiring different levels of approval, such as architectural change as compared with scope change, and change that is local to one component.

Some activities in the process require examination of several or all changes collectively rather than on an individual basis. For example, scheduling changes for implementation requires consideration of the other changes planned for the same dates and target environments in order to identify conflicts.

#### **Includes**

- ◆ Planned changes, standard changes (pre-approved by policy), and emergency changes (policy exception request)
- ◆ Establishing both recurring and one-time only schedules (change windows) during which changes can be performed without negatively affecting commitments, such as project schedules, projected availability, or SLA commitments
- ◆ Enforcement of standard methods and procedures from request for change through post implementation review
- ◆ Establishing regular meetings and communication schedules to evaluate proposed changes and schedules
- ◆ Control and management coordination of the implementation of those changes that are subsequently approved
- ◆ Maintenance of open channels of communications to promote smooth transition when changes take place

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26. ITIL V3 Glossary  
27. ITIL V3 Glossary  
28. ITIL V3 Glossary

- ◆ Increased visibility and communication of changes to both business and support staff

### Excludes

- ◆ Requirements Management (Stakeholder Requirements Management)
- ◆ Creation of new or revised functionality (Realization category processes)
- ◆ Building the packaging for the delivery of new or revised functionality (Release Management)
- ◆ Technical implementation, such as distribution, preparation, installation, and back out if necessary (Deployment Management)
- ◆ Configuration Management, although the interface to this process must be managed
- ◆ Asset Management, although the interface to this process must be managed
- ◆ Business transformation and organizational change (IT Customer Transformation Management)

### Activities

This process is composed of these activities:

- A511 Establish Change Management Framework
- A512 Create and Record Change Request
- A513 Accept and Categorize Change
- A514 Assess Change
- A515 Authorize and Schedule Change
- A516 Coordinate Change Implementation
- A517 Review and Close Change
- A518 Monitor and Report Change Management
- A519 Evaluate Change Management Performance

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## [A52] Release Management

### Purpose

The purpose of the Release Management process is to prepare and finalize release packages that are fit for deployment so that optimal business value will be attained when deployment occurs.

Definition of release: “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>29</sup>

### Outcomes

As a result of the successful implementation of the Release Management process:

- Release packages – whether supporting new business capability, improvement in cost performance, or other advances in service quality - form the basis for deployment
- Deployment risks to existing service quality are minimized
- Customer and user satisfaction upon release deployment is increased
- All implications to the parties involved in deploying or receiving a release are identified and validated prior to the deployment event

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29. ITIL V3 Glossary

- Only authorized releases are introduced into the live environment

## Scope

Release Management spans the planning and direction of the rollout of software, hardware, and operational processes including related documentation, and operating procedures. The changes that comprise the release are managed by Change Management, and their inclusion in the release can be determined by time, technology interdependencies, target, risk mitigation, organization, scale (multiple copies) or service dependencies. The design of the release will need to consider how rollout is achieved. For example, whether or not the release can be requested by a user using a self-service selection and then installed automatically and transparently.

## Includes

- ◆ Release design, creation, and testing
  - For example, implementation scripts
- ◆ Specifying the deployment model for a release. The deployment model provides a template of the activities and plans from which specific deployment instances can be customized for geography, scale, local conditions, and other factors
- ◆ Checking and testing training materials and incorporating them into the deployment model
- ◆ Verification of successful release package installation, including ensuring that the integrity of function has been maintained
- ◆ Roll back (also known as back out) mechanisms and procedures

## Excludes

- ◆ Solution Realization (creation of functionality, usage procedures, training materials, and any other release deliverable) (Realization category)
- ◆ Testing of solution functionality (Solution Test)
- ◆ Management of change requests (Change Management)
- ◆ Deployment of release packages (Deployment Management)

## Activities

This process is composed of these activities:

- A521 Establish Release Management Framework
- A522 Plan Release Strategy
- A523 Design and Build Release
- A524 Test and Verify Release
- A525 Monitor and Report Release
- A526 Review and Close Release
- A527 Evaluate Release Management Performance

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## [A53] Deployment Management

### Purpose

The purpose of the Deployment Management process is to place releases and other desired changes into their target environments, and to activate them in order that the functionality and operational improvements they contain can create their intended value.

Definition of Deployment: “movement of new or changed hardware, software, documentation, Process, etc to the Live Environment.”<sup>30</sup>

The *other desired changes* includes transferring the responsibility for any subset of an IT endeavor’s operations from ownership by one service provider to another, while maintaining service continuity. For certain such transfers, deployment involves managing the effective transfer of resources necessary to deliver the service. Resources include staff, technology infrastructure, and intellectual capital.

### Outcomes

As a result of the successful implementation of the Deployment Management process:

- New capability is introduced on a timely basis, and with minimized risk, disruption and cost
- Transfers of service responsibility are effected on a timely basis, and with minimized risk, disruption and cost
- All parties involved in a deployment (for example, users of the capabilities being deployed, service providers performing the deployment) are appropriately prepared, trained and skilled to ensure successful deployment
- In the event of failures during deployment, contingency plans ensure the expected level of service quality is delivered

### Scope

Deployment Management is primarily triggered by an instruction to roll out any approved combination of software, related hardware, documentation, and operating procedures to one or more defined targets (for example: systems, user groups) within constraints such as cost and time. An alternative trigger for the instantiation of Deployment Management relates to the transfer of the responsibility for one or more services between providers or across business or organizational boundaries. At the other end of the scale, the implementation work related to a change which impacts a single CI is also performed by this process.

The completion of each deployment is indicated when the stakeholders affirm that the expected outcomes of a deployment are achieved and a business-as-usual operational service state has been attained.

### Includes

- ◆ Deployment planning and co-ordination with affected parties
- ◆ Identification of resources (hardware, software, processes and procedures, and staff) to be deployed, or to be transferred between service providers
- ◆ Creating capabilities and procedures to support deployment activities, and to verify the readiness of and account for resources impacted
- ◆ Creating a plan for continuity of service
- ◆ Execution of the deployment plan, including:
  - Electronic distribution of software and other soft-copy items

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30. ITIL V3 Glossary

- Invoking logistical movements for physical items
- Installing technical resources
- Activating the desired configuration
- Testing the installation against defined criteria (as provided in the Release Package and Change)
- Back out of installed items, when needed
- Delivering training
- Providing initial user assistance
- ◆ Assessment of readiness to begin service delivery, and for handover to business-as-usual
- ◆ Management of risks and issues related to the deployment activities.

### **Excludes**

- ◆ Logistics and movement of physical assets (Asset Management)
- ◆ Preparation and commissioning of the supporting environment (Facilities Management)
- ◆ Accounting for capital transfers and deployment expenditures (Financial Management)
- ◆ Program and project management techniques (Program and Project Management)
- ◆ Achievement of business benefits from new functionality (IT Customer Transformation Management)
- ◆ Updates to the CMS (Configuration Management)
- ◆ Knowledge and skill transfer (Knowledge Management)

### **Activities**

This process is composed of these activities:

- A531 Establish Deployment Management Framework
- A532 Plan Deployment Program
- A533 Prepare Deployment Capabilities
- A534 Perform Transition Administration
- A535 Perform Deployment
- A536 Verify Deployment and Activate Service
- A537 Review and Close Deployment
- A538 Monitor and Report Deployment Program
- A539 Evaluate Deployment Management Performance

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## [A54] Configuration Management

### Purpose

The purpose of the Configuration Management process is to maintain the integrity of the configuration items (CIs) employed in, or related to, IT systems and infrastructure in either a development or operational context, and to provide accurate information about CIs and their relationships.

Configuration Management emerged out of complementary needs within both IT development and IT operations. IT development needs to maintain the integrity of evolving development artifacts in a development project. Similarly, IT operations should maintain the integrity of CIs that have been made operational.

Definition of a configuration item: "Any Component that needs to be managed in order to deliver an IT Service. Information about each CI is recorded in a Configuration Record within the Configuration Management System and is maintained throughout its Lifecycle by Configuration Management. CIs are under the control of Change Management. CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>31</sup>

### Outcomes

As a result of the successful implementation of this process:

- All configuration items within IT systems and infrastructure are accurately identified and cataloged
- All configuration items are adequately tracked and controlled
- Authorized requests to obtain CIs from secure libraries or stores (or to return them) are satisfied promptly and accurately
- Accurate configuration information is provided in response to informational requests
- Any exceptions between configuration records and the corresponding CIs are identified and corrected
- In development projects: development CIs in multiple development streams are controlled and coordinated

### Scope

#### Relationship with Asset Management

To properly understand Configuration Management, it is necessary to understand its relationship with Asset Management. Asset Management keeps track of things of value (assets) to an IT organization, whether that value is financial, technical, or otherwise, throughout the asset's entire life cycle. That life cycle stretches from the time the asset is ordered or commissioned to the time when it is retired and disposed.

At various stages in an asset's life cycle, the usage of that asset can cause it to become a part of some larger object requiring management (for example, a processor is added to a pool of processors allocated to a particular task) or it can be split into a number of parts at smaller granularity (for example, a physical server is operated as several virtual servers). Similarly, an ERP system licensed from a vendor might represent one or a handful of assets to be tracked (for financial or contract management purposes), whereas it can represent hundreds of modules which must be identified individually. For example, for local customization, problem determination, or maintenance patch application purposes.

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31. ITIL V3 Glossary

The characteristic of these events is that the asset has been applied to some defined purpose, typically through any or all of the Solution Development and Integration process, the Release Management process and the Deployment Management process. At these times, those parts become configuration items (CIs) and are managed by Configuration Management. Configuration Management focuses on the internal and external relationships of a CI and addresses the configuration needs of a stage in an asset's life cycle.

For instance, during development of a software asset, Configuration Management might be used for source code control of the components that make up that asset. Another instance is when a system becomes operational within the IT infrastructure. In that instance, Configuration Management is used to maintain operational information about that CI and its relationships to other CIs in the IT infrastructure. The two most widely recognized uses of Configuration Management are *development* Configuration Management and *operations* Configuration Management.

### Configuration Management in Development and Operations

Configuration Management addresses the needs of both IT development and IT operations. The characteristics of these domains are similar,<sup>32</sup> yet also have differences. Similarities include:

- Both development and operations focus on the various configuration items that make up their domains. In development, these include evolving hardware, software, and documentation that constitute an IT system being developed. In operations, these include fully developed hardware, software, and documentation that have been deployed and made operational within the IT infrastructure.
- Both development and operations maintain information about CIs and their relationships.
- On a regular basis, that information is checked for accuracy against the actual configuration items and inaccurate information is corrected.

Differences between *development* Configuration Management and *operations* Configuration Management include:

- IT development maintains the integrity of development CIs primarily by controlling the CIs themselves, whereas IT operations maintains the integrity of operational CIs by controlling information about the CIs.
- Check-in/check-out of IT development CIs is a normal practice in Configuration Management for IT development. (There is a distinct difference in how check-in and check-out is performed for electronic as opposed to physical CIs.) IT operations does not perform check-in/check-out of CIs.
- IT operations focuses on controlling updates to information about CIs. Significant information about CIs must be manually maintained. In contrast, information about development CIs is primarily obtained from the CI itself.
- Development CIs (such as software and hardware components and document chapters) are typically smaller-grained than operational CIs (such as PCs, applications, servers, and others).
- The configuration management system for IT development (often called a source code control system) is typically maintained separately from the configuration management system for IT operations, and the technology and procedures used by each system is usually different.
- The CIs that make up an operational IT infrastructure are typically also considered assets. However, most CIs in a development project are not considered to be assets because their value to the IT organization is considered too small (or too intangible) to track. For this reason, a development project might have few *assets* tracked by Asset Management other than the overall system under development.

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32. Industry examples of this can be seen in ISO/IEC 15288 Systems and Software Engineering - System Life Cycle Processes and ISO/IEC 12207 Systems and Software Engineering - Software Life Cycle Processes.

The similarities in Configuration Management between IT development and IT operations are sufficient to define a single process at a high level. The differences between IT development and IT operations are significant only at a lower level of the process.

### Common Data

In practical terms, Asset Management and Configuration Management carry out their activities using data about these assets and CIs, which is largely common to them both, though each has some attributes and relationships not significant to the other. Successful implementation of both processes requires joint work on their data models and clear rules (that is, governance) on which process *owns* any shared attribute.

### Types of CIs

The ITIL definitions of asset and of configuration item include a range of types of IT elements which can fall under Configuration Management. Whether an implementation covers all or just some of these types, it is likely that there will be some process aspects that are dependent on the needs of different component types. Consideration of a few examples illustrates this:

- Each hardware item is a candidate for both configuration and asset management, though probably at different levels of granularity. An IT organization will want to keep track of that hardware item throughout its life cycle from the standpoint of Asset Management. At the same time, when that system is operational, Configuration Management might be interested in internal hardware components (which are CIs) as well as other CIs that have some operational relationship to this CI. Hardware items cannot usually be cloned.
- Software components might have no record in the asset register. They can be subject to tight access controls (for example, to avoid erroneous multiple update during development) and at the same time they can be cloned to create as many instances as needed within limitations such as license counts. Larger software elements, such as applications can be both a CI as well as an asset.

The process will also need to take into account the arrangement of the set of internal and external service providers and establish appropriate interfaces with the Configuration Management process of those service providers.

### Includes

- ◆ Establishing naming conventions for configuration items and relationships
- ◆ Designing, creating, populating, and updating the Configuration Management System (CMS)
- ◆ Managing movements into and out of secure libraries
- ◆ Supporting configuration item audits
- ◆ Identifying configuration item interdependencies
- ◆ Linking configuration item changes to specific change requests (RFCs)
- ◆ Defining and reporting configuration baselines

### Excludes

- ◆ Inventory tracking (Asset Management)
- ◆ Procurement of configuration items (Supplier Management)
- ◆ Tuning and installing configuration items (Capacity Management, Deployment Management)
- ◆ Assets that are not CIs, such as:
  - Items ordered but not received
  - Items no longer in operation

- Bulk inventory
- Assets not operationally managed

## Activities

This process is composed of these activities:

- A541 Establish Configuration Management Framework
- A542 Identify Configuration Items
- A543 Control Configuration Items
- A544 Report Configuration Status
- A545 Verify and Audit Configuration Items
- A546 Evaluate Configuration Management Performance

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## [A55] Asset Management

### Purpose

The purpose of the Asset Management process is to control all assets owned by the IT endeavor throughout their life cycle and to maintain accurate information about them in an Asset Register. The aspects of asset control under this purpose include inventory, contractual (licensing, maintenance), ownership and location

ITIL provides the following definitions:

- Asset: “Any Resource or Capability. Assets of a Service Provider include anything that could contribute to the delivery of a Service. Assets can be one of the following types: Management, Organisation, Process, Knowledge, People, Information, Applications, Infrastructure, and Financial Capital.”<sup>33</sup>
- Asset Register: “A list of Assets, which includes their ownership and value. The Asset Register is maintained by Asset Management.”<sup>34</sup>

The definition of *asset* is much broader than those in widespread usage within the IT industry.<sup>35</sup> In this model, many of the types identified are controlled by other processes specialized for the management issues that pertain to them.

- Items Management, Organization, Process are the subject of the IT Governance and Management System category of processes
- Knowledge Management is a process in its own right
- People are recruited, developed, and assigned to responsibilities by the Workforce Management process
- Financial Capital is under the custodianship of the Financial Management process, with interfaces to this process where Asset activities have an impact on financial valuation (for example, by a decision to dispose of an asset or to transfer ownership to a new owner).

The technology object types Information, Applications, Infrastructure are all covered by this process, where each individual item can qualify for any of the asset control purposes in scope. For example, it is not unusual for accessories for PCs (such as keyboards, mice) to be excluded from asset control.

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33. ITIL V3 Glossary

34. ITIL V3 Glossary

35. See [HTTP://en.wikipedia.org/wiki/IT\\_asset\\_management](http://en.wikipedia.org/wiki/IT_asset_management)

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## Outcomes

As a result of the successful implementation of the Asset Management process:

- Value is maximized from technology assets over their lifetime
- Assets are provided in an accurate and timely manner to supply, movement or other requests
- Accurate and timely information about technology assets supports informed IT decision making, at both strategic and tactical levels
- Exposure to risks relating to IT assets is minimized
- IT assets are managed in compliance with legal, industry and corporate standards and requirements
- Governance of assets drives the right trade-offs in investments in asset and usage of assets

## Scope

Asset Management has dual responsibilities:

1. To control each asset from initial creation (such as receipt from suppliers) through all life cycle events (such as change of location, transfer of ownership, change of use) until eventual retirement or disposal.
2. To identify, collect, maintain, control, and report inventory and financial information about IT assets throughout their life cycle

## Includes

- ◆ License management (including software license compliance)
- ◆ Lease and maintenance administration of each asset
- ◆ Inventory management (includes physical components and specifications)
- ◆ Allocation of available assets to meet approved requests
- ◆ Physical logistics (such as transportation) of assets
- ◆ Retirement of outdated assets
- ◆ Triggering requisition for the procurement of additional assets (for example, if a policy of maintaining minimum inventory stock levels for standard, frequently needed asset item is in place)
- ◆ Financial life cycle of assets (including valuation)

## Excludes

- ◆ Risk Management
- ◆ Contract and Supplier Management (including Procurement) (Supplier Management)
- ◆ Configuration Management (logical relationships)
- ◆ Managing the security of an asset (Facilities Management, Security Management)

## Activities

This process is composed of these activities:

- A551 Establish Asset Management Framework
- A552 Ready and Control Asset
- A553 Control Asset Information
- A554 Monitor, Audit and Reconcile Asset Records
- A555 Oversee Asset Contracts and Financials
- A556 Retire and Dispose of Asset
- A557 Report Asset Information
- A558 Evaluate Asset Management Performance

## [A6] Operations

### Description

#### Purpose

This category contains the operational service processes that enable daily IT activities using available infrastructure, applications, and services to meet service level agreements (SLAs) and business objectives. Responsibility for delivery of service sits here. Managing contact and communications with users (for example, service requests) is an important function as these processes sense and respond to day-to-day aspects of operations and events, quickly and correctly to address any incidents and problems that might arise.

#### Rationale

The Operations category comprises all the activities and measures necessary to enable and maintain the intended and committed use of the infrastructure, applications, and services. The processes in this category require close integration to function effectively. Operational plans and workload balancing are augmented by constant operational monitoring throughout service delivery. This operational data is used by many processes to identify, analyze, and quickly resolve any anomalies. The Operations category is also the focal point for receiving and responding to a wide variety of user service requests. This process category is vital to operating organizational constructs such as a Service Desk or an Operations Bridge or an Operations Center. Problem Management is included in this category because of its dependence on incident management information.

#### Value

- Operates, manages, and maintains an end-to-end infrastructure to facilitate the delivery of the services to the business, meeting all of the agreed to requirements and targets
- Provides sense and respond correction and optimization for any fluctuations within the designed operating characteristics of the IT infrastructure, applications, and services
- Provides a focal point for reliable, robust, secure, and consistent delivery of service, minimizing potential negative impact on the efficiency and effectiveness of business processes
- Establishes responsibility for user contact, service requests and other interactions, improving communications and customer perception of service quality
- Provides the designed level of integrity for data at all stages of its life cycle, including protection of business (and IT) data from accidental loss
- Ensures that any faults or issues are recognized and appropriately addressed

#### Processes

This process category is composed of these processes:

- A61 Request Fulfillment
- A62 Service Execution
- A63 Data Management
- A64 Event Management
- A65 Incident Management
- A66 Problem Management
- A67 Identity and Access Management

## [A61] Request Fulfillment

### Purpose

The purpose of the Request Fulfillment Process is to receive service requests from users and route each request to the appropriate process for handling. Some service requests are handled by the Request Fulfillment Process, whereas many others are routed to other processes for fulfillment. Request Fulfillment can be the contact management process for an implementation of an IT Service Desk (or equivalent).

Definition of service request: "A request from a user for information, or advice, or for a standard change or for access to an IT service. For example to reset a password, or to provide standard IT services for a new user. Service requests are usually handled by a service desk, and do not require an RFC to be submitted."<sup>36</sup>

### Outcomes

As a result of the successful implementation of the Request Fulfillment Process:

- User and customer satisfaction is enhanced
- User requests to the IT organization are successfully received and processed for fulfillment or other appropriate handling
- Requests are accurately and appropriately routed to the correct process and correct service provider for handling (fulfillment)
- Service level targets for service desk responsiveness and quality are achieved
- Users receive accurate and timely communication concerning the status of their service requests

### Scope

At the initial receipt of a service request from a user, the nature of the request and information within it has to be established. Many such service requests can be dealt with by the set of activities within this process. Other service requests, once initially assessed, will be beyond the capability of this process to perform the primary added-value work needed by those requests and will be passed on to other, more specific processes. This process will interact at the process framework level with the specific processes to determine which types of service requests should be handled by which processes. Over time, the range of service requests which can be directly fulfilled is likely to increase.

Examples of interactions are:

- Incidents are routed to the Incident Management process
- Service requests assessed as standard changes are passed directly to other appropriate processes
- Other, more significant change requests are transferred to the Change Management process

Wherever the service request is dealt with, this process retains ownership of the service request on the user's behalf and is responsible for achievement of service level targets relating to service requests.

This process provides the primary interface point for users of IT services with the service provider.

### Includes

Receipt and management of service requests relating to:

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36. ITIL V3 Glossary

- ◆ Incidents
- ◆ Standard changes (such as deployment of standard software)
- ◆ Identity
- ◆ Access rights
- ◆ Security service requests
- ◆ Information, advice, guidance
- ◆ User satisfaction interactions
- ◆ Complaints

Items which are assessed to be change requests (rather than standard changes) can be routed to Change Management

### **Excludes**

- ◆ Those interactions between the business (and other customers) and the IT service provider that consider the status, scope or coverage of the overall service provision agreements. (Service Level Management)
- ◆ The direct fulfillment of those service requests which are dealt with by other processes. Where such fulfillment workings require direct contact between IT service provider staff performing those processes and users, then those activities are part of those processes. An example of this would be interacting with a user as part of deploying a PC (Deployment Management)
- ◆ Establishing entitlement limits for user communities against each service (Combination of Service Marketing and Sales, and Service Level Management)
- ◆ Granting access rights (found in Identity and Access Management)
- ◆ Installing standard technical components (Deployment Management)

### **Activities**

This process is composed of these activities:

- A611 Establish Request Fulfillment Framework
- A612 Receive and Approve Service Request
- A613 Fulfill or Route Service Request
- A614 Close Service Request
- A615 Own, Monitor, Track and Communicate Service Requests
- A616 Evaluate Request Fulfillment Performance

## [A62] Service Execution

### Purpose

The purpose of the Service Execution process is to deliver operational services to IT customers, by matching resources to commitments and employing the IT infrastructure to conduct IT operations.

Definition of operation: "Day-to-day management of an IT Service, System, or other Configuration Item. Operation is also used to mean any pre-defined Activity or Transaction. For example loading a magnetic tape, accepting money at a point of sale, or reading data from a disk drive."<sup>37</sup>

### Outcomes

As a result of the successful implementation of this process:

- Services are delivered in a reliable, robust, secure, and consistent manner
- Services are provided within service level targets
- Resources needed to operate IT services are managed effectively and efficiently
- Consumable resources used to deliver services are supplied in a timely manner
- Up-to-date service metric information is available

### Scope

This process is responsible for the scheduling, operation and execution of the IT-based services which have been committed to customers. These services are of many types, including business transaction and batch processing, and also many types of self-service functionality offered as standard services to users.

Service Execution applies the resources made available to it through Deployment Management to the dynamic mix of workload demands. It makes adjustments to resource allocations within the tolerances provided and specified in the solution design.

### Includes

- ◆ Understanding, creation, and maintenance of operational schedules
- ◆ Starting, stopping, and other operational resource management actions on system components, applications and other services
- ◆ Monitoring of system resources
- ◆ Detecting events and sending significant events to Event Management
- ◆ Understanding and maintenance of operational status
- ◆ Managing production workloads from submission through delivery of results and from service start to service close

### Excludes

- ◆ Correlating and processing significant events (Event Management)
- ◆ Operational security (Security Management)
- ◆ Data management, backup, and recovery (Data Management)

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## Activities

This process is composed of these activities:

- A621 Establish Service Execution Framework
- A622 Schedule and Adjust Workload
- A623 Assign and Control Delivery Resources
- A624 Deliver Service
- A625 Monitor and Report Service Execution Operations
- A626 Evaluate Service Execution Performance

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## [A63] Data Management

### Purpose

The purpose of the Data Management process is to ensure that all data necessary in providing and supporting business and operational services is available for use and is actively managed from creation and introduction until final disposal or destruction.

### Outcomes

As a result of successful implementation of this process:

- Data life cycle management policies and governance capabilities are effectively provided
- Data life cycle management services are sustained in order to meet or exceed service level commitments
- Legal, regulatory, and business requirements are met for data privacy, quality, and retention
- The accessibility, performance, cost, and value characteristics of data are established, managed and optimized throughout the full life cycle
- The integrity of data at all stages of its life cycle is ensured, including protection of business (and IT) data from accidental loss and destruction

### Scope

Management of the full life cycle of both externally acquired and enterprise generated data, as well as information about that data.

### Includes

- ◆ Managing data as a portfolio and the overall plan for the portfolio's elements
- ◆ Cataloging and controlling all data types, such as:
  - Business data
  - Journals and logs
  - Program libraries
  - Systems management data
- ◆ Accepting and cataloging new data
- ◆ Planning and control of data placement, retention, and disposalData backup and restoration of data to prior states

### Excludes

- ◆ Information management activities:
  - Data typing and classification (Architecture Management)
  - Content management (Business responsibility, as part of each business process)
- ◆ Change management
- ◆ Access control and security protection (Identity and Access Management, Security Management)
- ◆ Configuration Management

### Activities

This process is composed of these activities:

- A631 Establish Data Management Framework
- A632 Plan Data Portfolio Lifecycle
- A633 Acquire and Prepare Data
- A634 Control, Deploy and Maintain Data
- A635 Backup and Restore Data
- A636 Dispose of Data
- A637 Monitor and Report Data Management Operations
- A638 Evaluate Data Management Performance

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## [A64] Event Management

### Purpose

The purpose of the Event Management process is to identify and prioritize infrastructure, service, business process and security events, and to establish the appropriate response to those events, especially responding to conditions that could lead to potential faults or incidents.

Definition of event: “A change of state which has significance for the management of a configuration item or IT service. The term event is also used to mean an alert or notification created by any IT service, configuration item or monitoring tool. Events typically require IT operations personnel to take actions, and often lead to Incidents being logged.”<sup>38</sup>

### Outcomes

As a result of the successful implementation of the Event Management process:

- Service quality is sustained and improved
- Incidents are detected early
- The time between event occurrence and detection is minimized
- Appropriate actions are taken in response to events, in order to resolve some without manual response
- Responses to understood faults are started with minimal delay

### Scope

Event Management is accomplished through scanning monitoring data and from this collecting, evaluating, responding to, and reporting events throughout the business.

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38. ITIL V3 Glossary

Not all events require a response, only those deemed significant events. Typically, a response to a significant event involves either a predefined response or the creation of an incident in the Incident Management process.

#### **Includes**

- ◆ Providing both real time and historical event information to other IT processes, to facilitate service quality improvement and resource availability
- ◆ Providing similar information relating to the automated aspects of business processes for business analysis
- ◆ Correlation and filtering of events, to identify alert notifications and other conditions
- ◆ Examination and analysis of individual events in isolation as well as events in context with other events
- ◆ Creation of incidents from event information
- ◆ Capture, logging and administration of data generated by the activities within this process

#### **Excludes**

- ◆ System monitoring – Monitoring all things that happen related to a system, whereas event management identifies meaningful changes of state that can represent faults.<sup>39</sup> System monitoring takes place in Service Execution and Data Management.

#### **Activities**

This process is composed of these activities:

- A641 Establish Event Management Framework
- A642 Detect and Log Event
- A643 Filter Event
- A644 Correlate Events and Select Response
- A645 Resolve Event
- A646 Close Event
- A647 Evaluate Event Management Performance

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39. ITIL *Service Operation*, 36

## [A65] Incident Management

### Purpose

The purpose of the Incident Management process is to focus on the restoration of a service affected by any real or potential interruption which has impact upon the quality of that service.

Definition of incident: "An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example Failure of one disk from a mirror set."<sup>40</sup>

### Outcomes

As a result of the successful implementation of the Incident Management process:

- Following interruptions, IT service is rapidly restored
- IT service availability is sustained at a high level
- Workarounds to resolve similar service interruptions are created
- Potential improvements to services may be identified

*Normal service operation* is defined here as working within agreed service level targets.

### Scope

The management of the life cycle of incidents (including reception, logging, acknowledgement, classification, response, tracking and reporting) for all components involved in the provision of IT service.

### Includes

- ◆ Incidents reported by users or discovered within the IT organization by automation or people
- ◆ Handling (automatically or with human assistance) of system events that have been identified as incidents by the Event Management process
- ◆ Creation of workarounds
  - While service restoration has the highest priority, consideration has to be made of the risk that a workaround could exacerbate the original incident. For example, certain virus infections might spread beyond their initial scope if a simple service restoration is put into effect
- ◆ Implementation of workarounds (with Change Management, where required by the change policy)
- ◆ Participation within the procedures (typically involving several processes working in conjunction) defined for handling *major incidents*

### Excludes

- ◆ Monitoring (Service Execution, Data Management)
- ◆ Responding to business-as-usual perturbations in the running of services (Event Management)
- ◆ Service requests (Request Fulfillment)
- ◆ IT Resilience – ensuring the continued readiness and integrity of the IT services (Resilience category processes)

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## Activities

This process is composed of these activities:

- A651 Establish Incident Management Framework
- A652 Identify and Log Incident
- A653 Classify Incident and Provide Initial Support
- A654 Investigate and Diagnose Incident
- A655 Resolve Incident and Recover Service
- A656 Close Incident
- A657 Own, Monitor, Track and Communicate Incidents
- A658 Evaluate Incident Management Performance

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## [A66] Problem Management

### Purpose

The purpose of the Problem Management process is to resolve problems affecting the IT service, both reactively and proactively. Problem Management finds trends in incidents, groups those incidents into problems, identifies the root causes of problems, and initiates change requests (RFCs) against those problems.

Definition of problem: "A cause of one or more incidents. The cause is not usually known at the time a problem record is created, and the Problem Management Process is responsible for further investigation."<sup>41</sup>

### Outcomes

As a result of the successful implementation of this process:

- The number and adverse impact of incidents and problems is minimized
- Potential incidents are prevented
- Recurrence of incidents is prevented
- The management of incidents is more effective and efficient
- The productivity of support staff is improved

For example, by improving Service Desk first time fix rate

An effective problem management process maximizes system availability, improves service levels, reduces costs, and improves customer convenience and satisfaction.

### Scope

The process is primarily concerned with establishing the root cause of an incident and its subsequent resolution and prevention. The reactive function is to solve problems relating to one or more incidents. The proactive function is to identify and solve problems before incidents occur.

Effective problem management requires the identification and classification of problems, root cause analysis, and resolution of problems. The problem management process also includes the formulation of recommendations for improvement, maintenance of problem records, and review of the status of corrective actions.

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### Includes

- ◆ Root cause analysis and identification
- ◆ Solution (and workaround) definition and selection
- ◆ Submission of change requests (RFCs)
- ◆ Appropriate prioritization of resources required for resolution based on business need
- ◆ Contribution to the collective problem resolution knowledge base

### Excludes

- ◆ Identification, creation and resolution of incidents (Incident Management)
- ◆ Actual implementation of the resolution of a problem. Problem Management initiates their resolution through Change Management and participates in the Post Implementation Review (PIR)
- ◆ Knowledge management methodology (Knowledge Management)

### Activities

This process is composed of these activities:

- A661 Establish Problem Management Framework
- A662 Detect and Log Problem
- A663 Categorize and Prioritize Problem
- A664 Investigate and Diagnose Problem
- A665 Resolve Problem
- A666 Close and Review Problem
- A667 Monitor, Track and Report Problems
- A668 Evaluate Problem Management Performance

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## [A67] Identity and Access Management

### Purpose

The purpose of the Identity and Access Management process is to establish and maintain a registry of IT user identities and their associated access rights for each service. The registry provides a key reference for the authorization or rejection by the Security Management process of service usage attempts.

The process provides the ability to control and track who has access to data and services. It contributes to achieving the appropriate confidentiality, availability, and integrity of the organization's data.

ITIL definition of identity: "A unique name that is used to identify a user, person or role. The identity is used to grant rights to that user, person, or role."<sup>42</sup> This definition is narrower than those established in ISO standards relating to security. For the purposes of this process, the user might not be directly linked to one or more persons; it can take the form of an IT product or system for which access rights must be established and tracked, and for which an identity is therefore established.<sup>43</sup>

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42. ITIL V3 Glossary

43. ISO/IEC 15408-1, *Information technology – Security techniques – Evaluation criteria for IT security*. "Part 1: Introduction and general model." Widely known as the *Common Criteria*.

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Definition of rights: "Entitlements, or permissions, granted to a user or role. For example, the right to modify particular data, or to authorize a change."<sup>44</sup>

## Outcomes

As a result of the successful implementation of the Identity and Access Management process:

- An accurate and complete identity registry and associated rights is maintained
- There is a definitive source so that decisions can be made allowing users have access to information and the services they need while unauthorized access attempts are denied
- Authorized access to data and services is aligned with security policies
- Records of access attempts can be audited
- The data necessary to demonstrate compliance in relation to service and information access is available

## Scope

This process operates within the set of controls described by the IT Security Policy, which itself takes direction from the Business Security Policy. The users for whom (or which) an identity is registered include not only those outside the IT organizational entity but also all resources involved in running the IT capability itself. Levels of control of identities and access rights will vary depending upon the scope of access required and the level of potential harm (fraud) from malicious access.

Access policies can be dynamic, reflecting the need to vary access rights depending on the time of day or the role being performed. The process must recognize that the authority to give access rights, or even to delegate the authority to give access rights, is a normal activity for many users.

## Includes

- ◆ An identity schema aligned with business and security policies
- ◆ Establishment and maintenance of identities
- ◆ Establishment and maintenance of access rights
- ◆ Translation of business rules for roles and group authorities so as to enact them within the identity schema
- ◆ Access to the registry for those processes providing affiliated security services, like physical access (Facilities Management)
- ◆ Raising warnings or revoking access rights when access attempt thresholds are breached

## Excludes

- ◆ Definition, implementation, and operation of authentication mechanisms (Security Management)
- ◆ Enforcement of access rights (Security Management)
- ◆ Definition of the rules for business role and group authorities – defined by the business
- ◆ Physical security and access (Facilities Management)
- ◆ Security policies – defined by the business and Security Management

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## Activities

This process is composed of these activities:

- A671 Establish Identity and Access Management Framework
- A672 Evaluate and Verify Identity and Access Request
- A673 Create and Maintain Identity
- A674 Provide and Maintain Access Rights
- A675 Monitor and Report Identity and Access
- A676 Evaluate Identity and Access Management Performance

## [A7] Resilience

### Description

#### Purpose

The Resilience category of processes describes the analysis and proactive planning required to enable resilient infrastructure, applications, and services. Resilience is here defined as the ability to absorb conditions or faults without service failure and the ability to quickly return to a previous good condition. Each process covers a range of activities from handling everyday adjustments as required by service operations through anticipating the potential future demands upon its specific domain.

In order to accomplish their collective mission, all processes require input from a wide range of other processes, including such items as architectural information, problem and known error information, solution designs, scheduled projects and changes, as well as operational monitoring data. Resilience processes use this input to establish ongoing resilience capabilities, ensuring service level attainment and customer satisfaction while controlling costs.

#### Rationale

All of the processes in this category analyze information from a variety of sources and then generate proactive plans to minimize risks associated with the potential failure of any component (or group of components) or human actor used to deliver services. The processes in this category are also responsible for ensuring compliance with (internal and external) laws and regulations, internal policies and procedures, as well as maintaining defined levels of security on information and IT services.

#### Value

- Ensures compliance with all security and regulatory considerations and requirements, reducing both IT and business risk
- Establishes proactive plans to ensure that infrastructure and application-based services are reliable, robust, secure, consistent and facilitate the efficient and effective support of business processes
- Provides the means to monitor both current IT system availability as well as to project future capacity requirements, improving IT's ability to support business direction
- Establishes responsibility for operation, management and maintenance of all physical facilities necessary to deliver services to the business
- Provides assurance that agreed to IT Services will continue to support business requirements in the event of a catastrophic disruption to the business environment

#### Processes

This process category is composed of these processes:

- A71 Compliance Management
- A72 Security Management
- A73 Availability Management
- A74 Capacity Management
- A75 Facilities Management
- A76 IT Service Continuity Management

## [A71] Compliance Management

### Purpose

The purpose of the Compliance Management process is to ensure adherence to laws and regulations, internal policies, procedures, and stakeholder commitments.

### Outcomes

As a result of successful implementation of this process:

- Regulatory, audit, and other internal compliance is ensured and demonstrated
- Legal liabilities and related productivity losses consequential upon any compliance breach are avoided
- The reputation and value of the brand of the businesses that IT serves is protected

### Scope

Integrity (sound operating) and compliance as an outcome across all of the IT endeavor's undertakings.

### Includes

- ◆ Consideration of internal and external regulations, standards and legal obligations impacting the business where they could require IT support. For example:
  - Privacy regulations
  - Laws such as Sarbanes Oxley
  - Industry standards and guidelines such as ISO 27001 (ISO17799), COSO and CobiT
- ◆ Specification of compliance controls needed within IT services and solutions and also within other IT processes
- ◆ Internal and external audit readiness preparations
- ◆ Compliance audits

### Excludes

- ◆ Setting internal policies (IT Governance and Management System Framework)
- ◆ Modification to IT services and solutions to establish compliance controls (through Realization and Deployment categories)
- ◆ Modification to other IT processes (through IT Governance and Management System categories)
- ◆ Operation of the defined compliance controls within the transactions of the IT endeavor. This responsibility becomes part of the activity of each relevant IT process

### Activities

This process is composed of these activities:

- A711 Establish Compliance Management Framework
- A712 Identify Compliance Requirements
- A713 Assess Compliance Requirements
- A714 Define Compliance Controls Plan
- A715 Implement Compliance Controls
- A716 Audit and Report Compliance
- A717 Evaluate Compliance Management Performance

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## [A72] Security Management

### Purpose

The purpose of the Security Management process is to establish and operate security controls and protections over all IT assets and services in order to conform to overall business security as well as IT-specific requirements. It includes activities to mitigate the risk posed by malicious outsiders and insiders, and to decrease vulnerabilities in the IT services, systems and processes that would make it easier for such malicious parties to succeed.

### Outcomes

As a result of the successful implementation of the Security Management process:

- The confidentiality, integrity, and accessibility of information meets agreed requirements:
  - Information is available for approved purposes
  - Access (whether internal or external) to protected items can be validated and tracked
  - Information and systems are protected from unauthorized access and any attacks
- IT services and infrastructure meet external security requirements from service level agreements, contracts, and legislative dictates
- IT security aligns with the business' overall security requirements
- The reputation of the business as secure and trustworthy is protected

### Scope

The process covers the life cycle of security concerns, including planning, operational measures, evaluation, and audit. It will identify IT security threats, vulnerabilities, and risks in order to develop an overall approach to counter and handle them that is aligned with business security requirements. It will operate security protections and mechanisms which meet the desired level of confidentiality, availability and integrity for information and IT services.

### Includes

- ◆ Information security policy
- ◆ Specification of information security controls including asset use, access, documentation, and information controls and overseeing their establishment
- ◆ Operation of controls and measures such as:
  - Credential operations
  - Perimeter defense
  - Intrusion detection
  - Secure coding standards
  - Key and encryption management
  - Separation of duties
  - Application isolation
- ◆ Identification of IT security incidents
- ◆ Management of supplier and partner access to services and systems
- ◆ Compliance enforcement measures (related to security)

### Excludes

- ◆ Establishment and maintenance of identities and access rights (Identity and Access Management)
- ◆ Health and safety (Business responsibility, with contribution from Facilities Management)

- ◆ Business security management, including trust management as it relates to business processes (Business responsibility)
- ◆ Identification of privacy requirements (within the scope of Compliance Management)

## Activities

This process is composed of these activities:

- A721 Establish Security Management Framework
- A722 Produce and Maintain Security Policy
- A723 Analyze Security Threats, Vulnerabilities and Risks
- A724 Classify Information Asset Security
- A725 Plan and Implement Security Practices
- A726 Operate Security Protection Mechanisms
- A727 Monitor, Assess, Audit and Report Security
- A728 Evaluate Security Management Performance

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## [A73] Availability Management

### Purpose

The purpose of Availability Management is to match the availability of the IT services against the current and future identified needs of the business or to exceed them. Availability Management enhances the availability of services by planning long-term service availability, measuring and monitoring service availability, and formulating service availability design criteria that meet requirements.

Definition of availability: "Ability of a Configuration Item or IT Service to perform its agreed Function when required. Availability is determined by Reliability, Maintainability, Serviceability, Performance, and Security. Availability is usually calculated as a percentage. This calculation is often based on Agreed Service Time and Downtime. It is Best Practice to calculate Availability using measurements of the Business output of the IT Service."<sup>45</sup>

### Outcomes

As a result of the successful implementation of the Availability Management process:

- IT infrastructure provides a consistent level of availability that enables the business to meet its current and future objectives
- Availability related incidents and problems are minimized
- The provided level of availability is cost justified and optimized

### Scope

ITIL defines components of availability to be:

- Reliability – "A measure of how long a Configuration Item or IT Service can perform its agreed Function without interruption."<sup>46</sup>
- Maintainability – "A measure of how quickly and Effectively a Configuration Item or IT Service can be restored to normal working after a Failure. Maintainability is also used in the

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context of Software or IT Service Development to mean ability to be Changed or Repaired easily."<sup>47</sup>

- Serviceability – "The ability of a Third Party Supplier to meet the terms of their Contract. This Contract will include agreed levels of Reliability, Maintainability or Availability for a Configuration Item."<sup>48</sup>

#### **Includes**

- ◆ Availability needs and requirements
- ◆ Identification of capabilities needed to meet requirements
- ◆ New and existing IT services
- ◆ Ensuring that availability provision of underlying services and suppliers in support of primary IT services is factored in
- ◆ Considering all aspects of IT service delivery and support that could impact availability (training, tools)

#### **Excludes**

- ◆ Business Continuity Management or disaster recovery (Business responsibility along with IT Service Continuity Management)
- ◆ Direct handling of service failures (Incident Management)
- ◆ Approval of capabilities needed to meet requirements (Portfolio Management)
- ◆ Creation of capabilities needed to meet requirements (Realization category of processes)
- ◆ Managing suppliers (Supplier Management)

#### **Activities**

This process is composed of these activities:

- A731 Establish Availability Management Framework
- A732 Determine Availability Requirements
- A733 Formulate Availability and Recovery Design Criteria
- A734 Define and Implement Availability Targets and Related Measures
- A735 Monitor, Analyze and Report Availability
- A736 Investigate Unavailability
- A737 Produce Availability Plan
- A738 Evaluate Availability Management Performance

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## [A74] Capacity Management

### Purpose

The purpose of Capacity Management is to match the capacity of the IT services and infrastructure to the current and future identified needs of the business. Capacity Management focuses on the complete spectrum from design and planning of service capacities through the operational aspects of service capacity.

Definition of Capacity: "The maximum Throughput that a Configuration Item or IT Service can deliver whilst meeting agreed Service Level Targets. For some types of CI, Capacity may be the size or volume, for example a disk drive."<sup>49</sup>

### Outcomes

As a result of the successful implementation of the Capacity Management process:

- IT always has the capacity to meet the expected (agreed) current and future identified needs of the business
- Scalability requirements of the business are understood and accommodated
- Incidents caused by lack of capacity are averted
- The cost of capacity acquisition is reduced by planning and optimizing capacity usage.

### Scope

The process covers a wide range: understanding service requirements, determining component capacities, the design and deployment of capacity, and meeting expectations. It collects and analyzes data that is relevant to application and infrastructure utilization and performance for the purpose of determining whether there are potential problems and issues that need to be addressed.

ITIL defines three focus areas which are addressed by Capacity Management. Each uses the primary activities of the process decomposition in differing ways, to differing end results.

- Business Capacity Management
  - This focus area is responsible for ensuring that the impacts of future business requirements for IT services upon IT resources are considered, planned, and implemented in a timely fashion
- Service Capacity Management
  - This focus area is the management of the performance of the IT services used by the customers. It is responsible for ensuring that service performance is monitored, measured, and reported; and meets business requirements and agreements
- Component Capacity Management
  - This focus area is the management of the performance, utilization, and capacity of individual technical components possessing finite resources

### Includes

- ◆ All aspects of the Performance Management discipline
- ◆ Interfacing with Demand Management on Service Demand Forecasts
- ◆ Component capacity management (both as it affects in-house service operations and with consideration of impacts to and requirements upon service partners)
- ◆ High-level service capacity monitoring

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- ◆ Determining the requirements for space and other facilities that will result from capacity proposals and plans

#### **Excludes**

- ◆ Low-level system capacity monitoring (Service Execution)
- ◆ Generalized human resource management (Workforce Management)
- ◆ Designing and implementing the facilities needed to support capacity plans (Facilities Management)

#### **Activities**

This process is composed of these activities:

- A741 Establish Capacity Management Framework
- A742 Model and Size Capacity Requirements
- A743 Monitor, Analyze and Report Capacity Usage
- A744 Supervise Tuning and Capacity Delivery
- A745 Produce and Maintain Capacity Plan
- A746 Evaluate Capacity Management Performance

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## **[A75] Facilities Management**

### **Purpose**

The purpose of the Facilities Management process is to create and maintain a physical environment that houses IT resources and to optimize the capabilities and cost of that environment.

Definition of Facilities Management: “The Function responsible for managing the physical Environment where the IT Infrastructure is located. Facilities Management includes all aspects of managing the physical Environment, for example power and cooling, building Access Management, and environmental Monitoring”.<sup>50</sup>

### **Outcomes**

As a result of the successful implementation of the Facilities Management process:

- The physical environment within which information technology resources perform supports operational needs
- Availability of IT systems is protected from physical threats (including environmental, security, continuity)
- Facility requirements are analyzed, planned for, and met in a timely and cost-effective manner

### **Scope**

#### **Includes**

- ◆ Physical facilities planning and implementation (physical planning) – space, power, HVAC, physical cables and connectors, physical security implementation, protection (such as sprinklers, halon systems, badge readers, security personnel)

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- ◆ Physical logistics (receipt, staging, moving)
- ◆ Physical environment for all information and communications technology
  - For example, participating in the design of racks and cabling
- ◆ Physical access management to IT facilities
- ◆ Safety
- ◆ Managing incidents concerning facilities, and interfacing with Incident Management when both IT and Facilities components are involved

#### **Excludes**

- ◆ Asset Management
- ◆ Procurement (Supplier Management)
- ◆ Business resilience and continuity (Business responsibility, in conjunction with IT Service Continuity Management)
- ◆ Corporate facilities (buildings, maintenance, catering, mail delivery, desks, lights) unless associated with a secure data center (Business responsibility)
- ◆ Security of corporate facilities, such as office buildings, factories (Business responsibility)
- ◆ IT security policies and practices (Security Management)
- ◆ Media management (see Data Management) but would include physical transportation and security of media
- ◆ Management of suppliers (Supplier Management)

#### **Activities**

This process is composed of these activities:

- A751 Establish Facilities Management Framework
- A752 Plan Facilities
- A753 Manage Facility Request
- A754 Operate and Maintain Facilities
- A755 Evaluate Facilities Management Performance

## [A76] IT Service Continuity Management

### Purpose

The purpose of the Service Continuity Management process is to ensure that agreed IT services will support business requirements in the event of a disruption to the business, based on the committed recovery schedule.

Definition of IT Service Continuity Management: “The Process responsible for managing Risks that could seriously impact IT Services. ITSCM ensures that the IT Service Provider can always provide minimum agreed Service Levels, by reducing the Risk to an acceptable level and Planning for the Recovery of IT Services. ITSCM should be designed to support Business Continuity Management.”<sup>51</sup>

### Outcomes

As a result of the successful implementation of the IT Service Continuity Management process:

- A set of IT Service Continuity and IT Recovery plans are created, maintained, and tested that support the organization’s overall Business Continuity Plans
- Business continuity targets can be met through the recovery of agreed IT services and technical facilities to agreed time scales, under Change Management control
- Regulatory requirements for IT service continuity are met
- Business vitality and functions are maintained at agreed levels

### Scope

The process fulfils its mission through risk reduction measures, controlled recovery options, and restoration facilities.

### Includes

- ◆ Service capability for prioritized, critical business processes, and their attendant support requirements. Examples include:
  - IT application services
  - Organizational procedures
  - Consideration of facilities
  - Consideration of IT Services provided by business partners
- ◆ Specification of service continuity solutions
- ◆ Definition of circumstances and thresholds for continuity invocation
- ◆ Contributing to proactive prevention of IT disruptions (by identifying and analyzing risks, and sharing the analysis)
- ◆ Control of continuity solution invocation in the event of disruption
- ◆ Testing of the continuity solution

### Excludes

- ◆ Normal operational fluctuations (Service Execution, Event Management)
- ◆ Minor technical faults that are covered by Incident Management
- ◆ Deliberate business strategy changes and long term risks such as business diversification or restructuring (IT Strategy)

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- ◆ Responsibility for identification and prioritization of critical business processes (performed in a business impact analysis by the Business Continuity Management process: outside the scope of this model)
- ◆ Development and implementation of service continuity solutions (once agreed by Portfolio Management, these solutions are treated as any other solution through Realization and Transition)
- ◆ Contractual arrangements with third parties (Supplier Management)

## Activities

This process is composed of these activities:

- A761 Establish IT Service Continuity Management Framework
- A762 Identify Business Service Continuity Requirements
- A763 Create and Maintain IT Service Continuity Strategy
- A764 Create and Maintain IT Service Continuity Plan
- A765 Prepare IT Service Continuity Capability
- A766 Execute IT Service Continuity Plan
- A767 Evaluate IT Service Continuity Management Performance

## [A8] Administration

### Description

#### Purpose

The Administration process category brings together the processes that look after many of the non-technical resources: people, finances, and contracts, among others that support IT service delivery. It builds a sound foundation for the IT business, which other processes can deliver the IT services for the parent business.

#### Rationale

The processes in this category help build and manage the necessary infrastructure for controlling IT resources (such as hardware, software, and people). These processes are a necessary part of any endeavor's management system and contain the fundamental management building blocks of any organizational entity; namely, people management, financial and administrative management, pricing and contract management, and skills management. Failure in any of these areas of management could lead to the failure of the IT entity of the business. Without these processes, there would be no ability to accomplish the information technology mission of the business, regardless of the technology available.

#### Value

- Contributes to managing the business and finances of IT with an approach and discipline consistent with the business practices employed by the rest of the enterprise
- Provides accurate and up-to-date financial information to facilitate management controls
- Manages contracts and relationships with internal and external suppliers of products and services, optimizing the value and quality of service and support
- Attracts and retains a highly-skilled workforce to ensure that business needs can be met through IT
- Enables innovation through the capture and dissemination of knowledge

#### Processes

This process category is composed of these processes:

- A81 Financial Management
- A82 Supplier Management
- A83 Service Pricing and Contract Administration
- A84 Workforce Management
- A85 Knowledge Management

## [A81] Financial Management

### Purpose

The purpose of the Financial Management process is to ensure that financial controls and procedures are in place to effectively predict and control IT budgets, enable business decisions, and ensure that legal, corporate and regulatory compliance is maintained. The outputs from the Financial Management process also enable benchmarking and business case analysis to support organizational decision making.

### Outcomes

As a result of the successful implementation of this process:

- IT financial controls are established and enforced
- Operational data is transformed into financial information and management actions
- Compliance is ensured with legal, industry, and corporate standards and procedures
- Benchmarking and other financial comparisons are enabled
- IT portfolio decisions are assisted on investment by providing detailed business cases and by providing financial input to decision support
- IT budgets are effectively predicted and controlled

### Scope

IT finance is focused on budgeting, accounting and (optionally) charging for IT resources

### Includes

- ◆ Budgeting – capital and operational
- ◆ Accounting – including accounts receivable (AR) and accounts payable (AP)
- ◆ Charging
  - Metering, rating and billing
- ◆ Cost models and accounting systems
- ◆ Resource types:
  - Labor
  - Products
  - Services (inbound and outbound)
- ◆ Decision Support
- ◆ Financial analysis and reporting
- ◆ Collecting financial data
- ◆ Operational data collection requirements for financial purposes
- ◆ Design and implementation of accounting systems
- ◆ Analysis and control of the impact of chargebacks (influences on user and customer behavior)
- ◆ Paying internal and external invoices and bills
- ◆ Financial management (depreciation) of assets

### Excludes

- ◆ Asset management (including life cycle management)
- ◆ Resource usage data collection

- Systems and services (Service Execution)
- Time recording and labor claiming (any process, especially Program and Project Management)
- ◆ Service, solution, and offering pricing (Service Pricing and Contract Administration)
- ◆ Contract management (Service Pricing and Contract Administration)
- ◆ Procurement (Supplier Management)

#### **Excludes**

- ◆ Asset management (including lifecycle management)
- ◆ Resource usage data collection
  - Systems and services
  - Time recording and labor claiming
- ◆ Service, solution, and offering pricing
- ◆ Contract management
- ◆ Procurement

#### **Activities**

This process is composed of these activities:

- A811 Establish Financial Management Framework
- A812 Perform Financial Modeling
- A813 Plan and Control Budgets
- A814 Perform Financial Accounting
- A815 Administer Charging
- A816 Audit Financials
- A817 Evaluate Financial Management Performance

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## **[A82] Supplier Management**

### **Purpose**

The purpose of the Supplier Management process is to manage interactions with suppliers and partners formally by selecting them based on their ability to meet identified requirements, and managing performance against the agreed commitments.

### **Outcomes**

As a result of the successful implementation of this process:

- Attitudes and behaviors are promoted that encourage mutual success
- Procurement and delivery of products and services are optimized for maximum value across supplier relationships
- Obligations are met as efficiently and effectively as possible by both parties in the relationship
- Optimal value is achieved for costs in maintaining supplier relationships

### **Scope**

Involves all aspects of managing relationships with suppliers and outsourcers and of the procurement of assets and services. Addresses the complete supplier and procurement life cycle from strategic considerations to tactical considerations, and to operational considerations.

### **Includes**

- ◆ Agreement on joint architecture and risk controls
- ◆ Negotiation and enforcement of contracts
- ◆ Supplier evaluation, selection, and relationship management
- ◆ Supplier performance review, including:
  - Benchmarking
  - Terms and conditions conformance
- ◆ Procurement (placing the order), both against established contracts and for off-the-shelf items
- ◆ Internal and external suppliers
- ◆ Formalizing the operational level agreement (OLA) items, where they are to be fulfilled by an external supplier, within an underpinning contract (UC)

### **Excludes**

- ◆ Service Level Management
  - Establishing the substance of OLA items which relate to a supplier
  - OLA and UC service monitoring
- ◆ Physical logistics (Facilities Management)
- ◆ Product and services requirements and specifications (from Solution Design, for example)

### **Activities**

This process is composed of these activities:

- A821 Establish Supplier Management Framework
- A822 Manage Portfolio of Suppliers
- A823 Manage Supplier Contracts
- A824 Manage Procurement
- A825 Evaluate Supplier Performance
- A826 Provide Supplier Product and Service Information
- A827 Evaluate Supplier Management Performance

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## **[A83] Service Pricing and Contract Administration**

### **Purpose**

The purpose of the Service Pricing and Contract Administration process is to establish a pricing mechanism for the IT entity to sell its services to internal or external customers, and to administer the contracts associated with selling those services.

### **Outcomes**

As a result of successful implementation of this process:

- Prices are set that reflect the charging policies of the IT organization
- Pricing is aligned to achieve business objectives
- Requests for pricing are satisfied in a responsive manner
- Customer contracts and agreements are administered effectively and efficiently

## Scope

This process applies if the decision is made to charge for IT services. It encompasses defining a pricing method, establishing prices, managing the resulting contracts, tracking the effect of pricing on how well the service or solution is being accepted by the customer, and examining proposals and contract continuation.

### Includes

- ◆ Defining the charging pricing algorithm
- ◆ Providing standard prices for IT services
- ◆ Providing pricing alternatives (such as fixed, time and materials, and flexible terms and conditions)
- ◆ Monitoring impact on user and customer behavior and making appropriate adjustments

### Excludes

- ◆ Metering (Service Execution, Data Management)
- ◆ Billing (Financial Management)
  - Initiating pricing negotiations (Service Marketing and Sales)

## Activities

This process is composed of these activities:

- A831 Establish Service Pricing and Contract Administration Framework
- A832 Collect Pricing Data
- A833 Provide Price Alternatives
- A834 Administer Customer Contract/ Agreement
- A835 Monitor Pricing Effects
- A836 Evaluate Service Pricing and Contract Administration Performance

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## [A84] Workforce Management

### Purpose

The purpose of the Workforce Management process is to provide the optimal mix of staffing (resources and skills) in order to deliver the agreed IT services at the negotiated service levels and commitments.

### Outcomes

As a result of successful implementation of this process:

- An appropriately skilled and motivated workforce is attracted and retained
- Staffing and skills meet needs of the business, including required technical and business skills, both on a day-to-day basis and over time
- Compliance with all workforce-related legal and regulatory requirements and with corporate practices is ensured
- A succession strategy for leadership and critical skills is enabled
- Workforce management information is provided to support informed decision making on sourcing strategy

## Scope

Any aspect of managing the human resources available and necessary for the IT endeavor to fulfill its obligations, including workload, skills, and personnel.

### Includes

- ◆ Acquiring, hiring, retaining, developing, firing, retiring
- ◆ Introducing and orienting new resources to the workplace
- ◆ Skills management
- ◆ Workforce management, including capacity planning and forecasts
- ◆ Work and job design, including roles and responsibilities
- ◆ Skills development and training
- ◆ Performance evaluation
- ◆ Employee communications
- ◆ Workforce task management
- ◆ The execution of corporate human resources (HR) activities in relation to the IT workforce
- ◆ Representing human resource issues relating to the IT workforce to corporate HR

### Excludes

- ◆ Establishing corporate HR policies and their deployment beyond IT
- ◆ Setting overall budgets for workforce
- ◆ Payroll and benefits administration
- ◆ HR systems (part of Portfolio Management and Solution Development and Deployment, in support of the business' HR processes)
- ◆ Managing the workforce of service providers
- ◆ Setting sourcing strategy

## Activities

This process is composed of these activities:

- A841 Establish Workforce Management Framework
- A842 Forecast and Plan Workforce
- A843 Administer Human Resources
- A844 Manage Skills
- A845 Evaluate Workforce Management Performance

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## [A85] Knowledge Management

### Purpose

The purpose of the Knowledge Management process is to focus on capturing and exploiting the information and knowledge needed by personnel to work effectively.

Definition of Knowledge Management: "The Process responsible for gathering, analysing, storing and sharing knowledge and information within an Organisation. The primary purpose of Knowledge Management is to improve Efficiency by reducing the need to rediscover knowledge".<sup>52</sup>

### Outcomes

As a result of the successful implementation of this process:

- Organizational and individual knowledge and skills are improved
- All areas of IT are assisted in providing optimized IT end-to-end business services
- Technologies are leveraged for capture, location, and dissemination of knowledge and expertise
- Communities of practice are able to optimize the use of organizational knowledge
- Innovation is promoted and enabled

### Scope

The process emphasizes controlled but efficient access to assets across the organization, ensuring consistency and reuse as appropriate to take advantage of best practices and enable innovation.

### Includes

- ◆ Management of IT knowledge and directly related business knowledge, including:
  - The full range of knowledge from technical to services
  - Knowledge gained from external sources as well as from internal activities
  - Interfaces to support any other IT process such as Incident Management
  - Life cycle management of knowledge, from development through retirement
  - Content management for knowledge data across all media and access mechanisms in which it resides
- ◆ Working with other IT processes so that the relevant knowledge in their data and information repositories is made available and is actively managed
- ◆ Linkage to business-side Knowledge Management (if a program exists)
- ◆ Coordination with skills building and learning activities
- ◆ Knowledge linkage with service providers and suppliers
- ◆ Knowledge linkage with customers
- ◆ Intellectual property management, such as patents and external publications

### Excludes

- ◆ Understanding and acting on the knowledge (outcome management is the responsibility of all other IT processes)
- ◆ Establishing and operating the data and information repositories associated with individual IT processes; for example, the Configuration Management database

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- ◆ General Knowledge Management for the business
- ◆ Content management for business Web-based data (responsibility of the business, with support from Data Management)

### **Activities**

This process is composed of these activities:

- A851 Establish Knowledge Management Framework
- A852 Create and Maintain Knowledge Plan
- A853 Acquire Knowledge
- A854 Evaluate and Structure Knowledge
- A855 Disseminate Knowledge
- A856 Monitor, Assess and Report Knowledge Status
- A857 Evaluate Knowledge Management Performance

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# [A0] Manage IT

## Model Introduction

The IBM Process Reference Model for IT (PRM-IT) is an integrated collection of the processes involved in using information technology (IT) to assist businesses in carrying out many or all of their fundamental purposes. It describes, at a generic level, the activities that are performed in order that IT provides value to the stakeholding business or businesses.

For most of these businesses, this use of IT has been a means to improve the business processes which underpin their value propositions to the industry segments they serve. For others, IT services have been major value propositions in their own right. As the reach and range of IT-based solutions and services has extended and become, to all intents and purposes, pervasive, these two uses of IT have converged.

So, as IT exploitation becomes synonymous with business success, the basis of this model is to describe IT undertakings as if a business in its own right, and to apply the same business process description techniques to it as for any other business.

PRM-IT is independent of organizational design and makes no assumptions about the chain, network or mesh of IT business entities — or the nature of their inter-relationships (such as contractual, partnership, joint venture) — by which the IT service is provided to the primary businesses. Each of these IT business entities will need to understand both the activities they undertake to contribute to IT service provision and (perhaps increasingly) the interfaces they have with related parties.

## Viewpoint of the Model

The focal point for all IT activities, and the executive accountable for IT value, is the CIO. In some IT undertakings, these accountabilities are assigned to an executive body that has CIO-role responsibilities. Accordingly, PRM-IT considers the work done within IT from the CIO or CIO-role perspective.

It is only from this vantage point that all aspects of IT for the IT business entity within scope are visible. Elsewhere within that IT business entity, all other viewpoints can see only a subset of the complete picture.

There are two main perspectives from the CIO's viewpoint:

1. Control over IT activities.
  - Such control can be direct, in that the activities are performed by the in-house IT department.
  - Some activities can be performed within parts of the business, but under the guidance of IT-developed or owned standards. A typical example is that of users within a business division developing applications, using technology and techniques established by IT.
  - Many activities can be assigned to one or more third-parties, covering the range from complete outsourcing through limited IT service out-tasking.
2. Representing the IT undertaking to its stakeholders and to the wider operating environment. These interested parties provide the context in which the IT business operates.

## The context for the business of IT

IT does not operate in a vacuum; it has relationships of varying kinds with a variety of other parties. In modeling terms, these parties are known as external agents.

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PRM-IT contains five kinds of generic external agents:

1. The Business
2. Customers
3. Users
4. Suppliers
5. External Environment

The nature of the interactions between IT and each external agent is described in detail later.

## The Business

The Business is the owner of the IT undertaking. It provides the underlying funding for IT and receives from IT a corresponding return, in the form of value against the criteria which the business sets.

The Business provides resources to and exercises control over IT, beyond the financial aspect.

- It establishes the container in which each section of the business operates: manufacturing, distribution, IT, and others. Each such section probably has some degree of freedom to set its own tenor (or style) of operation, but each must conform to the overall management system and governance.
- Beyond this, IT might rely wholly or partly upon other, similarly common aspects of the business infrastructure. Key examples here include finance and accounting, and workforce management.
- The Business is the ultimate arbiter over the direction and the performance scorecard of IT.

## Customers

In contrast to the broad nature of The Business, the external agent, Customers, reflects that each IT service has an individual customer, or a collective set of them.

The role of the Customer covers aspects that specify and guide the makeup of the services, such as:

- Providing requirements that can eventually be satisfied by an IT service.
- Commissioning development of new or updated solutions. The agreement for this, and for the levels of service using the solution, can be formally or informally contracted, depending on the customer-provider relationship.
- Interactions relating to satisfaction (or otherwise) with delivered IT services.

The model does not differentiate between internal and external customers. The interactions depicted in the model cover both cases. In particular, the Customer can themselves be another IT service provider, perhaps in the role of a prime contractor to the ultimate customers or of a service integrator in a multi-sourcing arrangement.

## Users

This external agent is involved in the interactions with each of the services provided by IT.

- Primarily, the interactions are related to receiving service through initiating and providing data to individual transactions, and generalized services (such as e-mail and Internet access).
- Additionally, users will interact with support services (manually or electronically) for:
  - Requests for advice and guidance
  - Interruption to service (PC hardware failure, for example)

User interactions occur only within the specifications of agreed services. The Customer role is needed to commission and confirm new or extended services.

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## Suppliers

No IT function can provide 100 percent of the value delivered in their portfolio of IT services. At some point in each value chain, there will be dependencies on one or more Suppliers. Suppliers, in this context, are organizations outside the control of the CIO and with whom the primary linkage is in the form of a supply agreement, formally or informally. The supply agreement can be for products, services, or both. In return for this supply, there will need to be a corresponding payment, which is usually of a monetary kind.

PRM-IT does not indicate the points when the value chain will invoke a supply agreement, it does acknowledge that an agreement will be required. Similarly, while it is likely that most agreements will be with suppliers external to the business, it is possible that some suppliers might be sister organizations in the wider business.

## External Environment

The policies, practices, methods and techniques the IT undertaking uses are subject to many other influences and constraints beyond the external agents thus far mentioned. Collectively, the term *External Environment* is used to convey these influences and constraints.

Examples of agents of this type are:

- Governments
- Regulatory agencies
- Industry trends
  - The industry segments of the business
  - The IT industry in general
- IT management frameworks and techniques, such as published *best practice* and bodies of knowledge

In general, the External Environment has a strong influence over an individual IT undertaking. In contrast, it is relatively unlikely, though possible, for the reverse to be true.

# Context and Interfaces

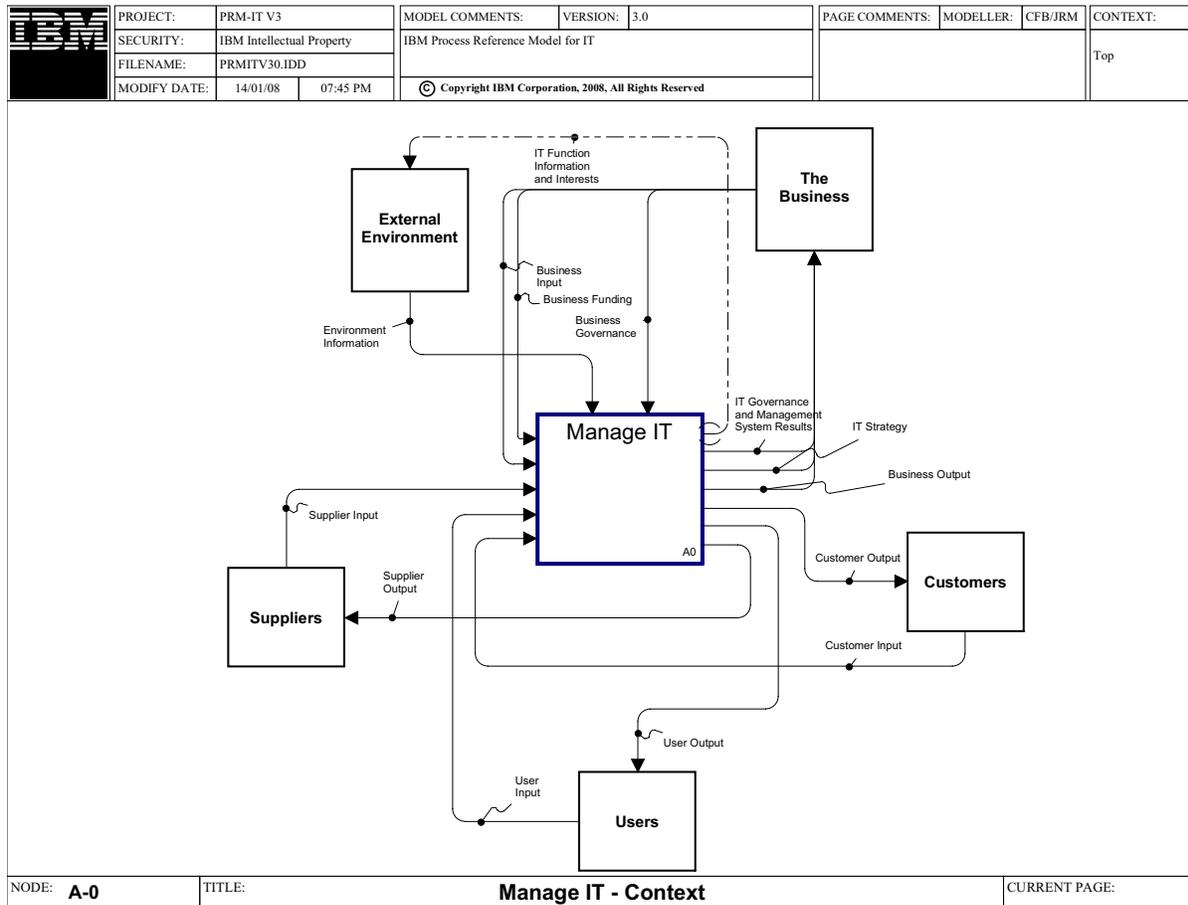


Figure 1. PRM-IT A-0 (Context) Diagram

## Process Details

### Controls

- ◆ Environment Information (From: outside the model)

General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:

- Business information
- Technical information
- Government information

- ◆ Business Governance (From: outside the model)

- Includes business drivers

### Inputs

- ◆ Business Funding (From: outside the model)

Defines the overall planned budget effort (people, money) for all planned services and activities in IT.

- ◆ Business Input (From: outside the model)

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

- Guidance
- Instructions
- General commentary and information about business operating conditions

◆ Supplier Input (From: outside the model)

The complete set of items from suppliers to the IT undertaking. The set includes:

- Bids
- Procured items (assets, consumables, services)
- Invoices
- Product and support information

◆ User Input (From: outside the model)

The collection of all information and items a user generates and sends to the IT undertaking in furtherance of their need to receive the committed service. Examples include:

- Sequences that invoke transactions or other kinds of services (typically from an application). They might be accompanied by user data.
- Contact, through human or electronic channels, which represent:
  - Requests for information
  - Expressions of any apparent fault (which might become an incident)
  - Service requests

◆ Customer Input (From: outside the model)

Interactions from any customer of IT to any IT process related to any aspect of the life cycle related to the establishment and performance of the *IT product*; that is, the services and solutions. The interactions include:

- Needs and requirements
- Contracting for IT services
- Establishing service level targets, and reviewing achievement against those targets
- Participation in testing and other acceptance activities
- Payments
- Satisfaction input

## Outputs

◆ IT Function Information and Interests (To: outside the model)

Any information about the workings such as current capabilities and future directions, which the IT undertaking makes available to the industry at large.

◆ IT Governance and Management System Results (To: outside the model)

A stakeholder report of the IT Management System's outcomes, effectiveness and efficiency, and other key performance indicators, such as the quality results.

◆ IT Strategy (To: outside the model A1 A2 A4 A5 A7 A8)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

◆ Business Output (To: outside the model)

The interactions from the collective IT endeavor to the businesses which relate to the any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Assessment of actual and potential value from IT
- Business demand classifications, forecast consolidations and proposed demand interventions
- Compliance certifications

◆ Customer Output (To: outside the model)

The interactions from the collective IT undertaking to any IT customer, in connection with any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Validation of requirements
- Marketing and sales materials, such as proposals
- Service level agreement life cycle
- Invoices for services rendered
- Any aspect of customer satisfaction

◆ User Output (To: outside the model)

The collection of all service deliverables which the IT undertaking generates and delivers to the user to meet the committed service. Examples include:

- Processing of business transactions (in whole or in part) through IT system-provided means.
- The delivery of relevant outputs, such as:
  - Transaction completion status
  - Data resulting (for example, delivery of an e-mail message)
- Contact through human or electronic channels, which satisfy or resolve:
  - Requests for information
  - Expressions of any apparent fault (which might become an incident)
  - Service requests

◆ Supplier Output (To: outside the model)

Represents all interactions from the IT undertaking to any supplier. Constituents include:

- Bid requests
- Purchase orders
- Payments
- Other communications

## Model Composition

This model is composed of these process categories:

- A1 Governance and Management System
- A2 Customer Relationships
- A3 Direction
- A4 Realization
- A5 Transition
- A6 Operations
- A7 Resilience
- A8 Administration

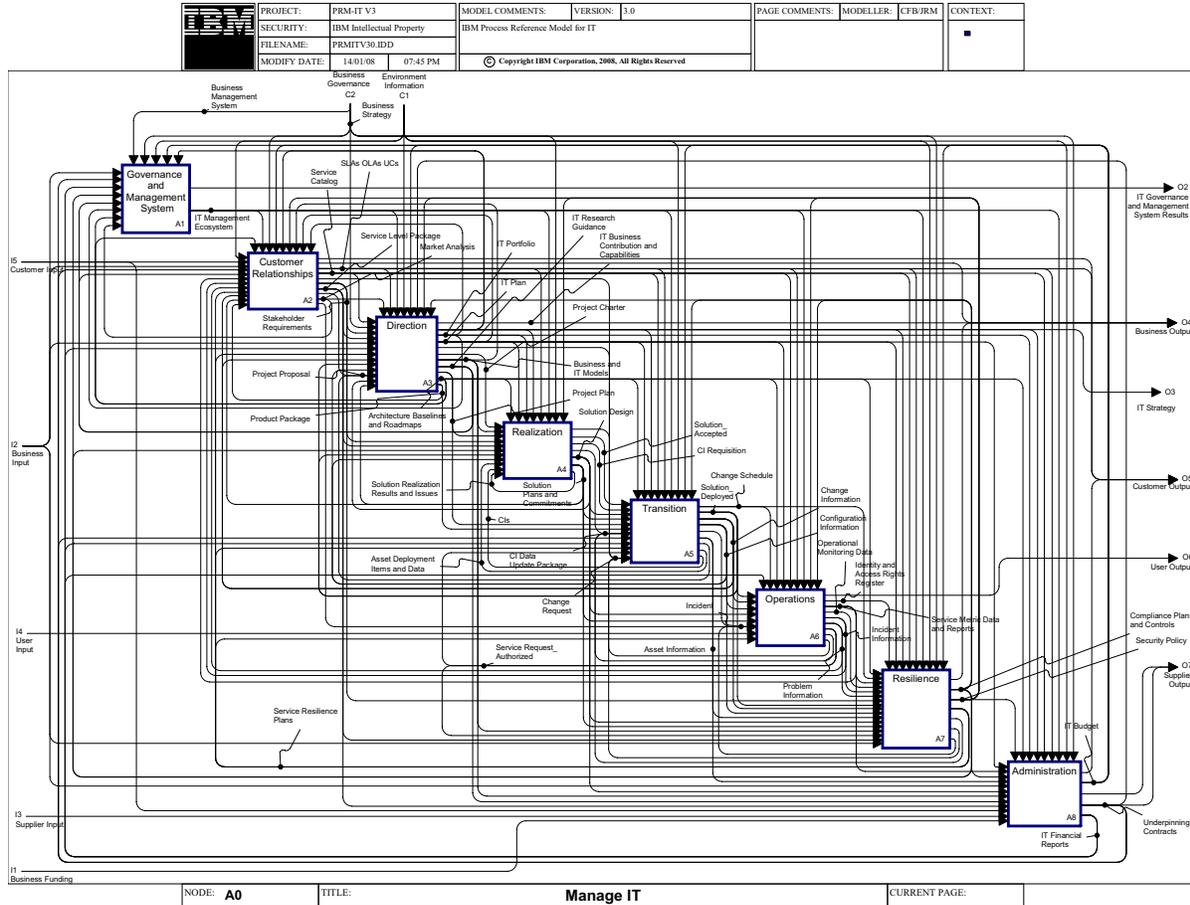


Figure 2. PRM-IT A0 Diagram

# [A1] Governance and Management System

## Description

### Purpose

The Governance and Management System process category defines a structure of relationships and processes to direct and control the IT undertaking. These processes must establish the capability to achieve the IT undertaking's goals. The governance and management system must add value by balancing risk versus return across IT and all processes.

The category defines, establishes, operates, and improves upon a management framework for conducting IT activities. The management framework will outline, as an example, the management model, guiding principles, methods, organization design, information framework, process structure, policies and practices to guide the IT organization towards its stated goals. Once the management framework is defined and implemented, a continuous evaluation process will be executed to enable better decision making by executives as to whether the business model is succeeding or should be modified to achieve the objectives better.

Governance considers and sets the fundamental direction for the management framework. Governance is a decision rights and accountability framework for directing, controlling and executing IT endeavors in order to determine and achieve desired behaviors and results. Governance involves defining the management model and creating governing or guiding principles. This includes:

- Who makes directing, controlling, and executing decisions, including defining the ultimate authority (final arbiter)
- How the decisions will be made, including escalation and arbitration procedures
- What information is required to make the decisions
- With what frequency decisions must be made or revisited
- What decision making mechanisms should be required
- How exceptions will be handled
- How decisions are communicated to concerned parties
- How the governance results should be reviewed and improved

### Rationale

The Governance and Management System process category ensures that a framework is in place to integrate processes, technologies, people, and data in a manner that is consistent with IT goals. The category also monitors the framework against the broader enterprise goals and quality metrics. When specific goals and quality metrics are consistently unmet, decisions will be made as to whether the overall framework will be modified or restructured to ensure future success.

### Value

- Integrates and coordinates the workings of IT
- Enables informed and effective decision making
- Establishes responsibility for the implementation of a set of coherent, integrated capabilities that enables IT
- Optimizes strategic, tactical, and operational effectiveness of IT
- Ensures continuous improvement

## Controls

- **Business Management System**  
The management system in place to govern the workings of the overall business.
- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- **Environment Information (From: outside the model)**  
General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:
  - Business information
  - Technical information
  - Government information
- **IT Budget (From: A8)**  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **IT Strategy (From: A3)**  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- **Business Input (From: outside the model)**  
The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:
  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- **Underpinning Contracts (From: A8)**  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>1</sup>
- **IT Financial Reports (From: A8)**  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Compliance Plans and Controls (From: A7)**  
The authoritative and comprehensive statement of:
  - ◆ The items for which compliance is required

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1. ITIL V3 Glossary

- ◆ The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- ◆ The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- IT Research Guidance (From: A3)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

- IT Portfolio (From: A3)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- Architecture Baselines and Roadmaps (From: A3)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- Market Analysis (From: A2)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope to discern general trends and directions in the current IT service marketplace.

## Outputs

- IT Governance and Management System Results (To: outside the model)

A stakeholder report of the IT Management System's outcomes, effectiveness and efficiency, and other key performance indicators, such as the quality results.

- IT Management Ecosystem (To: A2 A3 A4 A5 A6 A7 A8)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

## Processes

This process category is composed of these processes:

- A11 IT Governance and Management System Framework
- A12 IT Governance and Management System Capabilities
- A13 IT Governance and Management System Operation
- A14 IT Governance and Management System Evaluation

## [A2] Customer Relationships

### Description

#### Purpose

The Customer Relationships process category gives IT service providers a mechanism to understand, monitor, perform and compete effectively in the marketplace they serve. Through active communication and interaction with customers, this process category provides the IT enterprise with valuable, current information concerning customer wants, needs, and requirements. Once these requirements are captured and understood, the process category ensures that an effective market plan is created to bring the various IT services and capabilities to the marketplace.

Use of a Service Catalog contributes to effective communication with customers, and also provides everyday usage details to approved users of services. In support of delivering these services, service level agreements (SLAs), underpinning contracts (UCs), and operational level agreements (OLAs) are planned, created, implemented, monitored, and continuously improved in this process category. A sound understanding of the real demand for services, categorized by the mix of user communities, helps ensure the vitality of SLAs and underpins achievement of targets.

As the dependence of business activities on technology-based support grows, assistance is needed to help customers understand and exploit the transformation potential from technology. While the IT services are in operation, customer satisfaction data is continuously gathered, monitored, and recorded to enhance IT service capabilities and IT's presence in the enterprise.

The governance and implementation details of each process will depend on the essential nature of the relationship with customers, most obviously indicated by whether they are internal or external. For an IT provider solely serving internal customers there can be little or no flexibility in the choice of marketplace. (ITIL uses the term *Market Space*, defined as "All opportunities that an IT Service Provider could exploit to meet business needs of Customers. The Market Space identifies the possible IT Services that an IT Service Provider may wish to consider delivering."<sup>2</sup>) This marketplace selection decision occurs in the Direction category; here, the customer-facing implications of those decisions are addressed and can result in more than one implementation of each process depending of the market complexity.

#### Rationale

The Customer Relationships process category ensures that the IT enterprise is effective in the marketplace, whether internal or external. Through active market research, the IT services are kept current with the dynamic wants, needs, requirements, and demand level of customers. Furthermore, customer satisfaction data is gathered and reported in order to find areas of the IT services that require improvement. Overall, this process category provides a means for the IT enterprise to understand customer requirements, market IT services to customers, ensure and monitor the quality of the delivered IT services, and contribute to the maximization of business value from technology usage.

#### Value

- Improves communication and understanding of customer wants and needs
- Identifies new market opportunities
- Coordinates the marketing and selling of IT services
- Establishes clear service level expectations

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- Highlights areas within IT services delivery requiring improvement
- Identifies updates to IT services for greater effectiveness in meeting customer requirements
- Guides customers in understanding where and how technology can transform their business
- Enhances customer satisfaction and loyalty

## Controls

- Architecture Baselines and Roadmaps (From: A3)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Budget (From: A8)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Strategy (From: A3)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Security Policy (From: A7)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Business and IT Models (From: A3)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Plan (From: A3)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Portfolio (From: A3)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- Environment Information (From: outside the model)  
General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:
  - Business information

- Technical information
- Government information
- Customer Input (From: outside the model)

Interactions from any customer of IT to any IT process related to any aspect of the life cycle related to the establishment and performance of the *IT product*; that is, the services and solutions. The interactions include:

  - Needs and requirements
  - Contracting for IT services
  - Establishing service level targets, and reviewing achievement against those targets
  - Participation in testing and other acceptance activities
  - Payments
  - Satisfaction input
- Business Input (From: outside the model)

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- Underpinning Contracts (From: A8)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>3</sup>
- IT Research Guidance (From: A3)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Service Metric Data and Reports (From: A6)

Significant service delivery event logs, volume and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Incident Information (From: A6)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Problem Information (From: A6)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

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- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)
- **Change Information (From: A5)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Solution Plans and Commitments (From: A4)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Product Package (From: A3)**

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

## Outputs

- **Customer Output (To: outside the model)**

The interactions from the collective IT undertaking to any IT customer, in connection with any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

  - Validation of requirements
  - Marketing and sales materials, such as proposals
  - Service level agreement life cycle
  - Invoices for services rendered
  - Any aspect of customer satisfaction
- **Business Output (To: outside the model)**

The interactions from the collective IT endeavor to the businesses which relate to the any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

  - Assessment of actual and potential value from IT
  - Business demand classifications, forecast consolidations and proposed demand interventions
  - Compliance certifications
- **SLAs, OLAs, UCs (To: A3 A4 A5 A6 A7 A8)**

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external

entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>4</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>5</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>6</sup>

These agreements can be in a draft or finalized status.

■ Service Catalog (To: A3 A5 A6 A7 A8)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>7</sup>

■ Change Request (To: A5)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

■ Stakeholder Requirements (To: A3 A4 A7)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

■ Service Level Package (To: A3 A4 A7 A8)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>8</sup>

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- **Project Proposal (To: A3)**  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Market Analysis (To: A1 A3)**  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope to discern general trends and directions in the current IT service marketplace.
- **Incident (To: A6)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

## **Processes**

This process category is composed of these processes:

- **A21 Stakeholder Requirements Management**
- **A22 Service Marketing and Sales**
- **A23 Service Catalog Management**
- **A24 Service Level Management**
- **A25 Demand Management**
- **A26 IT Customer Transformation Management**
- **A27 Customer Satisfaction Management**

## [A3] Direction

### Description

#### Purpose

The Direction process category provides guidance on the external technology marketplace, aligns the IT outcomes to support the business strategy, minimizes risk exposures, and manages the IT architecture and IT portfolio. Using the business strategy, related business requirements, and overall technology trends as key inputs, this process category creates an IT Strategy within the manageable constraints of the existing IT architecture and portfolio. In addition to the IT strategy, the IT portfolio and IT architecture are planned, created, implemented, monitored, and continuously improved within this process category. Items put forward for inclusion in the IT portfolio are managed throughout their life cycle using product management approaches well established in many industries.

The IT portfolio includes all items managed to deliver the IT strategy, including, but not limited to, the services published to clients through the service catalog, internal services executed within the IT organization, and new and established development initiatives. Moreover, the process category supplies the IT organization with a Project Management process to manage initiatives driven by the IT strategy, such as development projects. Finally, risks to the IT organization, such as those posed by regulatory requirements, are prioritized and managed through risk mitigation plans.

#### Rationale

Through a business aligned IT strategy, IT architecture and IT portfolio, the process category ensures that the IT enterprise is aligned with the overall business direction. Using these artifacts, the IT organization will have the capability to clearly communicate to its customers the value of the services they provide, while mitigating the overall risk posture. This process category also instills basic project management discipline and controls.

#### Value

- Aligns IT endeavors to business goals and strategy
- Identifies and explains new trends and directions in the technology marketplace
- Triggers new initiatives to meet dynamic business and technology requirements
- Incorporates new technology trends into IT strategy and plans
- Establishes architectural guidelines and standards for solutions and services in order to enhance consistency, reuse and overall value across the range of capabilities, balancing the need for individual solution optimization
- Mitigates IT and business risks efficiently and effectively
- Translates the initiatives into a mix of products (services, solutions) which will be managed through their life cycle from vision and business case to value measurement and retirement
- Optimizes the allocation of IT resources through portfolio management
- Articulates the value of IT's contribution to the business
- Ensures methodical project management processes and controls for improved quality and predictability

## Controls

- Market Analysis (From: A2)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope to discern general trends and directions in the current IT service marketplace.

- SLAs, OLAs, UCs (From: A2)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>9</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>10</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>11</sup>

These agreements can be in a draft or finalized status.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Environment Information (From: outside the model)

General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:

- Business information
- Technical information
- Government information

- IT Budget (From: A8)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

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■ Underpinning Contracts (From: A8)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>12</sup>

■ Security Policy (From: A7)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

■ Compliance Plans and Controls (From: A7)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

■ Service Catalog (From: A2)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>13</sup>

■ Business Strategy

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

■ Stakeholder Requirements (From: A2)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

■ Service Level Package (From: A2)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under

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which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>14</sup>

- **Business Input (From: outside the model)**

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- **IT Financial Reports (From: A8)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)
- **Change Information (From: A5)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Solution\_ Deployed (From: A5)**

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- **Configuration Information (From: A5)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Project Proposal (From: A2 A5)**

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Solution Design (From: A4)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution Plans and Commitments (From: A4)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

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- Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

## Outputs

- IT Business Contribution and Capabilities  
Information to the business on the products of IT (the services and solutions), on the status of the IT assets and infrastructure employed in the delivery of the IT products, and on the contribution (value) to the business which the IT product makes.
- IT Strategy (To: outside the model A1 A2 A4 A5 A7 A8)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (To: A1 A2 A4 A8)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (To: A2 A4 A5 A6 A7 A8)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Change Request (To: A5)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Project Charter (To: A4)  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- Business and IT Models (To: A2 A4 A7 A8)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Research Guidance (To: A1 A2 A8)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Project Plan (To: A4 A5)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Architecture Baselines and Roadmaps (To: A1 A2 A4 A5 A6 A7 A8)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Product Package (To: A2 A5)  
A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

## Processes

This process category is composed of these processes:

- A31 IT Strategy
- A32 IT Research and Innovation
- A33 Architecture Management
- A34 Risk Management
- A35 Product Management
- A36 Portfolio Management
- A37 Program and Project Management

## [A4] Realization

### Description

#### Purpose

The Realization process category exists to create solutions that will satisfy the requirements of IT customers and stakeholders, including both the development of new solutions and the enhancements or maintenance of existing ones. Development includes options to build or buy the components of that solution, and the integration of them for functional capability.

This process category encompasses the engineering and manufacturing of information technology products and services and includes the making or buying of solutions, systems, integration, and extensions to existing solutions. Maintenance and end of life shutdown activities (requiring solution adjustment) are also addressed in this category.

The basic unit of work is assumed to be a project. However, these projects can vary from quite small and of short duration to very large and long-term. The processes act together, often iteratively and in parallel, in a project driven context to create information technology solutions for specific sets of stakeholder requirements.

Many engineering disciplines are relevant to the achievement of successful outcomes for these projects. Examples of such disciplines include:

- Performance engineering
- Test engineering
- Requirements engineering

#### Rationale

The Realization process category addresses a broad range of systems and service synthesis activities, including integration of hardware components, software and network components, applications development, and other modifications to the computing infrastructure. This process category accommodates all levels of the solution's configuration (individual parts, subassemblies, distributed components, among others) and component types (hardware, software, printed documentation, skills, architectures and designs, training).

#### Value

- Lays the foundation for the business to receive value from its investment in IT by creating solutions that meet customer requirements
- Ensures that standards and principles (such as buy or build guidelines) are followed
- Provides fully integrated solutions with predictable performance characteristics
- Obtains full stakeholder agreement that solutions are ready for deployment
- Produces high quality work products

#### Controls

- Architecture Baselines and Roadmaps (From: A3)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- **IT Plan (From: A3)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **IT Portfolio (From: A3)**

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- **IT Strategy (From: A3)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **SLAs, OLAs, UCs (From: A2)**

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>15</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>16</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>17</sup>

These agreements can be in a draft or finalized status.

- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- **Business Strategy**

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

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■ Security Policy (From: A7)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

■ Project Charter (From: A3)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

■ Business and IT Models (From: A3)

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

■ Project Plan (From: A3)

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.

■ Stakeholder Requirements (From: A2)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

■ Service Level Package (From: A2)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity." <sup>18</sup>

■ Compliance Plans and Controls (From: A7)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

■ Solution\_ Deployed (From: A5)

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

■ Configuration Information (From: A5)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

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- **Asset Deployment Items and Data (From: A5)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **CI (From: A5)**  
CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: “Any Component that needs to be managed in order to deliver an IT Service.... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs.”<sup>19</sup>
- **Solution Realization Results and Issues (From: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## Outputs

- **Change Request (To: A5)**  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- **Solution\_ Accepted (To: A5)**  
The Solution which has been approved by the stakeholder community, and is now ready to be deployed.
- **CI Requisition (To: A5)**  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- **CI Data Update Package (To: A5)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- **Solution Design (To: A3 A5 A6 A7 A8)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution Plans and Commitments (To: A2 A3 A5 A6 A7)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Solution Realization Results and Issues (To: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update

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organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## Processes

This process category is composed of these processes:

- A41 Solution Requirements
- A42 Solution Analysis and Design
- A43 Solution Development and Integration
- A44 Solution Test
- A45 Solution Acceptance

## [A5] Transition

### Description

#### Purpose

The Transition category of processes exists to support any aspect related to a life cycle status change in Solutions and Services. The processes provide defined and repeatable approaches to planning, effecting and recording these transitions, and can be applied to all stages of the life cycle. They also serve to maintain control over the Information Technology resources, which are subject to such status changes. Further, the processes in this category provide vital enabling information to other process areas related to the management of IT. Through these processes, developments in IT capabilities supporting the stakeholding businesses and customers achieve their desired operational status from which value can be derived.

#### Rationale

A transition can vary in scope and scale from a roll out of a major solution to a large population of users across multiple geographic territories to the installation of a fix or patch to a single configuration item or the controlled update of an individual software module during development. Transition instances can also be triggered by changes in the service provider arrangements, whether or not there is also a change in service capabilities and characteristics. Any modification to a known set of resources carries with it some risk of failure and so, whatever the motivation for the transition, there is a need to ensure that approaches which minimize that risk are followed and that information about the state of resources is maintained.

#### Value

- Improves the speed of innovation while balancing the business need for stability in the IT infrastructure
- Controls and maintains accurate information on the infrastructure, applications, and services
- Implements solutions that provide new functionality, eliminates the root causes of defects, or performs tuning actions without business disruption
- Enables gradual and measured improvements in the way that changes are introduced into complex and interdependent live environments
- Supports the efficiency and effectiveness of other processes by providing accurate information on managed elements (CIs, managed objects, and others)

#### Controls

- Architecture Baselines and Roadmaps (From: A3)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Plan (From: A3)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and

required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

■ Service Catalog (From: A2)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>20</sup>

■ SLAs, OLAs, UCs (From: A2)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>21</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>22</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>23</sup>

These agreements can be in a draft or finalized status.

■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

■ Environment Information (From: outside the model)

General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:

- Business information

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- Technical information
- Government information
- IT Budget (From: A8)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Compliance Plans and Controls (From: A7)

The authoritative and comprehensive statement of:

  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

- Solution\_ Accepted (From: A4)

The Solution which has been approved by the stakeholder community, and is now ready to be deployed.
- CI Requisition (From: A4)

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- Solution Design (From: A4)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution Plans and Commitments (From: A4)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Project Plan (From: A3)

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Product Package (From: A3)

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- CI Data Update Package (From: A4 A6 A7)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

  - Attributes
  - Relationships

- **Underpinning Contracts (From: A8)**

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>24</sup>
- **IT Financial Reports (From: A8)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)
- **Service Request\_ Authorized (From: A6)**

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- **Change Request (From: A2 A3 A4 A6 A7)**

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

## Outputs

- **Change Schedule (To: A6 A7)**

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>25</sup>
- **Solution\_ Deployed (To: A3 A4 A6 A7)**

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

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- **Change Information (To: A2 A3 A6 A7)**  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Configuration Information (To: A3 A4 A6 A7)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Incident (To: A6)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- **Asset Information (To: A7 A8)**  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- **Project Proposal (To: A3)**  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Asset Deployment Items and Data (To: A4)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **CIs (To: A4)**  
CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: “Any Component that needs to be managed in order to deliver an IT Service.... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs.”<sup>26</sup>

## Processes

This process category is composed of these processes:

- A51 Change Management
- A52 Release Management
- A53 Deployment Management
- A54 Configuration Management
- A55 Asset Management

## [A6] Operations

### Description

#### Purpose

This category contains the operational service processes that enable daily IT activities using available infrastructure, applications, and services to meet service level agreements (SLAs) and business objectives. Responsibility for delivery of service sits here. Managing contact and communications with users (service requests) is an important function as these processes sense and respond to day-to-day aspects of operations and events, quickly and correctly to address any incidents and problems that might arise.

#### Rationale

The Operations category comprises the activities and measures necessary to enable and maintain the intended and committed use of the infrastructure, applications, and services. The processes in this category require close integration to function effectively. Operational plans and workload balancing are augmented by constant operational monitoring throughout service delivery. This operational data is used by many processes to identify, analyze, and quickly resolve any anomalies. The Operations category is also the focal point for receiving and responding to a wide variety of user service requests. This process category is vital to operating organizational constructs such as a service desk, an operations bridge, or operations center. Problem Management is included in this category because of its dependence on incident management information.

#### Value

- Operates, manages, and maintains an end-to-end infrastructure to facilitate the delivery of the services to the business, meeting all of the agreed to requirements and targets
- Provides sense and respond correction and optimization for any fluctuations within the designed operating characteristics of the IT infrastructure, applications, and services
- Provides a focal point for reliable, robust, secure, and consistent delivery of service, minimizing potential negative impact on the efficiency and effectiveness of business processes
- Establishes responsibility for user contact, service requests and other interactions, improving communications and customer perception of service quality
- Provides the designed level of integrity for data at all stages of its life cycle, including protection of business (and IT) data from accidental loss
- Ensures that any faults or issues are recognized and appropriately addressed

#### Controls

- IT Financial Reports (From: A8)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- Change Schedule (From: A5)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>27</sup>

- **Architecture Baselines and Roadmaps (From: A3)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- **IT Plan (From: A3)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **Service Catalog (From: A2)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>28</sup>
- **SLAs, OLAs, UCs (From: A2)**

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

  - **SLA:** “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>29</sup>
  - **OLA:** “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>30</sup>
  - **UC:** “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>31</sup>

These agreements can be in a draft or finalized status.
- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the

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28. ITIL V3 Glossary  
29. ITIL V3 Glossary  
30. ITIL V3 Glossary  
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domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

■ Security Policy (From: A7)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

■ Compliance Plans and Controls (From: A7)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

■ Solution\_ Deployed (From: A5)

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

■ Change Information (From: A5)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

■ Configuration Information (From: A5)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

■ Solution Design (From: A4)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

■ Solution Plans and Commitments (From: A4)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

■ Incident (From: A2 A5 A7)

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

■ User Input (From: outside the model)

The collection of all information and items a user generates and sends to the IT undertaking in furtherance of their need to receive the committed service. Examples include:

- Sequences that invoke transactions or other kinds of services (typically from an application). They might be accompanied by user data.
- Contact, through human or electronic channels, which represent:
  - ◆ Requests for information
  - ◆ Expressions of any apparent fault (which might become an incident)
  - ◆ Service requests
- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)

## Outputs

- User Output (To: outside the model)

The collection of all service deliverables which the IT undertaking generates and delivers to the user to meet the committed service. Examples include:

  - Processing of business transactions (in whole or in part) through IT system-provided means.
  - The delivery of relevant outputs, such as:
    - ◆ Transaction completion status
    - ◆ Data resulting (for example, delivery of an e-mail message)
  - Contact through human or electronic channels, which satisfy or resolve:
    - ◆ Requests for information
    - ◆ Expressions of any apparent fault (which might become an incident)
    - ◆ Service requests
- Identity and Access Rights Register (To: A7)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Service Metric Data and Reports (To: A2 A7 A8)

Significant service delivery event logs, volume and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Operational Monitoring Data (To: A7)

Information relating to the overall item-by-item outcomes and status of the IT operational service. This can include measurements of resource utilization, transaction volumes, processing status, and others.

- Incident Information (To: A2 A7)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Problem Information (To: A2 A7)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Service Request\_ Authorized (To: A5 A7)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- CI Data Update Package (To: A5)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Change Request (To: A5)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

## Processes

This process category is composed of these processes:

- A61 Request Fulfillment
- A62 Service Execution
- A63 Data Management
- A64 Event Management
- A65 Incident Management
- A66 Problem Management
- A67 Identity and Access Management

## [A7] Resilience

### Description

#### Purpose

The Resilience category of processes describes the analysis and proactive planning required to enable resilient infrastructure, applications, and services. Resilience is here defined as the ability to absorb conditions or faults without service failure and the ability to quickly return to a previous good condition. Each process covers a range of activities from handling everyday adjustments as required by service operations through anticipating the potential future demands upon its specific domain.

In order to accomplish their collective mission, all processes require input from a wide range of other processes, including such items as architectural information, problem and known error information, solution designs, scheduled projects and changes, as well as operational monitoring data. Resilience processes use this input to establish ongoing resilience capabilities, ensuring service level attainment and customer satisfaction while controlling costs.

#### Rationale

All of the processes in this category analyze information from a variety of sources and then generate proactive plans to minimize risks associated with the potential failure of any component (or group of components) or human actor used to deliver services. The processes in this category are also responsible for ensuring compliance with (internal and external) laws and regulations, internal policies and procedures, as well as maintaining defined levels of security on information and IT services.

#### Value

- Ensures compliance with all security and regulatory considerations and requirements, reducing both IT and business risk
- Establishes proactive plans to ensure that infrastructure and application-based services are reliable, robust, secure, consistent and facilitate the efficient and effective support of business processes
- Provides the means to monitor both current IT system availability as well as to project future capacity requirements, improving IT's ability to support business direction
- Establishes responsibility for operation, management and maintenance of all physical facilities necessary to deliver services to the business
- Provides assurance that agreed to IT Services will continue to support business requirements in the event of a catastrophic disruption to the business environment

#### Controls

- Identity and Access Rights Register (From: A6)  
The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

- **IT Plan (From: A3)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **IT Strategy (From: A3)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **Service Catalog (From: A2)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>32</sup>
- **SLAs, OLAs, UCs (From: A2)**

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

  - **SLA:** “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>33</sup>
  - **OLA:** “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>34</sup>
  - **UC:** “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>35</sup>

These agreements can be in a draft or finalized status.
- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the

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domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Environment Information (From: outside the model)  
General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:
  - Business information
  - Technical information
  - Government information
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Budget (From: A8)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

## Inputs

- Architecture Baselines and Roadmaps (From: A3)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Change Schedule (From: A5)  
As defined in ITIL: "A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented." <sup>36</sup>
- Service Metric Data and Reports (From: A6)  
Significant service delivery event logs, volume and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Operational Monitoring Data (From: A6)  
Information relating to the overall item-by-item outcomes and status of the IT operational service. This can include measurements of resource utilization, transaction volumes, processing status, and others.
- Incident Information (From: A6)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Problem Information (From: A6)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

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- **Stakeholder Requirements (From: A2)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- **Solution\_ Deployed (From: A5)**

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- **Change Information (From: A5)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Configuration Information (From: A5)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Asset Information (From: A5)**

Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- **Solution Design (From: A4)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution Plans and Commitments (From: A4)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Business and IT Models (From: A3)**

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Service Request\_ Authorized (From: A6)**

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- **Service Level Package (From: A2)**

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>37</sup>
- **Business Input (From: outside the model)**

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

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- Guidance
- Instructions
- General commentary and information about business operating conditions

## Outputs

### ■ Business Output (To: outside the model)

The interactions from the collective IT endeavor to the businesses which relate to the any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Assessment of actual and potential value from IT
- Business demand classifications, forecast consolidations and proposed demand interventions
- Compliance certifications

### ■ Compliance Plans and Controls (To: A1 A3 A4 A5 A6 A8)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

### ■ Security Policy (To: A2 A3 A4 A6 A8)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### ■ Service Resilience Plans (To: A2 A3 A5 A6)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)

### ■ CI Data Update Package (To: A5)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

### ■ Change Request (To: A5)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Incident (To: A6)

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

## Processes

This process category is composed of these processes:

- A71 Compliance Management
- A72 Security Management
- A73 Availability Management
- A74 Capacity Management
- A75 Facilities Management
- A76 IT Service Continuity Management

## [A8] Administration

### Description

#### Purpose

The Administration process category brings together the processes that look after many of the non-technical resources, such as people, finances, contracts, and others that support IT service delivery. It which builds a sound foundation for the IT business upon which other processes can deliver the IT services that the parent business needs.

#### Rationale

The processes in this category help build and manage the necessary infrastructure for controlling IT resources (such as hardware, software, and people). These processes are a necessary part of any endeavor's management system and contain the fundamental management building blocks of any organizational entity; namely, people management, financial and administrative management, pricing and contract management, and skills management. Failure in any of these areas of management could lead to the failure of the IT entity of the business. Without these processes, there would be no ability to accomplish the information technology mission of the business, regardless of the technology available.

#### Value

- Contributes to managing the business and finances of IT with an approach and discipline consistent with the business practices employed by the rest of the enterprise
- Provides accurate and up-to-date financial information to facilitate management controls
- Manages contracts and relationships with internal and external suppliers of products and services, optimizing the value and quality of service and support
- Attracts and retains a highly-skilled workforce to ensure that business needs can be met through IT
- Enables innovation through the capture and dissemination of knowledge

#### Controls

- Security Policy (From: A7)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Architecture Baselines and Roadmaps (From: A3)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Portfolio (From: A3)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Strategy (From: A3)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

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■ Service Catalog (From: A2)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>38</sup>

■ SLAs, OLAs, UCs (From: A2)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>39</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>40</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>41</sup>

These agreements can be in a draft or finalized status.

■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

■ Environment Information (From: outside the model)

General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:

- Business information
- Technical information
- Government information

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- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

## Inputs

- **IT Plan (From: A3)**  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **Service Metric Data and Reports (From: A6)**  
Significant service delivery event logs, volume and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- **Compliance Plans and Controls (From: A7)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.
- **Asset Information (From: A5)**  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- **Business Input (From: outside the model)**  
The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:
  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- **Solution Design (From: A4)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Business and IT Models (From: A3)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **IT Research Guidance (From: A3)**  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- **Service Level Package (From: A2)**  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>42</sup>

- **Customer Input (From: outside the model)**

Interactions from any customer of IT to any IT process related to any aspect of the life cycle related to the establishment and performance of the *IT product*; that is, the services and solutions. The interactions include:

  - Needs and requirements
  - Contracting for IT services
  - Establishing service level targets, and reviewing achievement against those targets
  - Participation in testing and other acceptance activities
  - Payments
  - Satisfaction input
- **Supplier Input (From: outside the model)**

The complete set of items from suppliers to the IT undertaking. The set includes:

  - Bids
  - Procured items (assets, consumables, services)
  - Invoices
  - Product and support information.
- **Business Funding (From: outside the model)**

Defines the overall planned budget effort (people, money) for all planned services and activities in IT.

## Outputs

- **Customer Output (To: outside the model)**

The interactions from the collective IT undertaking to any IT customer, in connection with any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

  - Validation of requirements
  - Marketing and sales materials, such as proposals
  - Service level agreement life cycle
  - Invoices for services rendered
  - Any aspect of customer satisfaction
- **IT Budget (To: A1 A2 A3 A5 A7)**

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **Supplier Output (To: outside the model)**

Represents all interactions from the IT undertaking to any supplier. Constituents include:

  - Bid requests
  - Purchase orders
  - Payments
  - Other communications
- **Underpinning Contracts (To: A1 A2 A3 A5)**

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information

about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>43</sup>

- IT Financial Reports (To: A1 A3 A5 A6)

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

## Processes

This process category is composed of these processes:

- A81 Financial Management
- A82 Supplier Management
- A83 Service Pricing and Contract Administration
- A84 Workforce Management
- A85 Knowledge Management

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## PRM-IT High Level Node Tree

<b>A0 – MANAGEMENT OF THE BUSINESS OF IT</b>	
<b>A1</b>	<b>IT Governance and Management System</b>
A11	IT Governance and Management System Framework
A12	IT Governance and Management System Capabilities
A13	IT Governance and Management System Operations
A14	IT Governance and Management System Evaluation
<b>A2</b>	<b>Customer Relationships</b>
A21	Stakeholder Requirements Management
A22	Service Marketing and Sales
A23	Service Catalog Management
A24	Service Level Management
A25	Demand Management
A26	IT Customer Transformation Management
A27	Customer Satisfaction Management
<b>A3</b>	<b>Direction</b>
A31	IT Strategy
A32	IT Research and Innovation
A33	Architecture Management
A34	Risk Management
A35	Product Management
A36	IT Portfolio Management
A37	Program and Project Management
<b>A4</b>	<b>Realization</b>
A41	Solution Requirements
A42	Solution Analysis and Design
A43	Solution Development and Integration
A44	Solution Test
A45	Solution Acceptance
<b>A5</b>	<b>Transition</b>
A51	Change Management
A52	Release Management
A53	Deployment Management
A54	Configuration Management
A55	Asset Management
<b>A6</b>	<b>Operations</b>
A61	Request Fulfillment
A62	Service Execution
A63	Data Management
A64	Event Management
A65	Incident Management

<b>A0 – MANAGEMENT OF THE BUSINESS OF IT</b>	
A66	Problem Management
A67	Identity and Access Management
<b>A7</b>	<b>Resilience</b>
A71	Compliance Management
A72	Security Management
A73	Availability Management
A74	Capacity Management
A75	Facility Management
A76	IT Service Continuity Management
<b>A8</b>	<b>Administration</b>
A81	Financial Management
A82	Supplier Management
A83	Service Pricing and Contract Administration
A84	Workforce Management
A85	Knowledge Management

Figure 3. Model Node Tree, with Categories and Processes



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## Value

- Integrates and coordinates the workings of IT
- Enables informed and effective decision making
- Establishes responsibility for the implementation of a set of coherent, integrated capabilities that enables IT
- Optimizes strategic, tactical, and operational effectiveness of IT
- Ensures continuous improvement

## Controls

- Business Management System
- Business Strategy
- Environment Information (From: outside the model)
- IT Budget (From: A8 A81 A813)
- IT Strategy (From: A3 A31 A315)

## Inputs

- Business Input (From: outside the model)
- Underpinning Contracts (From: A8 A82 A823)
- IT Financial Reports (From: A8 A81 A813 A814 A815)
- Compliance Plans and Controls (From: A7 A71 A714)
- IT Research Guidance (From: A3 A32 A325)
- IT Portfolio (From: A3 A36 A365)
- Architecture Baselines and Roadmaps (From: A3 A33 A334)
- Market Analysis (From: A2 A22 A222)

## Outputs

- IT Governance and Management System Results (To: outside the model)
- IT Management Ecosystem (To: A2 A21 A211 A22 A221 A23 A231 A24 A241 A25 A251 A26 A261 A27 A271 A3 A31 A311 A32 A321 A33 A331 A34 A341 A342 A343 A35 A351 A36 A361 A37 A371 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A54 A541 A55 A551 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A71 A711 A712 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A821 A83 A831 A84 A841 A85 A851)



# [A11] IT Governance and Management System Framework

## Purpose

The purpose of the IT Governance and Management System Framework process is to lay the foundation for building the governance and management of an IT organization or undertaking, taking into account such factors as vision, values, goals, and overall business objectives. Further, it establishes guiding principles (or a management philosophy) based on those factors.

This framework plays a key role in aligning the IT entity with the overall approach of the business. To be effective, the IT management system must focus on cultural as well as business aspects. This process does not identify the priorities of the business, but rather the approach to operating the various IT projects and processes in a coordinated fashion, that will manage their progress and health.

## Outcomes

As a result of the successful implementation of this process:

- Clear, unambiguous objectives and roadmaps for the overall IT Governance and Management System are set
- Overall IT governance meets the objectives provided by the owning business
- The IT management system aligns with the overall business management system
- Management system directions are transformed into a functional, workable, and implementable management system

## Scope

The framework for IT will be established within an overall governance and management framework set by the business. It adds IT-relevant characteristics to relevant aspects of the business framework and any items unique to IT undertakings.

### Includes

- ◆ Specifying:
  - Management models
  - Guiding principles
  - Policies and standards
  - Measurement and control approaches, such as CIO dashboard, balanced scorecard
  - Quality management approaches
- ◆ Defining critical success factors
- ◆ Generating a list of decision areas and issues, and selecting decision options based on guiding principles, values, and assumptions
- ◆ Responding to any identified gaps between the current baseline and the desired framework
- ◆ Communicating direction

### Excludes

- ◆ Identifying gaps between the current governance and management baseline and the desired framework (IT Governance and Management System Evaluation)

- ◆ Priorities and decisions on the business results of IT (Portfolio Management)
- ◆ IT strategy for the business (IT Strategy)

## Controls

- Regulations and Standards
 

External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:

  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Business Management System
 

The management system in place to govern the workings of the overall business.
- Business Strategy
 

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)
 

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- External Models and Practices
 

External information from the industry (from individual enterprises, from academia, and from industry watchers) describing models, practices, and trends in IT management system topics.
- Market Analysis (From: A2 A22 A222)
 

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope to discern general trends and directions in the current IT service marketplace.
- Underpinning Contracts (From: A8 A82 A823)
 

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>1</sup>
- Compliance Plans and Controls (From: A7 A71 A714)
 

The authoritative and comprehensive statement of:

  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance

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- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- IT Service Provider Value Profile (From: A31 A313)  
A model of the offerings and services desired by the business, incorporating value provided by the IT Business. Expresses in a form that profiles the IT Business as an IT Service Provider in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, Enabler model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Quality System Reports (From: A14 A144)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- IT Governance and Management Audit Results (From: A14 A143)  
The findings, conclusions, and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.

## Outputs

- IT Governance Framework (To: A112 A113 A114 A12 A121 A14 A142 A143)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- IT Management System Framework (To: A12 A122 A123 A124 A125 A126 A13 A132 A133 A14 A142 A143)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Quality Management Framework (To: A12 A121 A122 A123 A124 A125 A126)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.

## Activities

This process is composed of these activities:

- A111 Define IT Governance Framework
- A112 Define IT Management Goals
- A113 Establish IT Management Policies
- A114 Establish IT Management Practices

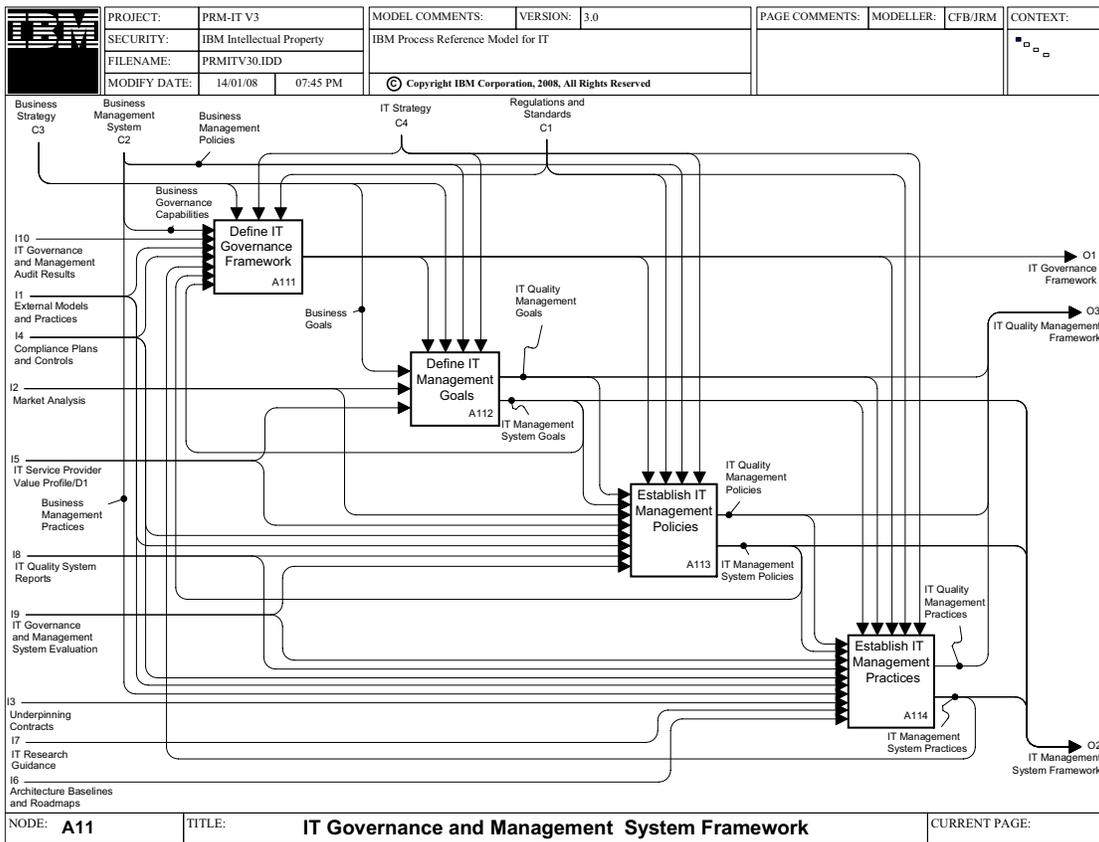


Figure 2. A11 IT Governance and Management System Framework

## [A111] Define IT Governance Framework

### Description

Creates the principles and tenets for the governance of IT, setting the direction for how governance capabilities will be established as an integral part of the overall IT Management Ecosystem. The IT Governance Framework will be constrained and controlled by the overall scheme of governance from the business as well as regulations, standards, compliance controls, and external models and practices.

### Controls

- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- **IT Strategy (From: A3 A31 A315)**  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **Regulations and Standards**  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

### Inputs

- **Business Governance Capabilities**  
The charters, structures, roles and responsibilities, decision making mechanisms and measurement capabilities, which are used for governance across the overall business within IT.
- **IT Governance and Management Audit Results (From: A14 A143)**  
The findings, conclusions, and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.
- **External Models and Practices**  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- **Compliance Plans and Controls (From: A7 A71 A714)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- **IT Management System Practices (From: A114)**  
High-level practices that have been defined in detail for the management system of the IT endeavor. Once these have been put in place (that is, made operational), they represent an implementation of the policies.

- IT Management System Policies (From: A113)  
High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its goals.
- IT Management System Goals (From: A112)  
Statements of purpose to direct the management system of the IT endeavor, and which reflect and support the overall goals of the Business.

## Outputs

- IT Governance Framework (To: A112 A113 A114 A12 A121 A14 A142 A143)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.

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## [A112] Define IT Management Goals

### Description

Establishes the fundamental tenets, aims, and fundamental directions of the IT Management System. These will usually address a range of topics, such as customer service, financial measures, productivity, quality, turn around times, contribution to the community, among others.

### Controls

- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- Business Management Policies  
Policies of the Business that have a bearing on the IT function. They include fundamentals such as statements of the core values of the business through explicit policies, which must be followed (for example, in external relations).
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- Business Goals  
Goals of the Business.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Service Provider Value Profile (From: A31 A313)  
A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.

## Outputs

- IT Quality Management Goals (To: A113 A114)  
The goals, specifically related to quality management, which will drive the implementation and operation of quality management approaches for the IT function.
- IT Management System Goals (To: A111 A113 A114)  
Statements of purpose to direct the management system of the IT endeavor, and which reflect and support the overall goals of the Business.

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## [A113] Establish IT Management Policies

### Description

Identifies and creates clearly articulated courses of action and guiding principles that direct policies in shaping and influencing the development, deployment and operation of the IT Management System. These policies mandate behaviors and achievements with regard to IT goals, values, priorities, and key performance measurements.

### Controls

- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- Regulations and Standards  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Business Management Policies  
Policies of the Business that have a bearing on the IT function. They include fundamentals such as statements of the core values of the business through explicit policies, which must be followed (for example, in external relations).
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- IT Quality Management Goals (From: A112)  
The goals, specifically related to quality management, which will drive the implementation and operation of quality management approaches for the IT function.
- IT Management System Goals (From: A112)  
Statements of purpose to direct the management system of the IT endeavor, and which reflect and support the overall goals of the Business.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

- **IT Service Provider Value Profile (From: A31 A313)**

A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.
- **Compliance Plans and Controls (From: A7 A71 A714)**

The authoritative and comprehensive statement of:

  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.
- **External Models and Practices**

External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- **IT Quality System Reports (From: A14 A144)**

Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- **IT Governance and Management System Evaluation (From: A14 A144)**

An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.

## Outputs

- **IT Quality Management Policies (To: A114)**

High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its quality management goals.
- **IT Management System Policies (To: A111 A114)**

High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its goals.

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## [A114] Establish IT Management Practices

### Description

Identifies and specifies the ways and means for the operation of the IT Management System that embodies the IT management system policies. Such practices specify the methods employed to implement policies.

At a business level they will normally represent standard ways of operating that need to be followed by the whole company.

Other influences, and in some cases constraints, to the selection and design of IT Management System Practices can come externally, from standard or best practice. Depending on the relationships with suppliers, certain contractual terms can also dictate the practices that must be employed.

This activity will operate in conjunction with the *establish the process framework* activity that is part of each content-specific IT process. As an example, practices will be established within specific disciplines such as the handling of changes and problems, or planning capacity requirements.

## Controls

- IT Management System Goals (From: A112)  
Statements of purpose to direct the management system of the IT endeavor, and which reflect and support the overall goals of the Business.
- IT Quality Management Goals (From: A112)  
The goals, specifically related to quality management, which will drive the implementation and operation of quality management approaches for the IT function.
- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- Regulations and Standards  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- IT Quality Management Policies (From: A113)  
High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its quality management goals.
- IT Management System Policies (From: A113)  
High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its goals.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- IT Quality System Reports (From: A14 A144)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.

- **External Models and Practices**  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- **Business Management Practices**  
Practices dictated by the Business that have a bearing on the equivalent items framed for the IT function.
- **Underpinning Contracts (From: A8 A82 A823)**  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>2</sup>
- **IT Research Guidance (From: A3 A32 A325)**  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Outputs

- **IT Quality Management Practices**  
High-level practices for quality management that have been defined in detail for the IT function so as to implement its quality policies.
- **IT Management System Practices (To: A111)**  
High-level practices that have been defined in detail for the management system of the IT endeavor. Once these have been put in place (that is, made operational), they represent an implementation of the policies.

## [A12] IT Governance and Management System Capabilities

### Purpose

The purpose of the IT Governance and Management System Capabilities process is to define, establish, and deploy an ecosystem for governing and managing an IT organization (or undertaking) in order that IT undertakings proceed within the philosophies and controls set by the parent business. It recognizes that this is not a one-off undertaking, but will be exercised at any time to create capability adjustments both small and large-scale.

### Outcomes

As a result of the successful implementation of this process:

- The desired scope for governance is established over a defined set of key decisions, with clear assignment of decision rights and accountability to appropriate organization units and roles.
- A management system that is consistent with the direction of information technology and with the enterprise as a whole, and is in control of all IT activities.
- The management system is both effective and efficient, ensuring the integrated and coordinated workings of IT.
- A set of coherent, integrated capabilities that enable and empower IT activities is established

### Scope

This process uses a simple model of a management system to illustrate the activities, and their key inputs and outputs, which will start with the directional frameworks and build a functioning management ecosystem. Many other models of a management system exist; the one used here can be summarized as follows:

- Governance aspects dictate the overall shape of the capabilities
- There are four main components in a management system: process, organization, (management) information, tools
- A management system is made effective by equipping it with measurement and control capabilities, built from aspects of all the components listed in item two

### Includes

- ◆ Defining information technology management system requirements and key indicators
- ◆ Building capabilities to realize the specified management models
- ◆ Creating instruments that conform to policies and standards, such as:
  - Methods
  - Measurement and control capabilities
  - Quality management system
  - Continual improvement techniques
- ◆ Organization design in relation to IT, such as:
  - Structure, behaviors, enablers
  - Roles and responsibilities definitions
  - Process structure

- Implementation or change transition plans, including schedule

### Excludes

- ◆ Development of IT solutions for management system needs these compete for resources alongside other needs (Portfolio Management)

### Controls

- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- External Models and Practices  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Quality System Reports (From: A14 A144)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.

- IT Governance and Management Audit Results (From: A14 A143)  
The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Outputs

- IT Governance Capabilities (To: A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A141 A142 A143 A144)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Management System Capabilities (To: A13 A131 A132 A133 A14 A141 A142 A143 A144)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (To: A13 A131 A132 A133 A14 A141 A142 A143 A144)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems

## Activities

This process is composed of these activities:

- A121 Establish IT Governance Capabilities
- A122 Establish IT Process Capabilities
- A123 Establish IT Organizational Capabilities
- A124 Establish IT Management Information Capabilities
- A125 Establish IT Operational Environment Capabilities
- A126 Establish IT Measurement and Control Capabilities



## [A121] Establish IT Governance Capabilities

### Description

Builds the decision making and accountability mechanisms and capabilities. It establishes the preferred behaviors to support those items which ensure the desired level of governance is achieved. The activity will work on aspects such as:

- Define governance structures and charters
- Define roles and responsibilities within the structures
- Define the processes to be followed within the structures
- Define the metrics and decision making mechanisms for governance
- Define governance tools, such as models, dashboards, and standards

### Controls

- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- IT Governance and Management Audit Results (From: A14 A143)  
The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- External Models and Practices  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- IT Operational Environment Capabilities (From: A125)  
The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.
- IT Management Information Capabilities (From: A124)  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.
- IT Organizational Capabilities (From: A123)  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - IT Roles and Responsibilities
  - IT Organization Unit Structures and Relationships
  - Motivational schemes, such as incentives
  - Implementation of enablers (such as Communities of Practice)
- IT Process Capabilities (From: A122)  
The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:
  - Activities
    - ◆ Decision points Workflows, including
    - ◆ Policy impacts
    - ◆ Sequencing
    - ◆ Parallelization
  - Role mapping (to activities)

## Outputs

- IT Governance Capabilities (To: A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A141 A142 A143 A144)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance

## [A122] Establish IT Process Capabilities

### Description

Oversees and controls the creation and setup of the processes needed within the IT endeavor. Works in conjunction with the *establish the framework* activity of each individual process, taking a cross-IT view.

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- External Models and Practices  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- IT Quality System Reports (From: A14 A144)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Operational Environment Capabilities (From: A125)  
The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.
- IT Management Information Capabilities (From: A124)  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.
- IT Organizational Capabilities (From: A123)  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - IT Roles and Responsibilities
  - IT Organization Unit Structures and Relationships
  - Motivational schemes, such as incentives
  - Implementation of enablers (such as Communities of Practice)

## Outputs

- IT Process Capabilities (To: A121 A123 A124 A125 A126)  
The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:
  - Activities
  - Workflows, including
    - ◆ Decision points
    - ◆ Policy impacts
    - ◆ Sequencing
    - ◆ Parallelization
  - Role mapping (to activities)

## [A123] Establish IT Organizational Capabilities

### Description

Establish the basic structure covering roles, responsibilities, accountability, processes, among others, that make up an effective organization. Works in conjunction with the *establish the framework* activity of each individual process, taking a cross-IT view.

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- IT Process Capabilities (From: A122)  
The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:
  - ◆ Activities
  - ◆ Workflows, including
    - Decision points
    - Policy impacts
    - Sequencing
    - Parallelization
  - ◆ Role mapping (to activities)

- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- **IT Governance and Management System Evaluation (From: A14 A144)**  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- **External Models and Practices**  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- **IT Research Guidance (From: A3 A32 A325)**  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- **IT Portfolio (From: A3 A36 A365)**  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- **IT Quality System Reports (From: A14 A144)**  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- **IT Operational Environment Capabilities (From: A125)**  
The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.
- **IT Management Information Capabilities (From: A124)**  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.

## Outputs

- **IT Organizational Capabilities (To: A121 A122 A124 A125 A126)**  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - IT Roles and Responsibilities
  - IT Organization Unit Structures and Relationships
  - Motivational schemes, such as incentives
  - Implementation of enablers (such as Communities of Practice)

## [A124] Establish IT Management Information Capabilities

### Description

Creates and maintains the informational aspect of the capability that is required for the management of the IT function. Works in conjunction with the *establish the framework* activity of each individual process, taking a cross-IT view. It considers aspects such as:

- Information required for the management system to operate
- Ownership and responsibilities for such information
- Data relationships, schema, and other models
- Data currency and life cycle

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - ◆ Governance structures and charters
  - ◆ Decision rights and their assignment to roles
  - ◆ Decision-making processes and procedures for a specified list of decisions
  - ◆ Metrics and indicators for the aspects of IT management under governance
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- IT Organizational Capabilities (From: A123)  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - ◆ IT Roles and Responsibilities
  - ◆ IT Organization Unit Structures and Relationships
  - ◆ Motivational schemes, such as incentives
  - ◆ Implementation of enablers (such as Communities of Practice)
- IT Process Capabilities (From: A122)  
The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses

through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:

- ◆ Activities
- ◆ Workflows, including
  - Decision points
  - Policy impacts
  - Sequencing
  - Parallelization
- ◆ Role mapping (to activities)
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Governance and Management System Evaluation (From: A14 A144)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- External Models and Practices  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Quality System Reports (From: A14 A144)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- IT Operational Environment Capabilities (From: A125)  
The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.

## Outputs

- IT Management Information Capabilities (To: A121 A122 A123 A125 A126)  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.

## [A125] Establish IT Operational Environment Capabilities

### Description

Oversees and controls the creation and maintenance of the requisite capabilities (systems, tools, mechanisms) for the delivery of the services of the IT function. The capabilities bring together the process, organization, and information elements into practical, usable abilities and mechanisms.

Works in conjunction with the *establish the framework* activity of each individual process, taking a cross-IT view. Examples of such capabilities would include:

- Application and infrastructure development methods
- The means by which management communications are disseminated and acted upon.

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- IT Management Information Capabilities (From: A124)  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.
- IT Organizational Capabilities (From: A123)  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - IT Roles and Responsibilities

- IT Organization Unit Structures and Relationships
- Motivational schemes, such as incentives
- Implementation of enablers (such as Communities of Practice)
- IT Process Capabilities (From: A122)

The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:

  - Activities
  - Workflows, including
    - ◆ Decision points
    - ◆ Policy impacts
    - ◆ Sequencing
    - ◆ Parallelization
  - Role mapping (to activities)
- IT Research Guidance (From: A3 A32 A325)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Governance and Management System Evaluation (From: A14 A144)

An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- External Models and Practices  
External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Quality System Reports (From: A14 A144)

Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.

## Outputs

- IT Operational Environment Capabilities (To: A121 A122 A123 A124 A126)

The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.

## [A126] Establish IT Measurement and Control Capabilities

### Description

Provides the capabilities required to measure and control the key aspects of the IT function's operations to manage them effectively. Works in conjunction with the *establish the framework* activity of each individual process, taking a cross-IT view. In addition, it provides a pattern (template) for quality management that is to be embedded within each process.

### Controls

- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Quality Management Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.

### Inputs

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Operational Environment Capabilities (From: A125)  
The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.
- IT Management Information Capabilities (From: A124)  
The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.
- IT Organizational Capabilities (From: A123)  
The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:
  - IT Roles and Responsibilities
  - IT Organization Unit Structures and Relationships
  - Motivational schemes, such as incentives
  - Implementation of enablers (such as Communities of Practice)
- IT Process Capabilities (From: A122)  
The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:

- Activities
- Workflows, including
  - Decision points
  - Policy impacts
  - Sequencing
  - Parallelization
- Role mapping (to activities)
- IT Research Guidance (From: A3 A32 A325)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Governance and Management System Evaluation (From: A14 A144)

An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- External Models and Practices

External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.
- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Quality System Reports (From: A14 A144)

Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.

## Outputs

- IT Measurement and Control Capabilities

Capabilities to provide the appropriate measurements and controls to the IT function's undertakings. Examples include:

  - A decision right (manager approval step in a process)
  - A business event log
  - A monitor on configuration parameter
  - A record of employee training
- IT Quality System Capabilities (To: A13 A131 A132 A133 A14 A141 A142 A143 A144)

The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:

  - Process
  - Organization
  - Information
  - Tools, mechanisms, and systems

## [A13] IT Governance and Management System Operation

### Purpose

The purpose of the IT Governance and Management System Operation process is to operate and run the management system to satisfy the overall Business' needs.

### Outcomes

As a result of the successful implementation of this process:

- The balance of strategic, tactical, and operational effectiveness of IT is optimized
- Informed and effective decisions are made
- The workings of IT are integrated and coordinated
- Conditions are established to best ensure that key measurements can be and are met

### Scope

This process does not direct what IT activities should be performed to reflect the priorities of the Business (see A3 Direction category of processes). It does, however, oversee monitoring and control of the collected IT projects and processes, and makes corrective adjustments where needed.

#### Includes

- ◆ Measurement and control, such as:
  - Issues management
  - CIO dashboard
  - Balanced scorecard
- ◆ Steering IT workings within the tolerances set by Governance
- ◆ Regulating the execution of IT processes

#### Excludes

- ◆ Priorities and decisions on the business results of IT (a business responsibility, with participation from the processes in the Direction category)
- ◆ Portfolio Management
- ◆ Regulating IT services and solutions (processes in the Direction category)

### Controls

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems

- **IT Management System Capabilities (From: A12)**

The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:

  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- **IT Governance Capabilities (From: A12 A121)**

The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:

  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- **IT Management System Framework (From: A11)**

The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- **IT Budget (From: A8 A81 A813)**

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **IT Strategy (From: A3 A31 A315)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- **Operational Measures and Results**

Any measure or result from any IT process that might be relevant to the measurement, and control activities of the overall IT management system.
- **Program and Project Reports (From: A37)**

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.
- **Service Achievement Reports (From: A24 A244)**

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

- Customer Satisfaction Results and Trends (From: A27 A276)

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

## Outputs

- IT Measurements (To: A133)

The measurements and key indicators produced by combining measures and results from individual sources to create an IT-wide view of IT activities. Individual processes can access relevant measurements as part of their normal operation.

- IT Management Action Items

The invoked actions designed to keep the operation of the overall IT management system within established tolerances, or in exceptional circumstances, to return it to being within those tolerances. Action items can include anything from directives and instructions through general guidance and suggestions.

- IT Management System Reports (To: A14 A141)

The results and interpretations of the IT Management System outcomes, including key performance indicators.

- IT Control Results (To: A131 A133 A14 A141)

An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.

## Activities

This process is composed of these activities:

- A131 Produce IT Measurements
- A132 Operate IT Governance and Management System Controls
- A133 Monitor, Analyze and Report IT Outcomes



## [A131] Produce IT Measurements

### Description

Gathers, collates, and assembles the measurements required by the IT function for the effective operation of the IT Management System. Working on operational data from individual processes, it combines these and creates IT-wide measurements. Measurements triggering action or warning tolerances are flagged.

### Controls

- IT Management System Capabilities (From: A12)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance

### Inputs

- Operational Measures and Results  
Any measure or result from any IT process that might be relevant to the measurement, and control activities of the overall IT management system.

- **Service Achievement Reports (From: A24 A244)**

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts — both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Program and Project Reports (From: A37)**

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Customer Satisfaction Results and Trends (From: A27 A276)**

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- **IT Control Results (From: A13 A132)**

An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.

## Outputs

- **IT Measurements (To: A133)**

The measurements and key indicators produced by combining measures and results from individual sources to create an IT-wide view of IT activities. Individual processes can access relevant measurements as part of their normal operation.
- **IT Management Control Items (To: A132)**

The identification of IT management system measurements that are approaching or exceeding established limits which indicate a potential need for overall management system intervention.

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## [A132] Operate IT Governance and Management System Controls

### Description

This activity monitors for conditions that could potentially require overall management attention. In such cases, it would carry out the identification (analysis) and formulation (planning) of necessary control actions with the objective to correct out-of-line situations. Approaches such as issue management might be used to formalize these efforts, applying defined control actions to the activities within the IT function. Ultimately improving performance and meeting the needs of the overall IT undertaking.

### Controls

- **IT Governance Capabilities (From: A12 A121)**

The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:

  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions

- Metrics and indicators for the aspects of IT management under governance
- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Management System Capabilities (From: A12)

The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:

  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)

The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:

  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems
- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Management System Framework (From: A11)

The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- IT Management Control Items (From: A131)

The identification of IT management system measurements that are approaching or exceeding established limits which indicate a potential need for overall management system intervention.

## Outputs

- IT Management Action Items

The invoked actions designed to keep the operation of the overall IT management system within established tolerances, or in exceptional circumstances, to return it to being within those tolerances. Action items can include anything from directives and instructions through general guidance and suggestions.
- IT Control Results (To: A131 A133 A14 A141)

An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.

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## [A133] Monitor, Analyze and Report IT Outcomes

### Description

This activity analyzes the results in the IT management system measurements and produces required reports, both regularly and as necessary on an exception or request basis. These reports provide an overall view of the workings of the IT function.

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Management System Capabilities (From: A12)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- IT Measurements (From: A13 A131)  
The measurements and key indicators produced by combining measures and results from individual sources to create an IT-wide view of IT activities. Individual processes can access relevant measurements as part of their normal operation.
- IT Control Results (From: A13 A132)  
An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.

## Outputs

- IT Management System Reports (To: A14 A141)  
The results and interpretations of the IT Management System outcomes, including key performance indicators.

# [A14] IT Governance and Management System Evaluation

## Purpose

The purpose of the IT Governance and Management System Evaluation process is to review and assess the execution and implementation of the IT governance and management system, and to identify potential improvements to it.

## Outcomes

As a result of the successful implementation of this process:

- The overall health of the IT governance and management system is visible to the key stakeholders of the IT endeavor
- Key measurements are effective in guiding the realization of IT goals
- Potential problems with the management system are identified and resolved before their impact results in other problems (for example, customer dissatisfaction)
- There is a continual focus on the identification of improvement opportunities to the IT governance and management system

## Scope

This process monitors the measurements from all IT processes in order to ensure that the system is functioning in the manner intended.

It provides the ability to audit all (or any part of) the IT governance and management system.

### Includes

- ◆ Validating the adherence to management system rules
- ◆ Identifying continuous improvement actions
- ◆ Quality management assessment
- ◆ Assessing the execution of IT processes

### Excludes

- ◆ Making changes to the IT Management ecosystem (IT Governance and Management System Framework, IT Governance and Management System Capabilities, depending on the scale of change)

## Controls

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems

- **IT Management System Capabilities (From: A12)**

The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:

  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- **IT Governance Capabilities (From: A12 A121)**

The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:

  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- **IT Management System Framework (From: A11)**

The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- **IT Governance Framework (From: A11 A111)**

The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- **IT Budget (From: A8 A81 A813)**

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **IT Strategy (From: A3 A31 A315)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **Business Management System**

The management system in place to govern the workings of the overall business.

## Inputs

- **External Benchmarks**

A representation of the effectiveness, efficiency or other metric of the workings of a survey or other sample group of businesses or functions within them.
- **IT Management System Reports (From: A13 A133)**

The results and interpretations of the IT Management System outcomes, including key performance indicators.
- **IT Control Results (From: A13 A132)**

An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

- **Service Achievement Reports (From: A24 A244)**  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts — both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Business Evaluation Feedback**  
Any feedback, formal or informal, from non-IT parts of the overall business which is relevant to evaluating the performance of the IT management system.
- **Individual Process Evaluations**  
A collection of metrics which describe the effectiveness and efficiency of an individual process.
- **Customer Satisfaction Results and Trends (From: A27 A276)**  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

## Outputs

- **IT Quality System Reports (To: A11 A113 A114 A12 A122 A123 A124 A125 A126)**  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- **IT Governance and Management System Evaluation (To: A11 A113 A114 A12 A121 A122 A123 A124 A125 A126)**  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.
- **IT Governance and Management Audit Results (To: A11 A111 A12 A121 A144)**  
The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.

## Activities

This process is composed of these activities:

- A141 Collate IT Management System Outcomes
- A142 Analyze IT Governance and Management System Performance
- A143 Audit IT Governance and Management
- A144 Communicate IT Governance and Management System Performance

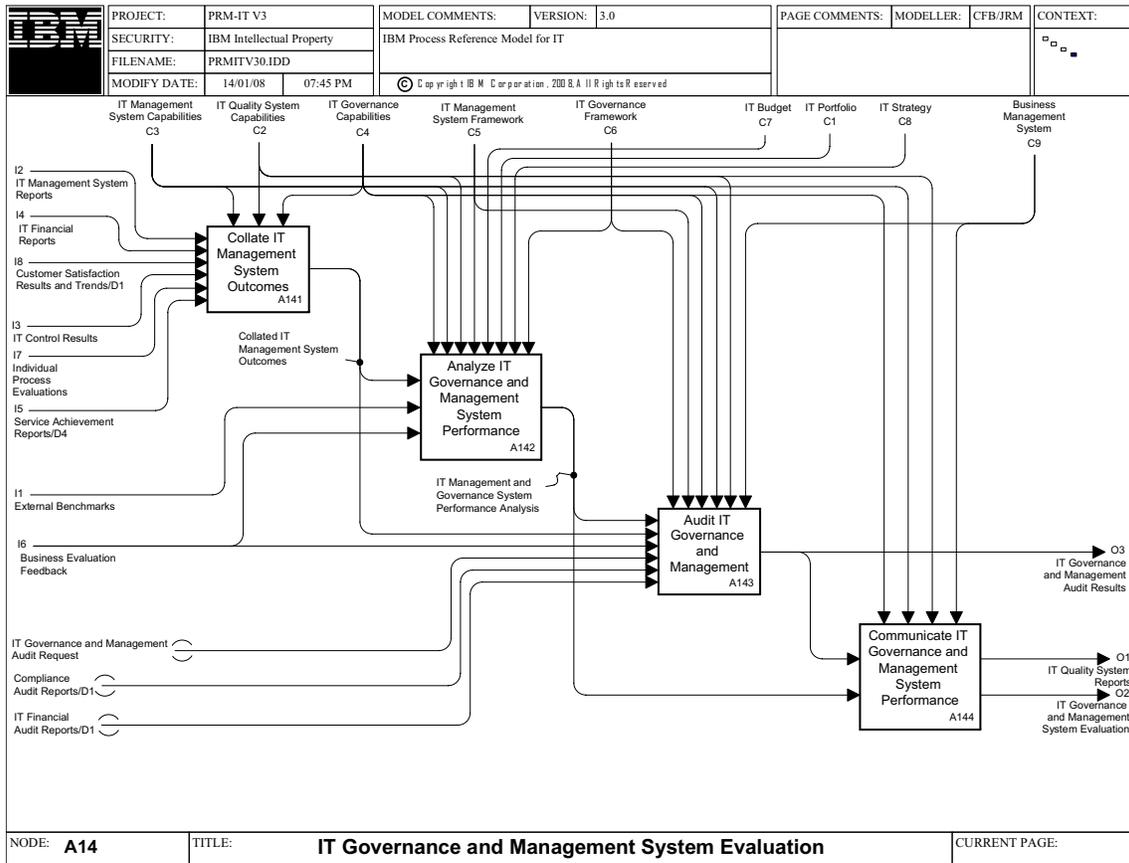


Figure 5. A14 IT Governance and Management System Evaluation

## [A141] Collate IT Management System Outcomes

### Description

Gathers all relevant information that is needed in order to be able to assess the overall effectiveness of the management system.

### Controls

- IT Management System Capabilities (From: A12)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems
- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance

### Inputs

- IT Management System Reports (From: A13 A133)  
The results and interpretations of the IT Management System outcomes, including key performance indicators.
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- IT Control Results (From: A13 A132)  
An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.
- Individual Process Evaluations  
A collection of metrics which describe the effectiveness and efficiency of an individual process.
- Service Achievement Reports (From: A24 A244)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts — both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.

## Outputs

- Collated IT Management System Outcomes (To: A142 A143)  
Collection of all the Management System Assessments into an easy to use format for further analysis.

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## [A142] Analyze IT Governance and Management System Performance

### Description

Examines the IT control and performance results to determine how effectively the management system enables the achievement of the enterprise IT goals, policies, and strategies. The analysis focuses on the effectiveness, efficiency and related aspects, which indicate the health of the management system, rather than the value that IT provides for the business (considered in the IT Direction process).

Specifically, it evaluates the performance of the IT Management System, aiming to identify aspects of the overall process that require improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Management System Capabilities (From: A12)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process

- Organization
- Information
- Tools, mechanisms and systems
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.

## Inputs

- Collated IT Management System Outcomes (From: A141)  
Collection of all the Management System Assessments into an easy to use format for further analysis.
- External Benchmarks  
A representation of the effectiveness, efficiency or other metric of the workings of a survey or other sample group of businesses or functions within them.
- Business Evaluation Feedback  
Any feedback, formal or informal, from non-IT parts of the overall business which is relevant to evaluating the performance of the IT management system.

## Outputs

- IT Management and Governance System Performance Analysis (To: A143 A144)  
Conclusions on the effectiveness (strengths, improvement areas) of the IT Management and Governance System.

## [A143] Audit IT Governance and Management

### Description

Carries out a thorough examination of the setup and activity of the governance and management of IT to check that:

- The implementation conforms to the constraints set by the parent business and by external regulations (so that it is capable of achieving the desired results)
- The operational workings (for example, measurements, control actions, key decisions) have been enacted in compliance with the structures and mechanisms in place.

The methods and rules which dictate the audit proceedings will be established first, and will be influenced by the terms of reference for the audit and whether the auditing body is external or internal.

In many cases, audits require that management system workings (which provide evidence of whether conformance can be demonstrated) will need to be organized into the formats and structures required by the auditors.

### Controls

- IT Governance Framework (From: A11 A111)  
The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.
- IT Management System Framework (From: A11)  
The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.
- IT Governance Capabilities (From: A12 A121)  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- IT Management System Capabilities (From: A12)  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization
  - Management information
  - Tools and systems
  - Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems

- **Business Management System**

The management system in place to govern the workings of the overall business.

### **Inputs**

- **IT Management and Governance System Performance Analysis (From: A142)**  
Conclusions on the effectiveness (strengths, improvement areas) of the IT Management and Governance System.
- **Collated IT Management System Outcomes (From: A141)**  
Collection of all the Management System Assessments into an easy to use format for further analysis.
- **Business Evaluation Feedback**  
Any feedback, formal or informal, from non-IT parts of the overall business which is relevant to evaluating the performance of the IT management system.
- **IT Governance and Management Audit Request**  
Invocation of an audit of all or part of the IT Governance and Management System by a suitably authorized person or body. Also contains the terms of reference for the audit.
- **Compliance Audit Reports (From: A716)**  
Documents communicating the results of individual process compliance and mitigation audits.
- **IT Financial Audit Reports (From: A816)**  
Financial audits include validation that accounting rules are being accurately followed and that costs are aligned with the engagement and client objectives.

### **Outputs**

- **IT Governance and Management Audit Results (To: A11 A111 A12 A121 A144)**  
The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.

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## **[A144] Communicate IT Governance and Management System Performance**

### **Description**

Communicates the results of the assessment of the IT Management System.

### **Controls**

- **IT Governance Capabilities (From: A12 A121)**  
The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:
  - Governance structures and charters
  - Decision rights and their assignment to roles
  - Decision-making processes and procedures for a specified list of decisions
  - Metrics and indicators for the aspects of IT management under governance
- **IT Management System Capabilities (From: A12)**  
The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:
  - Process
  - Organization

- Management information
- Tools and systems
- Measurement and control instruments
- IT Quality System Capabilities (From: A12 A126)  
The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:
  - Process
  - Organization
  - Information
  - Tools, mechanisms and systems
- Business Management System  
The management system in place to govern the workings of the overall business.

## Inputs

- IT Governance and Management Audit Results (From: A14 A143)  
The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.
- IT Management and Governance System Performance Analysis (From: A142)  
Conclusions on the effectiveness (strengths, improvement areas) of the IT Management and Governance System.

## Outputs

- IT Quality System Reports (To: A11 A113 A114 A12 A122 A123 A124 A125 A126)  
Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.
- IT Governance and Management System Evaluation (To: A11 A113 A114 A12 A121 A122 A123 A124 A125 A126)  
An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.

## PRM-IT A1 Node Tree

<b>A1 – GOVERNANCE AND MANAGEMENT SYSTEM</b>	
<b>A11</b>	<b>IT Governance and Management System Framework</b>
A111	Define IT Governance Framework
A112	Define IT Management Goals
A113	Establish IT Management Policies
A114	Establish IT Management Practices
<b>A12</b>	<b>IT Governance and Management System Capabilities</b>
A121	Establish IT Governance Capabilities
A122	Establish IT Process Capabilities
A123	Establish IT Organizational Capabilities
A124	Establish IT Management Information Capabilities
A125	Establish IT Operational Environment Capabilities
A126	Establish IT Measurement and Control Capabilities
<b>A13</b>	<b>IT Governance and Management System Operations</b>
A131	Produce IT Measurements
A132	Operate IT Governance and Management System Controls
A133	Monitor, Analyze and Report IT Outcomes
<b>A14</b>	<b>IT Governance and Management System Evaluation</b>
A141	Collate IT Management System Outcomes
A142	Analyze IT Governance and Management System Performance
A143	Audit IT Governance and Management
A144	Communicate IT Governance and Management System Performance

Figure 6. A1 Governance and Management System Node Tree



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# [A2] Customer Relationships

## Description

### Purpose

The Customer Relationships process category gives IT service providers a mechanism to understand, monitor, perform and compete effectively in the marketplace they serve. Through active communication and interaction with customers, this process category provides the IT enterprise with valuable, current information concerning customer wants, needs, and requirements. Once these requirements are captured and understood, the process category ensures that an effective market plan is created to bring the various IT services and capabilities to the marketplace.

Use of a Service Catalog contributes to effective communication with customers, and also provides everyday usage details to approved users of services. In support of delivering these services, service level agreements (SLAs), underpinning contracts (UCs), and operational level agreements (OLAs) are planned, created, implemented, monitored, and continuously improved in this process category. A sound understanding of the real demand for services, categorized by the mix of user communities, helps ensure the vitality of SLAs and underpins achievement of targets.

As the dependence of business activities on technology-based support grows, assistance is needed to help customers understand and exploit the transformation potential from technology. While the IT services are in operation, customer satisfaction data is continuously gathered, monitored, and recorded to enhance IT service capabilities and IT's presence in the enterprise.

The governance and implementation details of each process will depend on the essential nature of the relationship with customers, most obviously indicated by whether they are internal or external. For an IT provider solely serving internal customers there can be little or no flexibility in the choice of marketplace. (ITIL uses the term Market Space, defined as "All opportunities that an IT Service Provider could exploit to meet business needs of Customers. The Market Space identifies the possible IT Services that an IT Service Provider may wish to consider delivering."<sup>1</sup>) This marketplace selection decision occurs in the Direction category; here, the customer-facing implications of those decisions are addressed and can result in more than one implementation of each process depending on the market complexity.

### Rationale

The Customer Relationships process category ensures that the IT enterprise is effective in the marketplace, whether internal or external. Through active market research, the IT services are kept current with the dynamic wants, needs, requirements, and demand level of customers. Furthermore, customer satisfaction data is gathered and reported in order to find areas of the IT services that require improvement. Overall, this process category provides a means for the IT enterprise to understand customer requirements, market IT services to customers, ensure and monitor the quality of the delivered IT services, and contribute to the maximization of business value from technology usage.

### Value

- Improves communication and understanding of customer wants and needs
- Identifies new market opportunities
- Coordinates the marketing and selling of IT services

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1. ITIL V3 Glossary

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- Establishes clear service level expectations
  - Highlights areas within IT services delivery requiring improvement
  - Identifies updates to IT services for greater effectiveness in meeting customer requirements
  - Guides customers in understanding where and how technology can transform their business
  - Enhances customer satisfaction and loyalty

## Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)
- IT Management Ecosystem (From: A1)
- Business Strategy
- IT Budget (From: A8 A81 A813)
- IT Strategy (From: A3 A31 A315)
- Security Policy (From: A7 A72 A722)
- Business and IT Models (From: A3 A33 A333)
- IT Plan (From: A3 A36 A365)
- IT Portfolio (From: A3 A36 A365)

## Inputs

- Environment Information (From: outside the model)
- Customer Input (From: outside the model)
- Business Input (From: outside the model)
- Underpinning Contracts (From: A8 A82 A823)
- IT Research Guidance (From: A3 A32 A325)
- Service Metric Data and Reports (From: A6)
- Incident Information (From: A6 A65 A657)
- Problem Information (From: A6 A66 A667)
- Service Resilience Plans (From: A7)
- Change Information (From: A5 A51 A518)
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)
- Product Package (From: A3 A35 A353 A354 A355)

## Outputs

- Customer Output (To: outside the model A276)
- Business Output (To: outside the model)
- SLAs, OLAs, UCs (To: A22 A223 A226 A227 A244 A245 A246 A25 A254 A26 A265 A27 A271 A273 A3 A35 A354 A355 A4 A41 A412 A413 A414 A45 A453 A454 A5 A51 A511 A514 A515 A52 A522 A525 A53 A532 A534 A536 A538 A6 A61 A612 A615 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A663 A665 A667 A67 A671 A7 A72 A723 A726 A727 A73 A732 A734 A74 A741 A742 A743 A744 A745 A75 A751 A76 A762 A763 A764 A766 A8 A81 A814 A815 A82 A823 A83 A834 A84 A842)
- Service Catalog (To: A21 A213 A22 A222 A223 A224 A226 A236 A24 A242 A243 A25 A254 A26 A264 A265 A266 A27 A271 A273 A3 A35 A352 A36 A362 A5 A51 A513 A52 A522 A53 A532 A54 A541 A6 A61 A611 A612 A613 A7 A73 A731 A74 A742 A76 A761 A8 A81 A812 A83 A831 A833 A834)

- Change Request (To: A5 A51 A512)
- Stakeholder Requirements (To: A214 A22 A222 A26 A264 A3 A35 A352 A36 A364 A365 A4 A41 A413 A7 A73 A732)
- Service Level Package (To: A22 A226 A23 A233 A234 A24 A243 A246 A256 A3 A35 A354 A355 A4 A41 A412 A413 A42 A422 A423 A7 A74 A742 A744 A8 A83 A833 A834)
- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)
- Market Analysis (To: A1 A11 A112 A113 A21 A211 A223 A23 A232 A25 A252 A26 A262 A3 A31 A313 A34 A343 A35 A352 A36 A364 A365)
- Incident (To: A537 A6 A65 A652)

## Processes

This process category is composed of these processes:

- A21 Stakeholder Requirements Management
- A22 Service Marketing and Sales
- A23 Service Catalog Management
- A24 Service Level Management
- A25 Demand Management
- A26 IT Customer Transformation Management
- A27 Customer Satisfaction Management

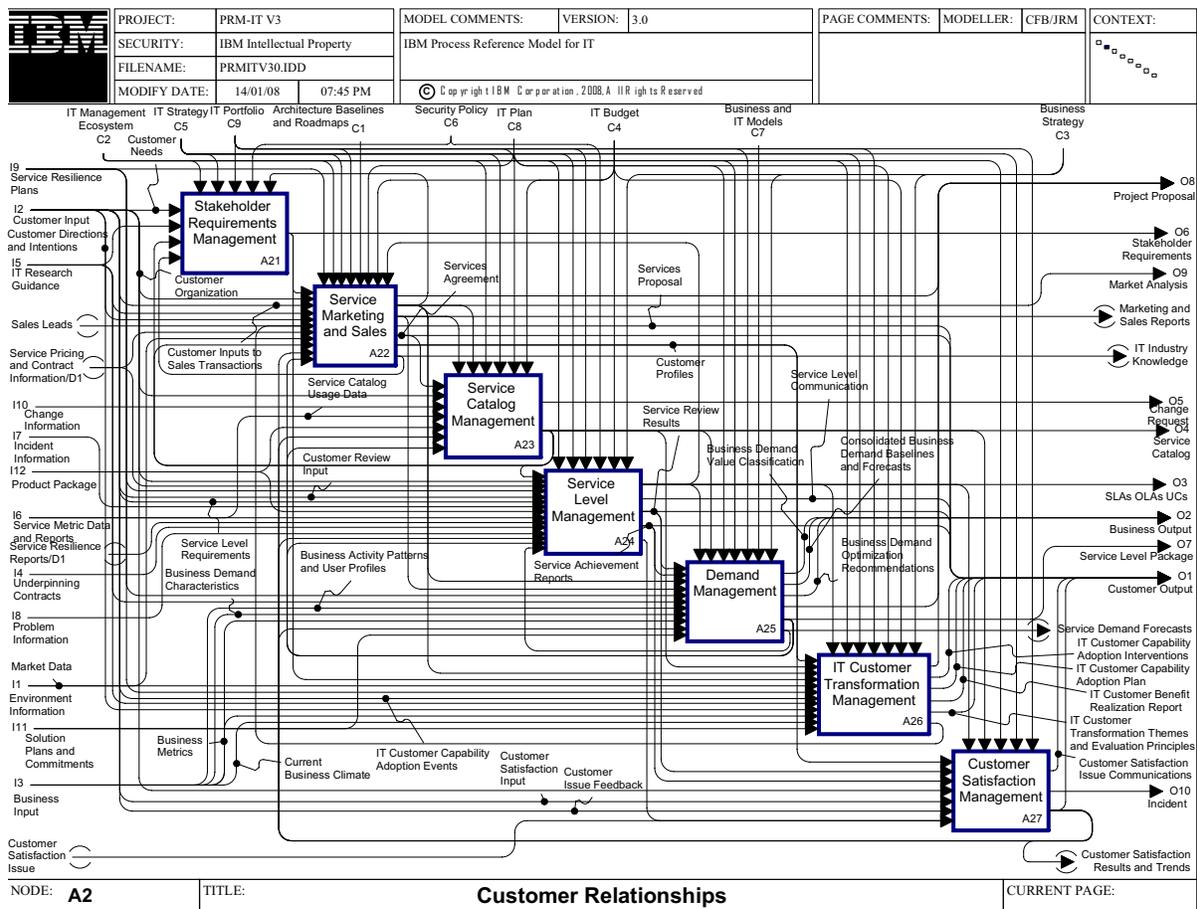


Figure 1. A2 Customer Relationships Diagram

## [A21] Stakeholder Requirements Management

### Purpose

The purpose of the Stakeholder Requirements process is to capture, classify, qualify, promote, and maintain requirements for IT services, from the business and for the management of IT activities. This also involves providing information on the status of all requirements throughout their life cycle.

Definition of stakeholder: "All people who have an interest in an organization, project, IT service etc. Stakeholders may be interested in the activities, targets, resources, or deliverables. Stakeholders may include customers, partners, employees, shareholders, owners, etc."<sup>2</sup>

### Outcomes

As a result of the successful implementation of this process:

- IT service stakeholders provide input concerning individual services or collections of services
- An agreement can be defined between IT customers and providers concerning an IT service and IT service components
- Implemented requirements are justified
- IT service management can better meet the stated needs and expectations of customers

### Scope

This process is the starting point for the translation of customer needs, typically expressed in business terms, into functional requirements (in IT terms) that can be acted on by other processes. It begins with recognizing, verbalizing, and documenting needs. It ends with an established set of feasible and measurable requirements that is maintained until the requirements are satisfied, changed, or rejected.

#### Includes

- ◆ Handling requirements in support of business capabilities
- ◆ Handling requirements in support of infrastructure capabilities
- ◆ Initial feasibility analysis to confirm requirements
- ◆ Customer validation of requirements statements
- ◆ Tracking and communicating the status of requirements

#### Excludes

- ◆ Order taking (Service Marketing and Sales)
- ◆ Detailed requirements analysis for any application or service (Solution Requirements)
- ◆ Activities that deliver solutions and services for the agreed requirements (Realization category of processes beyond Solution Requirements)

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## Controls

- IT Management Ecosystem (From: A1)
 

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)
 

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)
 

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Security Policy (From: A7 A72 A722)
 

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Market Analysis (From: A2 A22 A222)
 

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

## Inputs

- Customer Needs
 

An expression in the customer's terms of their wants, needs, and aspirations for IT service, in both functional and non-functional ways.
- IT Research Guidance (From: A3 A32 A325)
 

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Service Catalog (From: A2 A23 A235)
 

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>3</sup>
- IT Industry Knowledge (From: A22 A228)
 

Information about the IT industry (in general) and competitive IT service providers (in particular) which has been created as a by-product of marketing and sales activities.

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3. ITIL V3 Glossary

## Outputs

- Stakeholder Requirements (To: A214 A22 A222 A26 A264 A3 A35 A352 A36 A364 A365 A4 A41 A413 A7 A73 A732)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

## Activities

This process is composed of these activities:

- A211 Establish Stakeholder Requirements Management Framework
- A212 Capture Stakeholder Needs
- A213 Transform Needs into Stakeholder Requirements
- A214 Monitor and Report Stakeholder Needs and Requirements
- A215 Evaluate Stakeholder Requirements Management Performance

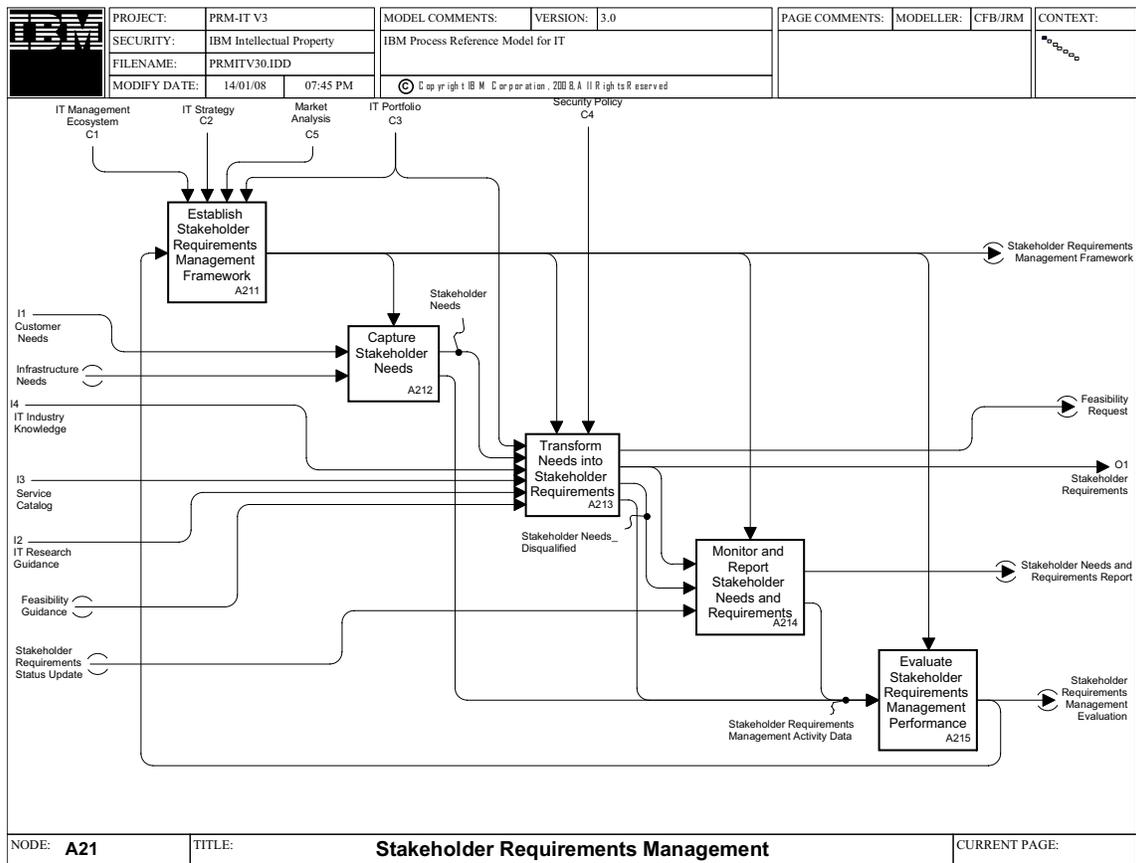


Figure 2. A21 Stakeholder Requirements Management

## [A211] Establish Stakeholder Requirements Management Framework

### Description

A framework and guidelines for Stakeholder Requirements Management are developed based on business and IT strategy. The tasks in this activity include:

- Understanding the requirements and specifications for Stakeholder Requirements Management practices
- Enacting the strategy for Stakeholder Requirements Management automated support
- Defining evaluation criteria for Stakeholder Requirements Management solutions and services
- Establishing the framework for Stakeholder Requirements Management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of Stakeholder Requirements Management including escalation responsibilities have to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of Stakeholder Requirements Management, meaning the consideration of the Stakeholder Requirements Management process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- Stakeholder Requirements Management Evaluation (From: A215)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Outputs

- Stakeholder Requirements Management Framework (To: A212 A213 A214 A215)  
The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.

## [A212] Capture Stakeholder Needs

### Description

This activity involves soliciting needs from stakeholders of IT services. This solicitation can occur through methods such as telephone calls, surveys, or other techniques. Such solicitation can be proactive to anticipate needs that stakeholders might not yet have recognized.

### Controls

- Stakeholder Requirements Management Framework (From: A211)  
The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.

### Inputs

- Customer Needs  
An expression in the customer's terms of their wants, needs, and aspirations for IT service, in both functional and non-functional ways.
- Infrastructure Needs  
Conditions where a gap in the current infrastructure exists and requires assistance to be filled. (Includes input such as security requirements from Security Management.)

### Outputs

- Stakeholder Needs (To: A213)  
Conditions describing any stakeholder need for services.
- Stakeholder Requirements Management Activity Data (To: A215)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A213] Transform Needs into Stakeholder Requirements

### Description

This activity involves transforming needs from customers and other stakeholders into acceptable stakeholder requirements. For example, interpreting requests and putting them into a form whereby providers of IT services can develop a solution and its acceptance criteria, establish priorities, and obtain agreement from the originator on the interpretation.

### Controls

- Stakeholder Requirements Management Framework (From: A211)  
The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Stakeholder Needs (From: A212)  
Conditions describing any stakeholder need for services.
- IT Industry Knowledge (From: A22 A228)  
Information about the IT industry (in general) and competitive IT service providers (in particular) which has been created as a by-product of marketing and sales activities.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>4</sup>
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Feasibility Guidance  
Could be either or both of:
  - A mechanism to evaluate and qualify customer needs
  - A feasibility report on a specific set of expressed potential requirements

## Outputs

- Feasibility Request  
A request which expresses the desire to qualify a customer need using a structured needs evaluation framework. This request could be handled by many processes, including IT Portfolio Management, IT Research and Innovation, Solution Requirements, Solution Analysis and Design.
- Stakeholder Requirements (To: A214 A22 A222 A26 A264 A3 A35 A352 A36 A364 A365 A4 A41 A413 A7 A73 A732)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Stakeholder Needs\_ Disqualified (To: A214)  
Needs that do not have the proper business justification or are assessed as beyond technical feasibility.
- Stakeholder Requirements Management Activity Data (To: A215)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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4. ITIL V3 Glossary

## [A214] Monitor and Report Stakeholder Needs and Requirements

### Description

The service provider's interpretation of the stakeholder needs and requirements is communicated to the originator and any other relevant, interested parties using a report. The communication of the report ensures the stakeholder's acceptance of the needs and requirements interpretation.

### Controls

- Stakeholder Requirements Management Framework (From: A211)  
The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.

### Inputs

- Stakeholder Requirements (From: A2 A21 A213)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Stakeholder Needs\_ Disqualified (From: A213)  
Needs that do not have the proper business justification or are assessed as beyond technical feasibility.
- Stakeholder Requirements Status Update  
Notifications from any process which addresses these requirements as to their status, especially when there it changes in some way.

### Outputs

- Stakeholder Needs and Requirements Report  
Document outlining the IT service provider's interpretation of the customers' and other stakeholders' service needs and requirements. It also provides information about the status and progress of individual or sets of needs or requirements.
- Stakeholder Requirements Management Activity Data (To: A215)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A215] Evaluate Stakeholder Requirements Management Performance

### Description

The evaluation of the performance of the process' aims at identifying areas of the overall activities that require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for the improvements are the insights and the lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Stakeholder Requirements Management Framework (From: A211)  
The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.

### Inputs

- Stakeholder Requirements Management Activity Data (From: A212 A213 A214)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Stakeholder Requirements Management Evaluation (To: A211)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A22] Service Marketing and Sales

### Purpose

The purpose of Service Marketing and Sales process is two fold:

- Marketing – To understand the marketplace served by the providers of IT, to identify customers, to market to them, to generate marketing plans for IT services, and support the selling of IT services
- Sales – To match up customer wants and needs with IT service capabilities, and to sell appropriate IT services

### Outcomes

As a result of the successful implementation of this process:

- Existing and potential customers have visibility and understanding of IT capabilities
- Awareness of IT services and capabilities is stimulated
- Customer and marketplace trends and opportunities are understood
- IT service contracts are established at the optimum price point for both customer and provider
- The IT organization is promoted as the IT service provider of choice

### Scope

The process addresses marketing to both general and specific customer needs. It involves working with current internal and external customers as well as identifying potential customers. It supports the marketing and selling of both current services and potential solutions and services.

#### Includes

- ◆ Understanding the market, customer segmentation, the opportunities and the competitive (to the IT service provider) threats
- ◆ Developing the list of prospects
- ◆ Generating marketing and sales collateral; communicating the features, advantages, and benefits for unique buying criteria
- ◆ Negotiating and closing sales within pricing guidance and rules

#### Excludes

- ◆ Deciding to commission service and solution extensions (Portfolio Management)
- ◆ Developing solutions and services (Realization category of processes)
- ◆ Implementing solutions (Transition category of processes)
- ◆ Preparing contracts (Service Pricing and Contract Administration)
- ◆ Establishing pricing guidance and rules (Service Pricing and Contract Administration)

### Controls

- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management

- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management (See the definition of the plan output from each individual process for more details.)
- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>5</sup>
  - OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to

Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>6</sup>

- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>7</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Stakeholder Requirements (From: A2 A21 A213)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Customer Organization  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- Customer Inputs to Sales Transactions  
Customer wants, needs, or general requests around a specific sales opportunity.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Customer Directions and Intentions  
Information from customers, whether expressly or implicitly stated within other communications, which indicates the customers' strategies, plans, wish lists, or other intentions on the subject of IT service.
- Sales Leads (From: A224 A26 A264)  
A notice that there might be a potential customer for one or more IT provider services.
- Service Pricing and Contract Information (From: A83)  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer
- Market Data  
A collection of qualitative and quantitative data items which describe the current and potential future state of the IT service provider marketplace.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the

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sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>8</sup>

- Customer Satisfaction Results and Trends (From: A27 A276)

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>9</sup>

## Outputs

- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

- Market Analysis (To: A1 A11 A112 A113 A21 A211 A223 A23 A232 A25 A252 A26 A262 A3 A31 A313 A34 A343 A35 A352 A36 A364 A365)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

- Marketing and Sales Reports (To: A23 A234 A25 A255 A273 A275 A835)

Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

- Services Proposal (To: A227 A834)

A document outlining a potential services solution to meet a specific set of customer needs.

- Services Agreement (To: A23 A233 A234 A834)

A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.

- Customer Profiles (To: A225 A26 A262 A27 A271)

The body of knowledge about each customer as a result from marketing and sales activities.

- IT Industry Knowledge (To: A21 A213)

Information about the IT industry (in general) and competitive IT service providers (in particular) which has been created as a by-product of marketing and sales activities.

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## Activities

This process is composed of these activities:

- A221 Establish Service Marketing and Sales Framework
- A222 Analyze Market Wants and Needs
- A223 Create Marketing Plan
- A224 Execute Marketing Plan
- A225 Manage Opportunities and Forecast Sales
- A226 Consult and Propose Services Solutions
- A227 Negotiate and Close Services Opportunity
- A228 Analyze and Report Marketing and Sales Results
- A229 Evaluate Service Marketing and Sales Performance

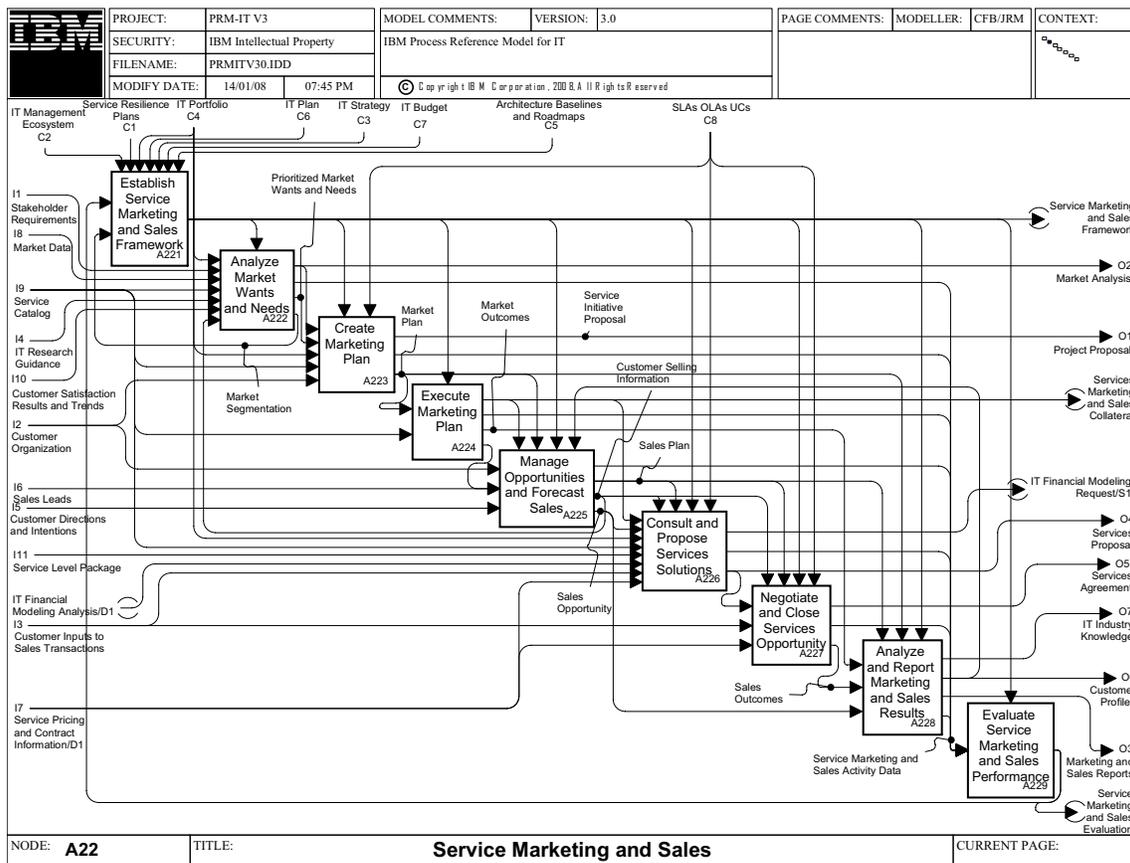


Figure 3. A22 Service Marketing and Sales

## [A221] Establish Service Marketing and Sales Framework

### Description

Based on the business and IT strategy, guidelines and a framework for service marketing and sales have to be developed. The following tasks belong to this activity:

- Understanding the requirements and specifications for service marketing and sales management
- Defining the strategy for service marketing and sales management tools and capabilities, and how they should be sourced. For example, should they be developed in-house or rely more on vendor capabilities
- Defining evaluation criteria for service marketing and sales management solutions and services
- Establishing the framework for service marketing and sales management by defining and implementing practices and systems that support process activities
- Determining skill requirements based on these systems for the staff, and assigning staff

Finally, the structure and process of service marketing and sales management including escalation responsibilities have to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of service marketing and sales management; that is, the consideration of the Service Marketing and Sales process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the plan output from each individual process for more details.)
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and

required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

- Service Marketing and Sales Evaluation (From: A229)

An analysis of service marketing and sales activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

- Market Segmentation (From: A222)

Customer grouping based on common service consumption patterns.

## Outputs

- Service Marketing and Sales Framework (To: A222 A223 A224 A225 A226 A227 A228 A229)

The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

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## [A222] Analyze Market Wants and Needs

### Description

The IT service provider marketplace is analyzed for wants, needs, trends and directions. General marketplace patterns (including competitive alternative sources of IT service provision), potential new research and development areas as well as current customer service requirements are positioned and structured against the current IT provider service offerings. The outcome is a prioritized set of service oriented market wants and needs, as well as general analysis of marketplace trends and directions.

### Controls

- Service Marketing and Sales Framework (From: A221)

The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

### Inputs

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- **Stakeholder Requirements (From: A2 A21 A213)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

A collection of qualitative and quantitative data items which describe the current and potential future state of the IT service provider marketplace. Market Data
- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>10</sup>
- **IT Research Guidance (From: A3 A32 A325)**

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- **Customer Satisfaction Results and Trends (From: A27 A276)**

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- **Customer Selling Information (From: A225)**

General data on the customer such as contact name, address, position title, organization name, customer number, and more.

## Outputs

- **Market Analysis (To: A1 A11 A112 A113 A21 A211 A223 A23 A232 A25 A252 A26 A262 A3 A31 A313 A34 A343 A35 A352 A36 A364 A365)**

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- **Service Marketing and Sales Activity Data (To: A229)**

The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- **Prioritized Market Wants and Needs (To: A223)**

A comprehensive set of capabilities the marketplace is seeking from an IT service provider, prioritized according to business justification.
- **Market Segmentation (To: A221)**

Customer grouping based on common service consumption patterns.

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## [A223] Create Marketing Plan

### Description

This activity creates a service-oriented market plan through analysis of a prioritized set of marketplace wants and needs, as well as documented customer service requirements. The market plan is used as the basis of a structured approach for targeting communications to potential customers.

As service initiative proposals are generated to address gaps in the market plan, they become project proposals.

### Controls

- Service Marketing and Sales Framework (From: A221)

The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>11</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>12</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>13</sup>

These agreements can be in a draft or finalized status.

### Inputs

- Market Analysis (From: A2 A22 A222)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

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- **Prioritized Market Wants and Needs (From: A222)**  
A comprehensive set of capabilities the marketplace is seeking from an IT service provider, prioritized according to business justification.
- **IT Portfolio (From: A3 A36 A365)**  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- **Service Catalog (From: A2 A23 A235)**  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>14</sup>
- **Customer Organization**  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.

## Outputs

- **Service Initiative Proposal**  
A document describing a potential new service, the gap it will fill in the current IT service portfolio, and the initiative that will be required to put the service in place. This document includes a business case.
- **Service Marketing and Sales Activity Data (To: A229)**  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- **Market Plan (To: A224 A225 A228 A232)**  
A document that structures the approach to target customers with the current and under development IT service offerings.

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## [A224] Execute Marketing Plan

### Description

The execution of the market plan involves structured, targeted communication of specific messages to specific market segments, promoting the IT provider's services. This can include publishing and advertising (formally and informally) these services.

### Controls

- Service Marketing and Sales Framework (From: A221)  
The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

### Inputs

- Market Plan (From: A223)  
A document that structures the approach to target customers with the current and under development IT service offerings.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>15</sup>

### Outputs

- Services Marketing and Sales Collateral (To: A225 A226)  
Items used to promote the proposed solution to a customer.
- Service Marketing and Sales Activity Data (To: A229)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- Market Outcomes (To: A228)  
The results of efforts to create market awareness and thereby generate demand for the IT service provider's portfolio of solutions. An example would be the number of articles which reference the provider's services.
- Sales Leads (To: A22 A225)  
A notice that there might be a potential customer for one or more IT provider services.

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## [A225] Manage Opportunities and Forecast Sales

### Description

This activity identifies, qualifies, tracks, and manages all IT service sales opportunities in support of the market plan. Its primary responsibility is to provide a streamlined sales process that focuses on high-priority, high-value opportunities while also ensuring that all potential sales, across the entire customer base, are being addressed. This activity also produces sales forecasts.

### Controls

- Services Marketing and Sales Collateral (From: A224)  
Items used to promote the proposed solution to a customer.
- Market Plan (From: A223)  
A document that structures the approach to target customers with the current and under development IT service offerings.
- Service Marketing and Sales Framework (From: A221)  
The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.
- Customer Profiles (From: A22 A228)  
The body of knowledge about each customer as a result from marketing and sales activities.

### Inputs

- Customer Organization  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- Sales Leads (From: A224 A26 A264)  
A notice that there might be a potential customer for one or more IT provider services.
- Customer Directions and Intentions  
Information from customers, whether expressly or implicitly stated within other communications, which indicates the customers' strategies, plans, wish lists, or other intentions on the subject of IT service.

### Outputs

- Service Marketing and Sales Activity Data (To: A229)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- Sales Plan (To: A226 A227 A228)  
The plan put in place to manage customer sales interaction with an intention of growing and streamlining the sales pipeline.
- Customer Selling Information (To: A222 A226 A227)  
General data on the customer such as contact name, address, position title, organization name, customer number, and more.
- Sales Opportunity (To: A226 A228)  
A qualified sales lead, in which a customer has expressed interest for one or more IT services and would like an understanding of how the services might specifically apply to its environment and for what price.

## [A226] Consult and Propose Services Solutions

### Description

This activity is responsible for working with customer prospects to understand their specific needs and IT service opportunities, and then communicating how current service offerings can potentially fulfill those needs. Once the opportunity has been properly qualified, the result is a proposal that details how the prospective customer's needs will be met with one or more of the IT provider's service solutions.

### Controls

- Customer Selling Information (From: A225)  
General data on the customer such as contact name, address, position title, organization name, customer number, and more.
- Sales Plan (From: A225)  
The plan put in place to manage customer sales interaction with an intention of growing and streamlining the sales pipeline.
- Service Marketing and Sales Framework (From: A221)  
The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>16</sup>
  - OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>17</sup>
  - UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>18</sup>

These agreements can be in a draft or finalized status.

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## Inputs

- Services Marketing and Sales Collateral (From: A224)  
Items used to promote the proposed solution to a customer.
- Sales Opportunity (From: A225)  
A qualified sales lead, in which a customer has expressed interest for one or more IT services and would like an understanding of how the services might specifically apply to its environment and for what price.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>19</sup>
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>20</sup>
- IT Financial Modeling Analysis (From: A812)  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- Customer Inputs to Sales Transactions  
Customer wants, needs, or general requests around a specific sales opportunity.
- Service Pricing and Contract Information (From: A83)  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer

## Outputs

- IT Financial Modeling Request (To: A812)  
A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.
- Service Marketing and Sales Activity Data (To: A229)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

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- Services Proposal (To: A227 A834)

A document outlining a potential services solution to meet a specific set of customer needs.

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## [A227] Negotiate and Close Services Opportunity

### Description

This activity manages services proposals from the point they are delivered to potential customers. It is responsible for acknowledging client feedback related to the proposal including, but not limited to, content, legal terms and conditions, and pricing. Adjustments can be made to the proposal based on customer feedback. The activity produces a signed contract or a closed opportunity.

### Controls

- Customer Selling Information (From: A225)

General data on the customer such as contact name, address, position title, organization name, customer number, and more.

- Sales Plan (From: A225)

The plan put in place to manage customer sales interaction with an intention of growing and streamlining the sales pipeline.

- Service Marketing and Sales Framework (From: A221)

The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>21</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>22</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>23</sup>

These agreements can be in a draft or finalized status.

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## Inputs

- Services Proposal (From: A22 A226)  
A document outlining a potential services solution to meet a specific set of customer needs.
- Customer Inputs to Sales Transactions  
Customer wants, needs, or general requests around a specific sales opportunity.
- Service Pricing and Contract Information (From: A83)  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer

## Outputs

- Services Agreement (To: A23 A233 A234 A834)  
A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.
- Service Marketing and Sales Activity Data (To: A229)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- Sales Outcomes (To: A228)  
The final determination of the sales process, whether the sale closed or was rejected by the customer.

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# [A228] Analyze and Report Marketing and Sales Results

## Description

This activity compares actual marketing and sales results to the market plan, and reports achievement metrics which describe the effectiveness of marketing and sales execution for a given reporting period.

## Controls

- Sales Plan (From: A225)  
The plan put in place to manage customer sales interaction with an intention of growing and streamlining the sales pipeline.
- Market Plan (From: A223)  
A document that structures the approach to target customers with the current and under development IT service offerings.
- Service Marketing and Sales Framework (From: A221)  
The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

## Inputs

- Market Outcomes (From: A224)  
The results of efforts to create market awareness and thereby generate demand for the IT service provider's portfolio of solutions. An example would be the number of articles which reference the provider's services.

- Sales Outcomes (From: A227)  
The final determination of the sales process, whether the sale closed or was rejected by the customer.
- Sales Opportunity (From: A225)  
A qualified sales lead, in which a customer has expressed interest for one or more IT services and would like an understanding of how the services might specifically apply to its environment and for what price.

## Outputs

- IT Industry Knowledge (To: A21 A213)  
Information about the IT industry (in general) and competitive IT service providers (in particular) which has been created as a by-product of marketing and sales activities.
- Customer Profiles (To: A225 A26 A262 A27 A271)  
The body of knowledge about each customer as a result from marketing and sales activities.
- Marketing and Sales Reports (To: A23 A234 A25 A255 A273 A275 A835)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.
- Service Marketing and Sales Activity Data (To: A229)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

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## [A229] Evaluate Service Marketing and Sales Performance

### Description

The evaluation of Service Marketing and Sales Process performance identifies all areas that need improvement; such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Service Marketing and Sales Framework (From: A221)  
The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

### Inputs

- Service Marketing and Sales Activity Data (From: A222 A223 A224 A225 A226 A227 A228)  
The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

### Outputs

- Service Marketing and Sales Evaluation (To: A221)  
An analysis of service marketing and sales activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

## [A23] Service Catalog Management

### Purpose

The purpose of the Service Catalog Management process is to provide an authoritative source of consistent information on all agreed services and ensure that it is widely accessible to those who are approved to view this information.

### Outcomes

As a result of the successful implementation of this process:

- Customers and approved users trust the published service catalog as the authoritative description of the services available to them
- Accurate information on all operational services and those being prepared to be run operationally (details, status, interfaces and dependencies) is maintained and updated in the service catalog
- Role-based views of the Service Catalog are created and maintained in order for each role (such as customers, end users, service management support personnel) to understand service definitions and use the information effectively
- The services catalog is aligned and consistent with the Service Provider and Customer needs

### Scope

The primary output of the process is the Service Catalog itself. It includes a strategic view that allows the service manager, customers, and IT executives to see the list of services and their status (for example: available, soon to be available, or soon to be retired), and detailed service characteristics for negotiation, financial or strategic planning. It also contains a tactical view that allows IT end-users to request services available to them. Additional information will be available to personnel involved in the provision of the services represented in the catalog in order to facilitate the consistent, effective and efficient delivery of those committed services.

#### Includes

- ◆ Entering and updating service definitions
- ◆ Navigation support
- ◆ View management
- ◆ Service selection and transaction tracking
- ◆ Education on how to use the Service Catalog

#### Excludes

- ◆ Negotiating and closing Service Agreements (Service Marketing and Sales)
- ◆ Creating service level agreements (Service Level Management)
- ◆ Request management, user entitlement authorization and execution workflow (Request Fulfillment)

### Controls

- Marketing and Sales Reports (From: A22 A228)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

- **Market Analysis (From: A2 A22 A222)**

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- **IT Strategy (From: A3 A31 A315)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **IT Portfolio (From: A3 A36 A365)**

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- **IT Budget (From: A8 A81 A813)**

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

## Inputs

- **Services Agreement (From: A22 A227)**

A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.
- **Customer Organization**

Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Service Catalog Usage Data**

Data relating to the access and usage of the service catalog. Examples would be:

  - Numbers of read accesses, by user
  - Number of enquiries by customers for new or extended services
  - Service requests submitted through the catalog mechanism

The data can be used directly for service catalog content and delivery analysis; indirectly to contribute to understanding which services customers are using, the environmental conditions under which the services operate, and the quality of the service. This data can be used for service improvement and in customer relationship management.
- **Product Package (From: A3 A35 A353 A354 A355)**

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- **Customer Satisfaction Results and Trends (From: A27 A276)**

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>24</sup>

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Service Catalog (To: A21 A213 A22 A222 A223 A224 A226 A236 A24 A242 A243 A25 A254 A26 A264 A265 A266 A27 A271 A273 A3 A35 A352 A36 A362 A5 A51 A513 A52 A522 A53 A532 A54 A541 A6 A61 A611 A612 A613 A7 A73 A731 A74 A742 A76 A761 A8 A81 A812 A83 A831 A833 A834)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>25</sup>

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## Activities

This process is composed of these activities:

- A231 Establish Service Catalog Management Framework
- A232 Define Service Package Catalog Requirements
- A233 Build and Maintain Service Catalog Content
- A234 Create and Maintain Service Catalog Views
- A235 Publish Service Catalog
- A236 Monitor, Analyze and Report Service Catalog
- A237 Evaluate Service Catalog Management Performance

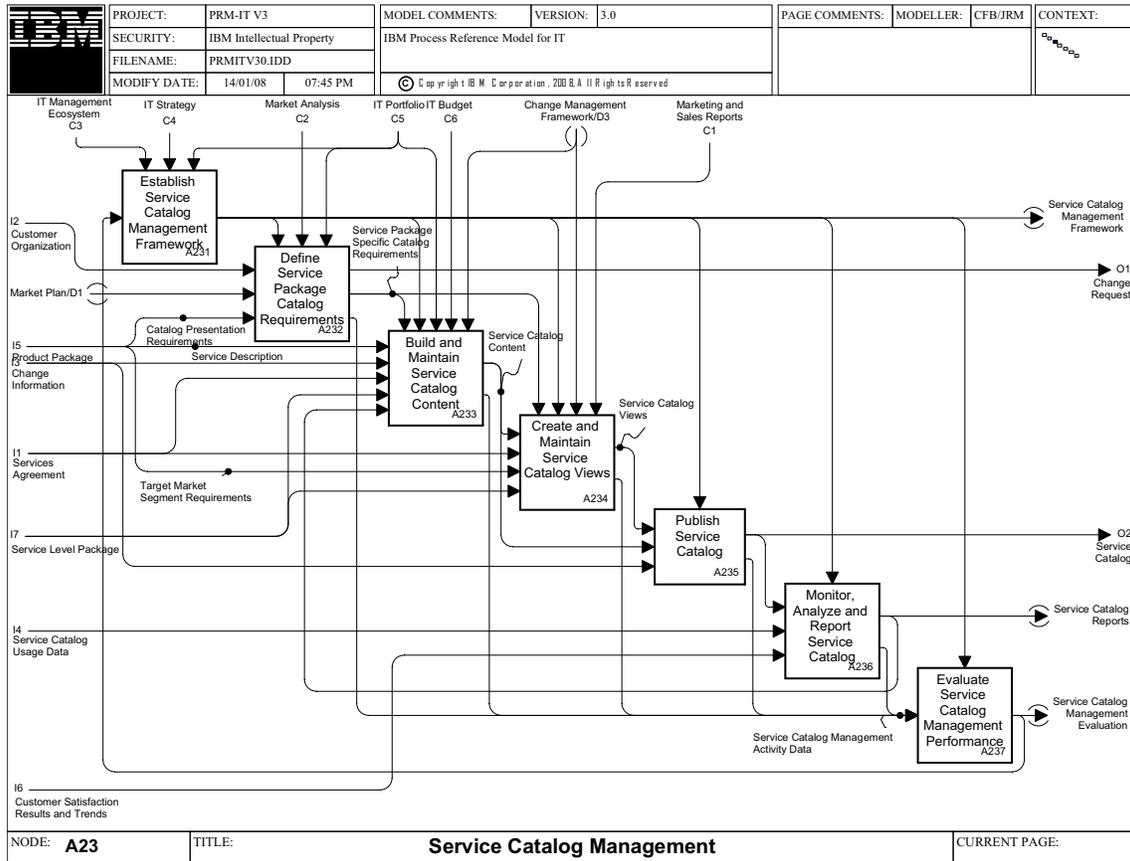


Figure 4. A23 Service Catalog Management

## [A231] Establish Service Catalog Management Framework

### Description

This activity incorporates applicable elements from the IT Management Ecosystem, including policies and governance process for maintaining the catalog content and usage. It is within this activity that:

- Interfaces and relationships to other processes are identified
- Information inputs and outputs are identified
- Guidelines for service catalog classification and prioritization are defined
- Sources and receivers of information necessary for Service Catalog Management to be effective are identified
- The structure and meta model for the service catalog are established
- Tool requirements are documented
- Roles and responsibilities (including the role of the process owner) must be tailored to meet the requirements of the organization and must be assigned
- Skill requirements are identified and training is requested if needed

It specifies measurements used by stakeholders for catalog management evaluation, and recommends initiatives for continual improvement.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- Service Catalog Management Evaluation (From: A237)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Outputs

- Service Catalog Management Framework (To: A232 A233 A234 A235 A236 A237)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.

## [A232] Define Service Package Catalog Requirements

### Description

This activity collects and analyzes Service Catalog Design Requirements, as provided by:

- Service Marketing and Sales: go to market plans and sales initiatives
- Service Portfolio Management: service offerings direction and guidance
- Product Management: presentation requirements for each service offering specification

The requirements are validated with stakeholders for completeness, consistency, and verifiability. This activity also maintains the service catalog requirements repository and reports requirement status as needed.

### Controls

- Service Catalog Management Framework (From: A231)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- Customer Organization  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- Market Plan (From: A223)  
A document that structures the approach to target customers with the current and under development IT service offerings.
- Catalog Presentation Requirements  
Requirements for the style, content and usability of the service catalog. They include expectations, service level commitments, efficient searching, and ordering organized for each user community.

### Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Service Package Specific Catalog Requirements (To: A233 A234)  
Each service package can have customizations for different environments, industries, or integration with technologies. These requirements must be captured and incorporated into the solution.

- Service Catalog Management Activity Data (To: A237)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A233] Build and Maintain Service Catalog Content

### Description

This activity determines the scope of service catalog content for sales to external clients and utilization by end-users, once specific services are installed for a client. It develops the service catalog specifications from requirements already identified, and creates and maintains standard templates for service descriptions. The service descriptions (including standards, terms and conditions, available levels of service, and others) are loaded into the Service Catalog. The activity also establishes and enforces editing and archiving rules, authorities and accountability of the content, and regularly validates the accuracy of catalog content with service owners and IT Management using the governance defined in the process framework.

### Controls

- Service Package Specific Catalog Requirements (From: A232)  
Each service package can have customizations for different environments, industries, or integration with technologies. These requirements must be captured and incorporated into the solution.
- Service Catalog Management Framework (From: A231)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities and other information under which the Change Management process will operate to meet its mission and goals.

### Inputs

- Service Description  
A service description includes both the capabilities (utility) and the non-functional properties (warranty). Non-functional properties include performance, payment, price, availability (both temporal and locative), obligations, rights, security, trust, quality, discounts, and penalties.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Services Agreement (From: A22 A227)  
A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.

- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>26</sup>
- Service Catalog Reports (From: A236)  
Service Catalog Reports contain information about:
  - Usage patterns, volumes, and trends for the overall Service Catalog and each defined view
  - Each service, such as update history, client activations and customizations, defect reports, user questions, or other relevant data about the service sent by the user communities

## Outputs

- Service Catalog Content (To: A234 A235)  
The Service Catalog contains at least the following information:
  - Descriptions written in terms familiar to the requestor
  - Interactive forms with pricing and categorization
  - Components, prerequisites, recommended accessories
  - Authorization, escalation, and notification policies
  - Delivery processes for optimal quality, speed, efficiency
  - Internal and external cost structures and pricing
  - Service level and operating level standards
  - Reporting on demand, usage, and customizations
- Service Catalog Management Activity Data (To: A237)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A234] Create and Maintain Service Catalog Views

### Description

This activity defines preferred access and navigation patterns by user community and role. It establishes search, view, and update schema and mechanisms for use by administrators and users. The activity also maintains the library of active and inactive searches and views based on client and sales utilization. Finally, this activity verifies catalog integrity and performance of all views (through testing, inspection, simulation and load testing).

### Controls

- Service Package Specific Catalog Requirements (From: A232)  
Each service package can have customizations for different environments, industries, or integration with technologies. These requirements must be captured and incorporated into the solution.

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- Service Catalog Management Framework (From: A231)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.
- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities and other information under which the Change Management process will operate to meet its mission and goals.
- Marketing and Sales Reports (From: A22 A228)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

## Inputs

- Service Catalog Content (From: A233)  
The Service Catalog contains at least the following information:
  - Descriptions written in terms familiar to the requestor
  - Interactive forms with pricing and categorization
  - Components, prerequisites, recommended accessories
  - Authorization, escalation, and notification policies
  - Delivery processes for optimal quality, speed, efficiency
  - Internal and external cost structures and pricing
  - Service level and operating level standards
  - Reporting on demand, usage, and customizations
- Services Agreement (From: A22 A227)  
A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.
- Target Market Segment Requirements  
Requirements for specific industries, user communities, or executive sponsors are used to tailor or customize the description of the services.
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>27</sup>

## Outputs

- Service Catalog Views (To: A235)  
The Service Catalog provides relevant views for all user communities. It should include at a minimum, however, perspectives from the business manager (customer), administrator, and the final user.
- Service Catalog Management Activity Data (To: A237)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A235] Publish Service Catalog

### Description

This activity maintains comprehensive version control and coordination across service catalog instances in development, test, and production environments. It establishes and communicates schedules for refresh of remote or replicated catalog versions, and provides appropriate access mechanisms to catalog content, for customers, users, providers, and suppliers. The activity also provides for training and support to customers, users, providers, and suppliers, in proper use of the Service Catalog.

Finally, the activity provides appropriate notifications to the appropriate user community of changes to catalog entries, including line items, content, terms and conditions, decommissioning, and more.

### Controls

- Service Catalog Management Framework (From: A231)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.

### Inputs

- Service Catalog Views (From: A234)  
The Service Catalog provides relevant views for all user communities. It should include at a minimum, however, perspectives from the business manager (customer), administrator, and the final user.
- Service Catalog Content (From: A233)  
The Service Catalog contains at least the following information:
  - Descriptions written in terms familiar to the requestor
  - Interactive forms with pricing and categorization
  - Components, prerequisites, recommended accessories
  - Authorization, escalation, and notification policies
  - Delivery processes for optimal quality, speed, efficiency
  - Internal and external cost structures and pricing
  - Service level and operating level standards
  - Reporting on demand, usage, and customizations
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

### Outputs

- Service Catalog (To: A21 A213 A22 A222 A223 A224 A226 A236 A24 A242 A243 A25 A254 A26 A264 A265 A266 A27 A271 A273 A3 A35 A352 A36 A362 A5 A51 A513 A52 A522 A53 A532 A54 A541 A6 A61 A611 A612 A613 A7 A73 A731 A74 A742 A76 A761 A8 A81 A812 A83 A831 A833 A834)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that

describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>28</sup>

- Service Catalog Management Activity Data (To: A237)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A236] Monitor, Analyze and Report Service Catalog

### Description

This activity supports both the ad hoc query data analysis activity and scheduled standard reports activity by delivering standard reporting and a mechanism to request and receive ad hoc query results. The Content Change activity and associated authorization audit trails are tracked and summarized on a regular basis for business compliance.

The activity also generates usage statistics (including access and browsing patterns), and provides reports with which to analyze the effectiveness of the transitions among order generation, service design, request fulfillment, and service level agreement processes.

### Controls

- Service Catalog Management Framework (From: A231)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.

### Inputs

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>29</sup>

- Service Catalog Usage Data

- ◆ Data relating to the access and usage of the service catalog. Examples would be:
  - Numbers of read accesses, by user
  - Number of enquiries by customers for new or extended services
  - Service requests submitted through the catalog mechanism

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- ◆ The data can be used directly for service catalog content and delivery analysis; indirectly to contribute to understanding which services customers are using, the environmental conditions under which the services operate, and the quality of the service. This data can be used for service improvement and in customer relationship management.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

## Outputs

- Service Catalog Reports (To: A233)  
Service Catalog Reports contain information about:
  - ◆ Usage patterns, volumes, and trends for the overall Service Catalog and each defined view
  - ◆ Each service, such as update history, client activations and customizations, defect reports, user questions, or other relevant data about the service sent by the user communities
- Service Catalog Management Activity Data (To: A237)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A237] Evaluate Service Catalog Management Performance

### Description

This activity collects service execution, performance statistics, and result data for comparison against defined performance measures. Additionally, this activity captures lessons learned from process execution and identifies areas of potential process improvement and framework adjustments. This activity also provides input to the framework activity of this process and to the IT Governance and Management processes.

### Controls

- Service Catalog Management Framework (From: A231)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.

### Inputs

- Service Catalog Management Activity Data (From: A232 A233 A234 A235 A236)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Service Catalog Management Evaluation (To: A231)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A24] Service Level Management

### Purpose

The purpose of the Service Level Management process is to ensure that the service delivered to customers matches or exceeds the agreed, committed service quality characteristics.

Definition of service level agreement (SLA): "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple customers."<sup>30</sup>

### Outcomes

As a result of the successful implementation of this process:

- Both the providers of IT service and their customers have a clear, unambiguous and consistent expectation of the quality of service to be delivered and received
- Service commitments are achievable
- Service attainments against targets are reported accurately and in a timely fashion to all defined service stakeholders
- Service quality is revived in an agreed way following any service level breach
- Opportunities for continual service improvement are identified and, where cost-justified, realized

### Scope

This process addresses life cycle management of service level agreements. It covers negotiation of them with IT customers, monitoring service level achievements against targets, performing service reviews, and initiating service improvement plans.

### Includes

- ◆ Establishing strong relationships with customers based on mutual trust
- ◆ Implementing SLAs from feasibility through monitoring, renewing, and improving
- ◆ Integrating the service characteristics of domain specialist processes (such as Availability, Capacity, and others)
- ◆ Evaluation of IT transactional service performance in relation to business services and their requirements
- ◆ Creation and maintenance of operational level agreements (OLAs) with providers further along the service supply chain, and consideration of resulting requirements for and performance defined in underpinning contracts (UCs)
- ◆ Reporting to customers on any aspect of service level attainment, including reviewing variation from target
- ◆ Oversight of the implementation (by other processes) of Service Improvement Plans related to service level quality

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## Excludes

- ◆ Making decisions on requests from customers for new services and functionality (Portfolio Management)
- ◆ Primary responsibility for contractual relationships with either customers or suppliers (Supplier Management)
- ◆ Pricing the elements within the service catalog and specific SLAs (Service Pricing and Contract Administration)
- ◆ Technical work to implement changes to any service component or operational procedures relating to service improvements (as appropriate: many individual processes, Change Management, Portfolio Management)

## Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

## Inputs

- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>31</sup>

- **Customer Organization**  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- **Service Pricing and Contract Information (From: A83)**  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer
- **Service Resilience Plans (From: A7)**  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the plan output from each individual process for more details.)
- **Customer Review Input**  
Any feedback from the customer with regard to service levels and their attainment, including their prioritization of improvement suggestions.
- **Service Level Requirements**  
Requirements with regard to service levels that are requested by the customer and which, if agreed, will have to be attained by the service provider.
- **Incident Information (From: A6 A65 A657)**  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Product Package (From: A3 A35 A353 A354 A355)**  
A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- **Service Metric Data and Reports (From: A6)**  
Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- **Service Resilience Reports**  
The collection of reports produced by the individual processes which are involved in ensuring the resilience within service management. Processes contributing are:
  - Security Management
  - Availability Management

- Capacity Management

(See the definition of the *report* output from each individual process for more details.)

These reports detail the volumes, attainments, issues outstanding and other characteristics detailing the performance and contribution to the overall delivery of service. They include efficiency reviews and audit reports.

- Underpinning Contracts (From: A8 A82 A823)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>32</sup>

- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

- Customer Satisfaction Results and Trends (From: A27 A276)

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>33</sup>

- Service Demand Forecasts (From: A25 A254)

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.

## Outputs

- SLAs, OLAs, UCs (To: A22 A223 A226 A227 A244 A245 A246 A25 A254 A26 A265 A27 A271 A273 A3 A35 A354 A355 A4 A41 A412 A413 A414 A45 A453 A454 A5 A51 A511 A514 A515 A52 A522 A525 A53 A532 A534 A536 A538 A6 A61 A612 A615 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A663 A665 A667 A67 A671 A7 A72 A723 A726 A727 A73 A732 A734 A74 A741 A742 A743 A744 A745 A75 A751 A76 A762 A763 A764 A766 A8 A81 A814 A815 A82 A823 A83 A834 A84 A842)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as

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operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>34</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>35</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>36</sup>

These agreements can be in a draft or finalized status.

■ Service Level Communication

Information which helps each stakeholder (particularly customers) in service level management activities to understand the scope, context and specific roles and responsibilities for carrying them out. It helps promote general awareness of services.

■ Service Review Results (To: A242 A243 A246 A25 A256 A27 A273 A356)

The outcome from a review of service level attainment. This might include:

- Exceptions and violations with regard to target and actual service delivery
- Determination of responsibility for non-attainment
- Identification of penalties incurred

■ Service Achievement Reports (To: A13 A131 A14 A141 A245 A246 A25 A255 A256 A27 A273 A275 A365 A366 A735 A736 A744)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.

■ Customer Satisfaction Issue (To: A27 A274)

Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.

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## Activities

This process is composed of these activities:

- A241 Establish Service Level Management Framework
- A242 Develop Service Level Relationships
- A243 Create and Maintain Service Level Agreements
- A244 Monitor and Report Service Level Achievements
- A245 Conduct Service Review
- A246 Formulate Service Improvement Plan
- A247 Evaluate Service Level Management Performance

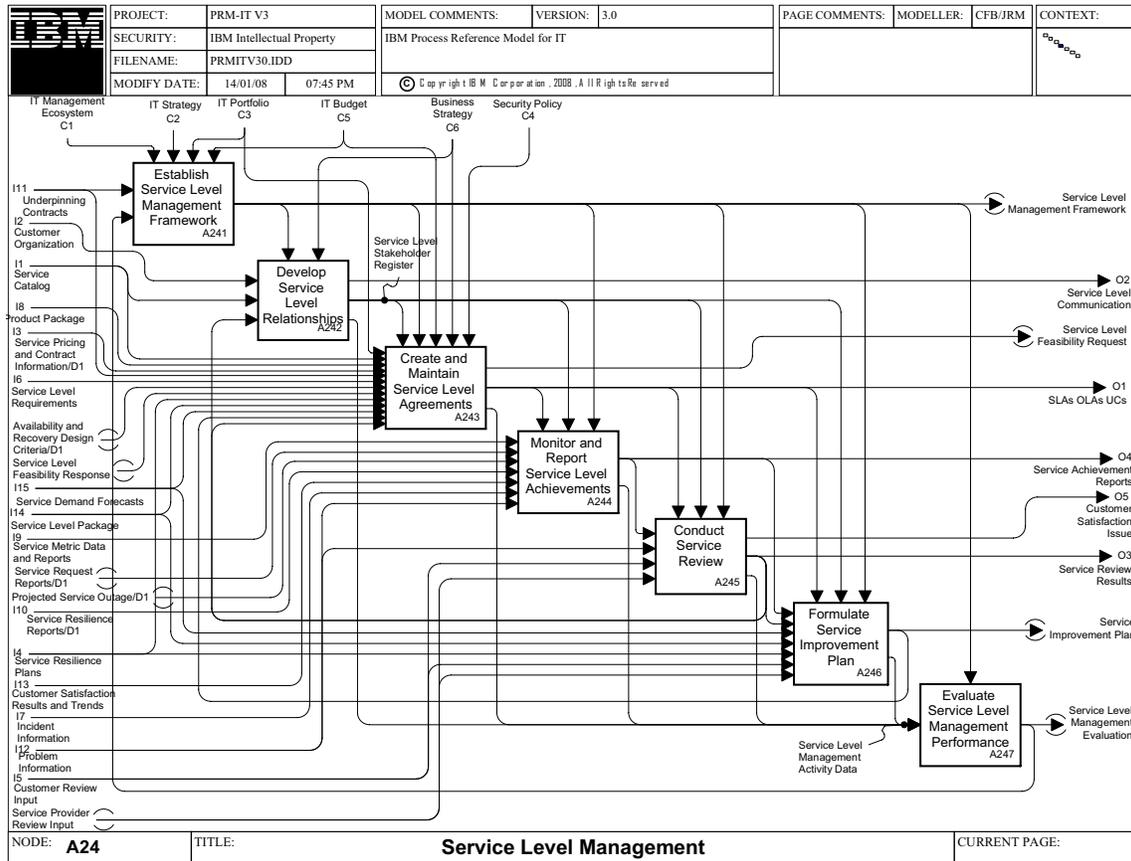


Figure 5. A24 Service Level Management

## [A241] Establish Service Level Management Framework

### Description

To establish the framework necessary to manage the Service Level process, these activities must be addressed:

- IT Governance must be engaged to ensure that roles and responsibilities, priority levels in business and IT terms, and escalation procedures are defined and documented
- The appointment of a process owner and other defined roles has to be addressed
- The scope of service level management has to be defined, including a detailed life cycle for the process
- A service monitoring plan must be documented that establishes monitoring tool requirements, identifies monitoring capabilities, and facilitates the implementation of monitoring tools to meet the requirements
- The structure of a service catalog and respective service level agreements have to be defined, including the process for additions and changes
- There must be documented and published review procedures for all Service Level Management documentation

Finally, the structure and process of the service level management have to be communicated.

The establishment of the Service Level Management Framework also includes the continuous improvement of service level management. That is, the consideration of the Service Level Management process evaluation, and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- Underpinning Contracts (From: A8 A82 A823)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract

defines targets and responsibilities that are required to meet agreed service level targets in an SLA.<sup>37</sup>

- Service Level Management Evaluation (From: A247)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Service Level Management Framework (To: A242 A243 A244 A245 A246 A247)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

- Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- Norms for working relationships with SLA stakeholders
- General approach for working with other processes to:
  - ◆ Establish SLA feasibility
  - ◆ Set targets
  - ◆ Ensure supply of measurements
- Procedures to be followed to investigate and correct any breach of committed targets
- High-level plans for improvement

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## [A242] Develop Service Level Relationships

### Description

This activity establishes and maintains a register of the stakeholders (actors) who have roles to perform in one or more of the aspects of the Service Level Management process. The register has a particular focus on the customer stakeholders but also considers service provider stakeholders.

Beyond ensuring that the register is complete and up to date, this activity addresses developing the relationships among stakeholders so that they are properly briefed on their roles and responsibilities. It promotes general service awareness and understanding as a foundation for specific service level workings. It engenders good working relationships and trust between the stakeholders, addressing any relationship issues that arise.

### Controls

- Service Level Management Framework (From: A241)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

- ◆ Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- ◆ Norms for working relationships with SLA stakeholders
- ◆ General approach for working with other processes to:
  - Establish SLA feasibility
  - Set targets

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- Ensure supply of measurements
- ◆ Procedures to be followed to investigate and correct any breach of committed targets
- ◆ High-level plans for improvement
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

## Inputs

- Customer Organization  
Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>38</sup>
- Service Review Results (From: A24 A245)  
The outcome from a review of service level attainment. This might include:
  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred

## Outputs

- Service Level Communication  
Information which helps each stakeholder (particularly customers) in service level management activities to understand the scope, context and specific roles and responsibilities for carrying them out. It helps promote general awareness of services.
- Service Level Stakeholder Register (To: A243 A244 A245 A246)  
A record of the customer contacts (positions, names) that have a role to play in one of more of the activities that comprise the service level management life cycle. This information can also be useful for other customer relationship purposes.
- Service Level Management Activity Data (To: A247)  
Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

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## [A243] Create and Maintain Service Level Agreements

### Description

Based on the services in the Service Catalog and on (customer) requirements (gathered through an open dialog and feedback process) service level agreements (SLAs) will be defined.

The proposed service level targets will be aligned to the requirements as well as the service delivery capabilities and plans (availability, capacity, performance). Service delivery can be in-house or external, or a combination. An understanding of the relationship of cost components to the proposed targets must also be established.

The documentation of the SLAs includes a description of the services and the respective quality levels (as defined in the Service Catalog or with variations for a defined set of customer contexts and scope of requirements), as well as defined key targets.

The SLAs will then be negotiated with the customers so that the content can be finalized, and finally the service level agreement can be set up between the service provider and the customer.

If modifications, additions, or improvements are necessary, the SLAs have to be updated and maintained.

Where appropriate and necessary to ensure service delivery that meets SLAs, operational level agreements (OLAs) are established with both internal service providers and with external service providers. For the latter, the OLA terms will often be formalized through the Supplier Management process in a contract (known in ITIL as an Underpinning Contracts) with the external service provider.

### Controls

- Service Level Stakeholder Register (From: A242)

A record (of the customer contacts) with a role to play in one or more of the activities that comprise the Service Level Management life cycle. This information can also be useful for other customer relationship purposes.

- Service Level Management Framework (From: A241)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

- Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- Norms for working relationships with SLA stakeholders
- General approach for working with other processes to:
  - ◆ Establish SLA feasibility
  - ◆ Set targets
  - ◆ Ensure supply of measurements
- Procedures to be followed to investigate and correct any breach of committed targets
- High-level plans for improvement

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

- Business Strategy

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>39</sup>

- Product Package (From: A3 A35 A353 A354 A355)

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

- Service Pricing and Contract Information (From: A83)

Ranges from generic to specific:

- Services and price list (the complete service price model)
- Standard terms and conditions
- Individual actual and proposed terms and conditions for a specific customer

- Underpinning Contracts (From: A8 A82 A823)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>40</sup>

- Service Level Requirements

Requirements with regard to service levels that are requested by the customer and which, if agreed, will have to be attained by the service provider.

- Availability and Recovery Design Criteria (From: A733)

General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.

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- **Service Level Feasibility Response**  
The assessment by specific IT processes (often those in Service Management) on the feasibility of achieving successful delivery of service against a postulated service level target or commitment.
- **Service Resilience Plans (From: A7)**  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- **Service Level Package (From: A2 A25 A255)**  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>41</sup>
- **Service Demand Forecasts (From: A25 A254)**  
Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.
- **Service Improvement Plan (From: A246)**  
A plan and roadmap for improving service levels. For example, if service levels are not attained or if service levels have to be changed. It is based on service level reviews, and customer and service provider improvement suggestions.
- **Service Review Results (From: A24 A245)**  
The outcome from a review of service level attainment. This might include:
  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred

## Outputs

- **Service Level Feasibility Request**  
A request to specific IT processes (often those in the Resilience category) to assess the feasibility of successful delivery of service against a postulated service level target or commitment.
- **SLAs, OLAs, UCs (To: A22 A223 A226 A227 A244 A245 A246 A25 A254 A26 A265 A27 A271 A273 A3 A35 A354 A355 A4 A41 A412 A413 A414 A45 A453 A454 A5 A51 A511 A514 A515 A52 A522 A525 A53 A532 A534 A536 A538 A6 A61 A612 A615 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A663 A665 A667 A67 A671 A7 A72 A723 A726 A727)**

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A73 A732 A734 A74 A741 A742 A743 A744 A745 A75 A751 A76 A762 A763 A764 A766  
A8 A81 A814 A815 A82 A823 A83 A834 A84 A842)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>42</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>43</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>44</sup>

These agreements can be in a draft or finalized status.

- Service Level Management Activity Data (To: A247)

Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

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## [A244] Monitor and Report Service Level Achievements

### Description

This activity examines monitored data from service delivery and statistics related to specific service level targets, and creates reports on service level attainment. These reports include insights based on data directly from the service provider organization, as well as from direct customer feedback (positive and negative). Service achievement reports are produced for both customers (business units or external customers) and IT management use.

### Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as

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operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>45</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>46</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>47</sup>

These agreements can be in a draft or finalized status.

■ Service Level Stakeholder Register (From: A242)

A record (of the customer contacts) with a role to play in one or more of the activities that comprise the Service Level Management life cycle. This information can also be useful for other customer relationship purposes.

■ Service Level Management Framework (From: A241)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

- Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- Norms for working relationships with SLA stakeholders
- General approach for working with other processes to:
  - ◆ Establish SLA feasibility
  - ◆ Set targets
  - ◆ Ensure supply of measurements
- Procedures to be followed to investigate and correct any breach of committed targets
- High-level plans for improvement

## Inputs

■ Service Metric Data and Reports (From: A6)

Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.

■ Service Request Reports (From: A615)

Any reports that reflect the status of service requests with the purpose to control the quality of service fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.

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46. ITIL V3 Glossary  
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- **Projected Service Outage (From: A515)**  
As defined in ITIL: “A Document that identifies the effect of planned Changes, maintenance Activities and Test Plans on agreed Service Levels.”<sup>48</sup>
- **Service Resilience Reports**  
The collection of reports produced by the individual processes which are involved in ensuring the resilience within service management. Processes contributing are:
  - Security Management
  - Availability Management
  - Capacity Management(See the definition of the *report* output from each individual process for more details.)  
These reports detail the volumes, attainments, issues outstanding and other characteristics detailing the performance and contribution to the overall delivery of service. They include efficiency reviews and audit reports.
- **Customer Satisfaction Results and Trends (From: A27 A276)**  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- **Incident Information (From: A6 A65 A657)**  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Problem Information (From: A6 A66 A667)**  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

## Outputs

- **Service Achievement Reports (To: A13 A131 A14 A141 A245 A246 A25 A255 A256 A27 A273 A275 A365 A366 A735 A736 A744)**  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Service Level Management Activity Data (To: A247)**  
Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

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## [A245] Conduct Service Review

### Description

The purpose of this activity is to use service achievement reports to reveal and assess existing and potential gaps between target and actual service delivery or service level achievements.

SLAs and actual service delivery results are regularly reviewed and compared, often in formal review meetings. These reviews include assessment of customer feedback in order to encompass both the measured results of service attainment as well as the customer's service quality perceptions. Where needed in relation to non-attainment of commitments, responsibilities are allocated and resulting penalties are identified.

Trending should be summarized and used as input to both the reconsideration of service level agreements and to Service Level Management maintenance activities.

### Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>49</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>50</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>51</sup>

These agreements can be in a draft or finalized status.

- Service Level Stakeholder Register (From: A242)

A record (of the customer contacts) with a role to play in one or more of the activities that comprise the Service Level Management life cycle. This information can also be useful for other customer relationship purposes.

- Service Level Management Framework (From: A241)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

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49. ITIL V3 Glossary  
50. ITIL V3 Glossary  
51. ITIL V3 Glossary

- ◆ Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- ◆ Norms for working relationships with SLA stakeholders
- ◆ General approach for working with other processes to:
  - Establish SLA feasibility
  - Set targets
  - Ensure supply of measurements
- ◆ Procedures to be followed to investigate and correct any breach of committed targets
- ◆ High-level plans for improvement

## Inputs

- Service Achievement Reports (From: A24 A244)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Customer Review Input

Any feedback from the customer with regard to service levels and their attainment, including their prioritization of improvement suggestions.
- Service Provider Review Input

Prioritized improvement suggestions for service level attainment by the service provider; meaning the service delivery units and responses to the feasibility of adopting customer or service level manager suggestions.

## Outputs

- Customer Satisfaction Issue (To: A27 A274)

Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.
- Service Review Results (To: A242 A243 A246 A25 A256 A27 A273 A356)

The outcome from a review of service level attainment. This might include:

  - ◆ Exceptions and violations with regard to target and actual service delivery
  - ◆ Determination of responsibility for non-attainment
  - ◆ Identification of penalties incurred
- Service Level Management Activity Data (To: A247)

Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

## [A246] Formulate Service Improvement Plan

### Description

Assessment from service level results, customer feedback, and service delivery units, with regard to improvement suggestions, provides the input for creating and formulating the Service Level Improvement Plan. It focuses on recommendations for SLA compliance improvements and specific target modifications as a precursor to adjusting service provision, monitoring, or the individual agreement.

Prior to finalizing the service improvement plan, more feedback from the service provider (the service delivery units) must be gained and become part of the plan in order to be aligned with the service delivery capabilities.

The service improvement plan should be tracked and maintained regularly.

### Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>52</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>53</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>54</sup>

These agreements can be in a draft or finalized status.

- Service Level Stakeholder Register (From: A242)

A record (of the customer contacts) with a role to play in one or more of the activities that comprise the Service Level Management life cycle. This information can also be useful for other customer relationship purposes.

- Service Level Management Framework (From: A241)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

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52. ITIL V3 Glossary  
53. ITIL V3 Glossary  
54. ITIL V3 Glossary

- Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- Norms for working relationships with SLA stakeholders
- General approach for working with other processes to:
  - ◆ Establish SLA feasibility
  - ◆ Set targets
  - ◆ Ensure supply of measurements
- Procedures to be followed to investigate and correct any breach of committed targets
- High-level plans for improvement

## Inputs

- Service Achievement Reports (From: A24 A244)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Service Review Results (From: A24 A245)

The outcome from a review of service level attainment. This might include:

  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred
- Service Demand Forecasts (From: A25 A254)

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.
- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>55</sup>
- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the plan output from each individual process for more details.)

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55. ITIL V3 Glossary

- **Customer Review Input**  
Any feedback from the customer with regard to service levels and their attainment, including their prioritization of improvement suggestions.
- **Service Provider Review Input**  
Prioritized improvement suggestions for service level attainment by the service provider, i.e. the service delivery units, and responses as to the feasibility of adopting customer or service level manager suggestions.

## **Outputs**

- **Service Improvement Plan (To: A243)**  
A plan and roadmap for improving service levels. For example, if service levels are not attained or if service levels have to be changed. It is based on service level reviews, and customer and service provider improvement suggestions.
- **Service Level Management Activity Data (To: A247)**  
Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

## [A247] Evaluate Service Level Management Performance

### Description

This governance activity includes the evaluation of the performance of the Service Level Management process and aims at the improvement of the overall process. That is, the foundation and interfaces of the process, all activities, their accomplishment, the adaptability of the process, as well as the roles and responsibilities including the respective skills.

Basis for the improvements are insights and lessons learned from the observations and analysis of activity accomplishments and results.

Basically, the improvements should lead to more efficiency in the process; for example, better management of service levels.

### Controls

- Service Level Management Framework (From: A241)  
The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:
  - Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
  - Norms for working relationships with SLA stakeholders
  - General approach for working with other processes to:
    - ◆ Establish SLA feasibility
    - ◆ Set targets
    - ◆ Ensure supply of measurements
  - Procedures to be followed to investigate and correct any breach of committed targets
  - High-level plans for improvement

### Inputs

- Service Level Management Activity Data (From: A242 A243 A244 A245 A246)  
Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

### Outputs

- Service Level Management Evaluation (To: A241)  
An assessment of the overall performance of the process against the targets set in the process framework, and an identification of possible process improvement areas.

## [A25] Demand Management

### Purpose

The purpose of the Demand Management process is to understand the patterns of the customers' business behaviors and relate those patterns to the impact on the supply of IT services. The intent of this process is to synchronize the consumption (demand) with the capacity (supply) of IT resources.

The benefit of demand management is to maximize the business value (value defined as benefit minus cost of the business process or business service) from the investment in IT resources. (Capacity Management focuses on the behavior of those IT resources; Demand Management understands and influences the behavior of IT resource consumers.)

### Outcomes

As a result of the successful implementation of this process:

- IT understands defined and tracked patterns of business activity (user profiles and geographic distribution)
- Patterns of consumption are identified
- Service level package<sup>56</sup> recommendations are provided to Service Level Management
- Instances of insufficient and excess capacity are minimized
- Consumption and production of service capacity are synchronized
- Demand policies and incentives are defined (both positive and negative)

### Scope

This process understands the expected business behavior of all demand sources across all customers, both at an individual customer level and collated to represent the overall impact on IT. It translates demand from business terms into IT service terms (such as consumption units). It identifies gaps and misalignment between demand and supply, and proposes policies and incentives designed to minimize or close the gaps.

#### Includes

- ◆ Definition of high-level strategy and policy to influence demand
- ◆ Consideration of all mechanisms that can influence demand, including:
  - Rewards
  - Penalties
  - Service availability restrictions
  - On demand capacity allocation
- ◆ Investigation of both internal and external inhibitors to demand
- ◆ Recommendations for IT resource investment (when demand management measures are unable to reduce demand to fit within available supply)
- ◆ Translation of patterns of business activity into IT service consumption
- ◆ Recommendations on cost and price elasticity

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56. See the PRM-IT Glossary and the ITIL V3 Glossary

## Excludes

- ◆ Implementation of demand influencing activities, such as policies and incentives (Capacity Management, Service Pricing and Contract Administration)
- ◆ Service portfolio content definition (Portfolio Management)
- ◆ Service catalog content update (Service Catalog Management)
- ◆ Investment decisions (Portfolio Management)
- ◆ IT resource consumption monitoring and reporting (Service Execution, Capacity Management)

## Controls

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>57</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>58</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>59</sup>

These agreements can be in a draft or finalized status.

### ■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>60</sup>

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57. ITIL V3 Glossary

58. ITIL V3 Glossary

59. ITIL V3 Glossary

60. ITIL V3 Glossary

- **IT Plan (From: A3 A36 A365)**  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **IT Management Ecosystem (From: A1)**  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- **IT Portfolio (From: A3 A36 A365)**  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- **Business and IT Models (From: A3 A33 A333)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

## Inputs

- **Service Review Results (From: A24 A245)**  
The outcome from a review of service level attainment. This might include:
  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred
- **Service Achievement Reports (From: A24 A244)**  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Market Analysis (From: A2 A22 A222)**  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- **Marketing and Sales Reports (From: A22 A228)**  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.
- **Service Resilience Plans (From: A7)**  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management

- IT Service Continuity Management  
(See the definition of the *plan* output from each individual process for more details.)
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Business Activity Patterns and User Profiles  
Business activity patterns reflect the typical workload profile from one or more business activities. User profiles are collations of business activity patterns to reflect that most users are actors within several business processes, and these combinations vary depending on organization design. Refer to the *ITIL Glossary* and to the *Service Strategy* book for further reading.
- Business Demand Characteristics  
Data from business units and customers describing the characteristics of business demand. The characteristics focus on information about the demand in the context of business strategy (to support evaluation and classification).
- Business Metrics  
Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.

## Outputs

- Business Demand Value Classification (To: A253)  
A scheme for classifying each business demand stream as a basis for making decisions in the event of demand exceeding supply and the results of performing the classification, particularly to include the business value characteristic.
- Consolidated Business Demand Baselines and Forecasts  
Agreed statement of the combination of the expected business demand for the normal (typical) pattern of business, and of the future predictions of business demand for IT service, usually arranged by periods against a standard calendar.
- Business Demand Optimization Recommendations (To: A256)  
Statements of opportunities for influencing business demand by identifying the most likely lever (or levers), that could achieve a result, plus outline plan suggestions for their implementation. Levers can have impact directly on a business process, the quality of the IT-provided service, or both.
- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

- Service Level Package (To: A22 A226 A23 A233 A234 A24 A243 A246 A256 A3 A35 A354 A355 A4 A41 A412 A413 A42 A422 A423 A7 A74 A742 A744 A8 A83 A833 A834)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity." 61

- Service Demand Forecasts (To: A24 A243 A246 A255 A256 A742 A745)

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.

## Activities

This process is composed of these activities:

- A251 Establish Demand Management Framework
- A252 Value and Classify Business Demands
- A253 Consolidate Business Demand Patterns and Forecasts
- A254 Forecast Service Demand
- A255 Identify and Plan Demand Management Initiatives
- A256 Assess and Report Demand Management Outcomes
- A257 Evaluate Demand Management Performance

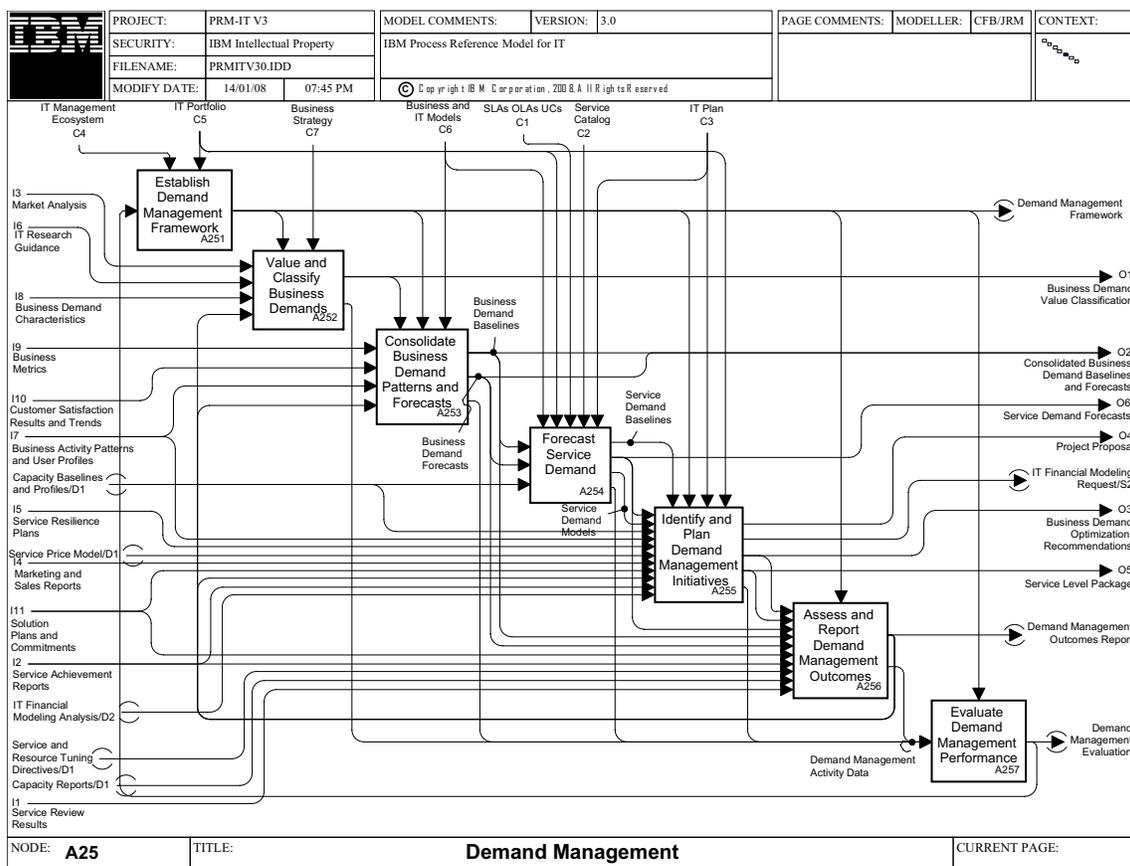


Figure 6. A25 Demand Management

61. ITIL V3 Glossary

## [A251] Establish Demand Management Framework

### Description

This activity defines the way Demand Management is to be managed and controlled. It defines the rules by which each relevant business unit, customer or other stakeholder interacts with this process, and determines how it interfaces with other related processes within IT.

The activity facilitates the creation of a Demand Management Framework, which is essential in ensuring that business demands can be synchronized in an agreed manner with IT service capacity.

- It creates and maintains the scope, policies, standards, responsibilities, and procedures of the Demand Management process. This includes defining and implementing rules of operation and other governance aspects (including conflict resolution), determining relationships with other processes, and creating specifications of the process inputs and outputs.
- It also carries out the assignment of roles and responsibilities.

This is not a one-off activity, but should be undertaken periodically to ensure that the framework remains suitable for the business. It also takes into account any changes to the size of the organization, service levels, business, IT strategies, and operational plans.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- Demand Management Evaluation (From: A257)  
An analysis of activity data for Demand Management, providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

### Outputs

- Demand Management Framework (To: A252 A253 A255 A256 A257)  
The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.

## [A252] Value and Classify Business Demands

### Description

This activity focuses on two linked work items:

- It defines a value-driven classification scheme for business demands. In other words, it will establish a set of criteria against which each demand from the business for IT service can be evaluated. Some examples of items to be considered:
  - Criticality for demand to be satisfied, and in what manner. Should service be *excellent*, or is *adequate* sufficient?
  - The classification scheme categories themselves. These would usually cover a spectrum from *must have* to *nice to have*.
- Performing the valuing and classifying work—along with the relevant stakeholders for each demand item—for each identified business demand.

A critical success factor for this activity is that all appropriate stakeholders for each demand are properly involved in the collection, analysis, and decisions.

### Controls

- Demand Management Framework (From: A251)  
The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

### Inputs

- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Business Demand Characteristics  
Data from business units and customers describing the characteristics of business demand. The characteristics focus on information about the demand in the context of business strategy (to support evaluation and classification).
- Demand Management Outcomes Report (From: A256)  
Information about the success (or otherwise) of the Demand Management activities across several aspects:
  - Representing business demand in IT service consumption units
  - Identifying supply and demand gaps
  - Recommending interventions to realign demand to match supply

## Outputs

- Business Demand Value Classification (To: A253)  
A scheme for classifying each business demand stream as a basis for making decisions in the event of demand exceeding supply and the results of performing the classification, particularly to include the business value characteristic.
- Demand Management Activity Data (To: A257)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A253] Consolidate Business Demand Patterns and Forecasts

### Description

This activity collaborates with the agreed sources of business demand data in order to build a comprehensive understanding of the overall demand. Tasks to be performed can include:

- Collect Business Demand Patterns
  - Techniques such as Business Activity Modeling (as described in the *ITIL Service Strategy* book) might be relevant for this.
- Translate Business Demand Patterns (into the agreed, common format)
- Analyze Business Demand (for example, understand the types of demand and the confidence levels in the data, for customers of IT, both internal and external)
- Forecast Business Demand
- Communicate the patterns and forecasts to agreed recipients (taking account of the sensitivity of the information)

### Controls

- Business Demand Value Classification (From: A25 A252)  
A scheme for classifying each business demand stream as a basis for making decisions in the event of demand exceeding supply and the results of performing the classification, particularly to include the business value characteristic.
- Demand Management Framework (From: A251)  
The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

### Inputs

- Business Metrics  
Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

- **Business Activity Patterns and User Profiles**  
Business activity patterns reflect the typical workload profile from one or more business activities. User profiles are collations of business activity patterns to reflect that most users are actors within several business processes, and these combinations vary depending on organization design. Refer to the *ITIL Glossary* and to the *Service Strategy* book for further reading.
- **Demand Management Outcomes Report (From: A256)**  
Information about the success (or otherwise) of the Demand Management activities across several aspects:
  - Representing business demand in IT service consumption units
  - Identifying supply and demand gaps
  - Recommending interventions to realign demand to match supply

## Outputs

- **Business Demand Baselines (To: A254 A256)**  
An agreed statement of the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point." <sup>62</sup>
- **Business Demand Forecasts (To: A254 A256)**  
Agreed predictions of business demand for IT service, usually arranged by periods against a standard calendar.
- **Demand Management Activity Data (To: A257)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A254] Forecast Service Demand

### Description

This activity translates the agreed business forecasts into the consumption units for the IT services that satisfy each of the business demands. Each service can have its own scheme of consumption units (perhaps used as a basis for comparison of supply and demand within that particular service) and there will be an overall scheme of *service units* to support the creation of an IT-wide forecast, including identification of divergence between demand and supply.

Tasks performed within this activity include:

- Identify Service Demand Patterns
- Baseline Service Demand Patterns
- Analyze Service Demand (for example, to identify any differences between demand and supply)
- Model Service Demand, with particular focus on which business variables have significant impact on IT service demand sensitivity
- Collate Service Demand Forecasts

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62. ITIL V3 Glossary

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## Controls

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>63</sup>
  - OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>64</sup>
  - UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>65</sup>These agreements can be in a draft or finalized status.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>66</sup>
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

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63. ITIL V3 Glossary

64. ITIL V3 Glossary

65. ITIL V3 Glossary

66. ITIL V3 Glossary

## Inputs

- Business Demand Baselines (From: A253)  
An agreed statement of the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point." <sup>67</sup>
- Business Demand Forecasts (From: A253)  
Agreed predictions of business demand for IT service, usually arranged by periods against a standard calendar.
- Capacity Baselines and Profiles (From: A743)  
Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.

## Outputs

- Service Demand Baselines (To: A255)  
An agreed statement of the IT Service demand that will be driven by the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point." <sup>68</sup>
- Service Demand Forecasts (To: A24 A243 A246 A255 A256 A742 A745)  
Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.
- Service Demand Models (To: A255)  
Analysis of the relationships between typical business activity patterns and the consequential demand for IT service.
- Demand Management Activity Data (To: A257)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A255] Identify and Plan Demand Management Initiatives

### Description

This activity analyzes any misalignment between demand for and supply of IT services. For any gaps identified in this way, it determines whether demand management measures have the potential to help close them. It formulates a prioritized set of recommendations (agreed with the business) for demand optimization, recognizing that the measures which will influence demand can require coordinated focus within the business and in Capacity Management, and can involve a combination of incentives and penalties (typically pricing). When an approach for demand optimization has been finalized, a plan of action to implement the demand influencers is created and communicated to all relevant parties.

### Controls

- Service Demand Baselines (From: A254)  
An agreed statement of the IT Service demand that will be driven by the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point." <sup>69</sup>

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67. ITIL V3 Glossary  
68. ITIL Glossary  
69. ITIL Glossary

- Demand Management Framework (From: A251)  
The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- Service Demand Forecasts (From: A25 A254)  
Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.
- Service Demand Models (From: A254)  
Analysis of the relationships between typical business activity patterns and the consequential demand for IT service.
- Capacity Baselines and Profiles (From: A743)  
Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.
- Business Activity Patterns and User Profiles  
Business activity patterns reflect the typical workload profile from one or more business activities. User profiles are collations of business activity patterns to reflect that most users are actors within several business processes, and these combinations vary depending on organization design. Refer to the *ITIL Glossary* and to the *Service Strategy* book for further reading.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Service Price Model (From: A833)  
The service price model describes all inputs needed (for example, service model, measures, service levels, customer) to derive a price for a delivered service. It is often presented as a multidimensional matrix, with one dimension for each input. It describes as output one price for each combination.
- Marketing and Sales Reports (From: A22 A228)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Demand Management Outcomes Report (From: A256)**

Information about the success (or otherwise) of the Demand Management activities across several aspects:

  - Representing business demand in IT service consumption units
  - Identifying supply and demand gaps
  - Recommending interventions to realign demand to match supply
- **Service Achievement Reports (From: A24 A244)**

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **IT Financial Modeling Analysis (From: A812)**

The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

## Outputs

- **Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)**

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **IT Financial Modeling Request (To: A812)**

A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.
- **Business Demand Optimization Recommendations (To: A256)**

Statements of opportunities for influencing business demand by identifying the most likely lever (or levers), that could achieve a result, plus outline plan suggestions for their implementation. Levers can have impact directly on a business process, the quality of the IT-provided service, or both.
- **Service Level Package (To: A22 A226 A23 A233 A234 A24 A243 A246 A256 A3 A35 A354 A355 A4 A41 A412 A413 A42 A422 A423 A7 A74 A742 A744 A8 A83 A833 A834)**

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>70</sup>

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70. ITIL V3 Glossary

- Demand Management Activity Data (To: A257)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A256] Assess and Report Demand Management Outcomes

### Description

This activity examines the service performance against both the expected business demand forecast and the set of demand management influencers which have been implemented. It determines the degree of success in closing any gaps between supply and demand, and communicates the results to relevant parties. In particular, it assesses the effectiveness of any demand management initiatives which have been in operation, and the likely factors which led to success (or failure).

### Controls

- Demand Management Framework (From: A251)

The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.

### Inputs

- Business Demand Optimization Recommendations (From: A25 A255)

Statements of opportunities for influencing business demand by identifying the most likely lever (or levers), that could achieve a result, plus outline plan suggestions for their implementation. Levers can have impact directly on a business process, the quality of the IT-provided service, or both.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity." <sup>71</sup>

- Service Demand Forecasts (From: A25 A254)

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.

- Business Demand Baselines (From: A253)

An agreed statement of the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point." <sup>72</sup>

- Business Demand Forecasts (From: A253)

Agreed predictions of business demand for IT service, usually arranged by periods against a standard calendar.

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71. ITIL V3 Glossary

72. ITIL V3 Glossary

- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Service Achievement Reports (From: A24 A244)**

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Service and Resource Tuning Directives (From: A744)**

Ranges from traditional performance tuning through capacity and workload allocation adjustments.
- **Capacity Reports (From: A74 A743)**

Information about the results and outcomes observed and achieved relating to all aspects of capacity. Reports include:

  - Performance and capacity results
  - Workload analysis
  - Forecasts and predictions
- **Service Review Results (From: A24 A245)**

The outcome from a review of service level attainment. This might include:

  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred

## Outputs

- **Demand Management Outcomes Report (To: A252 A253 A255)**

Information about the success (or otherwise) of the Demand Management activities across several aspects:

  - Representing business demand in IT service consumption units
  - Identifying supply and demand gaps
  - Recommending interventions to realign demand to match supply
- **Demand Management Activity Data (To: A257)**

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A257] Evaluate Demand Management Performance

### Description

This governance activity includes the evaluation of the performance of the Demand Management process and aims at identifying improvement areas of the overall process. For example, the foundation and interfaces of the process, all activities and their accomplishment, the adaptability of the process, as well as the roles, responsibilities, and related skills.

In addition, the Demand Management process is to be evaluated against the goals and measures to understand its influence on overall IT improvements.

The basis for the improvements are insights and lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Demand Management Framework (From: A251)  
The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.

### Inputs

- Demand Management Activity Data (From: A252 A253 A254 A255 A256)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Demand Management Evaluation (To: A251)  
An analysis of activity data for Demand Management, providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

## [A26] IT Customer Transformation Management

### Purpose

The purpose of the IT Customer Transformation Management process is to assist customers in the transformation of their business throughout the life cycle; from the genesis of transformation ideas through the measurement and optimization of the benefits from implemented transformation. While this process primarily exists to support technology-based transformation, a customer might request assistance under this process for other kinds of transformation (a quality improvement program, using an approach like LEAN).

### Outcomes

As a result of the successful implementation of this process:

- Transformation opportunities, both incremental and more foundational, are identified and prioritized
- Customers and the business are encouraged to adopt transformational capabilities
- The IT organization contributes to the exploitation of transformational capabilities by guiding and overseeing their introduction
- The benefits achieved by transformation are defined, measured, analyzed, improved and controlled
- Reports indicating both benefits missed as well as further, unanticipated benefit potential inform transformation leadership teams

### Scope

#### Includes

- ◆ Being able to deal with each identified customer in a manner relevant to their individual needs
- ◆ Gaining sufficient understanding of the customer's business in order to contribute at the desired level
- ◆ Where appropriate:
  - Establishing joint working arrangements with the designated customer representatives
  - Providing business modeling and business case development skills and capabilities
  - Supporting transformation based on cultural and procedural change that is not (significantly) technology based
- ◆ Contributing to the cultural changes and other organizational change management efforts needed for successful transformation
- ◆ Benefit measurement and reporting

#### Excludes

- ◆ Decision making on the portfolio impact (for example, new services) resulting from transformation proposals (Portfolio Management)
- ◆ Direct development of information technology solutions and services (Realization category of processes)

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## Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>73</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>74</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>75</sup>

These agreements can be in a draft or finalized status.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

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73. ITIL V3 Glossary

74. ITIL V3 Glossary

75. ITIL V3 Glossary

- **Business Strategy**

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

## Inputs

- **Customer Profiles (From: A22 A228)**

The body of knowledge about each customer as a result from marketing and sales activities.

- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes." <sup>76</sup>

- **Market Analysis (From: A2 A22 A222)**

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

- **Stakeholder Requirements (From: A2 A21 A213)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

- **Market Data**

A collection of qualitative and quantitative data items which describe the current and potential future state of the IT service provider marketplace.

- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- **IT Customer Capability Adoption Events**

Notable milestones (both successes and failures) in the customer's adoption of transformational capability.

- **IT Research Guidance (From: A3 A32 A325)**

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

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76. ITIL V3 Glossary

- **Customer Directions and Intentions**  
Information from customers, whether expressly or implicitly stated within other communications, which indicates the customers' strategies, plans, wish lists, or other intentions on the subject of IT service.
- **Business Metrics**  
Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.
- **Current Business Climate**  
Information about the state of the customer's business. Includes business metrics and projections directly relating to the customer as well as directional statements such as press releases, annual reports, and other articles.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.

## Outputs

- **Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)**  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **IT Customer Capability Adoption Interventions**  
Any actions or efforts designed to promote the adoption of transformational capabilities. Examples of such interventions include:
  - Communications
  - Training programs
  - General consultancy and assistance into better, deeper or broader usage of the capability
- **IT Customer Capability Adoption Plan (To: A266)**  
The overall plan for enabling and promoting capability adoption. This ranges from customer-wide items such as general awareness and communications through training programs customized to local needs, and possibly the provision of individual guidance and consultancy.
- **IT Customer Transformation Themes and Evaluation Principles (To: A244 A245 A246 A263 A312 A363)**  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.
- **IT Customer Benefit Realization Report (To: A264 A265 A266)**  
A report describing the benefits realized by the customer from the adoption of transformational capabilities. Different types of reports are possible, including:
  - Timetable for changes in realized benefit (typically as penetration advances)
  - Comparison of actual against plan
  - Indication and analysis of missed or additional benefit exploitation opportunities
- **Sales Leads (To: A22 A225)**  
A notice that there might be a potential customer for one or more IT provider services.

## Activities

This process is composed of these activities:

- A261 Establish IT Customer Transformation Management Framework
- A262 Understand IT Customer Context
- A263 Identify IT Customer Transformation Opportunities
- A264 Develop IT Customer Transformation Proposal
- A265 Enable and Promote IT Customer Capability Adoption
- A266 Optimize IT Customer Benefit Realization
- A267 Evaluate IT Customer Transformation Management Performance

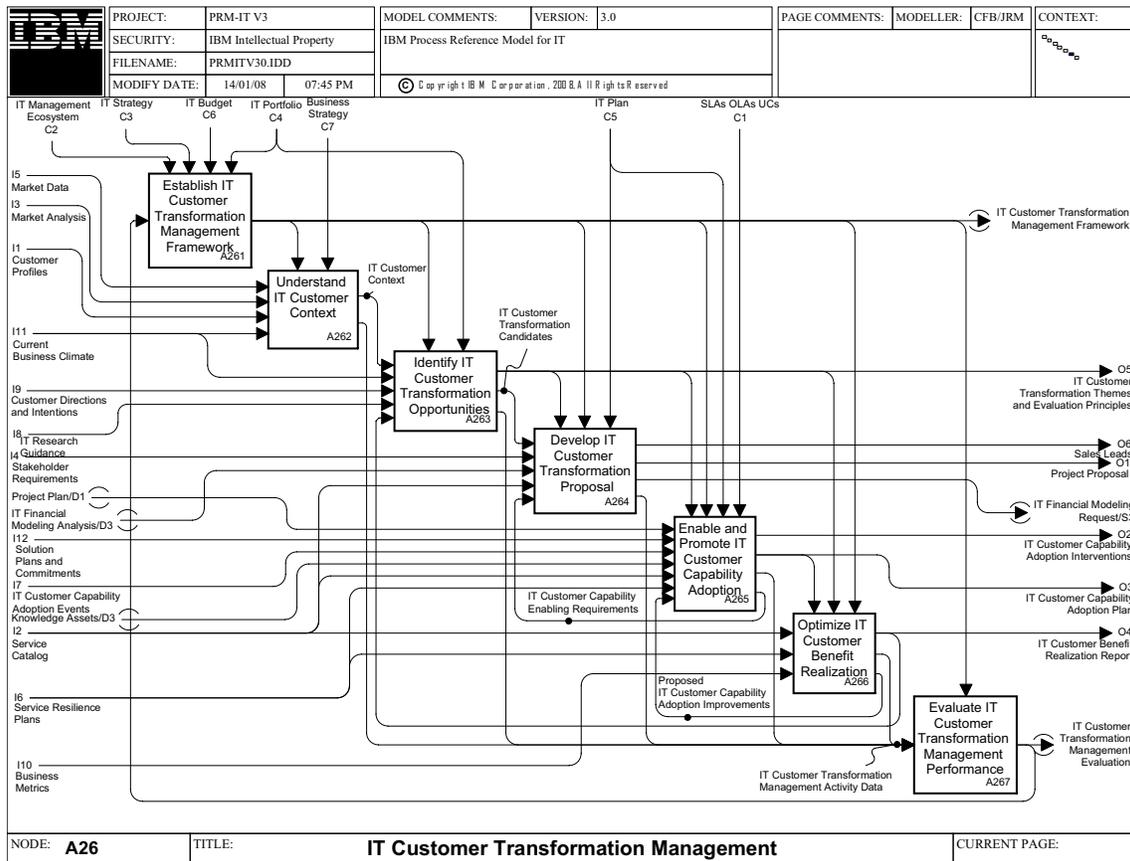


Figure 7. A26 IT Customer Transformation Management

## [A261] Establish IT Customer Transformation Management Framework

### Description

A framework and guidelines for IT customer transformation management are developed based on business and IT strategy. The following tasks belong to this activity:

- Understanding the requirements and specifications for IT customer transformation management practices. These will need to accommodate a range of possible customer interface styles, such as supplier, partner or enabler
- Establishing the framework for stakeholder requirements management by defining and implementing practices and systems that support process activities
- Based on these systems, determining skill requirements for the staff and assigning staff
- Defining evaluation criteria for IT customer transformation management solutions and services

Finally, the structure and process of IT customer transformation management including escalation responsibilities have to be communicated to the process users. The establishment of the process framework also includes the continuous improvement of IT customer transformation management; that is, the consideration of the IT Customer Transformation Management process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- IT Customer Transformation Management Evaluation (From: A267)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Outputs

- IT Customer Transformation Management Framework (To: A262 A263 A264 A265 A266 A267)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.

## [A262] Understand IT Customer Context

### Description

An understanding of the customer's business context is an essential prerequisite to contributing to any transformational initiatives. This activity examines information about the customer's business from many sources in order to understand the key business drivers and imperatives.

### Controls

- IT Customer Transformation Management Framework (From: A261)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

### Inputs

- Market Data  
A collection of qualitative and quantitative data items which describe the current and potential future state of the IT service provider marketplace.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- Customer Profiles (From: A22 A228)  
The body of knowledge about each customer as a result from marketing and sales activities.
- Current Business Climate  
Information about the state of the customer's business. Includes business metrics and projections directly relating to the customer as well as directional statements such as press releases, annual reports, and other articles.

### Outputs

- IT Customer Context (To: A263)  
A digest summarizing and analyzing the customer's business activities and the key business drivers and imperatives which influence the direction of that business. Includes consideration of the main uses of information technology within that business and in comparison with industry competitors and leaders.
- IT Customer Transformation Management Activity Data (To: A267)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A263] Identify IT Customer Transformation Opportunities

### Description

This activity reviews existing exploitation of information technology by each customer against what might be possible, and works to identify opportunities for incremental or large-scale transformation. Specific aspects include:

- Analyze current customer usage of technology-enabled business capabilities
- Formalize customer directions and intentions into themes and evaluation principles
- Review the art-of-the-possible for business capability opportunities
- Identify viable innovation candidates

### Controls

- IT Customer Transformation Management Framework (From: A261)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- IT Customer Context (From: A262)  
A digest summarizing and analyzing the customer's business activities and the key business drivers and imperatives which influence the direction of that business. Includes consideration of the main uses of information technology within that business and in comparison with industry competitors and leaders.
- Current Business Climate  
Information about the state of the customer's business. Includes business metrics and projections directly relating to the customer as well as directional statements such as press releases, annual reports, and other articles.
- Customer Directions and Intentions  
Information from customers, whether expressly or implicitly stated within other communications, which indicates the customers' strategies, plans, wish lists, or other intentions on the subject of IT service.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Customer Transformation Themes and Evaluation Principles (From: A24 A243 A26 A266)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.

## Outputs

- IT Customer Transformation Themes and Evaluation Principles (To: A264 A265 A266 A312 A363)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.
- IT Customer Transformation Candidates (To: A264)  
A list of possible transformational opportunity areas for the customer. It will usually be categorized against key business drivers.
- IT Customer Transformation Management Activity Data (To: A267)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A264] Develop IT Customer Transformation Proposal

### Description

Transformation proposals (usually having a significant information technology constituent) are taken from initial inception through consideration of initial business case and overview of how the transformational content might be created.

This work will involve aspects such as:

- Select and review the candidates based on business direction and imperatives
- Build the proposal content in terms of what the innovation would be, how it would impact the business operation (for example, by modeling business process changes), and an outline of how it might be done
- Develop ROI or other form of business case
- Draft a program or project outline. Suggest schedule of (1) project timing, (2) benefit time scales

Transformation proposals might need to be updated during the life cycle of approved development projects in order to reflect changed circumstances and actual experience. In particular, experience of preparing for and implementing transformational capabilities (for example, in a pilot rollout) might indicate that adjustments or modifications are needed to achieve optimal benefit.

The nature of the proposal development work will depend on the relationship between the customer and the IT service provider. In partnership cases, the customer might look to the IT provider as the expert in business transformation modeling. In other cases, the customer might require more minimal assistance; for example, to provide technical input.

### Controls

- IT Customer Transformation Themes and Evaluation Principles (From: A26 A263)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.
- IT Customer Transformation Management Framework (From: A261)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- IT Customer Transformation Candidates (From: A263)

A list of possible transformational opportunity areas for the customer. It will usually be categorized against key business drivers.

- Stakeholder Requirements (From: A2 A21 A213)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

- IT Financial Modeling Analysis (From: A812)

The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>77</sup>

- IT Customer Capability Enabling Requirements (From: A265)

Statement of requirements for additional or modified materials, training, and communication programs, and other enablers that enhance the rate and degree of adoption of transformational capabilities.

## Outputs

- Sales Leads (To: A22 A225)

A notice that there might be a potential customer for one or more IT provider services.

- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

- IT Financial Modeling Request (To: A812)

A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.

- IT Customer Transformation Management Activity Data (To: A267)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A265] Enable and Promote IT Customer Capability Adoption

### Description

Work to prepare for and then directly support the adoption of changes to business processes, whether technology-enabled or not, can begin as soon as a transformation proposal is accepted. It might continue until the changes have become embedded within the customer's operations and culture (this might be described as business-as-usual) and until such time as no further benefit from further adoption is considered possible or a focus area.

This activity includes:

- Identifying the required adoption support needs
- Creating and managing a plan for business capability adoption. For example:
  - The management of organization change
  - Communication
  - Training.
- Performing and executing the plan
- Providing, as needed, advice and guidance on business capability usage
- Monitoring progress against key milestones
- Revision of the adoption plan to reflect the learnings from existing benefit realization assessments
- Identification of modifications or extensions to the capability adoption requirements to enhance capability adoption

### Controls

- IT Customer Transformation Themes and Evaluation Principles (From: A26 A263)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.
- IT Customer Transformation Management Framework (From: A261)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the

responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>78</sup>

- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>79</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>80</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan , human resource plan , technical environment, project quality, communications management, and others.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- IT Customer Capability Adoption Events  
Notable milestones (both successes and failures) in the customer's adoption of transformational capability.
- Knowledge Assets (From: A85 A855)  
Any information from knowledge management that fulfills a knowledge request.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>81</sup>
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management

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- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Proposed IT Customer Capability Adoption Improvements (From: A266)

Suggestions for improvements (changes, extensions) to the existing adoption support plan. This is based on lessons learned from existing adoption, and how well the mooted benefits have been realized.

## Outputs

- IT Customer Capability Adoption Interventions

Any actions or efforts designed to promote the adoption of transformational capabilities. Examples of such interventions include:

- Communications
- Training programs
- General consultancy and assistance into better, deeper or broader usage of the capability

- IT Customer Capability Adoption Plan (To: A266)

The overall plan for enabling and promoting capability adoption. This ranges from customer-wide items such as general awareness and communications through training programs customized to local needs and possibly the provision of individual guidance and consultancy.

- IT Customer Transformation Management Activity Data (To: A267)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- IT Customer Capability Enabling Requirements (To: A264)

Statement of requirements for additional or modified materials, training, and communication programs, and other enablers that enhance the rate and degree of adoption of transformational capabilities.

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## [A266] Optimize IT Customer Benefit Realization

### Description

Tracking results to identify the actual business benefit achieved, and the assessment of benefit versus plan to identify additional benefit potential; and remedial adoption support needed to close benefit realization gaps.

The activity includes:

- Measuring actual business benefits and reporting them
- Identifying variances in benefits achieved versus planned
- Diagnosing causes of benefit gaps
- Identifying opportunities for benefit greater than planned
- Proposing improvements to business capability adoption

## Controls

- IT Customer Capability Adoption Plan (From: A26 A265)  
The overall plan for enabling and promoting capability adoption. This ranges from customer-wide items such as general awareness and communications through training programs customized to local needs and possibly the provision of individual guidance and consultancy.
- IT Customer Transformation Themes and Evaluation Principles (From: A26 A263)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.
- IT Customer Transformation Management Framework (From: A261)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.

## Inputs

- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes." <sup>82</sup>
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Business Metrics  
Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.

## Outputs

- IT Customer Transformation Themes and Evaluation Principles (To: A244 A245 A246 A263 A312 A363)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.

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- IT Customer Transformation Management Activity Data (To: A267)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Proposed IT Customer Capability Adoption Improvements (To: A265)  
Suggestions for improvements (changes, extensions) to the existing adoption support plan. This is based on lessons learned from existing adoption, and how well the mooted benefits have been realized.

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## [A267] Evaluate IT Customer Transformation Management Performance

### Description

The evaluation of the performance of the process aims at identifying areas of the overall process which require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for the improvements are the insights and the lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- IT Customer Transformation Management Framework (From: A261)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.

### Inputs

- IT Customer Transformation Management Activity Data (From: A262 A263 A264 A265 A266)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- IT Customer Transformation Management Evaluation (To: A261)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A27] Customer Satisfaction Management

### Purpose

The purpose of the Customer Satisfaction Management process is to determine if customers are satisfied, and the degree of their satisfaction with the services, solutions, and offerings from the providers of IT. In addition to this determination, the process aims to proactively predict what the customer satisfaction will be, and then to determine what must be done to maintain or, where appropriate, enhance satisfaction and customer loyalty.

Definition of customer satisfaction: An expression of perceived actual service received versus expected (committed) service.

### Outcomes

As a result of the successful implementation of this process:

- Customer satisfaction and loyalty will be sustained and enhanced
- Customer satisfaction can be measured and tracked
- Early signs of customer dissatisfaction can be addressed and resolved before major issues emerge
- Causes of customer dissatisfaction are remedied

### Scope

This process is active throughout the service life cycle. It begins at the first contact with a customer as part of the effort to determine wants and needs, and continues through either creating a satisfied customer or with the monitoring of remedial actions to correct any problems leading to customer dissatisfaction. It encompasses the entirety of IT services, solutions and offerings (the IT service catalog).

#### Includes

- ◆ Identifying customer types and classes
- ◆ Understanding:
  - Customer expectations
  - Customer perceptions
- ◆ Analysis of the current services catalog
- ◆ Ongoing identification of the key factors contributing to customer satisfaction and loyalty or dissatisfaction
- ◆ Development and maintenance of measurements of satisfaction and loyalty
- ◆ Collection and analysis of such measurements
- ◆ Planning, directing, and monitoring of efforts to remedy customer dissatisfaction, as well as to increase satisfaction, on both a proactive and reactive basis
- ◆ Communicating constraints and decision criteria agreed with customers transparently to users

#### Excludes

- ◆ Fulfillment of specific customer requirements (handled through Service Marketing and Sales) Execution of specific corrective actions for resolving issues (any other process, depending on the issue)

- ◆ Ongoing activities for managing service agreements and service level attainment (Service Level Management)

## Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>83</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>84</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>85</sup>

These agreements can be in a draft or finalized status.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>86</sup>

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and

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required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- Customer Profiles (From: A22 A228)

The body of knowledge about each customer as a result from marketing and sales activities.

- Service Review Results (From: A24 A245)

The outcome from a review of service level attainment. This might include:

- Exceptions and violations with regard to target and actual service delivery
- Determination of responsibility for non-attainment
- Identification of penalties incurred

- Service Achievement Reports (From: A24 A244)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.

- Customer Organization

Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.

- Customer Satisfaction Input

Feedback (solicited or unsolicited) from customers regarding IT performance. This is used to measure and manage customer satisfaction issues and trends.

- Customer Issue Feedback

The responses and other feedback from the customer providing more information into the issue they have expressed and into their perception on the success or otherwise of attempts to address open issues.

- Customer Satisfaction Issue (From: A24 A245 A53 A537 A61 A613 A615)

Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.

## Outputs

- Customer Output (To: Outside-the-Model A276)

The interactions from the collective IT endeavor to any IT customer which relate to the any aspect of the lifecycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Validation of requirements
- Marketing and sales materials, such as proposals
- Service level agreement life cycle
- Invoices for services rendered
- Any aspect of customer satisfaction

- Incident (To: A537 A6 A65 A652)  
 Any information from problem resolution (proactively or reactively) that can help to improve the overall service delivery. For example, there could be a finding that a specific service part or component frequently generates problems and a determination that a modification to the procedures used to operate the service would remove the incident-inducing circumstances.
- Customer Satisfaction Results and Trends (To: A13 A131 A14 A141 A22 A222 A23 A236 A24 A244 A25 A253 A356 A365 A525 A526)  
 A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

## Activities

This process is composed of these activities:

- A271 Establish Customer Satisfaction Management Framework
- A272 Capture Customer Satisfaction Data
- A273 Analyze Customer Satisfaction
- A274 Manage Customer Satisfaction Issue Resolution
- A275 Assess Customer Satisfaction Patterns
- A276 Communicate Customer Satisfaction Management Results
- A277 Evaluate Customer Satisfaction Management Performance

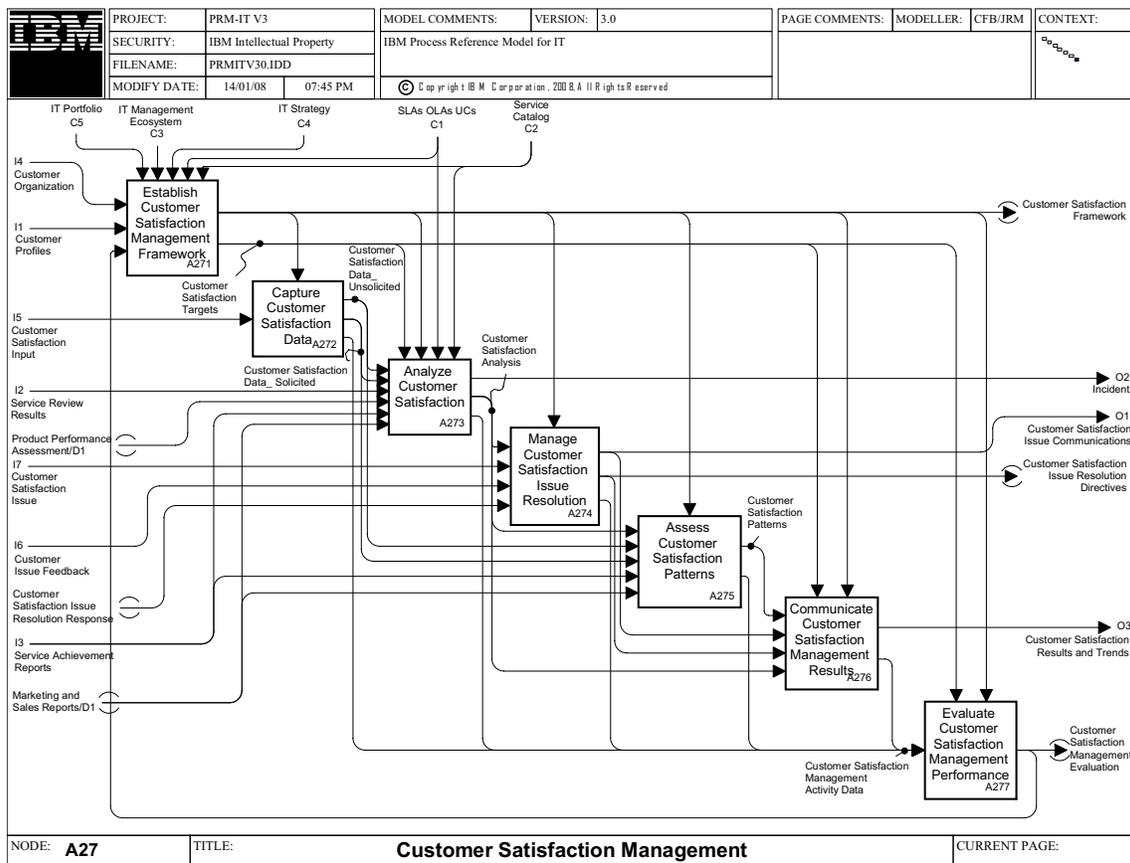


Figure 8. A27 Customer Satisfaction Management

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## [A271] Establish Customer Satisfaction Management Framework

### Description

To establish the framework necessary to manage the Customer Satisfaction process, these considerations should be addressed:

- Policies, standards and guidelines must be created and used to identify customers and customer segments for analysis
- Intervals and approved methods specified for obtaining valid customer satisfaction data
- Policies and direction provided for customer satisfaction issue identification and resolution
- Guidance and direction on analysis methods and trend identification principles
- Documented and accessible procedures for communicating customer satisfaction assessment results

Finally, the structure and process for Customer Satisfaction Management have to be communicated.

The establishment of the Customer Satisfaction Management Framework also includes the continuous improvement of the process; that is, the regular review of process evaluations and the implementation of recommended improvement actions.

### Controls

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>87</sup>

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- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>88</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>89</sup>

These agreements can be in a draft or finalized status.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>90</sup>

## Inputs

- Customer Organization

Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.

- Customer Profiles (From: A22 A228)

The body of knowledge about each customer as a result from marketing and sales activities.

- Customer Satisfaction Management Evaluation (From: A277)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Customer Satisfaction Framework (To: A272 A273 A274 A275 A276 A277)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

- Customer Satisfaction Targets (To: A273 A276 A277)

The targets (goals) for customer satisfaction against which the actual customer results will be measured.

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## [A272] Capture Customer Satisfaction Data

### Description

This activity receives, stores, and aggregates customer satisfaction data for further analysis. Such data includes solicited or obtained through formal mechanisms, as well as any unsolicited communications, received directly from customers, with regard to their satisfaction.

### Controls

- Customer Satisfaction Framework (From: A271)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Inputs

- Customer Satisfaction Input  
Feedback (solicited or unsolicited) from customers regarding IT performance. This is used to measure and manage customer satisfaction issues and trends.

### Outputs

- Customer Satisfaction Data\_ Unsolicited (To: A273 A275)  
Any feedback, typically ad hoc and unprompted, from a customer that expresses their level of satisfaction with any aspect of the IT service provision.
- Customer Satisfaction Data\_ Solicited (To: A273 A275)  
Data obtained from service provider initiated collection of satisfaction data. Examples would include forms put in front of users after system interactions, regular review meetings between customer and provider.
- Customer Satisfaction Management Activity Data (To: A277)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A273] Analyze Customer Satisfaction

### Description

This activity addresses the processing and assessment of customer satisfaction data in order to identify:

- Satisfaction results for the immediate reporting period
- Trends in satisfaction attainment
- Underlying issues not yet explicitly expressed by any customer

The results of this analysis might warrant immediate attention, in which case an Incident is created

### Controls

- Customer Satisfaction Targets (From: A271)  
The targets (goals) for customer satisfaction against which the actual customer results will be measured.

■ Customer Satisfaction Framework (From: A271)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>91</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>92</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>93</sup>

These agreements can be in a draft or finalized status.

■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>94</sup>

## Inputs

■ Customer Satisfaction Data\_ Unsolicited (From: A272)

Any feedback, typically ad hoc and unprompted, from a customer that expresses their level of satisfaction with any aspect of the IT service provision.

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- Customer Satisfaction Data\_ Solicited (From: A272)  
Data obtained from service provider initiated collection of satisfaction data. Examples would include forms put in front of users after system interactions, regular review meetings between customer and provider.
- Service Review Results (From: A24 A245)  
The outcome from a review of service level attainment. This might include:
  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred
- Product Performance Assessment (From: A356)  
A summary of the product's current level of achievement with regard to commitments made in the product plan. Includes assessments of both quantitative and qualitative factors and the overall value of the product.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Marketing and Sales Reports (From: A22 A228)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

## Outputs

- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Customer Satisfaction Analysis (To: A274 A275 A276)  
The results of analyzing customer satisfaction data, and including trends and implicit issues.
- Customer Satisfaction Management Activity Data (To: A277)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A274] Manage Customer Satisfaction Issue Resolution

### Description

This activity formulates and coordinates IT actions to resolve customer dissatisfaction, and keeps customers informed on the status of issue resolutions.

This activity also ensures appropriate notification and communications take place with IT management and staff on issues and progress.

### Controls

- Customer Satisfaction Framework (From: A271)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Inputs

- Customer Satisfaction Analysis (From: A273)  
The results of analyzing customer satisfaction data, and including trends and implicit issues.
- Customer Satisfaction Issue (From: A24 A245 A53 A537 A61 A613 A615)  
Any determination of a customer satisfaction issue. Can be either direct from a customer, or prompted by any IT staff member in carrying out other processes.
- Customer Issue Feedback  
The responses and other feedback from the customer providing more information into the issue they have expressed and into their perception on the success or otherwise of attempts to address open issues.
- Customer Satisfaction Issue Resolution Response  
Responses from any IT process to directives for the resolution of a customer satisfaction issue. Examples of responses would be action plans, and action outcomes.

### Outputs

- Customer Satisfaction Issue Communications (To: A276 A614 A615)  
Information provided to customers about any aspect of a satisfaction issue, covering analysis of causes, committed plans to address, and progress to issue resolution.
- Customer Satisfaction Issue Resolution Directives (To: A276)  
Instructions or requests to any IT process for the resolution of a customer satisfaction issue, under the coordination of an overall issue resolution plan.
- Customer Satisfaction Management Activity Data (To: A277)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A275] Assess Customer Satisfaction Patterns

### Description

This activity performs additional in-depth investigation of satisfaction data, and derives trending information in order to identify any underlying satisfaction patterns.

Both positive and negative patterns might be highlighted for subsequent communication.

### Controls

- Customer Satisfaction Framework (From: A271)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Inputs

- Customer Satisfaction Analysis (From: A273)  
The results of analyzing customer satisfaction data, and including trends and implicit issues.
- Customer Satisfaction Data\_ Unsolicited (From: A272)  
Any feedback, typically ad hoc and unprompted, from a customer that expresses their level of satisfaction with any aspect of the IT service provision.
- Customer Satisfaction Data\_ Solicited (From: A272)  
Data obtained from service provider initiated collection of satisfaction data. Examples would include forms put in front of users after system interactions, regular review meetings between customer and provider.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Marketing and Sales Reports (From: A22 A228)  
Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

### Outputs

- Customer Satisfaction Patterns (To: A276)  
Identification of patterns of satisfaction which might require attention from the IT service provider before the dissatisfaction occurs.
- Customer Satisfaction Management Activity Data (To: A277)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A276] Communicate Customer Satisfaction Management Results

### Description

This activity provides summary reports of:

- Customer satisfaction attainment and trends
- Current customer satisfaction issues, and any resolution plans associated with each

The reports will be used with both customers and IT management, perhaps with variations depending on the recipients.

### Controls

- Customer Satisfaction Targets (From: A271)  
The targets (goals) for customer satisfaction against which the actual customer results will be measured.
- Customer Satisfaction Framework (From: A271)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Inputs

- Customer Satisfaction Patterns (From: A275)  
Identification of patterns of satisfaction which might require attention from the IT service provider before the dissatisfaction occurs.
- Customer Satisfaction Issue Communications (From: A27 A274)  
Information provided to customers about any aspect of a satisfaction issue, covering analysis of causes, committed plans to address, and progress to issue resolution.
- Customer Satisfaction Issue Resolution Directives (From: A274)  
Instructions or requests to any IT process for the resolution of a customer satisfaction issue, under the coordination of an overall issue resolution plan.
- Customer Satisfaction Analysis (From: A273)  
The results of analyzing customer satisfaction data, and including trends and implicit issues.

### Outputs

- Customer Satisfaction Results and Trends (To: A13 A131 A14 A141 A22 A222 A23 A236 A24 A244 A25 A253 A356 A365 A525 A526)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- Customer Satisfaction Management Activity Data (To: A277)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.



## PRM-IT A2 Node Tree

<b>A2 – CUSTOMER RELATIONSHIPS</b>	
<b>A21</b>	<b>Stakeholder Requirements Management</b>
A211	Establish Stakeholder Requirements Management Framework
A212	Capture Stakeholder Needs
A213	Transform Needs Into Stakeholder Requirements
A214	Monitor and Report Stakeholder Needs and Requirements
A215	Evaluate Stakeholder Requirements Management Performance
<b>A22</b>	<b>Service Marketing and Sales</b>
A221	Establish Service Marketing and Sales Framework
A222	Analyze Market Wants and Needs
A223	Create Marketing Plan
A224	Execute Marketing Plan
A225	Manage Opportunities and Forecast Sales
A226	Consult and Propose Services Solutions
A227	Negotiate and Close Services Opportunity
A228	Analyze and Report Marketing and Sales Results
A229	Evaluate Service Marketing and Sales Performance
<b>A23</b>	<b>Service Catalog Management</b>
A231	Establish Service Catalog Management Framework
A232	Define Service Package Catalog Requirements
A233	Build and Maintain Service Catalog Content
A234	Create and Maintain Service Catalog Views
A235	Publish Service Catalog
A236	Monitor, Analyze and Report Service Catalog
A237	Evaluate Service Catalog Management Performance
<b>A24</b>	<b>Service Level Management</b>
A241	Establish Service Level Management Framework
A242	Develop Service Level Relationships
A243	Create and Maintain Service Level Agreements
A244	Monitor and Report Service Level Achievements
A245	Conduct Service Review
A246	Formulate Service Improvement Plan
A247	Evaluate Service Level Management Performance
<b>A25</b>	<b>Demand Management</b>
A251	Establish Demand Management Framework
A252	Value and Classify Business Demands
A253	Consolidate Business Demand Patterns and Forecasts
A254	Forecast Service Demand
A255	Identify and Plan Demand Management Initiatives
A256	Assess and Report Demand Management Outcomes
<b>A26</b>	<b>IT Customer Transformation Management</b>





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# [A3] Direction

## Description

### Purpose

The Direction process category provides guidance on the external technology marketplace, aligns the IT outcomes to support the business strategy, minimizes risk exposures, and manages the IT Architecture and IT Portfolio. Using the business strategy, related business requirements, and overall technology trends as key inputs, this process category creates an IT Strategy within the manageable constraints of the existing IT architecture and portfolio. In addition to the IT strategy, the IT Portfolio and IT Architecture are planned, created, implemented, monitored, and continuously improved within this process category. Items put forward for inclusion in the IT Portfolio are managed throughout their life cycle using product management approaches well established in many industries.

The IT portfolio includes all items managed to deliver the IT Strategy, including, but not limited to, the services published to clients through the Service Catalog, internal services executed within the IT organization, and new and established development initiatives. Moreover, the process category supplies the IT organization with a Project Management process to manage initiatives driven by the IT Strategy, such as development projects. Finally, risks to the IT organization, such as those posed by regulatory requirements, are prioritized and managed through risk mitigation plans.

### Rationale

Through a business aligned IT strategy, IT architecture and IT portfolio, this process category ensures that the IT enterprise is aligned with the overall business direction. Using these artifacts, the IT organization will have the capability to clearly communicate to its customers the value of the services they provide, while mitigating the overall risk posture. This process category also instills basic project management discipline and controls.

### Value

- Aligns IT endeavors to business goals and strategy
- Identifies and explains new trends and directions in the technology marketplace
- Triggers new initiatives to meet dynamic business and technology requirements
- Incorporates new technology trends into IT strategy and plans
- Establishes architectural guidelines and standards for solutions and services in order to enhance consistency, reuse, and overall value across the range of capabilities, balancing the need for individual solution optimization
- Mitigates IT and business risks efficiently and effectively
- Translates the initiatives into a mix of products (services, solutions) which will be managed through their life cycle from vision and business case to value measurement and retirement
- Optimizes the allocation of IT resources through Portfolio Management
- Articulates the value of IT's contribution to the business
- Ensures methodical project management processes and controls for improved quality and predictability

### Controls

- Market Analysis (From: A2 A22 A222)
- SLAs, OLAs, UCs (From: A2 A24 A243)

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- IT Management Ecosystem (From: A1)
  - Environment Information (From: outside the model)
  - IT Budget (From: A8 A81 A813)
  - Underpinning Contracts (From: A8 A82 A823)
  - Security Policy (From: A7 A72 A722)
  - Compliance Plans and Controls (From: A7 A71 A714)

## Inputs

- Service Catalog (From: A2 A23 A235)
- Business Strategy
- Stakeholder Requirements (From: A2 A21 A213)
- Service Level Package (From: A2 A25 A255)
- Business Input (From: outside the model)
- IT Financial Reports (From: A8 A81 A813 A814 A815)
- Service Resilience Plans (From: A7)
- Change Information (From: A5 A51 A518)
- Solution\_ Deployed (From: A5 A53 A536)
- Configuration Information (From: A5 A54 A544)
- Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)
- Solution Design (From: A4 A42 A425)
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

## Outputs

- IT Business Contribution and Capabilities
- IT Strategy (To: outside the model A1 A11 A111 A112 A113 A114 A12 A121 A122 A123 A124 A125 A13 A131 A132 A133 A14 A142 A2 A21 A211 A22 A221 A23 A231 A24 A241 A26 A261 A27 A271 A316 A32 A321 A323 A33 A332 A334 A34 A341 A35 A352 A36 A361 A366 A37 A371 A4 A41 A411 A413 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A7 A71 A711 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A83 A831 A84 A841 A842 A85 A851 A852)
- IT Portfolio (To: A1 A12 A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A142 A2 A21 A211 A213 A22 A221 A222 A223 A226 A23 A231 A232 A233 A24 A241 A243 A25 A251 A254 A255 A26 A261 A263 A27 A271 A31 A313 A314 A32 A322 A324 A33 A331 A366 A4 A42 A421 A8 A81 A811 A82 A822 A83 A831 A85 A852)
- IT Plan (To: A2 A22 A221 A25 A254 A255 A26 A264 A265 A31 A314 A366 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A72 A723 A725 A73 A731 A737 A74 A741 A742 A745 A75 A752 A76 A763 A764 A8 A81 A813 A84 A842 A844)
- Change Request (To: A5 A51 A512)
- Project Charter (To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)
- Business and IT Models (To: A2 A25 A253 A254 A32 A322 A323 A334 A34 A342 A344 A35 A352 A4 A41 A412 A413 A42 A422 A7 A71 A712 A714 A8 A82 A821 A822)
- IT Research Guidance (To: A1 A11 A114 A12 A122 A123 A124 A125 A126 A2 A21 A213 A22 A222 A25 A252 A26 A263 A31 A313 A33 A332 A333 A8 A84 A844)
- Project Plan (To: A265 A34 A343 A344 A372 A375 A376 A377 A4 A41 A412 A5 A51 A514 A52 A522 A53 A532)

- Architecture Baselines and Roadmaps (To: A1 A11 A114 A12 A121 A122 A123 A124 A125 A2 A22 A221 A31 A313 A314 A332 A333 A335 A336 A36 A361 A4 A41 A411 A412 A413 A42 A43 A431 A44 A441 A443 A45 A451 A5 A51 A513 A514 A52 A522 A523 A524 A54 A541 A542 A55 A551 A6 A62 A621 A63 A631 A64 A641 A66 A661 A663 A664 A665 A7 A72 A723 A73 A732 A734 A736 A74 A742 A743 A75 A752 A76 A763 A764 A8 A84 A842 A844 A85 A852)
- Product Package (To: A2 A23 A24 A243 A5 A52 A522)

## Processes

This process category is composed of these processes:

- A31 IT Strategy
- A32 IT Research and Innovation
- A33 Architecture Management
- A34 Risk Management
- A35 Product Management
- A36 Portfolio Management
- A37 Program and Project Management

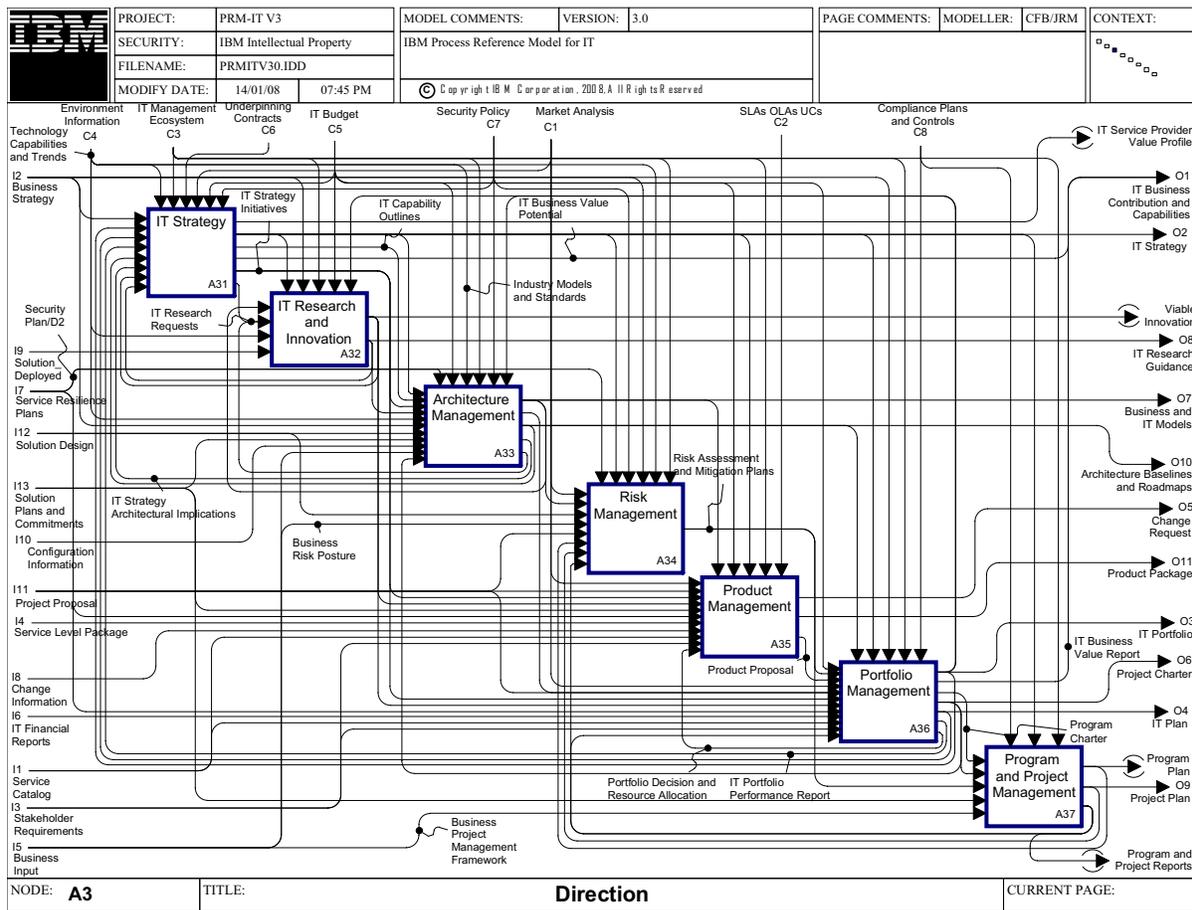


Figure 1. A3 Direction Diagram

## [A31] IT Strategy

### Purpose

The purpose of the IT Strategy process is to set the direction for the outcomes to be achieved by the use of information technology, ensuring that it supports the business and business strategy to the level desired and funded.

It exists “To set the goals, and decide on areas of change,”<sup>1</sup> for IT capability to support the business strategy.

Definition of an IT Strategy: The collection of goals, policies, and plans that specify how an IT organization should function over a specific period.

### Outcomes

As a result of successful implementation of the IT Strategy process:

- The business has an understanding and appreciation of the potential value of information technology to the business. Examples are’s role in providing the business with the capability to achieve competitive advantage, and ensuring the ability to readily respond to changes in the business environment
- All aspects of information technology strategy (such as infrastructure, applications and services) are aligned with the business strategy, and regularly examined to maintain that alignment
- Information technology strategy is cost effective, appropriate, realistic, achievable, business-focused, balanced, and timely
- Clear and concrete short term goals (which are then to be translated into operational plans) can be derived from and are traceable back to specific long term plans.

### Scope

The IT strategy should address long and short-term objectives, business direction and its impact on IT, the IT culture, communications, information, people, processes, technology, development, and partnerships.

#### Includes

- ◆ Interacting with business strategy
- ◆ Setting strategic goals for IT
- ◆ Creating overarching guidance for specific IT functional areas
- ◆ Understanding the value, both the overall classes and the specific targets, which the business requires IT to provide or support
- ◆ Generating preliminary value propositions for the actual and proposed IT contributions to the business

#### Excludes

- ◆ The creation of the first level of plans to realize the strategy (Portfolio Management, Product Management)

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1. Source: IBM Academy of Technology Study AR221 (2004), “Enterprise Architecture in the era of on demand”. Definition of strategy.

- ◆ The creation, recommendation, and adoption of IT architectures for the next layers of detail, like hardware and software (Architecture Management)
- ◆ Adjusting the way that the IT undertaking organizes and runs itself to realize the strategy (IT Governance and Management System category of processes)

## Controls

- Technology Capabilities and Trends
 

Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- IT Management Ecosystem (From: A1)
 

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Underpinning Contracts (From: A8 A82 A823)
 

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>2</sup>
- Market Analysis (From: A2 A22 A222)
 

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Budget (From: A8 A81 A813)
 

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Security Policy (From: A7 A72 A722)
 

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- Business Strategy
 

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Portfolio (From: A3 A36 A365)
 

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

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2. ITIL V3 Glossary

- IT Plan (From: A3 A36 A365)
 

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Portfolio Performance Report (From: A36 A367)
 

A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)
 

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy Architectural Implications (From: A33 A333)
 

An assessment of the implications of architecture changes on the IT Strategy; stated in terms of potential (positive and negative) changes to the value of IT and its alignment to desired business capabilities. For example, it can detail the potential need for compromise on two conflicting aspects of the strategy; only one (or other) of which can be satisfied by the architecture.
- Viable Innovation (From: A32 A325)
 

Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.
- IT Research Guidance (From: A3 A32 A325)
 

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

## Outputs

- IT Service Provider Value Profile (To: A11 A112 A113 A314)
 

A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.
- IT Strategy (To: outside the model A1 A11 A111 A112 A113 A114 A12 A121 A122 A123 A124 A125 A13 A131 A132 A133 A14 A142 A2 A21 A211 A22 A221 A23 A231 A24 A241 A26 A261 A27 A271 A316 A32 A321 A323 A33 A332 A334 A34 A341 A35 A352 A36 A361 A366 A37 A371 A4 A41 A411 A413 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A7 A71 A711 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A83 A831 A84 A841 A842 A85 A851 A852)
 

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Capability Outlines (To: A314 A33 A332)
 

A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”

- IT Business Value Potential (To: A312)
 

Statement of potential technology impact on the business strategy, stated in terms of added value, time scales, potential investment costs and business change assessment.
- IT Strategy Initiatives (To: A315 A33 A333 A35 A352 A36 A364)
 

An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- IT Research Requests (To: A32 A322)
 

Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.

## Activities

This process is composed of these activities:

- A311 Establish IT Strategy Process Framework
- A312 Understand Business Strategy
- A313 Determine IT Strategic Potential
- A314 Develop IT Strategy Initiatives
- A315 Consolidate and Communicate IT Strategy
- A316 Monitor and Assess IT Strategy Effectiveness
- A317 Evaluate IT Strategy Process Performance

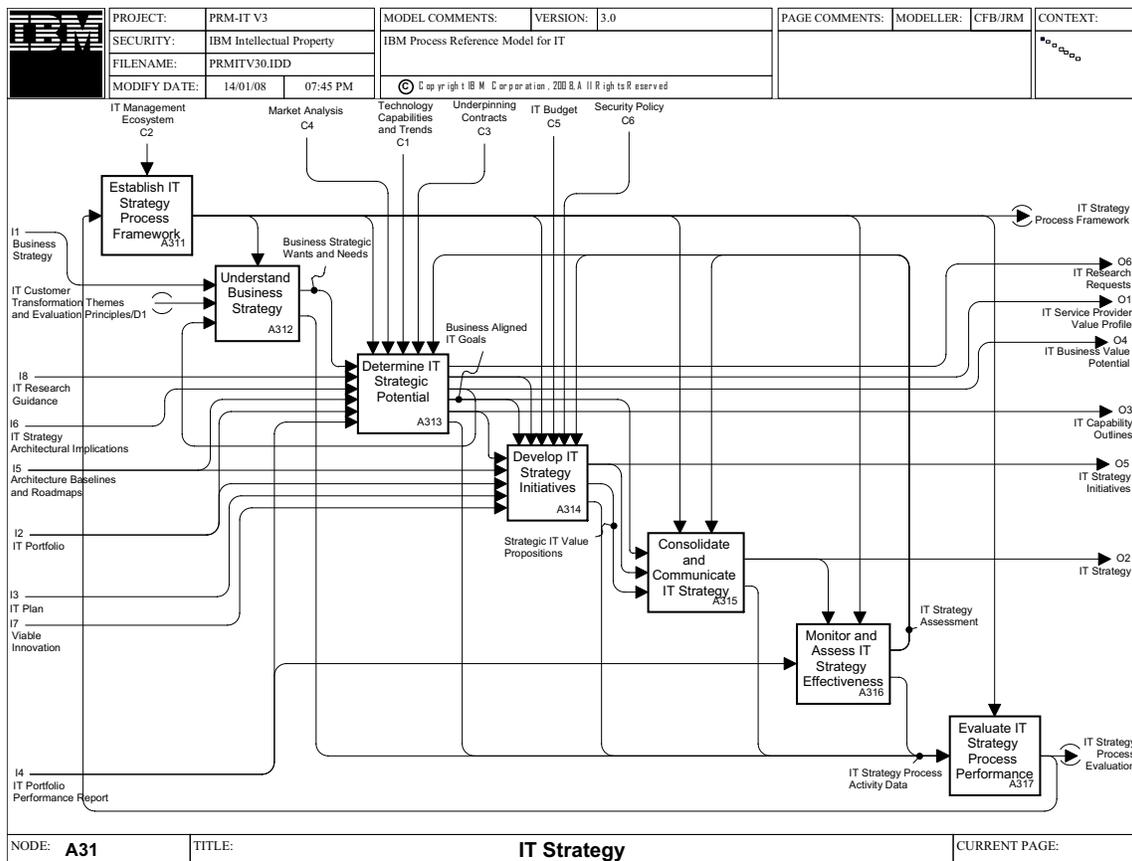


Figure 2. A31 IT Strategy

## [A311] Establish IT Strategy Process Framework

### Description

Define and maintain a framework of policies and procedures that guides and governs the behavior of the IT Strategy processes. Incorporate mandatory elements from the IT Management Ecosystem.

Define a set of metrics to be used by each process for measurement and reporting of performance.

Review process evaluations based on analysis of current performance, and approve recommendations for improvements. Refine the metrics to drive vitality and cost take out.

Incorporate updated metrics and process change recommendations into the framework and communicate the changes.

### Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### Inputs

- IT Strategy Process Evaluation (From: A317)

Quantitative and qualitative analysis of the performance of the IT Strategy processes against the evaluation framework. Incorporates recommendations for changes to the framework and changes to the metrics.

### Outputs

- IT Strategy Process Framework (To: A312 A313 A314 A315 A316 A317)

A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.



## [A313] Determine IT Strategic Potential

### Description

Develop and maintain a model of IT capabilities. Associate the capability model with the architecture baseline, service catalog, and associated cost metrics.

Determine the fit or gap between current IT capabilities and the strategic wants and needs of the business.

Determine the fit or gap between current IT capabilities and market analysis of world class and emerging IT service provision.

Identify new opportunities presented by emerging technologies. Identify threats of declining technologies.

Assess the impact on IT capabilities of architecture changes, IT research, IT portfolio performance and IT strategy effectiveness.

Analyze the financial and business implications of the business strategy, opportunities and threats and develop a value analysis of potential changes to the IT capabilities. Select cost effective opportunities and refine the IT capability model. Prepare value statements for the potential value of IT, in a form appropriate for the business, and also a form appropriate for a service provider (to support external benchmarking and sales).

Document the IT goals, required IT capabilities and potential IT value, showing alignment of IT to the business.

### Controls

- IT Strategy Process Framework (From: A311)

A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.

- Market Analysis (From: A2 A22 A222)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

- Technology Capabilities and Trends

Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

- Underpinning Contracts (From: A8 A82 A823)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>3</sup>

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3. ITIL V3 Glossary

- IT Strategy Assessment (From: A316)  
Assessment of the effectiveness of the IT Strategy, stated in terms of completeness and coverage of IT strategy implementation (when compared to the strategic intent). Includes lessons learned about the strategy initiatives and recommendations for change.

## Inputs

- Business Strategic Wants and Needs (From: A312)  
Statement of strategic ambition, objectives, priorities and intent of the business.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Strategy Architectural Implications (From: A33 A333)  
An assessment of the implications of architecture changes on the IT Strategy; stated in terms of potential (positive and negative) changes to the value of IT and its alignment to desired business capabilities. For example, it can detail the potential need for compromise on two conflicting aspects of the strategy; only one (or other) of which can be satisfied by the architecture.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Portfolio Performance Report (From: A36 A367)  
A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

## Outputs

- IT Research Requests (To: A32 A322)  
Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.
- IT Service Provider Value Profile (To: A11 A112 A113 A314)  
A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.
- IT Business Value Potential (To: A312)  
Statement of potential technology impact on the business strategy, stated in terms of added value, time scales, potential investment costs and business change assessment.
- Business Aligned IT Goals (To: A314 A315)  
Statement of IT goals and objectives. Includes coverage of guiding principles, policies, strategic assumptions, and technology principles.
- IT Capability Outlines (To: A314 A33 A332)  
A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”

- IT Strategy Process Activity Data (To: A317)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A314] Develop IT Strategy Initiatives

### Description

Develop and maintain a list of strategic IT initiatives, based on the strategic potential of IT.

Evaluate the current IT portfolio, service catalog and IT plan to ensure alignment with the IT capabilities. Use the fit and gap analysis to identify additions or changes to the IT initiatives.

Evaluate the current architecture and innovation opportunities to identify new initiatives or improve existing initiatives.

Refine the strategic IT initiatives to take into account cost constraints and IT strategy effectiveness.

Develop an outline charter for each IT strategy initiative, showing scope of change and incorporating estimates for time and cost. Develop an overall value statement for the strategic IT initiatives.

Obtain business and IT approvals, and secure necessary changes to IT budgets.

### Controls

- Business Aligned IT Goals (From: A313)  
Statement of IT goals and objectives. Includes coverage of guiding principles, policies, strategic assumptions, and technology principles.
- IT Service Provider Value Profile (From: A31 A313)  
A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.
- IT Strategy Process Framework (From: A311)  
A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- IT Strategy Assessment (From: A316)  
Assessment of the effectiveness of the IT Strategy, stated in terms of completeness and coverage of IT strategy implementation (when compared to the strategic intent). Includes lessons learned about the strategy initiatives and recommendations for change.

## Inputs

- IT Capability Outlines (From: A31 A313)  
A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Viable Innovation (From: A32 A325)  
Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.

## Outputs

- IT Strategy Initiatives (To: A315 A33 A333 A35 A352 A36 A364)  
An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- Strategic IT Value Propositions (To: A315)  
A statement of value, scope and time scale for each strategic IT initiative.
- IT Strategy Process Activity Data (To: A317)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A315] Consolidate and Communicate IT Strategy

### Description

Develop and maintain a network for championing the IT strategy.

Assemble a communications package based on the content and value of the strategic IT initiatives.

Identify events for communicating the strategy and obtain agreement from stakeholders to participate at their events. Identify other means, such as Web lectures and the enterprise Internet, for communicating the IT strategy.

Prepare a tailored communications package for each delivery vehicle and communicate the strategy. Obtain and summarize feedback.

### Controls

- IT Strategy Process Framework (From: A311)  
A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.
- IT Strategy Assessment (From: A316)  
Assessment of the effectiveness of the IT Strategy, stated in terms of completeness and coverage of IT strategy implementation (when compared to the strategic intent). Includes lessons learned about the strategy initiatives and recommendations for change.

### Inputs

- Business Aligned IT Goals (From: A313)  
Statement of IT goals and objectives. Includes coverage of guiding principles, policies, strategic assumptions, and technology principles.
- IT Strategy Initiatives (From: A31 A314)  
An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- Strategic IT Value Propositions (From: A314)  
A statement of value, scope and time scale for each strategic IT initiative.

### Outputs

- IT Strategy (To: outside the model A1 A11 A111 A112 A113 A114 A12 A121 A122 A123 A124 A125 A13 A131 A132 A133 A14 A142 A2 A21 A211 A22 A221 A23 A231 A24 A241 A26 A261 A27 A271 A316 A32 A321 A323 A33 A332 A334 A34 A341 A35 A352 A36 A361 A366 A37 A371 A4 A41 A411 A413 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A7 A71 A711 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A83 A831 A84 A841 A842 A85 A851 A852)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Strategy Process Activity Data (To: A317)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A316] Monitor and Assess IT Strategy Effectiveness

### Description

Develop assessment criteria for effectiveness of IT, taking into account IT strategy assessment framework.

Perform regular assessments of IT portfolio performance, comparing effectiveness of the portfolio against the desired outcome of the IT strategy. Prepare an assessment report and recommend changes to the strategy.

Measure process performance and create process activity data. Incorporate strategy effectiveness criteria and assessment metrics into the performance results.

### Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Strategy Process Framework (From: A311)  
A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.

### Inputs

- IT Portfolio Performance Report (From: A36 A367)  
A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

### Outputs

- IT Strategy Assessment (To: A313 A314 A315)  
Assessment of the effectiveness of the IT Strategy, stated in terms of completeness and coverage of IT strategy implementation (when compared to the strategic intent). Includes lessons learned about the strategy initiatives and recommendations for change.
- IT Strategy Process Activity Data (To: A317)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A317] Evaluate IT Strategy Process Performance

### Description

Develop a dashboard or model for analyzing and reporting on the performance of the IT Strategy processes. Incorporate the IT Strategy process framework metrics into the model.

Using process activity data, evaluate the results of IT Strategy process performance and incorporate into the dashboard. Assess performance of each process and also of the overall IT Strategy process. Identify potential for process improvement. Recommend changes to processes and process metrics baselines.

### Controls

- IT Strategy Process Framework (From: A311)  
A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.

### Inputs

- IT Strategy Process Activity Data (From: A312 A313 A314 A315 A316)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- IT Strategy Process Evaluation (To: A311)  
Quantitative and qualitative analysis of the performance of the IT Strategy processes against the evaluation framework. Incorporates recommendations for changes to the framework and changes to the metrics.

## [A32] IT Research and Innovation

### Purpose

The IT Research and Innovation process exists to identify new developments in technology, methods and solutions that have potential to create business value. It conducts research on the applicability and benefit of new approaches and technologies, and promotes the use of viable, innovative concepts in support of business objectives.

General definitions of:

- Research: (*Noun*) Scholarly or scientific investigation or inquiry (*Verb*) To study something thoroughly to present it in a detailed, accurate manner
- Innovation:
  1. The act of introducing new things or methods
  2. Innovation = creative idea + implementation

### Outcomes

As a result of successful implementation of this process:

- The business is fully aware of marketplace, industry and technology trends, and the potential impact of these forces
- Business value is created through the qualification and staging of the most appropriate advances and innovations in technology, methods and solutions
- Business objectives are met with improved quality and reduced cost as a result of the identification and promotion of viable innovative solutions for operational usage

### Scope

The process covers any selected combination of internal, external and cooperative efforts in any part of the range of research and innovation activities.

#### Includes

- ◆ Identification of areas or fields to be researched
- ◆ Responding to research requests and identifying relevant developments within monitored fields of interest
- ◆ Monitoring, understanding, and promoting:
  - Market and industry trends
  - Emerging technologies
  - Technology-enabled solutions
  - Methods and techniques for exploiting technology and solutions
  - Solution strategies
  - Organizing the storage and retrieval of research results

#### Excludes

- ◆ Decisions on adopting innovative technologies and solutions for productive use (Portfolio Management)
- ◆ Actual development and deployment of solutions for productive use (Realization and Transition processes)

- ◆ Project Management (Program and Project Management)

## Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Research Requests (From: A31 A313 A33 A332 A333)  
Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

## Outputs

- Viable Innovation (To: A31 A314 A35 A352 A36 A364)  
Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.
- IT Research Guidance (To: A1 A11 A114 A12 A122 A123 A124 A125 A126 A2 A21 A213 A22 A222 A25 A252 A26 A263 A31 A313 A33 A332 A333 A8 A84 A844)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

## Activities

This process is composed of these activities:

- A321 Establish IT Research and Innovation Framework
- A322 Identify IT Research and Innovation Candidates
- A323 Qualify Candidates and Define IT Research and Innovation Projects
- A324 Perform IT Research and Innovation Project
- A325 Promote IT Research and Innovation Results
- A326 Evaluate IT Research and Innovation Performance

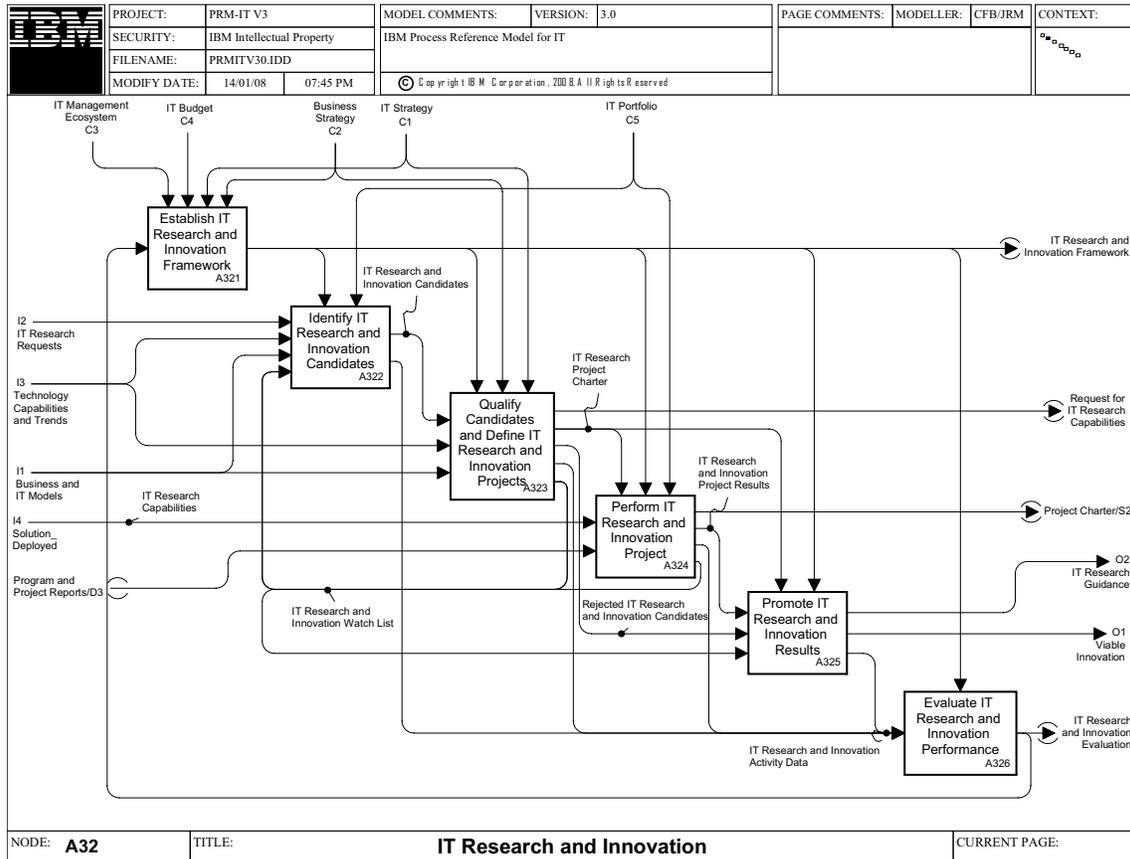


Figure 3. A32 IT Research and Innovation

## [A321] Establish IT Research and Innovation Framework

### Description

Based on the business' strategic goals, policies, and the IT strategy, this activity establishes the base for IT research and innovation in the business by defining the research strategic goals and objectives, as well as the critical success factors.

This includes that some policies are defined and orientation is given about securing research results, about what kind of research is necessary and appropriate, which external sources can be used, what criteria have to be applied for funding research projects, and more. These tasks have to be revisited regularly.

The establishment of the IT research and innovation framework also includes the consideration of the IT Research and Innovation process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

### Inputs

- IT Research and Innovation Evaluation (From: A326)  
An analysis of IT research and innovation activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

### Outputs

- IT Research and Innovation Framework (To: A322 A323 A324 A325 A326)  
The procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for IT research and innovation
  - Policies and orientation that apply to IT research and innovation
  - Collection of evaluation criteria for qualifying and selecting research projects

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## [A322] Identify IT Research and Innovation Candidates

### Description

The basis for any research and innovation activities is thorough understanding of business and IT strategies, models, and the IT services that have to be delivered. The first task in this activity facilitates understanding beginning with the service enablers (technology, processes, organization).

The actual identification of research areas can be of a proactive or reactive mode:

- Triggered by a research request from within the business or any other process within IT (reactive mode). These research requests are accepted if the research topic relates to the service enablers.
- Regular market and competitors watch: proactive mode, based on the watch list (approved in the Qualify Candidates and Define Research Projects activity).
- Analysis of current IT trends: best practices, innovations, emerging and new technologies, among others (proactive mode, candidates for the watch list).

The result of this activity will be the suggestions for the right research areas, suggestions for a watch list of potentially important technologies, and the identification of starting points for innovation.

Based on this research, candidates will be identified and preselected.

### Controls

- IT Research and Innovation Framework (From: A321)  
The procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for IT research and innovation
  - Policies and orientation that apply to IT research and innovation
  - Collection of evaluation criteria for qualifying and selecting research projects
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### Inputs

- IT Research Requests (From: A31 A313 A33 A332 A333)  
Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Research and Innovation Watch List (From: A323 A324)  
List of research topics not leading to a research project but are potential candidates; their future development needs to be watched.

## Outputs

- IT Research and Innovation Candidates (To: A323)  
Any topics that have been identified as potential candidates for research projects or the watch list.
- IT Research and Innovation Activity Data (To: A326)  
Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.

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## [A323] Qualify Candidates and Define IT Research and Innovation Projects

### Description

During this activity a prioritized and approved list of research projects is created based on the identified research topics and suggested research candidates from the Identify Research and Innovation Candidates activity.

The activity consists of these tasks:

- Investigate and evaluate identified research topics and suggested research candidates with regard to predefined evaluation criteria (see “[A321] Establish IT Research and Innovation Framework” on page 43).
- Decide on research candidates based on the evaluation results. For example:
  - Adopt research topics: select and define research projects on a high level
  - Approve research topics for the watch list
  - Eliminate candidates from research
- Prioritize adopted research projects
- Define research project scope, objectives, and approach in detail
- Obtain funding for research projects and request or allocate resources

### Controls

- IT Research and Innovation Framework (From: A321)  
The procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for IT research and innovation
  - Policies and orientation that apply to IT research and innovation
  - Collection of evaluation criteria for qualifying and selecting research projects
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- IT Research and Innovation Candidates (From: A322)  
Any topics that have been identified as potential candidates for research projects or the watch list.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

## Outputs

- Request for IT Research Capabilities  
Request for capabilities and resources needed to carry out a research project. Examples include request for human resources, request to procure items, request to develop solutions as support for the research project, and more.
- IT Research Project Charter (To: A324 A325)  
Description for research projects containing the following for each research project:
  - Rationale for research project including evaluation results for project according to the evaluation criteria
  - Detailed definition of scope
  - Project objectives
  - Project approach
- Rejected IT Research and Innovation Candidates (To: A325)  
Research candidates that are not chosen to become research projects or part of the watch list.
- IT Research and Innovation Activity Data (To: A326)  
Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.
- IT Research and Innovation Watch List (To: A322 A325)  
List of research topics not leading to a research project but are potential candidates; their future development needs to be watched.

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## [A324] Perform IT Research and Innovation Project

### Description

Performing research projects consists of tasks according to the respective research project objectives and scope:

- Organizing and collecting research information
- If applicable, developing and executing a prototype according to the research topic (proof of concept)
- Assessing and evaluating research information and prototype
- Drawing conclusions and formulating propositions for innovation or changes, nonviable concepts or new candidates for the watch list according to the research results

## Controls

- IT Research Project Charter (From: A323)  
Description for research projects containing the following for each research project:
  - Rationale for research project including evaluation results for project according to the evaluation criteria
  - Detailed definition of scope
  - Project objectives
  - Project approach
- IT Research and Innovation Framework (From: A321)  
The procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for IT research and innovation
  - Policies and orientation that apply to IT research and innovation
  - Collection of evaluation criteria for qualifying and selecting research projects
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- IT Research Capabilities  
Capabilities and resources that are needed to carry out a research project.
- Program and Project Reports (From: A37)  
The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

## Outputs

- Project Charter (To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- IT Research and Innovation Project Results (To: A325)  
The outcomes of performing research and innovation projects. They will range from the base facts (data) through findings to conclusions about the feasibility and viability of each candidate item.
- IT Research and Innovation Activity Data (To: A326)  
Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.
- IT Research and Innovation Watch List (To: A322 A325)  
List of research topics not leading to a research project but are potential candidates; their future development needs to be watched.

## [A325] Promote IT Research and Innovation Results

### Description

This activity contains the promotion of all research results:

- For completed research projects, the documented research results including guidance and recommendations for trends and innovations that should be adopted have to be reported and further distributed so that decisions about future actions can be taken.
- Rejected research projects have to be communicated.
- Research topics that are not yet carried out in the form of a research project, but that will be posted to the watch list of research topics, have to be communicated too.

### Controls

- IT Research Project Charter (From: A323)  
Description for research projects containing the following for each research project:
  - Rationale for research project including evaluation results for project according to the evaluation criteria
  - Detailed definition of scope
  - Project objectives
  - Project approach
- IT Research and Innovation Framework (From: A321)  
The procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for IT research and innovation
  - Policies and orientation that apply to IT research and innovation
  - Collection of evaluation criteria for qualifying and selecting research projects

### Inputs

- IT Research and Innovation Project Results (From: A324)  
The outcomes of performing research and innovation projects. They will range from the base facts (data) through findings to conclusions about the feasibility and viability of each candidate item.
- Rejected IT Research and Innovation Candidates (From: A323)  
Research candidates that are not chosen to become research projects or part of the watch list.
- IT Research and Innovation Watch List (From: A323 A324)  
List of research topics not leading to a research project but are potential candidates; their future development needs to be watched.

### Outputs

- IT Research Guidance (To: A1 A11 A114 A12 A122 A123 A124 A125 A126 A2 A21 A213 A22 A222 A25 A252 A26 A263 A31 A313 A33 A332 A333 A8 A84 A844)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Viable Innovation (To: A31 A314 A35 A352 A36 A364)  
Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the

business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.

- IT Research and Innovation Activity Data (To: A326)

Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.

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## [A326] Evaluate IT Research and Innovation Performance

### Description

The evaluation of the performance of the IT Research and Innovation process aims at the improvement of the overall process. That is, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. Additionally, the evaluation aims at the overall performance and results of research itself.

The basis for the improvements is insights and lessons learned from the observations and analysis of activity accomplishments and results.

Basically, the improvements should lead to more efficiency in the process, and provide more useful and valuable research results.

### Controls

- IT Research and Innovation Framework (From: A321)

The procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for IT research and innovation
- Policies and orientation that apply to IT research and innovation
- Collection of evaluation criteria for qualifying and selecting research projects

### Inputs

- IT Research and Innovation Activity Data (From: A322 A323 A324 A325)

Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.

### Outputs

- IT Research and Innovation Evaluation (To: A321)

An analysis of IT research and innovation activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

## [A33] Architecture Management

### Purpose

The Architecture Management process exists to create, maintain, promote and govern the use of IT architecture models and standards, across and within business change programs. IT Architecture thus helps the stakeholder community coordinate and control their IT related activities, in pursuit of common business goals.

Definition of IT architecture: “An overarching set of rules of construction, suitable for a defined range of external circumstances. Usually includes a definition of the parts permitted for use in the design, together with a specification of how the parts can be used within specific implementations and the range of values for which the part is valid.”<sup>4</sup>

### Outcomes

As a result of successful implementation of this process:

- From the boardroom to the desktop, all elements of business and IT solutions receive governance and guidance that has enhanced flexibility, consistency, integration, and reuse
- All information systems and information technology infrastructure exhibit improved manageability characteristics
- The exploitation of IT across the enterprise is effective and efficient

### Scope

An effective enterprise architecture (EA) should encompass:

- An architecture
  - This is the way our projects should be engineered.
  - An EA provides a specification of the business and IT architecture models that must be adopted by change programs and projects. This includes the overall business, application, data, services, infrastructure architectures, and together with the principles and guidelines needed to ensure these models are exploited properly.
- Governance
  - An EA must be flexible and evolve constantly if it is to support the business changes needed by an organization wanting to innovate and transform itself. Architectural governance has two aspects: ensuring that the architecture's specifications are adhered to (or formal exceptions granted), and ensuring that the architecture evolves in step with business demands.
- Transition Planning
  - These are the projects we should do and this is their scope.
  - An EA needs a collection of processes and tasks designed to support the selection and scoping of the right projects aimed at realizing the EA vision. The processes should be in concert with the business-as-usual business and IT project prioritization planning processes.

### Includes

- ◆ Business Architecture (BA)

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4. Source: IBM Academy of Technology Study AR221 (2004), “Enterprise Architecture in the era of on demand,” page 15.

- The relationships and interactions between the various business units, at appropriate levels of decomposition
- ◆ Information Systems (IS) Architecture
  - The business-dependent aspects of IT; the automated parts of BA
- ◆ Information Technology (IT) Architecture
  - The business-independent aspect of IT; the underlying IT infrastructure

The architecture must consistently support several viewpoints across these three areas:

- ◆ The applications viewpoint ensuring functionality can track through the layers. For example, enabling an architect to link business activities and processes to applications and transaction management services
- ◆ The data viewpoint – ensuring an architect approach to information. For example, linking business entities to data definitions and into database technologies
- ◆ User viewpoint – facilitating the identification and support of an enterprise's user groups (whether internal or external, private or corporate), including the definition of how they are to be supported at the IS (user interface) and IT (interface technology) levels

The architecture must be:

- ◆ Maintained – An enterprise needs to keep its architecture fresh and vital, reacting to changes in the businesses strategy as well as changes in technology through a vitality process. In all probability, this will include the identification of new or changes to existing standards through a selection process
- ◆ Used and controlled – It is necessary to actively ensure that solution projects conform to the constraints of the architecture (while still assuring their ability to meet the project's business requirements) through a conformance process. Inevitably, there will be occasions when there is a conflict between the project's needs and the architecture, requiring an exception process
- ◆ Communicated – To be effective, the architecture must be understood by those who are required to use it, through the use of a communication process

### **Excludes**

- ◆ Portfolio Management, in which specific change programs are identified, prioritized, and managed to completion
- ◆ Requirements specification, in which specific business requirements are identified and translated into specifications (Solution Requirements)
- ◆ Solution design, in which specific IT systems are designed to meet particular business or IT operational needs
- ◆ Solution delivery and operation, including the procurement, commissioning and operation of IT components and systems
- ◆ Enterprise systems management, responsible for planning and execution of day-to-day management of the installed IT infrastructure

### **Controls**

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for

example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

- Industry Models and Standards

From the industry segment of the business and from the IT industry itself:

- Models of ways of operating and design
- Formal and informal standards that must be considered in any architectural work

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Capability Outlines (From: A31 A313)

A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”

- IT Strategy Initiatives (From: A31 A314)

An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.

- IT Research Guidance (From: A3 A32 A325)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

- Technology Capabilities and Trends

Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

- Business Strategy

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Business Input (From: Outside-the-Model)**

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- **Project Charter (From: A3 A324 A354 A36 A365)**

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

## Outputs

- **Business and IT Models (To: A2 A25 A253 A254 A32 A322 A323 A334 A34 A342 A344 A35 A352 A4 A41 A412 A413 A42 A422 A7 A71 A712 A714 A8 A82 A821 A822)**

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)**

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Architecture Baselines and Roadmaps (To: A1 A11 A114 A12 A121 A122 A123 A124 A125 A2 A22 A221 A31 A313 A314 A332 A333 A335 A336 A36 A361 A4 A41 A411 A412 A413 A42 A43 A431 A44 A441 A443 A45 A451 A5 A51 A513 A514 A52 A522 A523 A524 A54 A541 A542 A55 A551 A6 A62 A621 A63 A631 A64 A641 A66 A661 A663 A664 A665 A7 A72 A723 A73 A732 A734 A736 A74 A742 A743 A75 A752 A76 A763 A764 A8 A84 A842 A844 A85 A852)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- **IT Strategy Architectural Implications (To: A31 A313)**

An assessment of the implications of architecture changes on the IT Strategy; stated in terms of potential (positive and negative) changes to the value of IT and its alignment to desired business capabilities. For example, it can detail the potential need for compromise on two conflicting aspects of the strategy; only one (or other) of which can be satisfied by the architecture.

■ IT Research Requests (To: A32 A322)

Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.

**Activities**

This process is composed of these activities:

- A331 Establish Architecture Management Framework
- A332 Review Overall Environment and Architecture
- A333 Create and Maintain Architecture Models
- A334 Define and Maintain Architecture Baselines and Roadmaps
- A335 Promote Architecture Transition Initiatives
- A336 Govern Architecture Usage
- A337 Evaluate Architecture Management Performance

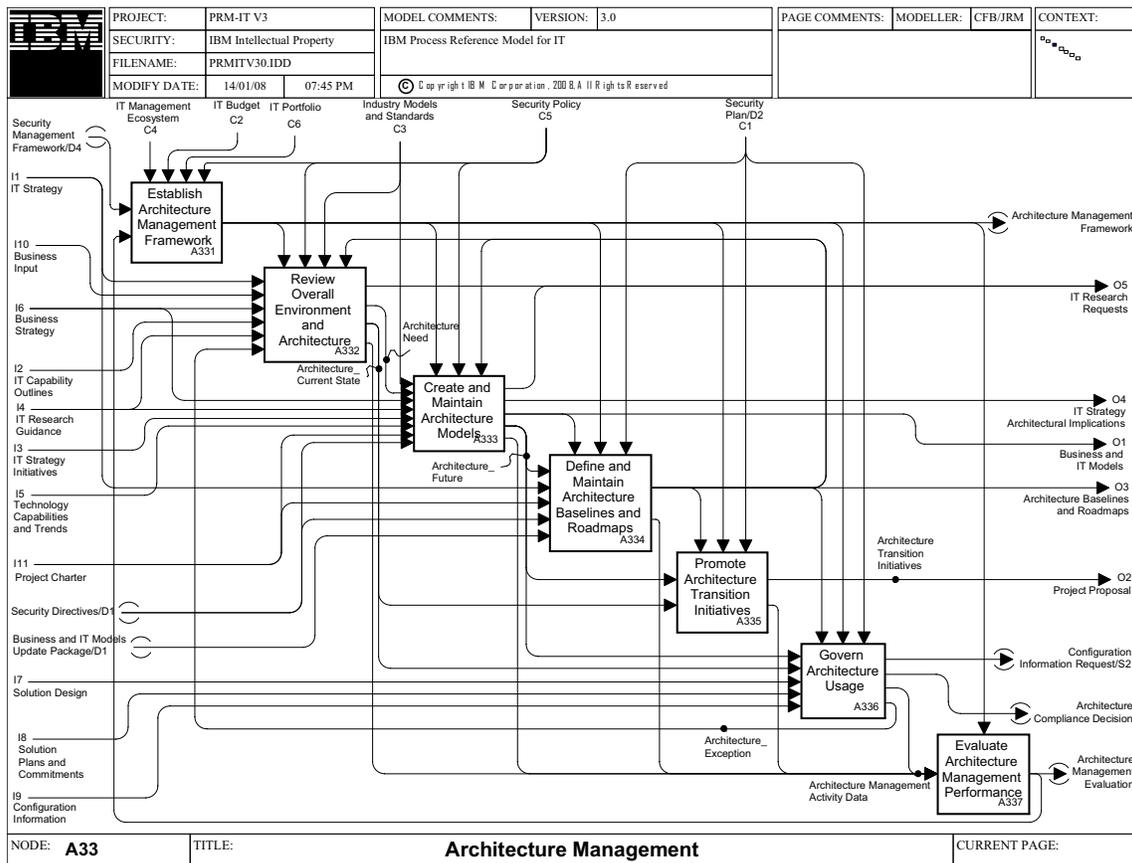


Figure 4. A33 Architecture Management

## [A331] Establish Architecture Management Framework

### Description

This activity puts in place an Architecture Management Framework (AMF), and continuously maintains its fitness for purpose.

While primarily addressing the ways and means in which the Architecture Management process itself will operate, an AMF also ensures the architecture is maintained and actively and appropriately used by the enterprise's change programs. It includes an organizational structure, documenting the responsibilities of various governance bodies; together with a set of processes used by these bodies to ensure the health and usage of the architecture.

The AMF can take many forms, often dependant on the overarching organizational structure and culture of the business. For example, it might be appropriate to adopt a strongly controlled approach within a centralized corporate culture, or a federated, trust based approach within a federated enterprise. In general, it is necessary for the AMF to be active, rather than passive. For example: ensuring conformance reviews are scheduled and held, and actively communicating the architecture to its stakeholders and users.

There are two distinct objectives for the AMF:

- Managing the architecture itself
- Managing the use of the architecture

The first requires a focus on its vitality (executed in activity Review Overall Environment and Architecture) and communication. The second focuses on conformance to the architecture, and managing exceptions (executed in Govern Architecture Usage).

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

- Architecture Management Evaluation (From: A337)  
Assessment of the effectiveness and efficiency of the architecture management process. Includes identification of areas for process improvement.

## Outputs

- Architecture Management Framework (To: A332 A333 A334 A335 A336 A337)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.

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## [A332] Review Overall Environment and Architecture

### Description

Establishing the gap between the business' existing IT environment and planned architecture vision (if one exists), and the combined business and IT strategies.

This vitality activity can also be influenced by the practical experiences of the programs' ability to conform to the existing architecture. For example, if an unexpected number of development programs are unable to conform to the architecture, then it might be that the architecture requires refinement.

### Controls

- Architecture Management Framework (From: A331)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Industry Models and Standards  
From the industry segment of the business and from the IT industry itself:
  - Models of ways of operating and design
  - Formal and informal standards that must be considered in any architectural work
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### Inputs

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Business Input (From: Outside-the-Model)  
The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:
  - Guidance

- Instructions
- General commentary and information about business operating conditions
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Capability Outlines (From: A31 A313)  
A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- Architecture\_ Exception (From: A336)  
An allowed deviation within a solution design from the architecture, providing input to the collection of architecture processes which ensure vitality.

## Outputs

- IT Research Requests (To: A32 A322)  
Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.
- Architecture Need (To: A333)  
An identified shortfall in the existing (or envisioned) IT environment that can be addressed by some architectural instrument.
- Architecture\_ Current State (To: A335 A336)  
A description of the business' overall approach to the structuring and implementation of its IT systems and solutions.
- Architecture Management Activity Data (To: A337)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

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## [A333] Create and Maintain Architecture Models

### Description

This activity addresses the identification, description, and publication of the business' preferred approaches to the design of its IT systems and solutions. A prerequisite to this is the existence of an adequate representation of the business undertaking for which a technology-enabled approach is being examined. Where necessary, this activity participates in business-owned efforts to provide such business models.

Architecture is often formulated within a standard architecture framework, intended to ensure the support of all aspects of the IT systems and solution design. There are many available frameworks (those available from The Open Group (TOGAF), FEAF, and IBM), all of which attempt to embrace a number of factors:

1. Business dependent and business independent IT building blocks (BBs) – sometimes referred to as an IS Architecture and IT Architecture, respectively. These BBs are specified to be the preferred BBs for use throughout the IT organization. Business dependent BBs will, for example, include a preferred application architecture, data architecture, and standard approaches for user support. Business independent IT BBs focus on

documenting standard IT software and hardware components, upon which the IS architecture will be supported.

2. Standard constructions of BBs – as well as a simple catalog of parts, the architecture will provide standard patterns, documenting how the BBs are to be put together in order to solve common IT design challenges.
3. Other guidance, such as architecture principles, that provides additional insights and controls in the use of the architecture.

Good practice suggests that this activity focuses on the specification of the preferred BBs and patterns for their use in design. A separate activity is responsible for the identification of preferred implementations of these BBs and patterns, including guidance on when and how to choose between different permitted implementations of the same BB.

## Controls

- Architecture Management Framework (From: A331)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

- Industry Models and Standards  
From the industry segment of the business and from the IT industry itself:
  - Models of ways of operating and design
  - Formal and informal standards that must be considered in any architectural work
- Architecture Need (From: A332)  
An identified shortfall in the existing (or envisioned) IT environment that can be addressed by some architectural instrument.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.
- IT Strategy Initiatives (From: A31 A314)  
An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

- Project Charter (From: A3 A324 A354 A36 A365)  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- Security Directives (From: A725)  
The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.

## Outputs

- IT Research Requests (To: A32 A322)  
Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.
- IT Strategy Architectural Implications (To: A31 A313)  
An assessment of the implications of architecture changes on the IT Strategy; stated in terms of potential (positive and negative) changes to the value of IT and its alignment to desired business capabilities. For example, it can detail the potential need for compromise on two conflicting aspects of the strategy; only one (or other) of which can be satisfied by the architecture.
- Business and IT Models (To: A2 A25 A253 A254 A32 A322 A323 A334 A34 A342 A344 A35 A352 A4 A41 A412 A413 A42 A422 A7 A71 A712 A714 A8 A82 A821 A822)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Architecture\_ Future (To: A334 A335 A336)  
A structured description of the preferred business approaches to the design and implementation of its IT systems and solutions. Generally published as a specification of architecture building blocks, together with recommended standard constructions of those building blocks.
- Architecture Management Activity Data (To: A337)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

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## [A334] Define and Maintain Architecture Baselines and Roadmaps

### Description

An architecture baseline is a complete statement of the required architecture (in terms of its specification and permitted implementations) as defined at a given moment in time.

There can, therefore, be any number of architecture baselines. For example, a long running project might be required to conform to an architecture baseline published at some time in the past, while a new project can be governed by the architecture's currently published baseline. Also, it can be appropriate to publish architectures intended for use at some future date. For instance, it can be helpful to indicate that building block implementations permitted today can be withdrawn from the catalog on some future date.

Within an architecture baseline, each building block will have one or more permitted implementations, as well as a full listing of all implementations existing within the current running IT environment. It is helpful for the architecture to publish roadmaps (also known as route-maps), in which all existing and possible future implementations are categorized, according to the architecture preferences. For example, if some implementations are to be actively

decommissioned, then they can be categorized as sunset; whereas those which are to be actively encouraged would be tagged as strategic.

## Controls

This activity ensures that viable instances of both baselines and roadmaps are always available.

- **Business and IT Models (From: A3 A33 A333)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Architecture Management Framework (From: A331)**  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.
- **Security Plan (From: A72 A725)**  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

## Inputs

- **Architecture\_ Future (From: A333)**  
A structured description of the preferred business approaches to the design and implementation of its IT systems and solutions. Generally published as a specification of architecture building blocks, together with recommended standard constructions of those building blocks.
- **IT Strategy (From: A3 A31 A315)**  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **Project Charter (From: A3 A324 A354 A36 A365)**  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- **Security Directives (From: A725)**  
The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.
- **Business and IT Models Update Package (From: A412)**  
Additional information about business and IT models obtained as a by-product of detailed investigation under the Solutions Requirements process.

## Outputs

- **Architecture Baselines and Roadmaps (To: A1 A11 A114 A12 A121 A122 A123 A124 A125 A2 A22 A221 A31 A313 A314 A332 A333 A335 A336 A36 A361 A4 A41 A411 A412 A413 A42 A43 A431 A44 A441 A443 A45 A451 A5 A51 A513 A514 A52 A522 A523 A524 A54 A541 A542 A55 A551 A6 A62 A621 A63 A631 A64 A641 A66 A661 A663 A664 A665 A7 A72 A723 A73 A732 A734 A736 A74 A742 A743 A75 A752 A76 A763 A764 A8 A84 A842 A844 A85 A852)**  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- Architecture Management Activity Data (To: A337)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

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## [A335] Promote Architecture Transition Initiatives

### Description

If the business wants to actively pursue the implementation of the architecture, then it will be appropriate for it to actively identify, scope, and propose initiatives that will help to realize it. These initiatives can then be considered and prioritized along side all other requests for IT portfolio consideration, particularly those from the business.

The specification of a transition initiative generally includes high level statements on the scope, purpose, business benefit, costs, and project outline. It must subsequently be detailed into a formal proposal, before being considered and accepted as a funded program of change.

### Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Architecture Management Framework (From: A331)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Architecture\_ Future (From: A333)  
A structured description of the preferred business approaches to the design and implementation of its IT systems and solutions. Generally published as a specification of architecture building blocks, together with recommended standard constructions of those building blocks.
- Architecture\_ Current State (From: A332)  
A description of the business' overall approach to the structuring and implementation of its IT systems and solutions.

### Outputs

- Architecture Transition Initiatives  
A brief proposal, recommending the implementation of one (or more) aspects of the envisioned architecture. Typically defined in outline, with broad statements on scope, benefits and business case, costs, dependencies, and project timeline.
- Architecture Management Activity Data (To: A337)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

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## [A336] Govern Architecture Usage

### Description

It is generally necessary to actively ensure the architecture is used, and used appropriately. In some corporate cultures, this conformance can be possible through trust and delegated authority to those involved in the design of IT solutions, while in others, it can be necessary to establish formal conformance processes that are exercised at key milestones within the project and technology life cycles.

It will not always be possible for a design to follow the guidance of the architecture. Sometimes business requirements can preclude conformance, or there can be conflicting requirements in the architecture. In these cases a formal exception to the architecture will be requested and processed.

Note that exceptions can indicate a need to enhance the architecture itself. See *vitality* in the activity “Review Overall Environment and Architecture.”

### Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Architecture Management Framework (From: A331)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Architecture\_ Future (From: A333)  
A structured description of the preferred business approaches to the design and implementation of its IT systems and solutions. Generally published as a specification of architecture building blocks, together with recommended standard constructions of those building blocks.
- Architecture\_ Current State (From: A332)  
A description of the business' overall approach to the structuring and implementation of its IT systems and solutions.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.

- Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

## Outputs

- Configuration Information Request (To: A54 A544)  
Any request for information about one or more configuration items. Many IT processes will make such requests.
- Architecture Compliance Decision  
A statement or report recording the architectural compliance (including permitted exceptions) of a solution design.
- Architecture Management Activity Data (To: A337)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.
- Architecture\_ Exception (To: A332)  
An allowed deviation within a solution design from the architecture, providing input to the collection of architecture processes which ensure vitality.

## [A337] Evaluate Architecture Management Performance

### Description

This activity focuses on monitoring the effectiveness of, and suggesting improvements for, the Architecture Management Framework.

Without this activity, it is probable that architecture will not provide the optimum business benefit. Success depends on its continuous evolution, in step with the enterprise's own evolution, as well as ensuring its effective use throughout the IT organization.

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Architecture Management Framework (From: A331)  
The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.

### Inputs

- Architecture Management Activity Data (From: A332 A333 A334 A335 A336)  
Metrics on the performance of the architecture management processes, such as the frequency or magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

### Outputs

- Architecture Management Evaluation (To: A331)  
Assessment of the effectiveness and efficiency of the architecture management process. Includes identification of areas for process improvement.

## [A34] Risk Management

### Purpose

The Risk Management process exists to identify risks associated with the activities of the IT endeavor and to make measured, appropriate responses to mitigate, ignore, avoid or transfer those risks in line with the desired level of risk tolerance.

The definition of risk is “A possible Event that could cause harm or loss, or affect the ability to achieve Objectives. A Risk is measured by the probability of a Threat, the Vulnerability of the Asset to that Threat, and the Impact it would have if it occurred.”<sup>5</sup>

### Outcomes

As a result of successful implementation of this process:

- All of the activities carried out within IT support the desired risk posture while providing the maximal benefit
- The business and IT are able to appropriately respond to threats and opportunities
- Minimal risk exists in the fulfillment of fiduciary responsibilities to stakeholders of the business

### Scope

This process provides the overall framework in which risks are handled. Other processes within IT work in conjunction with this process to ensure that specific risk areas are adequately responded to and covered.

Risks occur from a variety of internal and external sources, and cover the range of strategic, tactical, and operational activities. Consideration of risk covers the potential opportunity from a risk outcome happening in addition to the more traditional consideration of possible downside outcomes.

### Includes

- ◆ External risk sources<sup>6</sup> such as:
  - Financial: Interest rates, foreign exchange, credit
  - Strategic: Competition, industry and customer changes, mergers and acquisition integration
  - Operational: Regulations, Culture, Board Composition
  - Hazard: Natural events, environment, contracts
- ◆ Internal risk sources:
  - Employees
  - Information systems
  - Accounting controls
  - Cash flow
  - Research and development
  - Facilities
- ◆ Risk workshops

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5. ITIL V3 Glossary

6. Taken from *A Risk Management Standard*. The Institute of Risk Management. 2002

- ◆ Mitigation strategies

### Excludes

- ◆ Identification of compliance requirements and controls (Compliance Management)
- ◆ Security-specific risk management (Security Management), though overall decision making *is* part of this process
- ◆ Implementation and operation of the recommended risk controls (responsibility of the target IT processes)
- ◆ Business Continuity Management (Business responsibility in conjunction with IT Service Continuity Management)

## Controls

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

## Inputs

- Market Analysis (From: A2 A22 A222)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- Business and IT Models (From: A3 A33 A333)

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Business Risk Posture**

The capability of the business to tolerate varying levels of risk. It includes business guidance on how to choose which risks to accept and which need mitigation.
- **Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)**

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Program Plan (From: A37 A372)**

The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:

  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- **Project Plan (From: A3 A37 A374)**

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- **Program and Project Reports (From: A37)**

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

## Outputs

- **Risk Assessment and Mitigation Plans (To: A36 A364 A37 A374 A712 A714)**

The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.

## Activities

This process is composed of these activities:

- A341 Establish Risk Management Framework
- A342 Identify Threats, Vulnerabilities and Risks
- A343 Assess Risk
- A344 Define Risk Mitigation Plans and Countermeasures
- A345 Enact and Operate Risk Countermeasures
- A346 Assess and Report Risk Mitigation Results
- A347 Evaluate Risk Management Performance

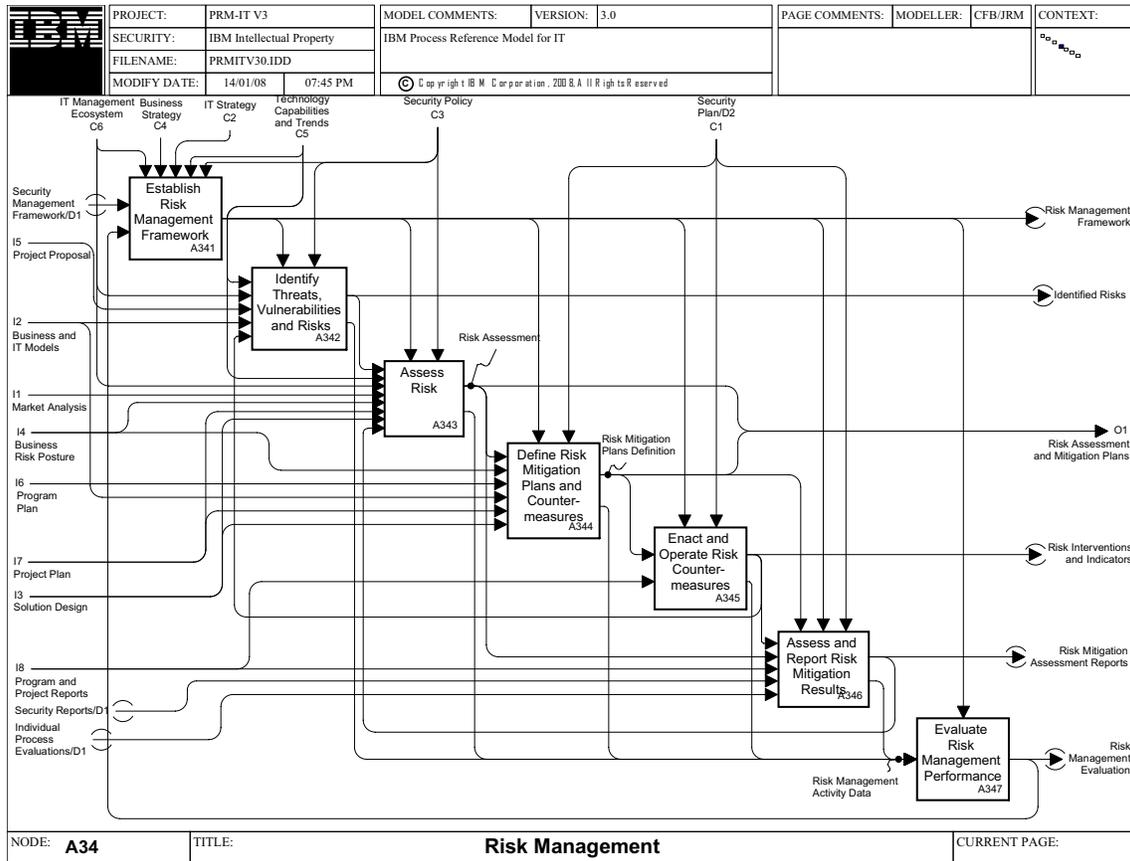


Figure 5. A34 Risk Management

## [A341] Establish Risk Management Framework

### Description

Based on the business, IT strategy, and the overall IT Management Ecosystem, a framework for risk management has to be developed. The tasks in this activity include:

- Understanding the goals and objectives for the contribution of risk management to the IT endeavor
- Defining the strategy for risk management approaches and capabilities (including tools), and how they should be sourced. For instance, should they be developed in-house or rely more on vendor capabilities
- Establishing the decision making capabilities (for example, the algorithms and evaluation criteria for assessing risk), and the authorities for progressing the results of risk assessment
- Determining skill requirements for the staff, and assigning staff
- Ensuring the framework for risk management is deployed and operational, including relevant communication and guidance to process users.

The establishment of the process framework also includes the continuous improvement of risk management. For example, the consideration of the Risk Management process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Security Management Framework (From: A721)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

- Risk Management Evaluation (From: A347)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Risk Management Framework (To: A342 A343 A344 A345 A346 A347)

A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.

---

## [A342] Identify Threats, Vulnerabilities and Risks

### Description

An analysis of any chosen domain focusing on risk, such as any aspect of the business or any change program or project. It will examine items such as Business and IT Models, business policies, regulatory requirements, marketplace information, and IT Management System elements. The outcome of this analysis identifies current risks and vulnerabilities that the business or change activity faces.

### Controls

- Risk Management Framework (From: A341)

A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Technology Capabilities and Trends

Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

- Business and IT Models (From: A3 A33 A333)

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

- Risk Interventions and Indicators (From: A345)

The actions taken, either directly or implicitly through the controls previously put in place, which aim to modify or determine the events or their outcome so that risk exposures are minimized. In some cases these will be 'Key Risk Indicators' which should be monitored against thresholds rather than directly requiring risk intervention.

## Outputs

- Identified Risks (To: A343 A722)  
Areas in the business where there is a potential for realization of unwanted, adverse consequences if an event or a given set of events occurs.
- Risk Management Activity Data (To: A347)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

---

## [A343] Assess Risk

### Description

An assessment of identified risks through categorization, impact analysis, quantification and qualification, and prioritization based on severity and probability. Based on this assessment, the business risk posture is updated to reflect the current risk assessment.

### Controls

- Risk Management Framework (From: A341)  
A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Identified Risks (From: A342)  
Areas in the business where there is a potential for realization of unwanted, adverse consequences if an event or a given set of events occurs.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- Business Risk Posture  
The capability of the business to tolerate varying levels of risk. It includes business guidance on how to choose which risks to accept and which need mitigation.
- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.

- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Risk Mitigation Assessment Reports (From: A346)  
Information about the outcomes of risk mitigation activities, indicating both successes and risk items which require improved treatment.

## Outputs

- Risk Assessment (To: A344 A346)  
Sets of categorized, quantified, and prioritized risks for which the IT endeavor will need to consider putting in place risk avoidance and mitigation plans.
- Risk Management Activity Data (To: A347)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

---

## [A344] Define Risk Mitigation Plans and Countermeasures

### Description

Based on the Risk Assessment, a plan is developed to effectively manage these risks. The plan includes:

- A strategy for risk avoidance and mitigation
- Action plans, prioritized recommendations, compliance mechanisms, and development of metrics to achieve the desired risk tolerance

### Controls

- Risk Management Framework (From: A341)  
A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Risk Assessment (From: A343)  
Sets of categorized, quantified, and prioritized risks for which the IT endeavor will need to consider putting in place risk avoidance and mitigation plans.
- Business Risk Posture  
The capability of the business to tolerate varying levels of risk. It includes business guidance on how to choose which risks to accept and which need mitigation.
- Program Plan (From: A37 A372)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:

- The structure of the set of projects which constitute the program
- The measurements and reports by which the program will be managed
- The program's governance and communication plans
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

## Outputs

- Risk Mitigation Plans Definition (To: A345 A346)  
Definition of the Risk Mitigation plans required to be implemented to minimize exposures and vulnerabilities.
- Risk Management Activity Data (To: A347)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A345] Enact and Operate Risk Countermeasures

### Description

The selected risk avoidance and mitigation countermeasures are put into effect and carried out. The measures can be one-time, periodical, or continuously active. Implementation will require communication with employees, and active monitoring and measurement.

### Controls

- Risk Management Framework (From: A341)  
A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Risk Mitigation Plans Definition (From: A344)  
Definition of the Risk Mitigation plans required to be implemented to minimize exposures and vulnerabilities.

- Program and Project Reports (From: A37)

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

## Outputs

- Risk Interventions and Indicators (To: A342 A346)

The actions taken, either directly or implicitly through the controls previously put in place, which aim to modify or determine the events or their outcome so that risk exposures are minimized. In some cases these will be 'Key Risk Indicators' which should be monitored against thresholds rather than directly requiring risk intervention.

- Risk Management Activity Data (To: A347)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A346] Assess and Report Risk Mitigation Results

### Description

Risk mitigation plan execution and internal controls are monitored and analyzed to determine their impact and effectiveness. Exposures and findings that are discovered during the assessment will be documented and communicated.

### Controls

- Risk Mitigation Plans Definition (From: A344)

Definition of the Risk Mitigation plans required to be implemented to minimize exposures and vulnerabilities.

- Risk Management Framework (From: A341)

A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Risk Interventions and Indicators (From: A345)

The actions taken, either directly or implicitly through the controls previously put in place, which aim to modify or determine the events or their outcome so that risk exposures are minimized. In some cases these will be 'Key Risk Indicators' which should be monitored against thresholds rather than directly requiring risk intervention.

- Risk Assessment (From: A343)

Sets of categorized, quantified, and prioritized risks for which the IT endeavor will need to consider putting in place risk avoidance and mitigation plans.

- Program and Project Reports (From: A37)

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

- Security Reports (From: A72 A727)  
The reports from auditing and other analyses of IT security monitoring data.
- Individual Process Evaluations  
A collection of metrics which describe the effectiveness and efficiency of an individual process.

## Outputs

- Risk Mitigation Assessment Reports (To: A343)  
Information about the outcomes of risk mitigation activities, indicating both successes and risk items which require improved treatment.
- Risk Management Activity Data (To: A347)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A347] Evaluate Risk Management Performance

### Description

The evaluation of the performance of the process aims at identifying areas of the overall process that require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for the improvements are the insights and the lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Risk Management Framework (From: A341)  
A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.

### Inputs

- Risk Management Activity Data (From: A342 A343 A344 A345 A346)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Risk Management Evaluation (To: A341)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A35] Product Management

### Purpose

The purpose of the Product Management process is to guide any IT product (such as an application, an infrastructure component, an IT service, documentation, or combination thereof) throughout its life cycle from inception to retirement and to be the ultimate owner of that product.

Definition of Product: an application, asset, tool, or IT assembly that will be used in the delivery of a set of IT services to IT customers.

### Outcomes

As a result of the successful implementation of this process:

- Robust, resilient products meet the IT service needs of IT customers
- Evolving IT products meet business needs
- Adequate resources are provided to carry out product development and support needs
- Each product has a long-term vision and direction

### Scope

Product Management involves oversight through the entire life of a product.<sup>7</sup> This process will make the case for allocation of resources to this product (and hence its inclusion into the portfolio) and then provide stewardship over the efforts to create, launch, operate, maintain and finally retire the product. It will measure product value against objectives throughout the life cycle, and make recommendations for any modification of the product within the overall portfolio.

Designation as a product does not indicate the make-up of solutions and services that will be managed. It acts purely as the unit of management for this process. A product could be developed that becomes the basis for, or contributes to, many services. The converse is also possible.

This process has a symbiotic relationship with Portfolio Management; put another way, they could be seen as two sides of a coin. Whereas Portfolio Management takes an aggregate, balancing view across all IT activities, Product Management exists to champion the case for each IT solution, service or general capability which is managed as a product. In many cases, the Portfolio Management process will trigger a product life cycle by making a high-level, conceptual decision to pursue an opportunity area. Product Management is then responsible for developing the concept through to productive use while under the overall decision-making authority of Portfolio Management.

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7. See ITIL V3 *Service Strategy*, Appendix B2 for further discussion

### **Includes**

- ◆ Product vision
- ◆ Long-term product requirements management (as opposed to Solution Requirements, which manages requirements for a specific release)
- ◆ Product marketing and launch
- ◆ Ownership of the content that is included in the Service Catalog
- ◆ Oversight of ongoing product development and enhancement
- ◆ Approval authority over product change requests
- ◆ Initiation of necessary change requests to bring a new product release into production
- ◆ Product assessment and improvement
- ◆ Product retirement

### **Excludes**

- ◆ Development (Realization category of processes)
- ◆ Product sales (Service Marketing and Sales)
- ◆ Project management

### **Controls**

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the

responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>8</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>9</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>10</sup>

These agreements can be in a draft or finalized status.

## Inputs

### ■ Market Analysis (From: A2 A22 A222)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

### ■ Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

### ■ IT Strategy Initiatives (From: A31 A314)

An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.

### ■ Viable Innovation (From: A32 A325)

Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.

### ■ Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.

### ■ Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management

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8. ITIL V3 Glossary

9. ITIL V3 Glossary

10. ITIL V3 Glossary

- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>11</sup>

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>12</sup>

- Stakeholder Requirements (From: A2 A21 A213)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

- Portfolio Decision and Resource Allocation (From: A36 A365)

An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Product Package (To: A2 A23 A24 A243 A5 A52 A522)

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

- Product Proposal (To: A36 A364)

A product idea being put forward for consideration. A high-level evaluation and documentation of a product's (or change in a product's characteristics) impact on and fit with the IT Portfolio, addressing elements such as the market opportunity, technical and

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11. ITIL V3 Glossary

12. ITIL V3 Glossary

integration benefits, risks, costs and potential returns, improving service, competitive positioning, value, lifespan, among others.

## Activities

This process is composed of these activities:

- A351 Establish Product Management Framework
- A352 Formulate Product Concept
- A353 Plan and Control Product Lifecycle
- A354 Initiate and Oversee Product Realization
- A355 Guide Product Transition and Operation
- A356 Monitor and Assess Product Performance
- A357 Evaluate Product Management Performance

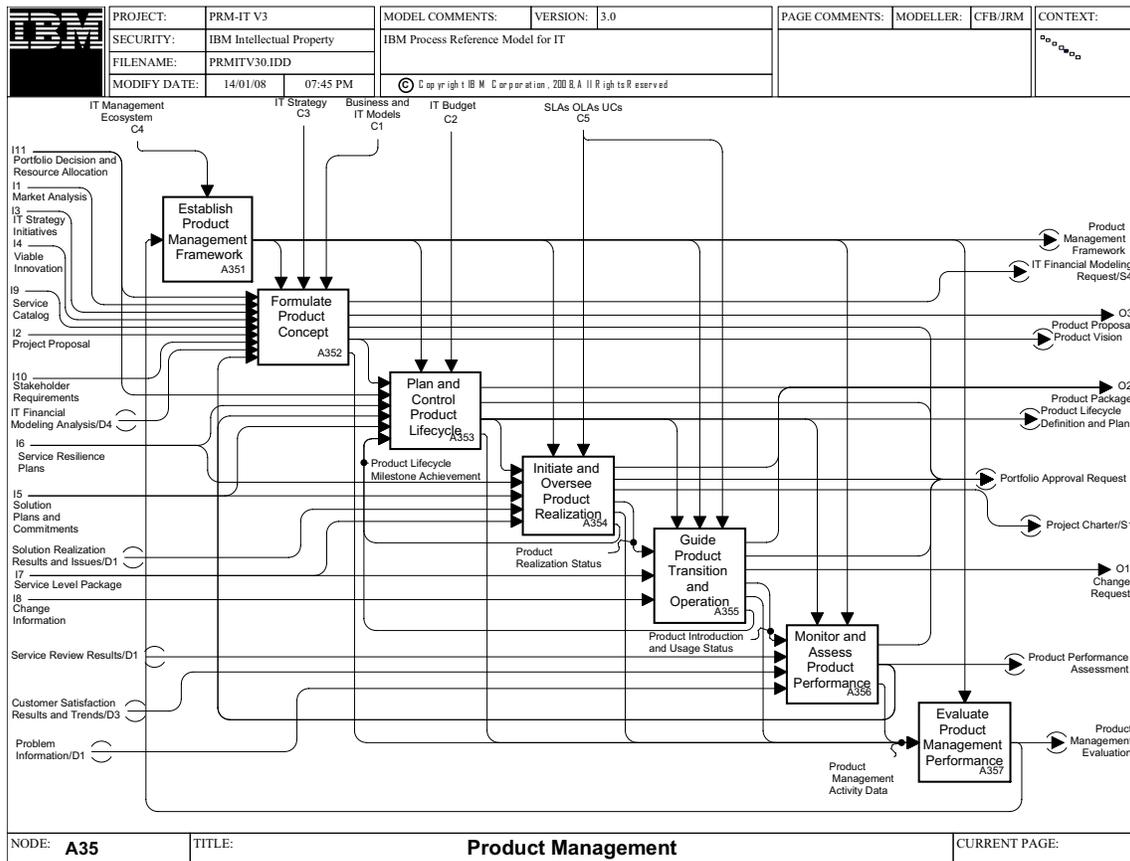


Figure 6. A35 Product Management

## [A351] Establish Product Management Framework

### Description

Create an overall framework for how Product Management will be carried out. This includes process goals, policies, procedures, tool enablement, metrics, inter-process relationships, role responsibilities, industry research, and other tasks that define the constraints within which Product Management will be performed.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### Inputs

- Product Management Evaluation (From: A357)  
Quantitative and qualitative analysis of the performance of Product Management process and activities as defined in the Product Management Framework. It also incorporates recommendations for changes to the framework, the process, and to the metrics.

### Outputs

- Product Management Framework (To: A352 A353 A354 A355 A356 A357)  
A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.

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## [A352] Formulate Product Concept

### Description

Define the long-term vision and high-level capabilities of the product. Develop business cases and obtain necessary resource commitments. Define product differentiation and key messaging about the product.

The activity evaluates and documents (at a high level) the market opportunity, potential technical and manufacturing approaches and risks, cost and schedule estimates, and financial impact. A final step is making an assessment of the concept and a decision to proceed to the Develop Definition and Project Plan phase, or to cancel.

### Controls

- Product Management Framework (From: A351)  
A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

## Inputs

- Portfolio Decision and Resource Allocation (From: A36 A365)  
An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Strategy Initiatives (From: A31 A314)  
An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- Viable Innovation (From: A32 A325)  
Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>13</sup>
- Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- Stakeholder Requirements (From: A2 A21 A213)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- IT Financial Modeling Analysis (From: A812)  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

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- **Product Performance Assessment (From: A356)**  
A summary of the product's current level of achievement with regard to commitments made in the product plan. Includes assessments of both quantitative and qualitative factors and the overall value of the product.

## Outputs

- **IT Financial Modeling Request (To: A812)**  
A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.
- **Product Proposal (To: A36 A364)**  
A product idea being put forward for consideration. A high-level evaluation and documentation of a product's (or change in a product's characteristics) impact on and fit with the IT Portfolio, addressing elements such as the market opportunity, technical and integration benefits, risks, costs and potential returns, improving service, competitive positioning, value, life span, among others.
- **Portfolio Approval Request**  
A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.
- **Product Vision (To: A353)**  
A shared perspective on the future possibilities of a product or group of related products. Includes context elements such as markets and market share, customers, technologies and projected technology advances, competitors and product differentiators, cost and return parameters. Provides a touchstone for product plans and life cycle events.
- **Product Management Activity Data (To: A357)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A353] Plan and Control Product Lifecycle

### Description

Match product commitments against schedules and resources. Plan contents of product versions. Determine schedules and plans for new releases. Identify priorities concerning requirements and responses. Determine product variations. Define packaging approach. Identify key interfaces with other products. Control product progress against plan.

### Controls

- **Product Management Framework (From: A351)**  
A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.
- **IT Budget (From: A8 A81 A813)**  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

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## Inputs

- **Product Vision (From: A352)**

A shared perspective on the future possibilities of a product or group of related products. Includes context elements such as markets and market share, customers, technologies and projected technology advances, competitors and product differentiators, cost and return parameters. Provides a touchstone for product plans and life cycle events.
- **Portfolio Decision and Resource Allocation (From: A36 A365)**

An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- **Product Performance Assessment (From: A356)**

A summary of the product's current level of achievement with regard to commitments made in the product plan. Includes assessments of both quantitative and qualitative factors and the overall value of the product.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Product Lifecycle Milestone Achievement (From: A354 A355)**

Information and status of the product's progression through declared life cycle milestones for realization, transition and operation.

## Outputs

- **Product Package (To: A2 A23 A24 A243 A5 A52 A522)**

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- **Portfolio Approval Request**

A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.
- **Product Lifecycle Definition and Plan (To: A354 A355 A356)**

A plan that guides and controls a given product's evolution and transition through all phases of the product life cycle. The plan addresses milestones related to requirements coverage, realization and integration activities, product version and release schedules,

funding and resource assumptions, as well as relationships to IT Strategy and IT Portfolio directions. Also covers retirement and disposal.

- Product Management Activity Data (To: A357)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A354] Initiate and Oversee Product Realization

### Description

Provide resources for the development and introduction of the product. Plan and provide resources needed for development cycles. If this is a service, create the service package. Collaborate with project management to ensure product release meets requirements. Authorize acceptance of completed product. Introduce the product into the IT community.

### Controls

- Product Management Framework (From: A351)

A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>14</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>15</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>16</sup>

These agreements can be in a draft or finalized status.

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15. ITIL V3 Glossary  
16. ITIL V3 Glossary

## Inputs

- **Product Lifecycle Definition and Plan (From: A353)**

A plan that guides and controls a given product's evolution and transition through all phases of the product life cycle. The plan addresses milestones related to requirements coverage, realization and integration activities, product version and release schedules, funding and resource assumptions, as well as relationships to IT Strategy and IT Portfolio directions. Also covers retirement and disposal.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Solution Realization Results and Issues (From: A4)**

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Service Level Package (From: A2 A25 A255)**

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>17</sup>

## Outputs

- **Product Package (To: A2 A23 A24 A243 A5 A52 A522)**

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- **Portfolio Approval Request**

A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.

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- **Project Charter (To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)**  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- **Product Realization Status (To: A355)**  
Detailed information about the progress of projects underway to create or change the product.
- **Product Management Activity Data (To: A357)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Product Lifecycle Milestone Achievement (To: A353)**  
Information and status of the product's progression through declared life cycle milestones for realization, transition and operation.

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## [A355] Guide Product Transition and Operation

### Description

Ensure proper deployment and eventual retirement of the product. Promote integration of the product within IT services. Ensure satisfactory testing and pilots. Identify and target key customers of the product. Interface with marketing and sales. Ensure support over all active releases.

### Controls

- **Product Lifecycle Definition and Plan (From: A353)**  
A plan that guides and controls a given product's evolution and transition through all phases of the product life cycle. The plan addresses milestones related to requirements coverage, realization and integration activities, product version and release schedules, funding and resource assumptions, as well as relationships to IT Strategy and IT Portfolio directions. Also covers retirement and disposal.
- **Product Management Framework (From: A351)**  
A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.
- **SLAs, OLAs, UCs (From: A2 A24 A243)**  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:  
These agreements can be in a draft or finalized status.

## Inputs

- Product Realization Status (From: A354)  
Detailed information about the progress of projects underway to create or change the product.
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>18</sup>
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Product Package (To: A2 A23 A24 A243 A5 A52 A522)  
A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.
- Portfolio Approval Request  
A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Product Introduction and Usage Status (To: A356)  
Detailed information about the progress of projects underway to deploy or retire the product, as well as information about current usage and acceptance.
- Product Management Activity Data (To: A357)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Product Lifecycle Milestone Achievement (To: A353)  
Information and status of the product's progression through declared life cycle milestones for realization, transition and operation.

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## [A356] Monitor and Assess Product Performance

### Description

Collect product metrics and analyze to identify relevant aspects of product performance against commitments in the product plan. Identify opportunities for improving the product. Determine the value of the product to the IT organization and the business. Identify tangible and intangible value of the product.

### Controls

- Product Lifecycle Definition and Plan (From: A353)  
A plan that guides and controls a given product's evolution and transition through all phases of the product life cycle. The plan addresses milestones related to requirements coverage, realization and integration activities, product version and release schedules, funding and resource assumptions, as well as relationships to IT Strategy and IT Portfolio directions. Also covers retirement and disposal.
- Product Management Framework (From: A351)  
A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.

### Inputs

- Product Introduction and Usage Status (From: A355)  
Detailed information about the progress of projects underway to deploy or retire the product, as well as information about current usage and acceptance.
- Service Review Results (From: A24 A245)  
The outcome from a review of service level attainment. This might include:
  - Exceptions and violations with regard to target and actual service delivery
  - Determination of responsibility for non-attainment
  - Identification of penalties incurred
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

### Outputs

- Portfolio Approval Request  
A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.
- Product Performance Assessment (To: A273 A352 A353)  
A summary of the product's current level of achievement with regard to commitments made in the product plan. Includes assessments of both quantitative and qualitative factors and the overall value of the product.

- Product Management Activity Data (To: A357)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A357] Evaluate Product Management Performance

### Description

This activity determines how well product management was carried out versus its objectives. Metrics defined by the process framework are collected and analyzed. In addition, other sources of feedback, such as anecdotal feedback, are collected, and assessments are carried out as called for by the process framework. All of this goes into making recommendations for improving the process framework, and those recommendations are provided to the Establish Product Management Framework activity.

### Controls

- Product Management Framework (From: A351)

A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.

### Inputs

- Product Management Activity Data (From: A352 A353 A354 A355 A356)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Product Management Evaluation (To: A351)

Quantitative and qualitative analysis of the performance of Product Management process and activities as defined in the Product Management Framework. It also incorporates recommendations for changes to the framework, the process, and to the metrics.

## [A36] Portfolio Management

### Purpose

The purpose of the Portfolio Management process is to decide the content of and resource allocation for the set of IT investments. It includes both long-term and large-scale, as well as short-term limited-scope opportunities, based on the strategic intent and priorities of the business.

This includes assessing all undertakings that consume resources (such as applications, services, and IT projects) in order to understand their value to the IT organization.

Definition of Portfolio: The set of development projects and ongoing delivery services that are part of the IT budget.

### Outcomes

As a result of the successful implementation of this process:

- Customers participate in defining the IT Portfolio
- The strategic fit of IT investments to business intent and priorities is very well matched
- Business needs correlate very closely to IT expenditures
- The portfolio meets business needs
- The business receives maximum value from the IT Portfolio

### Scope

Provide for the continuous identification, evaluation, selection, control, and life cycle management of the aggregate collection of IT investments

#### Includes

- ◆ Cognizance of key business drivers to influence investment decisions
- ◆ Decisions on what programs and projects to fund, often in conjunction with any business or customer stakeholders
- ◆ Application portfolio management
- ◆ Identification of in-sourced, out-sourced, business, and infrastructure applications and services to be included in the portfolio
- ◆ Determination of value obtained or projected from portfolio items

#### Excludes

- ◆ Execution of projects (Program and Project Management)
- ◆ Asset management
- ◆ Delivery of services (Operations category of processes)
- ◆ Service Level Management
- ◆ Customer Satisfaction Management

## Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Risk Assessment and Mitigation Plans (From: A34)  
The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.
- Product Proposal (From: A35 A352)  
A product idea being put forward for consideration. A high-level evaluation and documentation of a product's (or change in a product's characteristics) impact on and fit with the IT Portfolio, addressing elements such as the market opportunity, technical and integration benefits, risks, costs and potential returns, improving service, competitive positioning, value, lifespan, among others.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

- **IT Strategy Initiatives (From: A31 A314)**

An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- **Viable Innovation (From: A32 A325)**

Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>19</sup>
- **Stakeholder Requirements (From: A2 A21 A213)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- **Program and Project Reports (From: A37)**

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

## Outputs

- **IT Portfolio (To: A1 A12 A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A142 A2 A21 A211 A213 A22 A221 A222 A223 A226 A23 A231 A232 A233 A24 A241 A243 A25**

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A251 A254 A255 A26 A261 A263 A27 A271 A31 A313 A314 A32 A322 A324 A33 A331 A366 A4 A42 A421 A8 A81 A811 A82 A822 A83 A831 A85 A852)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

■ IT Business Value Report

The contribution to the business from an information technology investment, usually expressed in economic terms.

■ Program Charter (To: A37 A372)

A document issued by or created on behalf of the sponsor to describe the program's objectives. It provides the program manager with the authority to apply organizational resources to set up and run program activities.

■ Project Charter (To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

■ IT Plan (To: A2 A22 A221 A25 A254 A255 A26 A264 A265 A31 A314 A366 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A72 A723 A725 A73 A731 A737 A74 A741 A742 A745 A75 A752 A76 A763 A764 A8 A81 A813 A84 A842 A844)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

■ IT Portfolio Performance Report (To: A31 A313 A316 A364 A365 A366)

A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

■ Portfolio Decision and Resource Allocation (To: A35 A352 A353 A366 A813)

An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.

## Activities

This process is composed of these activities:

- A361 Establish Portfolio Management Framework
- A362 Inventory IT Projects and Services
- A363 Create and Maintain IT Portfolio Categories
- A364 Assess and Prioritize IT Portfolio
- A365 Make IT Portfolio Decisions and Commitments
- A366 Conduct IT Portfolio Review
- A367 Communicate IT Business Value and IT Portfolio Performance
- A368 Evaluate Portfolio Management Performance

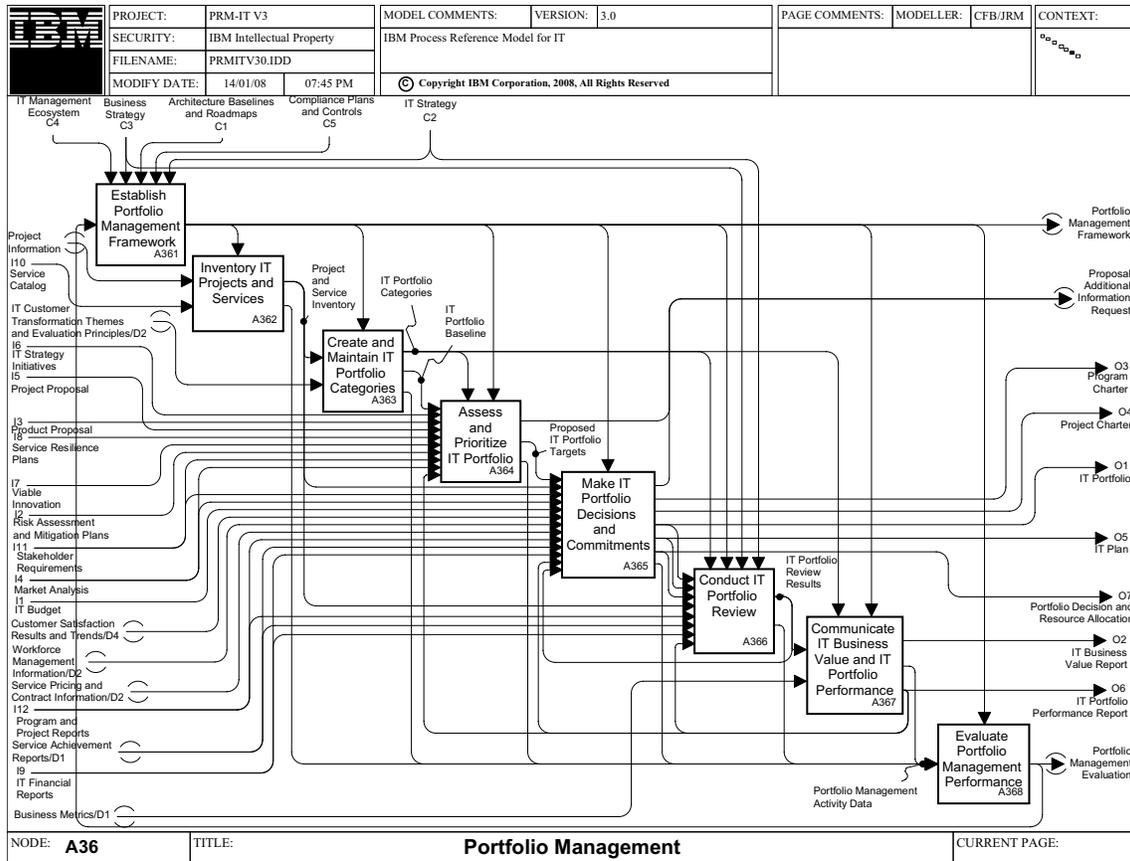


Figure 7. A36 Portfolio Management

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## [A361] Establish Portfolio Management Framework

### Description

The IT Portfolio Management Framework is established by understanding the business and IT strategies, determining the strategic priorities and assumptions for IT investments (focus areas to allocate resources). Further, it defines the strategic, organizational, process, and technology disciplines for managing the IT Portfolio, in line with the overarching governance from the IT Management Ecosystem. The disciplines are documented in a conceptual structure called the IT Portfolio Management Framework, which is used to communicate the framework contents to the organization.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- Portfolio Management Evaluation (From: A368)  
The effectiveness and efficiency of the process activities and practices performed in managing the IT portfolio.

### Outputs

- Portfolio Management Framework (To: A362 A363 A364 A365 A366 A367 A368)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

## [A362] Inventory IT Projects and Services

### Description

This activity creates and maintains an itemized record of all IT projects and IT services that IT resources have been allocated or are being consumed.

### Controls

- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Inputs

- Project Information  
Project information includes charter, description, budget and schedule performance and outlook.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>20</sup>

### Outputs

- Project and Service Inventory  
The itemized record of projects and services for which IT resources are being consumed or are being proposed.(To: A363 A365 A366)
- Portfolio Management Activity Data (To: A368)  
Performance and quality data regarding activities performed in managing the IT portfolio.

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20. ITIL V3 Glossary

## [A363] Create and Maintain IT Portfolio Categories

### Description

Based on the strategic priorities and assumptions related for the use of IT within the business, this activity creates and maintains the categorization schema to be applied to the IT Portfolio. The categories assist management in assessing the coverage of current and proposed services and projects, and their relative contribution to the maximization of value, balance, and strategic alignment.

### Controls

- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Inputs

- Project and Service Inventory (From: A362)  
The itemized record of projects and services for which IT resources are being consumed or are being proposed.
- IT Customer Transformation Themes and Evaluation Principles (From: A26 A263)  
A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.

### Outputs

- IT Portfolio Categories (To: A364 A366 A367)  
Key project and asset characteristics and parameters that are used to ensure strategic alignment with business priorities and to manage risk through diversity of investments.
- IT Portfolio Baseline (To: A364)  
The initial or starting point of the IT portfolio.
- Portfolio Management Activity Data (To: A368)  
Performance and quality data regarding activities performed in managing the IT portfolio.

## [A364] Assess and Prioritize IT Portfolio

### Description

This activity enables the consistent evaluation and adjustment of the IT Portfolio. For each IT project and the majority of IT assets, a unique value is determined in terms of risk and return, followed by an overall ranking of relative value contribution.

Using this data, IT managers (and the business) can ensure their investment and portfolio decisions consider the observed or projected values of specific projects and assets, and improve the predictability of anticipated returns.

### Controls

- IT Portfolio Categories (From: A363)  
Key project and asset characteristics and parameters that are used to ensure strategic alignment with business priorities and to manage risk through diversity of investments.
- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Inputs

- IT Portfolio Baseline (From: A363)  
The initial or starting point of the IT portfolio.
- IT Strategy Initiatives (From: A31 A314)  
An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.
- Product Proposal (From: A35 A352)  
A product idea being put forward for consideration. A high-level evaluation and documentation of a product's (or change in a product's characteristics) impact on and fit with the IT Portfolio, addressing elements such as the market opportunity, technical and integration benefits, risks, costs and potential returns, improving service, competitive positioning, value, lifespan, among others.
- Project Proposal (From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515)  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)

- **Viable Innovation (From: A32 A325)**

Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.
- **Risk Assessment and Mitigation Plans (From: A34)**

The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.
- **Stakeholder Requirements (From: A2 A21 A213)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- **Market Analysis (From: A2 A22 A222)**

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- **IT Portfolio Performance Report (From: A36 A367)**

A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

## Outputs

- **Proposal Additional Information Request**

A request to provide additional information for a proposed project in order to effectively perform portfolio management activities.
- **Proposed IT Portfolio Targets (To: A365)**

The set of performance targets set for the IT portfolio including economic, strategic alignment, and balance.
- **Portfolio Management Activity Data (To: A368)**

Performance and quality data regarding activities performed in managing the IT portfolio.

## [A365] Make IT Portfolio Decisions and Commitments

### Description

This is the portfolio gating mechanism, which means that management confirms the IT Portfolio targets. It approves accepted project charters and provisions resources, cancels projects and de-commits resources, approves the IT plan and authorizes funding for IT operations. The aggregate of these decisions establishes the contents of the IT Portfolio, and the detail of them represents the IT Plan. The IT plan provides the basis for the day-to-day management of IT.

### Controls

- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Inputs

- Proposed IT Portfolio Targets (From: A364)  
The set of performance targets set for the IT portfolio including economic, strategic alignment, and balance.
- Project and Service Inventory (From: A362)  
The itemized record of projects and services for which IT resources are being consumed or are being proposed.
- Stakeholder Requirements (From: A2 A21 A213)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Market Analysis (From: A2 A22 A222)  
A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.
- Workforce Management Information (From: A84 A842 A843 A844)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Service Pricing and Contract Information (From: A83)  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer

- Program and Project Reports (From: A37)  
The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- IT Portfolio Performance Report (From: A36 A367)  
A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.
- IT Portfolio Review Results (From: A366)  
The level of performance achieved to-date of the IT portfolio against target and planned adjustments necessary to close any performance shortfalls or to exploit performance opportunities.

## Outputs

- Proposal Additional Information Request  
A request to provide additional information for a proposed project in order to effectively perform portfolio management activities.
- Program Charter (To: A37 A372)  
A document issued by or created on behalf of the sponsor to describe the program's objectives. It provides the program manager with the authority to apply organizational resources to set up and run program activities.
- Project Charter (To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- IT Portfolio (To: A1 A12 A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A142 A2 A21 A211 A213 A22 A221 A222 A223 A226 A23 A231 A232 A233 A24 A241 A243 A25 A251 A254 A255 A26 A261 A263 A27 A271 A31 A313 A314 A32 A322 A324 A33 A331 A366 A4 A42 A421 A8 A81 A811 A82 A822 A83 A831 A85 A852)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (To: A2 A22 A221 A25 A254 A255 A26 A264 A265 A31 A314 A366 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A72 A723 A725 A73 A731 A737 A74 A741 A742 A745 A75 A752 A76 A763 A764 A8 A81 A813 A84 A842 A844)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Portfolio Decision and Resource Allocation (To: A35 A352 A353 A366 A813)  
An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and

plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.

- Portfolio Management Activity Data (To: A368)  
Performance and quality data regarding activities performed in managing the IT portfolio.

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## [A366] Conduct IT Portfolio Review

### Description

The IT Portfolio Review identifies any strategic imperatives based on the business strategy and priorities, checks project priorities, and evaluates portfolio balance and alignment. The Portfolio Review determines corrections to the mix of projects and in adjustments to the portfolio gating mechanism, to better maximize the portfolio and to reflect the desired balance and alignment.

### Controls

- IT Portfolio Categories (From: A363)  
Key project and asset characteristics and parameters that are used to ensure strategic alignment with business priorities and to manage risk through diversity of investments.
- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Portfolio Decision and Resource Allocation (From: A36 A365)  
An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle 16 definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.
- Project and Service Inventory (From: A362)  
The itemized record of projects and services for which IT resources are being consumed or are being proposed.

- Program and Project Reports (From: A37)  
The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- IT Portfolio Performance Report (From: A36 A367)  
A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

## Outputs

- IT Portfolio Review Results (To: A365 A367)  
The level of performance achieved to-date of the IT portfolio against target and planned adjustments necessary to close any performance shortfalls or to exploit performance opportunities.
- Portfolio Management Activity Data (To: A368)  
Performance and quality data regarding activities performed in managing the IT portfolio.

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## [A367] Communicate IT Business Value and IT Portfolio Performance

### Description

This activity communicates the results of the IT Portfolio Review by reporting actual performance achieved against the portfolio targets, and by demonstrating IT business value realized.

The reports produced are a key element in aligning business and IT goals and objectives, as well as in determining the effectiveness of the IT Management System and IT strategies.

### Controls

- IT Portfolio Categories (From: A363)  
Key project and asset characteristics and parameters that are used to ensure strategic alignment with business priorities and to manage risk through diversity of investments.
- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

## Inputs

- IT Portfolio Review Results (From: A366)  
The level of performance achieved to-date of the IT portfolio against target and planned adjustments necessary to close any performance shortfalls or to exploit performance opportunities.
- Business Metrics  
Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.

## Outputs

- IT Business Value Report  
The contribution to the business from an information technology investment, usually expressed in economic terms.
- Portfolio Management Activity Data (To: A368)  
Performance and quality data regarding activities performed in managing the IT portfolio.
- IT Portfolio Performance Report (To: A31 A313 A316 A364 A365 A366)  
A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

## [A368] Evaluate Portfolio Management Performance

### Description

This activity analyzes activity data from all the Portfolio Management activities for efficiency and effectiveness, identifies opportunities for improvement, and recommends changes to the IT Portfolio Management Framework to enhance overall performance.

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Portfolio Management Framework (From: A361)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Inputs

- Portfolio Management Activity Data (From: A362 A363 A364 A365 A366 A367)  
Performance and quality data regarding activities performed in managing the IT portfolio.

### Outputs

- Portfolio Management Evaluation (To: A361)  
The effectiveness and efficiency of the process activities and practices performed in managing the IT portfolio.

# [A37] Program and Project Management

## Purpose

The purpose of Program and Project Management is to plan and oversee programs and projects in support of their objectives.

The definition of a project is a team-based effort to meet specific objectives within a defined period of time.

The definition of a program is a long-term endeavor undertaken to implement a strategy or mission to meet business or organizational goals. A program is realized through multiple projects and ongoing activity.

## Outcomes

As a result of successful implementation of this process:

- Projects are completed by the committed target date and within the allocated budget
- Stakeholder value is maximized through continuous evolution with stakeholders of project parameters (scope, budget, time lines, quality) as necessary
- 's business environment is reduced through precisely defined projects with clearly identified and managed risks
- Programs controlling multiple projects achieve maximization of value through coordination of trade-offs between requirements and solution space, and of incremental project completion and delivery
- Productivity is increased by a clear definition of roles, responsibilities, and deliverables, which result in faster startup through the use of knowledge management, less rework, and more productive time available to the project
- Project resource commitments are clearly separated from operational workload demands
- Customer and project teams form more quickly and use common terminology, facilitated by clearer communication
  - Customer satisfaction increases through visibility of the project plans, schedule, and actual performance against the project objectives

## Scope

Programs and projects are similar in that they both require planning and oversight. However, they are different in a number of ways. Projects are a temporary endeavor with a simple management structure, whereas programs are long-term, have a more complex management structure (typically involving a steering committee), and are carried out by a number of projects. In addition, the success or failure of a program is more likely to affect the bottom line of a business.

The same activities apply to both Program and Project Management, but with differing scope and time scales. Activities within the Program and Project Management process can be classified into four basic groups:

1. Defining and initiating
2. Planning
3. Executing, monitoring and controlling
4. Closing

A project usually consists of a series of phases, known as the project life cycle, and these groups of process activities can be applied to each phase individually or to a set of multiple phases. Therefore, these groups do not necessarily correspond to the phases of the project life cycle. For example, in a waterfall project, executing and controlling activities can be completed in the design phase of a project, alongside or followed by planning activities for the development phase.<sup>21</sup>

The activities described represent a broad model for Project Management activities, which is largely applicable to both projects and programs alike. A program is realized through multiple projects and ongoing activity.

#### **Includes**

- ◆ Identifying program and project goals
- ◆ Establishing clear and achievable objectives
- ◆ Balancing the competing demands for quality, scope, time, cost factors and resources
- ◆ Creating project plans
- ◆ Program and project status reporting to stakeholders
- ◆ Reconciling the specifications, plans, and approach to the different concerns and expectations of various stakeholders
- ◆ Running joint projects with any external agent (such as business, customers, suppliers):
  - Such projects might need to establish agreed standards and conventions
  - Alternatively, in the case of multi-supplier projects, there can be reporting responsibilities to the prime contractor while in-house practices apply within each contractor's scope

#### **Excludes**

- ◆ Performance and delivery activities (many process categories carry out this work)
- ◆ Promotion of the end result to production (Deployment Management, usually within a program or project context)

#### **Controls**

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance

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21. IBM WWPMM Concepts.

- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

## Inputs

- Program Charter (From: A36 A365)

A document issued by or created on behalf of the sponsor to describe the program's objectives. It provides the program manager with the authority to apply organizational resources to set up and run program activities.

- Project Charter (From: A3 A324 A354 A36 A365)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

- Risk Assessment and Mitigation Plans (From: A34)

The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

- Business Project Management Framework

The implementation within the parent business of a project management framework. This will usually provide most, if not all, of the framework for managing IT projects.

## Outputs

- Program Plan (To: A34 A344 A373 A374 A375 A376 A377 A378)

The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:

- The structure of the set of projects which constitute the program
- The measurements and reports by which the program will be managed
- The program's governance and communication plans

- Project Plan (To: A265 A34 A343 A344 A372 A375 A376 A377 A4 A41 A412 A5 A51 A514 A52 A522 A53 A532)

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.

- Program and Project Reports (To: A13 A131 A324 A34 A345 A346 A36 A365 A366 A716)  
 The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

## Activities

This process is composed of these activities:

- A371 Establish Program and Project Management Framework
- A372 Manage Program
- A373 Define and Initiate Project
- A374 Plan Project
- A375 Track and Report Project
- A376 Control Project
- A377 Close Project
- A378 Evaluate Program and Project Management Performance

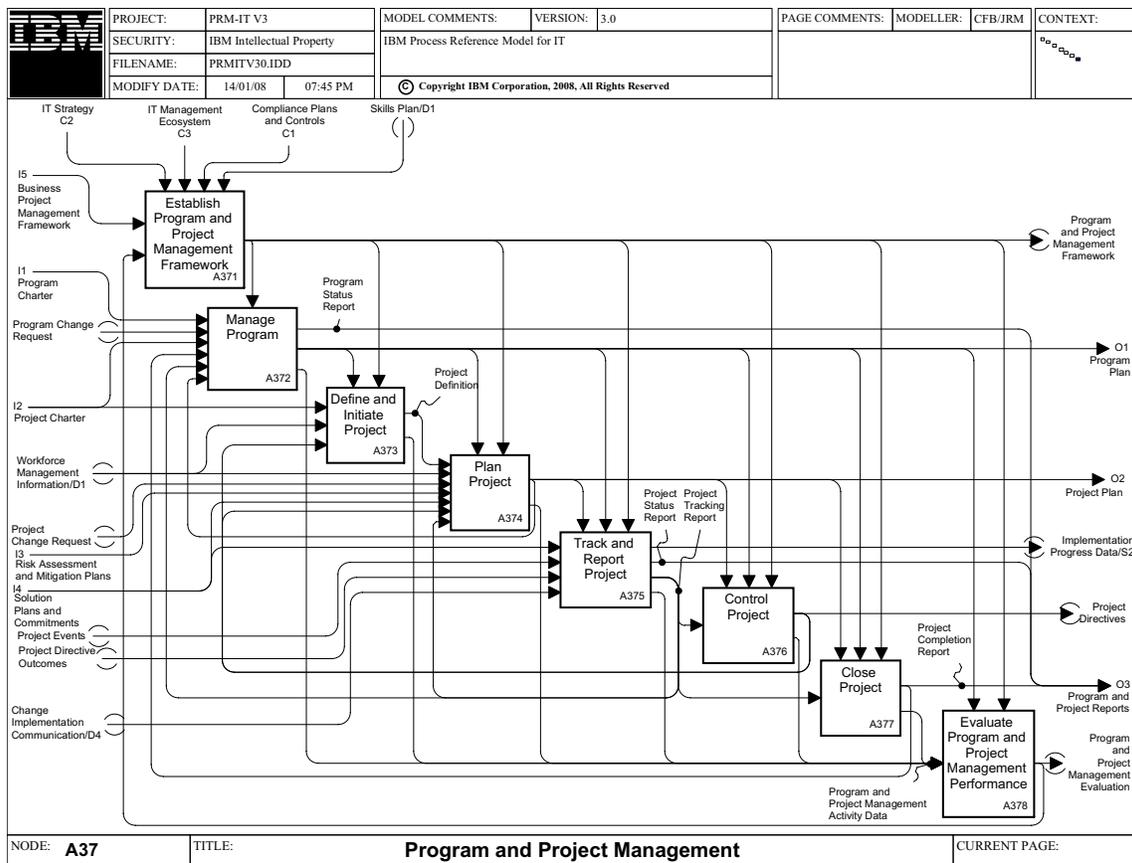


Figure 8. A37 Program and Project Management

## [A371] Establish Program and Project Management Framework

### Description

Based on the business and IT strategy, architectural models, guidelines, and a framework for project management have to be developed. The tasks in this activity include:

- Understanding the requirements and specifications for project management
- Defining the strategy for project management tools and capabilities, and how they should be sourced. For example, should they be developed in-house or rely more on vendor capabilities
- Defining evaluation criteria for project management solutions and services
- Establishing the framework for project management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of project management including escalation responsibilities have to be communicated to the process users.

This activity can be triggered by any decision for joint program or project working with any external party in order that a clear, unambiguous and agreed framework is established.

The establishment of the process framework also includes the continuous improvement of project management; that is, the consideration of the Project Management process evaluation and the implementation of recommended improvement actions.

### Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- Skills Plan (From: A84 A844)  
Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.

## Inputs

- Business Project Management Framework  
The implementation within the parent business of a project management framework. This will usually provide most, if not all, of the framework for managing IT projects.
- Program and Project Management Evaluation (From: A378)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Program and Project Management Framework (To: A372 A373 A374 A375 A376 A377 A378 A411)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

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## [A372] Manage Program

### Description

The direction, supervision and control of all aspects of the life cycle of a program of inter-connected projects. This activity focuses on the coordination and prioritization across projects, departments, and entities to insure that resource contention is managed from a global focus, while leaving individual project control to the other activities within this process. Some aspects which distinguish program management include:

- Manage Steering Committee – Projects typically have simple management structures. Programs, on the other hand, involve a more complex governance primarily because programs are typically close to the heartbeat of the business. For this reason, a program will have something like a steering committee that involves executives from various organizations. Keeping the steering committee informed, staffed, and participating is a major aspect of program management.
- Promote Program Environment – A program manager must often work both inside and outside of his domain in order to remove barriers that may endanger the program's success. This involves identifying issues and obtaining agreement with other executives and teams to remove those barriers and can involve working outside the company.
- Plan and Coordinate Program Projects – This is probably the closest to project management, since it is the chopping up of a program into parts and managing those parts. It is different, however, in that those projects often do not have a similar management chain, and those projects might not have a definite end.
- Obtain and Manage Program Resources – Financial management of programs might have to conform to specific regulatory policies. There is typically more money (and other resources) involved in a program, and they often involve many other types of expenditures than those faced by projects. CFOs are typically very involved in the financial management of programs.
- Review Program Progress – This is also somewhat similar to project management, except that projects must constantly be evaluated concerning how well they further the goals of the program. This involves review of those projects, aligning projects with program goals, and adjusting or removing projects that no longer meet the program manager's needs. Some work that has been going on for a long time might be ended because specific goals have been reached, such as when the program is trying to achieve a culture change.

## Controls

- Program and Project Management Framework (From: A371)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

## Inputs

- Program Charter (From: A36 A365)  
A document issued by or created on behalf of the sponsor to describe the program's objectives. It provides the program manager with the authority to apply organizational resources to set up and run program activities.
- Program Change Request  
A request to modify or adjust any aspect of an established program. Requests are usually processed under a requirements or change control procedure in order to ensure appropriate and auditable responses.
- Project Charter (From: A3 A324 A354 A36 A365)  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- Project Completion Report (From: A377)  
Communication between the delivery organization and the sponsor indicating that the work committed within the project is completed. Provides evidence that all terms of the agreement have been satisfied and all work has been completed.
- Project Tracking Report (From: A375)  
Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.
- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.

## Outputs

- Program Status Report  
A snapshot of the progress, status, and issues relating to an established program.
- Program Plan (To: A34 A344 A373 A374 A375 A376 A377 A378)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- Program and Project Management Activity Data (To: A378)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A373] Define and Initiate Project

### Description

The activities that are used to understand objectives and scope, shape the target solution (which might be larger than the current project) and the project to a level that allows planning activities.

Agreement is reached on the objectives of the project, the scope of the project is established, the initial organization is defined, responsibilities are assigned, and the assessment of situational factors is documented.

### Controls

- Program Plan (From: A37 A372)

The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:

- The structure of the set of projects which constitute the program
- The measurements and reports by which the program will be managed
- The program's governance and communication plans

- Program and Project Management Framework (From: A371)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- Project Charter (From: A3 A324 A354 A36 A365)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

- Workforce Management Information (From: A84 A842 A843 A844)

Profiles of current managed workforce including performance reviews, skills, training and compensation.

- Project Directives (From: A376)

Instructions or changes made to bring future performance of the project into line with the plans and procedures.

### Outputs

- Project Definition (To: A374)

The document that describes the shape of the project and includes:

- The objectives and scope
- The stakeholders and proposed organization with responsibilities
- The major risks associated with the project

- Program and Project Management Activity Data (To: A378)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A374] Plan Project

### Description

Detailed work and risk plans are drawn up, the organization is confirmed, and staff assignments are made. No significant amount of resource can be expended on the project (that is, execution does not begin) until clear plans are in place and authorization to proceed has been received at the end of this activity.

### Controls

- Program Plan (From: A37 A372)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- Program and Project Management Framework (From: A371)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- Project Definition (From: A373)  
The document that describes the shape of the project and includes:
  - The objectives and scope
  - The stakeholders and proposed organization with responsibilities
  - The major risks associated with the project
- Workforce Management Information (From: A84 A842 A843 A844)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Project Change Request  
A request to change some document or aspect of the project that has been placed under change control. An accepted change request may result in one or more change orders.
- Risk Assessment and Mitigation Plans (From: A34)  
The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Project Directives (From: A376)  
Instructions or changes made to bring future performance of the project into line with the plans and procedures.

- **Project Tracking Report (From: A375)**  
Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.

## Outputs

- **Project Plan (To: A265 A34 A343 A344 A372 A375 A376 A377 A4 A41 A412 A5 A51 A514 A52 A522 A53 A532)**  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- **Program and Project Management Activity Data (To: A378)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A375] Track and Report Project

### Description

This activity collects and disseminates information about the current state of projects and sub-projects, and their performance against plans and future projections of achievement or risk.

Project reports summarize status and any issues.

### Controls

- **Project Plan (From: A3 A37 A374)**  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- **Program Plan (From: A37 A372)**  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- **Program and Project Management Framework (From: A371)**  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.
- **Project Events (From: A41 A42 A43 A44 A45)**  
s opinion, are important to support the management of the project.

- **Project Directive Outcomes**  
The outcomes of actions taken in response to instructions or changes from project management made to bring future performance of the project into line with the plans and procedures.
- **Change Implementation Communication (From: A51 A516)**  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementationThis dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

## Outputs

- **Implementation Progress Data (To: A51 A516 A537)**  
The record of each incremental activity performed as part of the implementation of a change or release.
- **Project Status Report**  
A report, prepared to schedule or request, by the top-level project manager for the line of business management. It documents the status, progress and accomplishments, and forecasts for the end of the project. General categories include:
  - Health status summary
  - Resources
  - Earned value indicators
  - Accomplishments
  - Quality, issue, risk, change, and compliance incident summaries
- **Project Tracking Report (To: A372 A374 A376 A377)**  
Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.
- **Program and Project Management Activity Data (To: A378)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A376] Control Project

### Description

This activity invokes appropriate governance, disciplines, techniques, and actions to ensure the success of the project.

Approved standard project management methods are applied and executed to manage to the project plan.

### Controls

- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Program Plan (From: A37 A372)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- Program and Project Management Framework (From: A371)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- Project Tracking Report (From: A375)  
Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.

### Outputs

- Project Directives (To: A373 A374)  
Instructions or changes made to bring future performance of the project into line with the plans and procedures.
- Program and Project Management Activity Data (To: A378)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A377] Close Project

### Description

This activity addresses the use of formal and consistent disciplines to end projects. The sponsors and stakeholders reach a consensus and agree that the project has run its course and can be ended.

A project completion report is produced to capture lessons learned.

### Controls

- Project Plan (From: A3 A37 A374)  
The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Program Plan (From: A37 A372)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- Program and Project Management Framework (From: A371)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- Project Tracking Report (From: A375)  
Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.

### Outputs

- Project Completion Report (To: A372)  
Communication between the delivery organization and the sponsor indicating that the work committed within the project is completed. Provides evidence that all terms of the agreement have been satisfied and all work has been completed.
- Program and Project Management Activity Data (To: A378)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A378] Evaluate Program and Project Management Performance

### Description

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Program Plan (From: A37 A372)  
The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:
  - The structure of the set of projects which constitute the program
  - The measurements and reports by which the program will be managed
  - The program's governance and communication plans
- Program and Project Management Framework (From: A371)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### Inputs

- Program and Project Management Activity Data (From: A372 A373 A374 A375 A376 A377)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Program and Project Management Evaluation (To: A371)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## PRM-IT A3 Node Tree

<b>A3 – DIRECTION</b>	
<b>A31</b>	<b>IT Strategy</b>
A311	Establish IT Strategy Process Framework
A312	Understand Business Strategy
A313	Determine IT Strategic Potential
A314	Develop IT Strategy Initiatives
A315	Consolidate and Communicate IT Strategy
A316	Monitor and Assess IT Strategy Effectiveness
A317	Evaluate IT Strategy Process Performance
<b>A32</b>	<b>IT Research and Innovation</b>
A321	Establish IT Research and Innovating Framework
A322	Identify IT Research and Innovation Candidates
A323	Qualify Candidates and Define IT Research and Innovation Projects
A324	Perform IT Research and Innovation Project
A325	Promote IT Research and Innovation Results
A326	Evaluate IT Research and Innovation Performance
<b>A33</b>	<b>Architecture Management</b>
A331	Establish Architecture Management Framework
A332	Review Overall Environment and Architecture
A333	Create and Maintain Architecture Models
A334	Define and Maintain Architecture Baselines and Roadmaps
A335	Promote Architecture Transition Initiatives
A336	Govern Architecture Usage
A337	Evaluate Architecture Management Performance
<b>A34</b>	<b>Risk Management</b>
A341	Establish Risk Management Framework
A342	Identify Threats, Vulnerabilities and Risks
A343	Assess Risk
A344	Define Risk Mitigation Plans and Countermeasures
A345	Enact and Operate Risk Countermeasures
A346	Assess Risk Mitigation Results
A347	Evaluate Risk Management Performance
<b>A35</b>	<b>Product Management</b>
A351	Establish Product Management Framework
A352	Formulate Product Concept
A353	Plan and Control Product Lifecycle
A354	Initiate and Oversee Product Realization
A355	Guide Product Transition and Operation
A356	Monitor and Assess Product Performance
A357	Evaluate Product Management Performance

<b>A3 – DIRECTION</b>	
<b>A36</b>	<b>IT Portfolio Management</b>
A361	Establish IT Portfolio Management Framework
A362	Inventory IT Projects and Services
A363	Create and Maintain IT Portfolio Categories
A364	Assess and Prioritize IT Portfolio
A365	Make IT Portfolio Decisions and Commitments
A366	Conduct IT Portfolio Review
A367	Communicate IT Business Value and IT Portfolio Performance
A368	Evaluate Portfolio Management Performance
<b>A37</b>	<b>Program and Project Management</b>
A371	Establish Program and Project Management Framework
A372	Manage Program
A373	Define and Initiate Project
A374	Plan Project
A375	Track and Report Project
A376	Control Project
A377	Close Project
A378	Evaluate Program and Project Management Performance

Figure 9. A3 Direction Node Tree



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- Business Strategy
  - Security Policy (From: A7 A72 A722)

## Inputs

- Project Charter (From: A3 A324 A354 A36 A365)
- Business and IT Models (From: A3 A33 A333)
- Project Plan (From: A3 A37 A374)
- Stakeholder Requirements (From: A2 A21 A213)
- Service Level Package (From: A2 A25 A255)
- Compliance Plans and Controls (From: A7 A71 A714)
- Solution\_ Deployed (From: A5 A53 A536)
- Configuration Information (From: A5 A54 A544)
- Asset Deployment Items and Data (From: A5 A55)
- CIs (From: A5 A54 A543)
- Solution Realization Results and Issues (From: A4)

## Outputs

- Change Request (To: A5 A51 A512)
- Solution\_ Accepted (To: A5 A52 A523 A53 A533)
- CI Requisition (To: A5 A54 A543)
- CI Data Update Package (To: A5 A54 A542 A543)
- Solution Design (To: A3 A33 A336 A34 A343 A344 A45 A454 A5 A51 A514 A52 A523 A54 A542 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A662 A67 A671 A7 A72 A723 A73 A734 A736 A75 A752 A76 A764 A8 A84 A844)
- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)
- Solution Realization Results and Issues (To: A354 A4 A41 A412 A413 A414 A415 A42 A422 A423 A424 A425 A43 A432 A433 A434 A435 A436 A437 A44 A442 A443 A444 A445 A45 A452 A454 A455)

## Processes

This process category is composed of these processes:

- A41 Solution Requirements
- A42 Solution Analysis and Design
- A43 Solution Development and Integration
- A44 Solution Test
- A45 Solution Acceptance

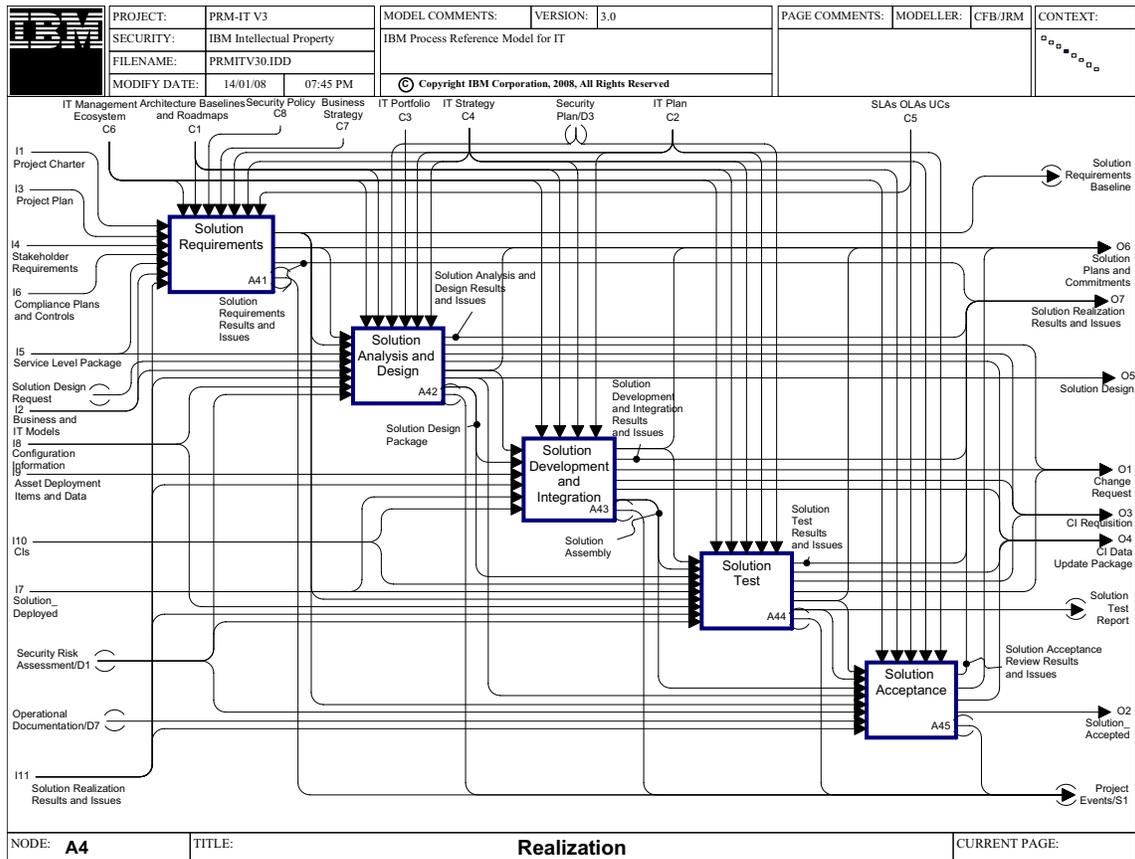


Figure 1. A4 Realization Diagram

## [A41] Solution Requirements

### Purpose

The purpose of the Solution Requirements process is to provide “a systematic approach to finding, documenting, organizing, and tracking a system's changing requirements,”<sup>1</sup> so that an agreed understanding is reached as to what the solution should do.

Definition of solution requirement: “A condition or capability to which the system must conform.”<sup>2</sup>

### Outcomes

As a result of successful implementation of this process:

- Stakeholder agreement on high-level requirements is achieved before the solution is designed, developed, and deployed
- Detailed requirements are evolved iteratively with solution design, development, and testing
- Trade-offs between requirements and solution are managed to maximize stakeholder value
- An accurate understanding of solution requirements exists, enhancing the probability that the correct solution will be created
- Customer, stakeholder, and user requirements are clearly defined and documented
- Traceability is maintained between requirements and solution specifications derived from them
- Rework due to incorrect or misunderstood requirements is minimized

### Scope

This process focuses on translating or elaborating agreed customer (business) requirements and IT stakeholder-generated requirements or constraints into solution-specific terms, within the context of a defined solution project or program.

It includes establishing operational requirements engineering approaches. Examples often cited include IEEE 830 Recommended practice for software requirements specifications, IEEE Software Engineering Body of Knowledge, CMMI and the ITIL V-model (ITIL Service Transition).<sup>3</sup>

### Includes

- ◆ Business context modeling
- ◆ Collecting, understanding, validating, formalizing and documenting solution requirements
- ◆ Clarifying, analyzing, and refining the requirements from the Stakeholder Requirements Management process
- ◆ Ongoing management of requirements for this solution
- ◆ The complete Solution Requirements taxonomy, including:
  - Functional requirements
  - Non-functional requirements, under headings such as Service Management and Compliance

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1. IBM Rational Unified Process  
2. IBM Rational Unified Process  
3. See *ITIL Service Design*, p167

- Deployment requirements (packaging, education, and training)
- Usability requirements
- Change cases and scalability requirements
- Testing requirements
- Stakeholder acceptance criteria
- Solution life cycle requirements, including solution shutdown and retirement
- ◆ Risk and feasibility analysis of requirements
- ◆ Requirements baseline generation and traceability audits
- ◆ Service management considerations
- ◆ Business modeling discipline and requirements management discipline

### Excludes

- ◆ Translation from requirements to design specification (Solution Analysis and Design)
- ◆ The life cycle management of customer wants and needs through agreed, prioritized business requirements (Stakeholder Requirements Management)
- ◆ Configuration Management

### Controls

- IT Management Ecosystem (From: A1)
 

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)
 

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Security Policy (From: A7 A72 A722)
 

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Business Strategy
 

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Plan (From: A3 A36 A365)
 

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3 A31 A315)
 

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- SLAs, OLAs, UCs (From: A2 A24 A243)
 

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the

customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>4</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>5</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>6</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Project Charter (From: A3 A324 A354 A36 A365)
 

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- Project Plan (From: A3 A37 A374)
 

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.
- Stakeholder Requirements (From: A2 A21 A213)
 

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Compliance Plans and Controls (From: A7 A71 A714)
 

The authoritative and comprehensive statement of:

  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.
- Service Level Package (From: A2 A25 A255)
 

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under

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4. ITIL V3 Glossary  
 5. ITIL V3 Glossary  
 6. ITIL V3 Glossary

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which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>7</sup>

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## Outputs

- Solution Requirements Baseline (To: A42 A422 A423 A44 A442 A444 A45 A453 A712)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Requirements Results and Issues (To: A412 A413 A414)  
The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Project Events (To: A375)  
The notification of events that, in the project manager's opinion, are important to support the management of the project.

## Activities

This process is composed of these activities:

- A411 Establish Solution Requirements Framework
- A412 Refine and Verify Business Context
- A413 Document and Analyze Solution Requirements
- A414 Validate Solution Requirements with Stakeholders
- A415 Manage Solution Requirements Baseline
- A416 Evaluate Solution Requirements Performance

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7. ITIL V3 Glossary

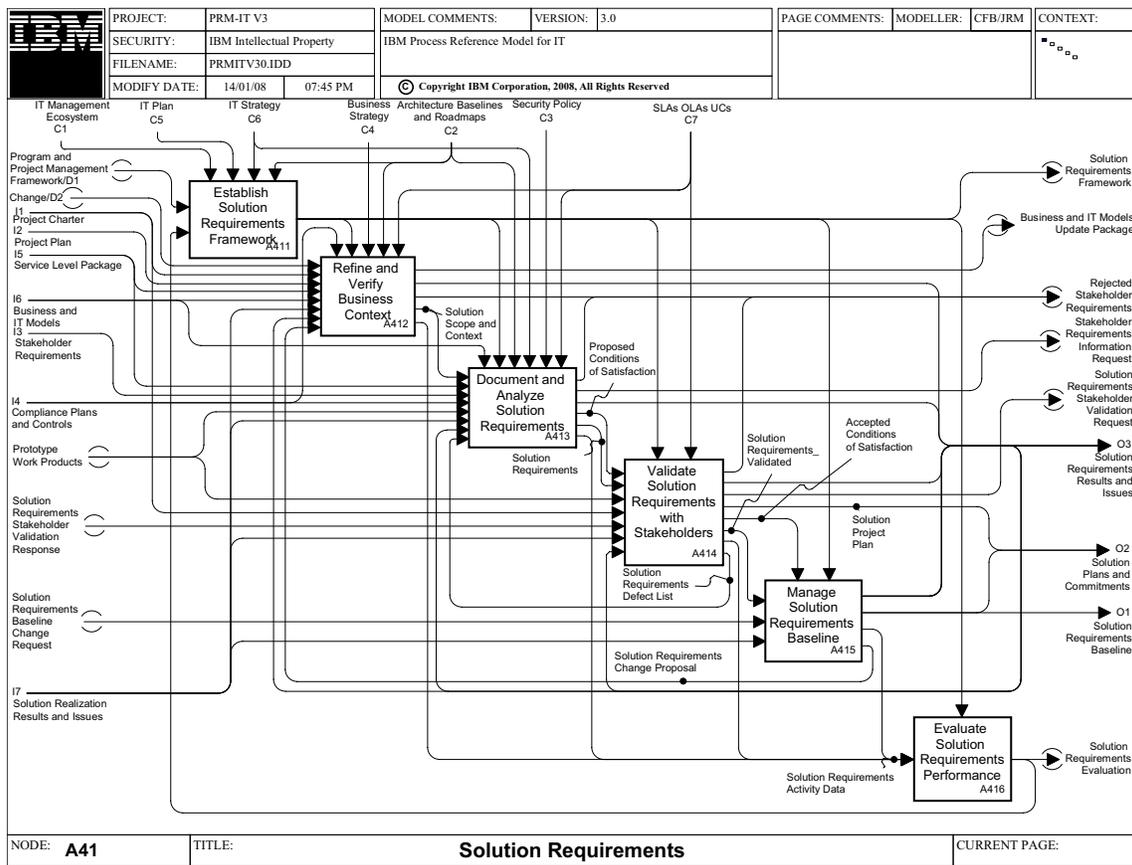


Figure 2. A41 Solution Requirements



## [A412] Refine and Verify Business Context

### Description

The purpose of this activity is to refine the overall business context into the project-related solution context and understanding, and to verify (verification ensures that you created it right) this refined context with all solution stakeholders.

### Controls

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- Solution Requirements Framework (From: A411)

Common, organization-wide Solution Requirements set of standards, procedures, and templates.

- Business Strategy

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>8</sup>

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8. ITIL V3 Glossary

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>9</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>10</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Change (From: A51 A515)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

- Project Charter (From: A3 A324 A354 A36 A365)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

- Project Plan (From: A3 A37 A374)

The set of the work plans, plus other plans including management plan, human resource plan, technical environment, project quality, communications management, and others.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>11</sup>

- Business and IT Models (From: A3 A33 A333)

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

- Solution Realization Results and Issues (From: A4)

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- Solution Requirements Results and Issues (From: A41 A412 A413 A414 A415)

The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- Solution Requirements Change Proposal (From: A415)

Proposed changes to the business context resulting from changes in solution requirements baseline.

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9. ITIL V3 Glossary

10. ITIL V3 Glossary

11. ITIL V3 Glossary

## Outputs

- Business and IT Models Update Package (To: A334)  
Additional information about business and IT models obtained as a by-product of detailed investigation under the Solutions Requirements process.
- Solution Requirements Results and Issues (To: A412 A413 A414)  
The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Rejected Stakeholder Requirements  
The part of solution requirements formally rejected by the solution provider, with or without prior approval of the stakeholders.
- Solution Scope and Context (To: A413)  
Solution framing and surroundings defined by the business and system environments.
- Solution Requirements Activity Data (To: A416)  
The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.

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## [A413] Document and Analyze Solution Requirements

### Description

The purpose of this activity is to create the initial set of Solution Requirements by identifying sources and stakeholders, soliciting input from them, and capturing it for the purpose of classifying and categorizing the obtained information into requirements categories.

### Controls

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Solution Requirements Framework (From: A411)  
Common, organization-wide Solution Requirements set of standards, procedures, and templates.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

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- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>12</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>13</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>14</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Solution Scope and Context (From: A412)

Solution framing and surroundings defined by the business and system environments.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>15</sup>

- Stakeholder Requirements (From: A2 A21 A213)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance

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12. ITIL V3 Glossary

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- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- **Prototype Work Products**

Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.

- **Solution Realization Results and Issues (From: A4)**

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- **Solution Requirements Results and Issues (From: A41 A412 A413 A414 A415)**

The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- **Solution Requirements Defect List (From: A414)**

Formal list of discrepancies between documented and formalized solution requirements and solution intentions as perceived by the key stakeholders (customer).

## Outputs

- **Rejected Stakeholder Requirements**

The part of solution requirements formally rejected by the solution provider, with or without prior approval of the stakeholders.

- **Stakeholder Requirements Information Request**

Solicitation of requirements information from the stakeholders, usually for clarification or expansion of stakeholder requirements already registered.

- **Solution Requirements Results and Issues (To: A412 A413 A414)**

The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- **Proposed Conditions of Satisfaction (To: A414)**

Documented Conditions of Satisfaction as understood and formally proposed by the solution provider.

- **Solution Requirements (To: A414)**

Documented, analyzed and expanded (formalized) solution requirements.

- **Solution Requirements Activity Data (To: A416)**

The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.

## [A414] Validate Solution Requirements with Stakeholders

### Description

The purpose of this activity is to validate (validation ensures that you have created the right thing) the Solution Requirements with all solution stakeholders.

The requirements should be complete, comprehensive, testable, and include the conditions of satisfaction while noting any observed defects.

This activity also produces an early iteration of the solution project plan.

### Controls

- Solution Requirements Framework (From: A411)

Common, organization-wide Solution Requirements set of standards, procedures, and templates.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>16</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>17</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>18</sup>

These agreements can be in a draft or finalized status.

### Inputs

- Proposed Conditions of Satisfaction (From: A413)

Documented Conditions of Satisfaction as understood and formally proposed by the solution provider.

- Solution Requirements (From: A413)

Documented, analyzed and expanded (formalized) solution requirements.

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17. ITIL V3 Glossary

18. ITIL V3 Glossary

- **Prototype Work Products**  
Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.
- **Project Charter (From: A3 A324 A354 A36 A365)**  
A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.
- **Solution Requirements Stakeholder Validation Response**  
Solution validation responses as communicated by the stakeholders. Covers both the positive and negative cases, with the latter being considered a *defect*.
- **Solution Realization Results and Issues (From: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Solution Requirements Results and Issues (From: A41 A412 A413 A414 A415)**  
The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## Outputs

- **Rejected Stakeholder Requirements**  
The part of solution requirements formally rejected by the solution provider, with or without prior approval of the stakeholders.
- **Solution Requirements Results and Issues (To: A412 A413 A414)**  
The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Solution Requirements Stakeholder Validation Request**  
A request to stakeholders for review, confirmation and formal sign-off of solution requirements.
- **Solution Project Plan**  
The overall project plan augmented by solution-specific content as a result of completion of requirements validation.
- **Accepted Conditions of Satisfaction (To: A415)**  
Established earlier Conditions of Satisfaction formally accepted and signed off by the key stakeholders (especially the customer).
- **Solution Requirements\_ Validated (To: A415)**  
Solution scope, context and entire taxonomy of requirements formally validated and approved (signed off) by the key stakeholders.
- **Solution Requirements Activity Data (To: A416)**  
The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.
- **Solution Requirements Defect List (To: A413)**  
Formal list of discrepancies between documented and formalized solution requirements and solution intentions as perceived by the key stakeholders (customer).

## [A415] Manage Solution Requirements Baseline

### Description

The purpose of this activity is to assure that the Solution Requirements come under Configuration Management, and are controlled as a collection (a baseline) for all status changes throughout the duration of the project. Techniques used should be in agreement with the overall organization procedures and standards for general Configuration Management.

### Controls

- Accepted Conditions of Satisfaction (From: A414)  
Established earlier Conditions of Satisfaction formally accepted and signed off by the key stakeholders (especially the customer).
- Solution Requirements Framework (From: A411)  
Common, organization-wide Solution Requirements set of standards, procedures, and templates.

### Inputs

- Solution Requirements\_ Validated (From: A414)  
Solution scope, context and entire taxonomy of requirements formally validated and approved (signed off) by the key stakeholders.
- Solution Requirements Baseline Change Request  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

### Outputs

- Solution Requirements Results and Issues (To: A412 A413 A414)  
The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Requirements Baseline (To: A42 A422 A423 A44 A442 A444 A45 A453 A712)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Solution Requirements Activity Data (To: A416)  
The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.
- Solution Requirements Change Proposal (To: A412)  
Proposed changes to the business context resulting from changes in solution requirements baseline.

## [A416] Evaluate Solution Requirements Performance

### Description

The purpose of this activity is to evaluate performance of the project-specific Solution Requirements Framework against early defined performance criteria and measurements, to provide input into the organization-wide framework (for overall evaluation purposes), and to identify potential improvements to the Solution Requirements process.

### Controls

- Solution Requirements Framework (From: A411)  
Common, organization-wide Solution Requirements set of standards, procedures, and templates.

### Inputs

- Solution Requirements Activity Data (From: A412 A413 A414 A415)  
The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.

### Outputs

- Solution Requirements Evaluation (To: A411)  
The collection of summary level history and status of Solution Requirements Framework. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## [A42] Solution Analysis and Design

### Purpose

The Solution Analysis and Design process exists to create a fully documented design from the agreed solution requirements, describing the behavior of solution elements, the acceptance criteria, and agreed measurements.

### Outcomes

As a result of successful implementation of this process:

- Solution designs optimize the trade-offs between requirements and constraints
- Stakeholder agreement on high-level solution design is achieved before major investments in solution development is done
- Reuse of existing solution designs and components minimizes time-to-implementation and improves solution quality
- Flexible and effective designs reduce the total cost of ownership over the complete solution life cycle

### Scope

Design of all aspects of the solution necessary to meet stakeholder requirements

#### Includes

- ◆ Creating and managing design baselines (specifications baseline, component architecture baseline) throughout the full range of the solution life cycle including solution shutdown and retirement
- ◆ Ensuring solution design compliance with the business and IT architectures
- ◆ Identification and consideration of constraints, such as budget, and making cases for constraint relief or seeking guidance when a sound solution design is not achievable against those constraints
- ◆ Creating different solution architectural views (component model, operational model, deployment model, data model)
- ◆ Evaluating trade-offs (such as financial cost alternatives) and making design and sourcing approach decisions (make versus buy versus reuse)
- ◆ Making architecture exception requests
- ◆ Modeling, simulation, and prototyping
- ◆ Design of all required solution elements (application, infrastructure, process, organization, data, training, deployment, technology, testing)
- ◆ Systems operation and management design, such as significant event definition, monitoring data definitionHigh and low level design
- ◆ Ensuring cross-functional participation in design acceptance from service management disciplines

#### Excludes

- ◆ Enterprise architecture (Architecture Management)

- ◆ Requirements management (Stakeholder Requirements Management, Solution Requirements)
- ◆ Procurement (Supplier Management)
- ◆ Solution Development and Integration

## Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for

a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>19</sup>

- Solution Design Request (From: A52 A523 A53 A533)  
A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- Solution Analysis and Design Results and Issues (To: A422 A423 A424)  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- CI Requisition (To: A5 A54 A543)  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.

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- Solution Design (To: A3 A33 A336 A34 A343 A344 A45 A454 A5 A51 A514 A52 A523 A54 A542 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A662 A67 A671 A7 A72 A723 A73 A734 A736 A75 A752 A76 A764 A8 A84 A844)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Solution Design Package (To: A425 A43 A432 A434 A435 A436 A437 A44 A442)

The collection of all the work products created during solution design.

- Project Events (To: A375)

The notification of events that, in the project manager's opinion, are important to support the management of the project.

## Activities

This process is composed of these activities:

- A421 Establish Solution Analysis and Design Framework
- A422 Create Conceptual Solution Design
- A423 Identify and Select Solution Components
- A424 Create Detailed Solution Design
- A425 Validate Solution Design With Stakeholders
- A426 Evaluate Solution Analysis and Design Performance

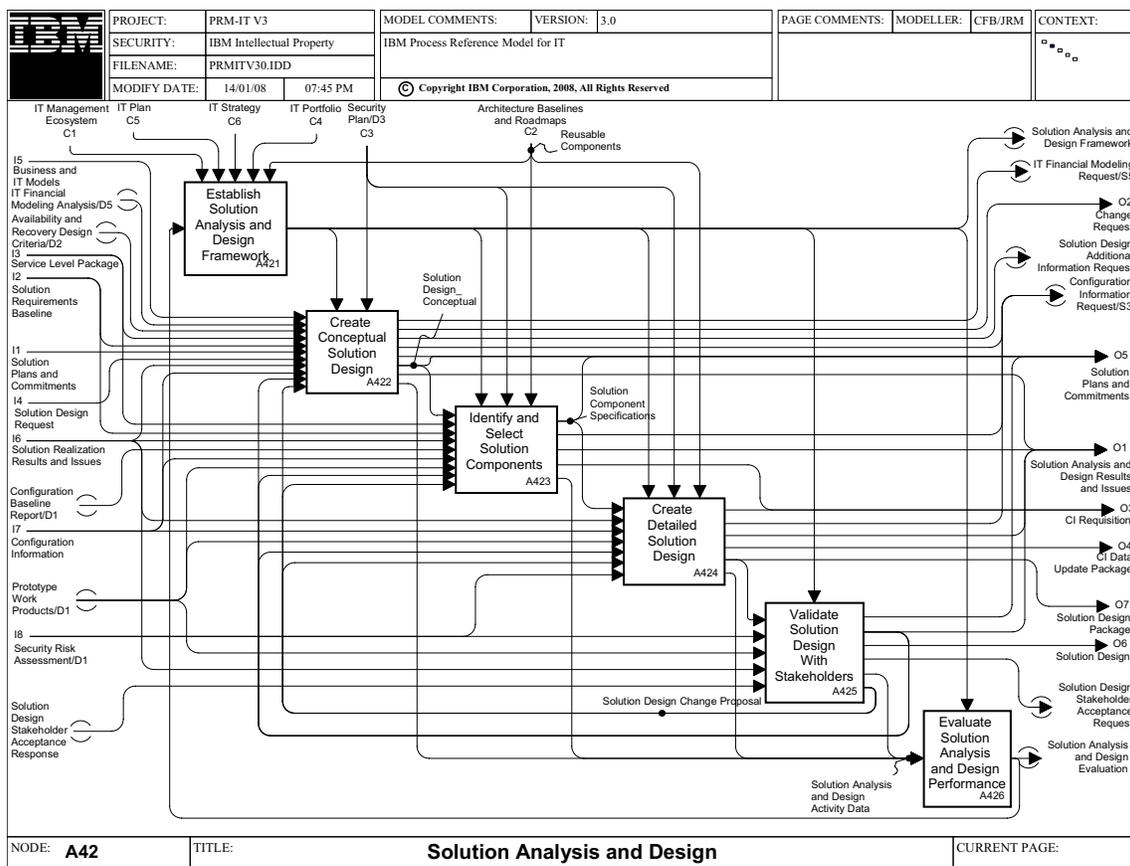


Figure 3. A42 Solution Analysis and Design

## [A421] Establish Solution Analysis and Design Framework

### Description

Establish the project-specific framework for Solution Analysis and Design, and define specific performance goals, measurements, and targets. The procedure for establishing this framework is by tailoring the organization-wide framework of procedures, standards, and templates related to analysis and design management and engineering.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Reusable Components  
Parts (engineering parts) from the set of components identified for future reuse by the Architecture Management process.

### Inputs

- Solution Analysis and Design Evaluation (From: A426)  
The collection of summary level history and status of the Solution Analysis and Design Framework. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

### Outputs

- Solution Analysis and Design Framework (To: A422 A423 A424 A425 A426 A733)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

## [A422] Create Conceptual Solution Design

### Description

The purpose of this activity is to create a high level view (architectural view) of the solution design for the purpose of determining the overall shape of the solution.

### Controls

- **Solution Analysis and Design Framework (From: A421)**  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.
- **Security Plan (From: A72 A725)**  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- **Business and IT Models (From: A3 A33 A333)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **IT Financial Modeling Analysis (From: A812)**  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- **Availability and Recovery Design Criteria (From: A733)**  
General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.
- **Service Level Package (From: A2 A25 A255)**  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>20</sup>
- **Solution Requirements Baseline (From: A41 A415)**  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.

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20. ITIL V3 Glossary

- **Solution Design Request (From: A52 A523 A53 A533)**  
A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).
- **Solution Realization Results and Issues (From: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Solution Analysis and Design Results and Issues (From: A42 A422 A423 A424 A425)**  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- **Solution Design Change Proposal (From: A425)**  
Proposed changes to the solution design resulting from review of solution design work products with stakeholders against the solution requirements.

## Outputs

- **IT Financial Modeling Request (To: A812)**  
A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.
- **Change Request (To: A5 A51 A512)**  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- **Solution Design Additional Information Request**  
Solicitation to the stakeholders for additional information required to complete the solution design (further clarification of requirements).
- **Configuration Information Request (To: A54 A544)**  
Any request for information about one or more configuration items. Many IT processes will make such requests.
- **Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.
- **Solution Design\_ Conceptual (To: A423)**  
High level view (architectural view) of the solution, including initial versions of component model, operational model, high-level architectural overview, and architectural decisions.
- **Solution Analysis and Design Results and Issues (To: A422 A423 A424)**  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks

(estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

- Solution Analysis and Design Activity Data (To: A426)

The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

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## [A423] Identify and Select Solution Components

### Description

The purpose of this activity is to create a detailed, component-by-component view (engineering view) of the solution design. The overall functionality of the solution is assigned to discrete, identifiable functional engineering elements. Solution components are selected to meet those specifications, in conjunction with approved architectures. Any outstanding issues are also identified and communicated.

### Controls

- Solution Analysis and Design Framework (From: A421)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

- Reusable Components

Parts (engineering parts) from the set of components identified for future reuse by the Architecture Management process.

### Inputs

- Solution Design\_ Conceptual (From: A422)

High level view (architectural view) of the solution, including initial versions of component model, operational model, high-level architectural overview, and architectural decisions.

- Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: "A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity."<sup>21</sup>

- Solution Requirements Baseline (From: A41 A415)

Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.

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21. ITIL V3 Glossary

- **Solution Realization Results and Issues (From: A4)**

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Configuration Baseline Report (From: A54 A542 A543)**

A point-in-time snapshot of a portion of a CMDB which is relevant to one or more purposes from other IT management processes. This can include past, current and future-projected instances.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Prototype Work Products**

Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.
- **Solution Analysis and Design Results and Issues (From: A42 A422 A423 A424 A425)**

The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- **Solution Design Change Proposal (From: A425)**

Proposed changes to the solution design resulting from review of solution design work products with stakeholders against the solution requirements.

## Outputs

- **Solution Component Specifications (To: A424)**

Formal specification for all the solution components prepared in a prescribed way in agreement with organization-wide procedures and standards.
- **Configuration Information Request (To: A54 A544)**

Any request for information about one or more configuration items. Many IT processes will make such requests.
- **Solution Analysis and Design Results and Issues (To: A422 A423 A424)**

The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- **CI Requisition (To: A5 A54 A543)**

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- **Solution Analysis and Design Activity Data (To: A426)**

The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

## [A424] Create Detailed Solution Design

### Description

Create a low level view (engineering view) of the Solution Design for the purpose of further breaking down the overall functionality of the solution into functional engineering elements and determining relationships between them.

### Controls

- Solution Analysis and Design Framework (From: A421)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- Reusable Components  
Parts (engineering parts) from the set of components identified for future reuse by the Architecture Management process.

### Inputs

- Solution Component Specifications (From: A423)  
Formal specification for all the solution components prepared in a prescribed way in agreement with organization-wide procedures and standards.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Prototype Work Products  
Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.
- Solution Analysis and Design Results and Issues (From: A42 A422 A423 A424 A425)  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- Solution Design Change Proposal (From: A425)  
Proposed changes to the solution design resulting from review of solution design work products with stakeholders against the solution requirements.
- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- CI Requisition (To: A5 A54 A543)  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- Configuration Information Request (To: A54 A544)  
Any request for information about one or more configuration items. Many IT processes will make such requests.
- Solution Analysis and Design Results and Issues (To: A422 A423 A424)  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Solution Design Package (To: A425 A43 A432 A434 A435 A436 A437 A44 A442)  
The collection of all the work products created during solution design.
- Solution Analysis and Design Activity Data (To: A426)  
The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

## [A425] Validate Solution Design with Stakeholders

### Description

Validate the solution design (conceptual, macro, and micro) with all the relevant stakeholders. To validate ensures that you created the right thing.

### Controls

- Solution Analysis and Design Framework (From: A421)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

### Inputs

- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.
- Prototype Work Products  
Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Design Stakeholder Acceptance Response  
A formal acceptance and sign off or rejection by stakeholders of solution design.

### Outputs

- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Analysis and Design Results and Issues (To: A422 A423 A424)  
The collection of summary level history and status of Solution Design activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- Solution Design (To: A3 A33 A336 A34 A343 A344 A45 A454 A5 A51 A514 A52 A523 A54 A542 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A662 A67 A671 A7 A72 A723 A73 A734 A736 A75 A752 A76 A764 A8 A84 A844)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders.

It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- **Solution Design Stakeholder Acceptance Request**  
A request to stakeholders for review, confirmation and formal sign-off of solution design.
- **Solution Analysis and Design Activity Data (To: A426)**  
The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.
- **Solution Design Change Proposal (To: A422 A423 A424)**  
Proposed changes to the solution design resulting from review of solution design work products with stakeholders against the solution requirements.

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## [A426] Evaluate Solution Analysis and Design Performance

### Description

The performance evaluation of the process aims at identifying areas of the overall process that require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for the improvements are the insights and the lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- **Solution Analysis and Design Framework (From: A421)**  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

### Inputs

- **Solution Analysis and Design Activity Data (From: A422 A423 A424 A425)**  
The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

### Outputs

- **Solution Analysis and Design Evaluation (To: A421)**  
The collection of summary level history and status of the Solution Analysis and Design Framework. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

## [A43] Solution Development and Integration

### Purpose

The Solution Development and Integration process exists to bring together all of the elements specified by the solution design, regardless of whether they are to be created or acquired, and to complete their customization, configuration, and integration.

### Outcomes

As a result of the successful implementation of this process:

- Agreed solutions are produced to approved specifications, on time, within budget and generally maximizing stakeholder value
- Frequent demonstrations of capabilities to stakeholders are done to provide feedback on requirements, other specifications, and implemented assets
- Lessons learned are fed to key stakeholders so requirements and other specifications can be evolved as necessary
- Solutions are ready for testing and examination of solution capabilities
- All necessary elements exist to support Solution Management (life cycle, maintenance, known errors, documentation, best practice guidance, and others)
- All solution components are identified and tracked
- Solution characteristics are fully verified before Solution Acceptance activities

### Scope

#### Includes

- ◆ Establishing development standards
- ◆ Development of new functionality
- ◆ Integration of new and existing functionality
- ◆ Use of all design elements
- ◆ Prototyping
- ◆ Creating alpha, beta, and general availability versions of solutions
- ◆ Making any procured elements available to the solution development and integration team. These can come from external or internal providers
- ◆ Working in conformance with agreed version control policies and procedures for solution elements, at whatever level of assembly or integration

#### Excludes

- ◆ Testing (unit testing is considered to be in the Solution Test process, even if performed by the implementer or builder)
- ◆ Solution pilot and deployment (Deployment Management)
- ◆ Procurement (Supplier Management)
- ◆ Asset Management
- ◆ Administration of version control (includes Configuration Management of elements within the solution during the development phase)
  - Called change management version control (CMVC) in CMMI

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## Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Asset Deployment Items and Data (From: A5 A55)  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- CIs (From: A5 A54 A543)  
CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs." <sup>22</sup>

## Outputs

- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- CI Requisition (To: A5 A54 A543)  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Solution Assembly (To: A44 A443 A444 A45 A456 A542 A543)  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- Project Events (To: A375)  
The notification of events that, in the project manager's opinion, are important to support the management of the project.

## Activities

This process is composed of these activities:

- A431 Establish Solution Development and Integration Framework
- A432 Define Solution Development and Integration Plan
- A433 Prepare Solution Development and Integration Environment
- A434 Acquire or Create Solution Components
- A435 Integrate Solution Components
- A436 Refine and Tune Integrated Solution
- A437 Verify Integrated Solution
- A438 Evaluate Solution Development and Integration Performance

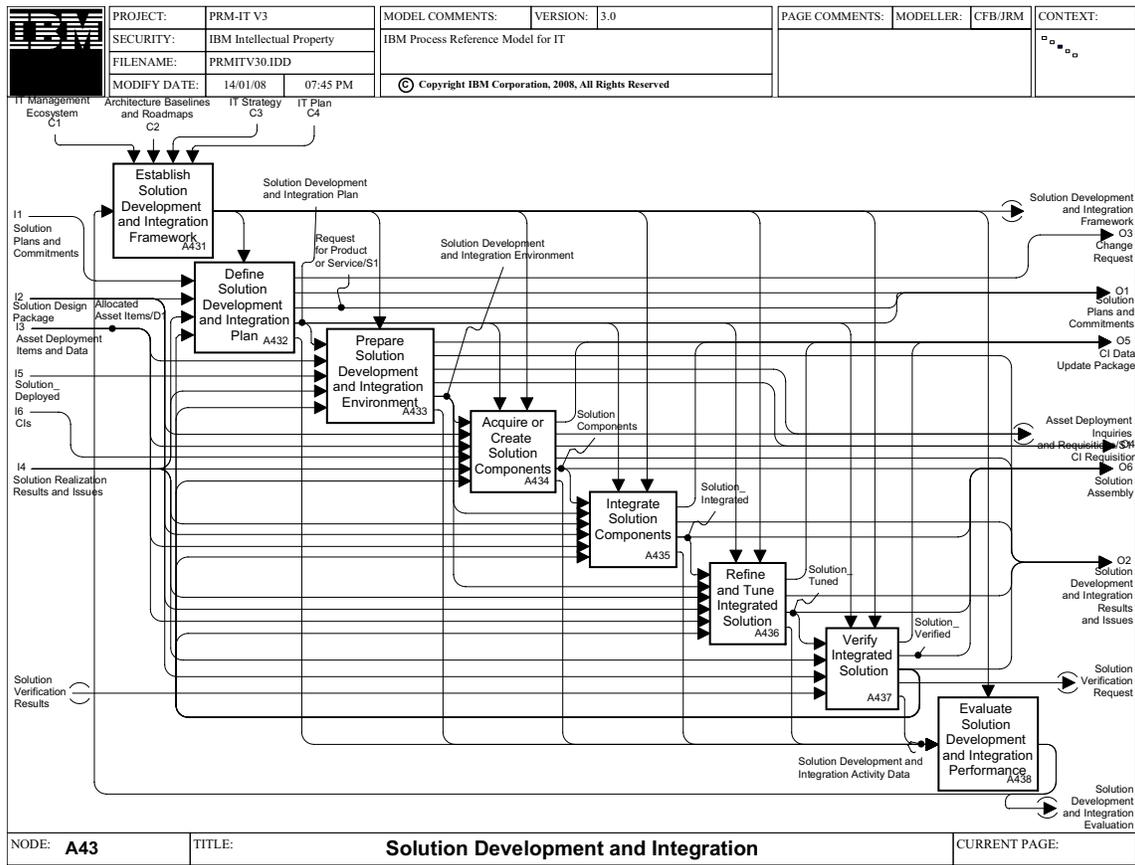


Figure 4. A43 Solution Development and Integration

## [A431] Establish Solution Development and Integration Framework

### Description

Establishes the general and the project specific Solution Development and Integration Framework by tailoring, in a prescribed way, the organization-wide framework (organization-wide set of procedures, standards, and templates related to Solution Development and Integration Management and Engineering), and to define specific performance goals, measurements and targets.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### Inputs

- Solution Development and Integration Evaluation (From: A438)  
Formal evaluation of the performance of the project specific activities against the defined performance criteria and measurements within the Solution Build Framework.

### Outputs

- Solution Development and Integration Framework (To: A432 A433 A434 A435 A436 A437 A438)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

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## [A432] Define Solution Development and Integration Plan

### Description

The purpose of this activity is to develop a Solution Development and Integration Plan that details the standards, methods, techniques, technologies, environments, and development and integration tasks related to a specific Solution Design Package. These are employed to create iterations of solution assemblies (builds) as the solution is constructed and integrated. The activity includes planning time frames and resources required.

### Controls

- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

### Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Development and Integration Results and Issues (From: A43 A433 A434 A435 A436 A437)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

### Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.

- Request for Product or Service (To: A822 A823 A824)  
Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.
- Solution Development and Integration Plan (To: A433 A434 A435 A436 A437)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Solution Development and Integration Activity Data (To: A438)  
The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

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## [A433] Prepare Solution Development and Integration Environment

### Description

The purpose of this activity is to prepare the solution development environment and integration environment by either creating it from scratch or by modifying an existing one. It includes generating solution element and development and integration element information as necessary for seamless integration.

### Controls

- Solution Development and Integration Framework (From: A431)  
Common, organization-wide solution development and integration policies, standards, procedures and templates.

### Inputs

- Solution Development and Integration Plan (From: A432)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Allocated Asset Items (From: A552)  
The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.
- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- Solution Development and Integration Results and Issues (From: A43 A433 A434 A435 A436 A437)

The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

## Outputs

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)

The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

- Asset Deployment Inquiries and Requisitions (To: A55)

Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets and notifications to trigger the delivery or distribution of these resources.

- CI Requisition (To: A5 A54 A543)

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.

- Solution Development and Integration Environment (To: A434 A435 A436)

The entire infrastructure required to complete the solution build process, including the tools, supporting work products (scaffolding), and physical configuration control repository for the solution work products.

- Solution Development and Integration Activity Data (To: A438)

The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

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## [A434] Acquire or Create Solution Components

### Description

The purpose of this activity is to obtain all the elements (or their substitutes) of the solutions from predetermined sources within a specific time frame. It can achieve this by purchasing or leasing pre-existing components from an external source, by in-house development, or by custom development from a specific developer. It includes putting the components into the build environment and updating Configuration Management.

## Controls

- Solution Development and Integration Plan (From: A432)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

## Inputs

- Solution Development and Integration Environment (From: A433)  
The entire infrastructure required to complete the solution build process, including the tools, supporting work products (scaffolding), and physical configuration control repository for the solution work products.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Allocated Asset Items (From: A552)  
The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.
- CIs (From: A5 A54 A543)  
CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>23</sup>
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Development and Integration Results and Issues (From: A43 A433 A434 A435 A436 A437)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

## Outputs

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Asset Deployment Inquiries and Requisitions (To: A55)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets and notifications to trigger the delivery or distribution of these resources.

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23. ITIL V3 Glossary

- CI Requisition (To: A5 A54 A543)  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.
- Solution Components (To: A435)  
All the work products, acquired or built in-house, required to complete the solution build, which will remain as integrated parts of the solution (opposite to supporting parts).
- Solution Development and Integration Activity Data (To: A438)  
The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

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## [A435] Integrate Solution Components

### Description

The purpose of this activity is to assemble all of the components into the solution in a predetermined way, within the specific time frames called for in the solution plans and commitments. The integration work performed in this activity includes the broad range of components necessary for solution acceptance, such as:

- Hardware components
- Software modules
- Installation scripts
- Operating procedures
- Education

It further includes putting the newly integrated components into the cumulative development environment and updating Configuration Management records to reflect the results of integration and migration.

### Controls

- Solution Development and Integration Plan (From: A432)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

### Inputs

- Solution Components (From: A434)  
All the work products, acquired or built in-house, required to complete the solution build, which will remain as integrated parts of the solution (opposite to supporting parts).

- **Solution Development and Integration Environment (From: A433)**  
The entire infrastructure required to complete the solution build process, including the tools, supporting work products (scaffolding), and physical configuration control repository for the solution work products.
- **Solution Realization Results and Issues (From: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Solution Design Package (From: A42 A424)**  
The collection of all the work products created during solution design.
- **Allocated Asset Items (From: A552)**  
The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.
- **Solution Development and Integration Results and Issues (From: A43 A433 A434 A435 A436 A437)**  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

## Outputs

- **CI Data Update Package (To: A5 A54 A542 A543)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- **Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)**  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.
- **Solution\_ Integrated (To: A436)**  
Completely assembled solution ready to be moved from the development and integration environment into the test environment. Usually includes work products and features required to support solution testing and acceptance.
- **Solution Development and Integration Activity Data (To: A438)**  
The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

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## [A436] Refine and Tune Integrated Solution

### Description

The purpose of this activity is to further improve the assembled and integrated solution by refining and fine-tuning the overall solution; both the individual solution components and connections between them.

It includes putting the tuned solution into the cumulative development environment and updating Configuration Management records to reflect the results of tuning and iterative builds.

### Controls

- Solution Development and Integration Plan (From: A432)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

### Inputs

- Solution\_ Integrated (From: A435)  
Completely assembled solution ready to be moved from the development and integration environment into the test environment. Usually includes work products and features required to support solution testing and acceptance.
- Solution Development and Integration Environment (From: A433)  
The entire infrastructure required to complete the solution build process, including the tools, supporting work products (scaffolding), and physical configuration control repository for the solution work products.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Allocated Asset Items (From: A552)  
The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.
- Solution Development and Integration Results and Issues (From: A43 A433 A434 A435 A436 A437)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

### Outputs

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes

- Relationships
- Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)  
The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.
- Solution\_ Tuned (To: A437)  
Integrated solution after refining and fine tuning the overall solution as well as solution components and connections between them. Performed according to a prescribed, organization-wide procedure.
- Solution Development and Integration Activity Data (To: A438)  
The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

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## [A437] Verify Integrated Solution

### Description

The purpose of this activity is to verify (verification ensures that you built it right) the Integrated Solution with all solution stakeholders. Verification includes using techniques such as code review and static analysis.

Once verification is obtained, it includes putting the newly integrated components into the cumulative development environment and updating Configuration Management records to reflect stakeholder concurrence with the solution.

### Controls

- Solution Development and Integration Plan (From: A432)  
Formally defined following a prescribed, organization-wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.
- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

### Inputs

- Solution\_ Tuned (From: A436)  
Integrated solution after refining and fine tuning the overall solution as well as solution components and connections between them. Performed according to a prescribed, organization-wide procedure.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.

- Solution Verification Results

Formal list of the entire positive (successful) and negative (deviations) from the standards and procedures identified during the verification process.

## Outputs

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- Solution\_ Verified

Integrated solution after verification by all the relevant stakeholders with all the verification issues (deviations from standards and procedures) formally resolved.

- Solution Development and Integration Results and Issues (To: A432 A433 A434 A435 A436)

The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

- Solution Verification Request

Formal request to verify (verification ensures that *you built it right*) the integrated solution by all the relevant stakeholders.

- Solution Development and Integration Activity Data (To: A438)

The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

## [A438] Evaluate Solution Development and Integration Performance

### Description

The purpose of this activity is to evaluate performance of the project-specific activities against the defined performance criteria and measurements within the Solution Build Framework, and to provide input into the organization-wide framework.

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Solution Development and Integration Framework (From: A431)  
Common, organization-wide Solution Development and Integration policies, standards, procedures and templates.

### Inputs

- Solution Development and Integration Activity Data (From: A432 A433 A434 A435 A436 A437)  
The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

### Outputs

- Solution Development and Integration Evaluation (To: A431)  
Formal evaluation of the performance of the project specific activities against the defined performance criteria and measurements within the Solution Build Framework.

## [A44] Solution Test

### Purpose

The Solution Test process exists to validate prior to deployment that the solution and its features conform to design specifications and requirements. It also verifies that interim work products exist and conform to standards.

Testing is performed throughout the entire life cycle of the solution, including post-deployment.

### Outcomes

As a result of successful implementation of this process:

- Solution functionality is verified and documented
- The actual characteristics and behavior of the solution are well known. Any differences with the solution requirements and agreed design specifications are reported.
- Solution defects are identified before the decision is made to migrate to the production environment
- Developers and stakeholders receive thorough quantitative and qualitative assessments of solution quality. (It is intended that the developers and stakeholders take some action as a result of having received this information.)
- Stakeholder expectations match solution characteristics.

### Scope

The *ITIL Service Transition* book provides useful discussion and examples. See the discussions around the service V-model.<sup>24</sup>

#### Includes

- ◆ All types of testing, such as:
  - Unit testing
  - Integration testing
  - Acceptance testing
  - Usability testing
  - Operability testing
  - Security testing
  - Regression testing
- ◆ Test case development
- ◆ Generating test results
- ◆ Managing the documentation of the test results
- ◆ Satisfying the requirements of the test management checklist

#### Excludes

- ◆ Fixing errors (depending on the nature of the error, this could involve any combination of Solution Requirements, Solution Analysis and Design, Solution Development and Integration)

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24. *ITIL Service Transition*, figures 4.21 and 4.30

- ◆ Design for testability (Solution Analysis and Design)
- ◆ Knowledge management
- ◆ Gaining acceptance (Solution Acceptance)
- ◆ Piloting (Deployment Management)
- ◆ Auditing (Solution Acceptance)

## Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

## Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Assembly (From: A43)

The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- Solution Design Package (From: A42 A424)

The collection of all the work products created during solution design.

- CIs (From: A5 A54 A543)

CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>25</sup>
- Solution\_ Deployed (From: A5 A53 A536)

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Solution Requirements Baseline (From: A41 A415)

Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution Realization Results and Issues (From: A4)

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Security Risk Assessment (From: A723)

A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- Solution Test Results and Issues

The collected set of documentation that describes the *fit-for-purpose* characteristics of all of the Solution Test activity work products, and any issues identified as a result of executing the Solution Test process.
- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

  - Attributes
  - Relationships
- CI Requisition (To: A5 A54 A543)

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

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25. ITIL V3 Glossary

- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

- Solution Test Report (To: A45 A454)

The collected test data, results and analysis of the solution and environment under consideration. Includes test cases and defective test cases.

- Project Events (To: A375)

The notification of events that, in the project manager's opinion, are important to support the management of the project.

## Activities

This process is composed of these activities:

- A441 Establish Solution Test Framework
- A442 Develop Solution Test Strategy and Plans
- A443 Prepare and Manage Solution Test Environment
- A444 Perform Solution Test
- A445 Analyze and Report Solution Test Results
- A446 Evaluate Solution Test Performance

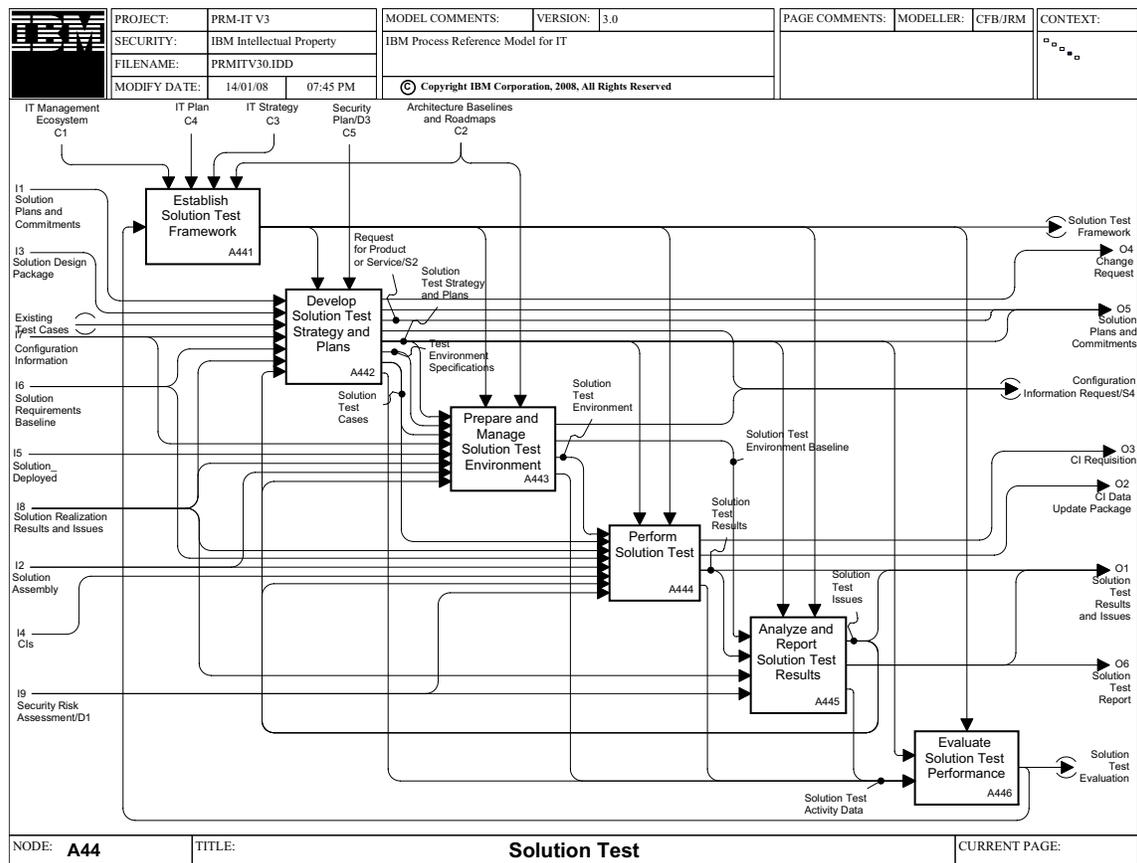


Figure 5. A44 Solution Test

## [A441] Establish Solution Test Framework

### Description

The purpose of this activity is to tailor in a prescribed way the organization-wide IT Management Framework (policies, standards, procedures, templates related to Solution Test Management and engineering) and to define specific goals, measurements, and targets.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### Inputs

- Solution Test Evaluation (From: A446)  
The effectiveness and efficiency of the practices performed in executing the Solution Test process.

### Outputs

- Solution Test Framework (To: A442 A443 A444 A445 A446)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.

## [A442] Develop Solution Test Strategy and Plans

### Description

The purpose of this activity is to develop a project solution-specific approach to Solution Testing (consistent with overall IT practices) and to create the Solution Test (quality control) Project Plan. This activity creates the specifications for all test environments that will be used to test the solution (or solution components), as well as the test cases to be used.

When necessary, this activity also identifies new products or services required to support and complete the test strategies and plans.

### Controls

- Solution Test Framework (From: A441)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

### Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Design Package (From: A42 A424)  
The collection of all the work products created during solution design.
- Existing Test Cases  
Any relevant, previously-defined and exercised test case that is identified as relevant to the particular solution for which testing is being planned. These test cases are managed under the Knowledge Management process.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- **Solution Test Issues (From: A445)**

Any additional issues identified during test results analysis that need to be recognized and perhaps addressed.

## Outputs

- **Change Request (To: A5 A51 A512)**

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- **Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- **Plans:** Sets of committed solution phases, activities, tasks and milestones together with time frame.
- **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.

- **Request for Product or Service (To: A822 A823 A824)**

Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.

- **Configuration Information Request (To: A54 A544)**

Any request for information about one or more configuration items. Many IT processes will make such requests.

- **Solution Test Strategy and Plans (To: A443 A444 A445 A446)**

A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.

- **Test Environment Specifications (To: A443)**

Based on the requirements and design of each solution and on the selected, customized test strategy and plans, this is a specification of the test environment that will support the required testing.

- **Solution Test Cases (To: A443 A444)**

The collection of test cases; that is, the description of what is to be tested, why, how (including sample data), and the expected outcomes from the testing.

- **Solution Test Activity Data (To: A446)**

Performance and quality data regarding activities performed in executing the Solution Test process.

## [A443] Prepare and Manage Solution Test Environment

### Description

The purpose of this activity is to prepare the Solution Test Environment by either creating it from scratch or by modifying an existing one. It includes Configuration Management of solution elements, Build Environment elements, and test cases.

### Controls

- Solution Test Framework (From: A441)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### Inputs

- Solution Test Strategy and Plans (From: A442)  
A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.
- Test Environment Specifications (From: A442)  
Based on the requirements and design of each solution and on the selected, customized test strategy and plans, this is a specification of the test environment that will support the required testing.
- Solution Test Cases (From: A442)  
The collection of test cases; that is, the description of what is to be tested, why, how (including sample data), and the expected outcomes from the testing.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Assembly  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.(From: A43)
- Solution Test Issues (From: A445)  
Any additional issues identified during test results analysis that need to be recognized and perhaps addressed.

## Outputs

- Configuration Information Request (To: A54 A544)  
Any request for information about one or more configuration items. Many IT processes will make such requests.
- Solution Test Environment Baseline (To: A445)  
A reference point specification of the functional environment used to support testing of a specific solution.
- Solution Test Environment (To: A444)  
The functional environment constructed and allocated to support testing of a specific solution.
- Solution Test Activity Data (To: A446)  
Performance and quality data regarding activities performed in executing the Solution Test process.

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## [A444] Perform Solution Test

### Description

The purpose of this activity is to test the partially or fully assembled solution in a way according to the Solution Test Strategy and Plans within the specified time frame, and to document the results. It includes putting the integrated solution into the test environment and providing updated Configuration Management data.

### Controls

- Solution Test Strategy and Plans (From: A442)  
A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.
- Solution Test Framework (From: A441)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.

### Inputs

- Solution Test Environment (From: A443)  
The functional environment constructed and allocated to support testing of a specific solution.
- Solution Test Cases (From: A442)  
The collection of test cases; that is, the description of what is to be tested, why, how (including sample data), and the expected outcomes from the testing.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.

- **Solution Assembly (From: A43)**  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- **CI (From: A5 A54 A543)**  
CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>26</sup>
- **Solution Test Issues (From: A445)**  
Any additional issues identified during test results analysis that need to be recognized and perhaps addressed.
- **Security Risk Assessment (From: A723)**  
A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- **CI Requisition (To: A5 A54 A543)**  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- **CI Data Update Package (To: A5 A54 A542 A543)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- **Solution Test Results (To: A445)**  
The outcomes (results) of applying the selected test cases to the Solution Build Package.
- **Solution Test Activity Data (To: A446)**  
Performance and quality data regarding activities performed in executing the Solution Test process.

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## [A445] Analyze and Report Solution Test Results

### Description

The purpose of this activity is to review the documented results of testing activities and to formally report the findings, conclusions, and any additional issues identified during testing along with any recommendations.

These results become part of the solution's overall collection of documentation and project records.

### Controls

- **Solution Test Strategy and Plans (From: A442)**  
A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.

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26. ITIL V3 Glossary

- **Solution Test Framework (From: A441)**  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.

## Inputs

- **Solution Test Environment Baseline (From: A443)**  
A reference point specification of the functional environment used to support testing of a specific solution.
- **Solution Test Results (From: A444)**  
The outcomes (results) of applying the selected test cases to the Solution Build Package.
- **Solution Realization Results and Issues (From: A4)**  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- **Security Risk Assessment (From: A723)**  
A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- **Solution Test Issues (To: A442 A443 A444)**  
Any additional issues identified during test results analysis that need to be recognized and perhaps addressed.
- **Solution Test Report (To: A45 A454)**  
The collected test data, results and analysis of the solution and environment under consideration. Includes test cases and defective test cases.
- **Solution Test Activity Data (To: A446)**  
Performance and quality data regarding activities performed in executing the Solution Test process.

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## [A446] Evaluate Solution Test Performance

### Description

The purpose of this activity is to evaluate performance of the project-specific Solution Test (quality control) activities against defined performance criteria and measures, and to provide input to the IT Management System Framework.

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- **Solution Test Framework (From: A441)**  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, workflows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.

## Inputs

- Solution Test Strategy and Plans (From: A442)  
A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.
- Solution Test Activity Data (From: A442 A443 A444 A445)  
Performance and quality data regarding activities performed in executing the Solution Test process.

## Outputs

- Solution Test Evaluation (To: A441)  
The effectiveness and efficiency of the practices performed in executing the Solution Test process.

## [A45] Solution Acceptance

### Purpose

The purpose of the Solution Acceptance process is to validate that the proposed solution, either as individual artifacts or in its complete form, meets acceptance criteria at defined checkpoints

### Outcomes

As a result of successful implementation of this process:

- Stakeholders agree before deployment that all requirements have been met
- The solution's capability to meet service level agreements is validated
- Transition of the solution into live service presents minimum risk
- The production environment remains stable and predictable after incorporating this solution
- Those responsible for delivering service and support are properly prepared to do so

### Scope

ITIL defines acceptance as: “Formal agreement that an IT Service, Process, Plan, or other Deliverable is complete, accurate, Reliable and meets its specified Requirements. Acceptance is usually preceded by Evaluation or Testing and is often required before proceeding to the next stage of a Project or Process.”<sup>27</sup>

This process operates throughout and beyond the lifetime of a solution realization project. An instance of examining the acceptance of a service can be triggered post-deployment, perhaps as part of a pilot rollout.

### Includes

- ◆ Periodic review of solution project performance to date and status in respect of solution acceptance criteria
- ◆ Involvement of all relevant stakeholders, such as:
  - Solution customer
  - Solution developer
  - Provider of service for the solution once deployed—this includes operational staff as well as management
  - Interested parties in relation to non-functional concerns, like security, compliance, conformance to architectural and development guidelines)
  - Users
- ◆ Assisting in the development of approved solution plans and commitments
- ◆ Obtaining the customer perspective on prototype work products and accepted solutions
- ◆ Working with the customer to facilitate acceptance of the solution
- ◆ Working with the customer to facilitate acceptance of solution shutdown and retirement
- ◆ Documenting how the confirmed requirements are met in the accepted solution and in interim milestones
- ◆ Identifying and tracking of all acceptance review results and issues

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27. ITIL V3 Glossary

## Excludes

- ◆ Testing (Solution Test)
- ◆ Providing education and training (Deployment Management)
- ◆ Establishing service levels (Service Level Management)

## Controls

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>28</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>29</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>30</sup>

These agreements can be in a draft or finalized status.

### ■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

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28. ITIL V3 Glossary

29. ITIL V3 Glossary

30. ITIL V3 Glossary

- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Test Report (From: A44 A445)  
The collected test data, results and analysis of the solution and environment under consideration. Includes test cases and defective test cases.
- Solution Assembly (From: A43)  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.
- Operational Documentation (From: A855)  
The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

## Outputs

- Solution Acceptance Review Results and Issues (To: A452 A453 A455)  
The collected set of documentation describing the *fit-for-purpose* characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.

- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- Solution\_ Accepted (To: A5 A52 A523 A53 A533)

The Solution which has been approved by the stakeholder community, and is now ready to be deployed.

- Project Events (To: A375)

The notification of events that, in the project manager's opinion, are important to support the management of the project.

## Activities

This process is composed of these activities:

- A451 Establish Solution Acceptance Framework
- A452 Create Solution Acceptance Plan
- A453 Define Solution Acceptance Criteria
- A454 Perform Solution Acceptance Review
- A455 Certify Solution Acceptance
- A456 Package Certified Solution
- A457 Evaluate Solution Acceptance Performance

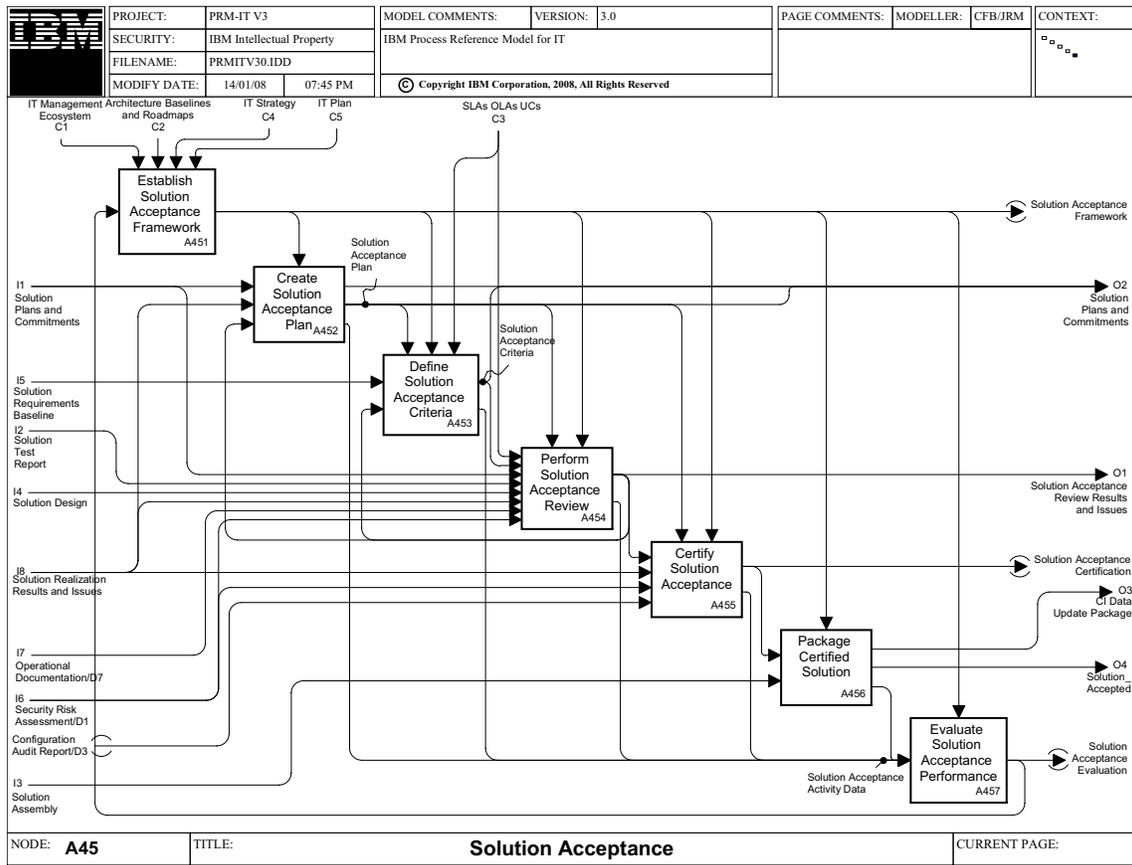


Figure 6. A45 Solution Acceptance

## [A451] Establish Solution Acceptance Framework

### Description

The purpose of this activity is to tailor in a prescribed way the organization-wide IT Management Framework (policies, standards, procedures, templates related to Solution Acceptance management and engineering), and to define specific goals, measurements and targets.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### Inputs

- Solution Acceptance Evaluation (From: A457)  
The effectiveness and efficiency of the practices performed in executing the Solution Acceptance process.

### Outputs

- Solution Acceptance Framework (To: A452 A453 A454 A455 A456 A457)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

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## [A452] Create Solution Acceptance Plan

### Description

The purpose of this activity is to develop a project solution-specific approach to solution acceptance and to create the Solution Acceptance Project Plan, in accordance with existing IT standards and approved methods.

The solution acceptance plan should include provisions to thoroughly address any residual solution development results and issues.

### Controls

- Solution Acceptance Framework (From: A451)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

### Inputs

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.
- Solution Acceptance Review Results and Issues (From: A45 A454)  
The collected set of documentation describing the *fit-for-purpose* characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.

### Outputs

- Solution Plans and Commitments (To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Solution Acceptance Plan (To: A453 A454 A455)  
The (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for presenting the proposed solution to the stakeholder community for evaluation and acceptance. Includes identification of stakeholders.

- Solution Acceptance Activity Data (To: A457)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

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## [A453] Define Solution Acceptance Criteria

### Description

The purpose of this activity is to determine and document the final criteria to be used by the stakeholder community in evaluating the solution against the Solution Requirements Baseline and, if necessary, the ability to tolerate known defects in a production implementation.

### Controls

- Solution Acceptance Plan (From: A452)  
The (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for presenting the proposed solution to the stakeholder community for evaluation and acceptance. Includes identification of stakeholders.
- Solution Acceptance Framework (From: A451)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>31</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>32</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>33</sup>

These agreements can be in a draft or finalized status.

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31. ITIL V3 Glossary  
32. ITIL V3 Glossary  
33. ITIL V3 Glossary

## Inputs

- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Solution Acceptance Review Results and Issues (From: A45 A454)  
The collected set of documentation describing the *fit-for-purpose* characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.

## Outputs

- Solution Acceptance Criteria (To: A454)  
The complete set of criteria that the stakeholder community will use to certify their acceptance of the solution produced.  
For the special case of 'Solution' that is a 'Service', ITIL defines Service Acceptance Criteria as: "A set of criteria used to ensure that an IT Service meets its functionality and Quality Requirements and that the IT Service Provider is ready to Operate the new IT Service when it has been Deployed."<sup>34</sup>
- Solution Acceptance Activity Data (To: A457)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

## [A454] Perform Solution Acceptance Review

### Description

The purpose of this activity is to evaluate the tested solution against its acceptance criteria, and to produce a detailed and thorough analysis of both the resultant solution and its associated operational documentation.

Any recognized security vulnerabilities and risks should be highlighted in the review results.

### Controls

- Solution Acceptance Plan (From: A452)  
The (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for presenting the proposed solution to the stakeholder community for evaluation and acceptance. Includes identification of stakeholders.
- Solution Acceptance Framework (From: A451)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

### Inputs

- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external

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34. ITIL V3 Glossary

entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>35</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>36</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>37</sup>

These agreements can be in a draft or finalized status.

■ Solution Acceptance Criteria (From: A453)

The complete set of criteria that the stakeholder community will use to certify their acceptance of the solution produced.

For the special case of 'Solution' that is a 'Service', ITIL defines Service Acceptance Criteria as: “A set of criteria used to ensure that an IT Service meets its functionality and Quality Requirements and that the IT Service Provider is ready to Operate the new IT Service when it has been Deployed.”<sup>38</sup>

■ Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

■ Solution Test Report (From: A44 A445)

The collected test data, results and analysis of the solution and environment under consideration. Includes test cases and defective test cases.

■ Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

■ Solution Realization Results and Issues (From: A4)

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

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35. ITIL V3 Glossary

36. ITIL V3 Glossary

37. ITIL V3 Glossary

38. ITIL V3 Glossary

- Operational Documentation (From: A855)  
The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.

## Outputs

- Solution Acceptance Review Results and Issues (To: A452 A453 A455)  
The collected set of documentation describing the *fit-for-purpose* characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.
- Solution Acceptance Activity Data (To: A457)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

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## [A455] Certify Solution Acceptance

### Description

The purpose of this activity is to create a formal checkpoint and documentation of stakeholder acceptance of the as-built solution.

Once consensus is achieved, the accepted solution can be packaged ready for handover and then begin its migration through Change Management processes to the next environment tier (for example, from development to test).

### Controls

- Solution Acceptance Plan (From: A452)  
The (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for presenting the proposed solution to the stakeholder community for evaluation and acceptance. Includes identification of stakeholders.
- Solution Acceptance Framework (From: A451)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

### Inputs

- Solution Acceptance Review Results and Issues (From: A45 A454)  
The collected set of documentation describing the *fit-for-purpose* characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.
- Solution Realization Results and Issues (From: A4)  
The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

- Security Risk Assessment (From: A723)  
A detailed analysis of the current and projected security risk factors facing the enterprise.
- Configuration Audit Report (From: A545)  
The outcomes of a configuration audit. The outcomes cover both status of configuration items and audit trails of changes to configuration items, such as logs of identities of the persons making such changes.

## Outputs

- Solution Acceptance Certification (To: A456)  
The record (document) containing the formal certification by authorized, designated stakeholders that the solution meets acceptance criteria.
- Solution Acceptance Activity Data (To: A457)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

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## [A456] Package Certified Solution

### Description

This activity exists to bring together all the solution components (such as modules, builds, procedures, documentation) which comprise the certified solution in a single physical or logical package. Packaging ensures that the recipients of the accepted solution either directly receive all the solution components or are provided with a bill-of-material together with details of how to obtain the components, or some combination thereof.

### Controls

- Solution Acceptance Framework (From: A451)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

### Inputs

- Solution Acceptance Certification (From: A455)  
The record (document) containing the formal certification by authorized, designated stakeholders that the solution meets acceptance criteria.
- Solution Assembly (From: A43)  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.

### Outputs

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Solution\_ Accepted (To: A5 A52 A523 A53 A533)  
The Solution which has been approved by the stakeholder community, and is now ready to be deployed.

- Solution Acceptance Activity Data (To: A457)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

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## [A457] Evaluate Solution Acceptance Performance

### Description

The purpose of this activity is to evaluate the performance of the Solution Acceptance process activities against defined performance criteria and measures, and to provide input to the IT Management System Framework.

The evaluation of process performance identifies areas that need improvement, such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Solution Acceptance Framework (From: A451)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

### Inputs

- Solution Acceptance Activity Data (From: A452 A453 A454 A455 A456)  
Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

### Outputs

- Solution Acceptance Evaluation (To: A451)  
The effectiveness and efficiency of the practices performed in executing the Solution Acceptance process.

## PRM-IT A4 Node Tree

<b>A4 – REALIZATION</b>	
<b>A41</b>	<b>Solution Requirements</b>
A411	Establish Solution Requirements Framework
A412	Refine and Verify Business Context
A413	Document and Analyze Solution Requirements
A414	Validate Solution Requirements with Stakeholders
A415	Manage Solution Requirements Baseline
A416	Evaluate Solution Requirements Performance
<b>A42</b>	<b>Solution Analysis and Design</b>
A421	Establish Solution Analysis and Design Framework
A422	Create Conceptual Solution Design
A423	Identify and Select Solution Components
A424	Create Detailed Solution Design
A425	Validate Solution Design with Stakeholders
A426	Evaluate Solution Analysis and Design Performance
<b>A43</b>	<b>Solution Development and Integration</b>
A431	Establish Solution Development and Integration Framework
A432	Define Solution Development and Integration Plan
A433	Prepare Solution Development and Integration Environment
A434	Acquire or Create Solution Components
A435	Integrate Solution Components
A436	Refine and Tune Integrated Solution
A437	Verify Integrated Solution
A438	Evaluate Solution Development and Integration Performance
<b>A44</b>	<b>Solution Test</b>
A441	Establish Solution Test Framework
A442	Develop Solution Test Strategy and Plans
A443	Prepare and Manage Solution Test Environment
A444	Perform Solution Test
A445	Analyze and Report Solution Test Results
A446	Evaluate Solution Test Performance
<b>A45</b>	<b>Solution Acceptance</b>
A451	Establish Solution Acceptance Framework
A452	Create Solution Acceptance Plan
A453	Define Solution Acceptance Criteria
A454	Perform Solution Acceptance Review
A455	Certify Solution Acceptance
A456	Package Certified Solution
A457	Evaluate Solution Acceptance Performance

Figure 7. A4 Realization Node Tree



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## Inputs

- Solution\_ Accepted (From: A4 A45 A456)
- CI Requisition (From: A4 A42 A423 A424 A43 A433 A434 A44 A444)
- Solution Design (From: A4 A42 A425)
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)
- Project Plan (From: A3 A37 A374)
- Product Package (From: A3 A35 A353 A354 A355)
- CI Data Update Package (From: A4 A42 A424 A43 A433 A434 A435 A436 A437 A44 A444 A45 A456 A51 A516 A52 A523 A526 A53 A535 A536 A6 A63 A634 A64 A645 A65 A652 A7 A75 A753 A754)
- Underpinning Contracts (From: A8 A82 A823)
- IT Financial Reports (From: A8 A81 A813 A814 A815)
- Service Resilience Plans (From: A7)
- Service Request\_ Authorized (From: A6 A61 A613)
- Change Request (From: A2 A23 A232 A3 A35 A355 A4 A42 A422 A43 A432 A44 A442 A54 A542 A6 A61 A613 A62 A621 A64 A644 A65 A655 A66 A665 A7 A72 A725 A73 A737 A74 A744 A745 A75 A752 A754 A76 A765 A766)

## Outputs

- Change Schedule (To: A514 A516 A517 A52 A522 A525 A54 A543 A545 A6 A63 A632 A66 A665 A7 A74 A744 A745 A75 A752 A753)
- Solution\_ Deployed (To: A3 A32 A4 A43 A433 A44 A443 A6 A62 A63 A634 A64 A641 A7 A76)
- Change Information (To: A2 A23 A233 A235 A3 A35 A355 A513 A514 A515 A516 A517 A54 A542 A543 A6 A61 A613 A615 A62 A621 A63 A632 A64 A641 A65 A654 A66 A662 A666 A7 A72 A721 A725 A73 A731 A735 A736 A74 A741 A742 A743 A75 A751 A76 A761 A764)
- Configuration Information (To: A3 A33 A336 A4 A42 A422 A423 A424 A44 A442 A443 A51 A513 A514 A516 A52 A523 A524 A53 A533 A534 A535 A545 A55 A553 A6 A61 A612 A62 A623 A63 A634 A635 A64 A642 A65 A652 A653 A654 A66 A662 A67 A674 A7 A72 A724 A726 A727 A73 A735 A736 A74 A742 A743 A744 A75 A752 A76 A764 A765 A766)
- Incident (To: A537 A6 A65 A652)
- Asset Information (To: A54 A543 A7 A71 A713 A72 A724 A8 A81 A812 A814 A815)
- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)
- Asset Deployment Items and Data (To: A4 A43 A51 A52 A522 A523 A524 A53 A534)
- CIs (To: A4 A43 A434 A44 A444)

## Processes

This process category is composed of these processes:

- A51 Change Management
- A52 Release Management
- A53 Deployment Management
- A54 Configuration Management
- A55 Asset Management

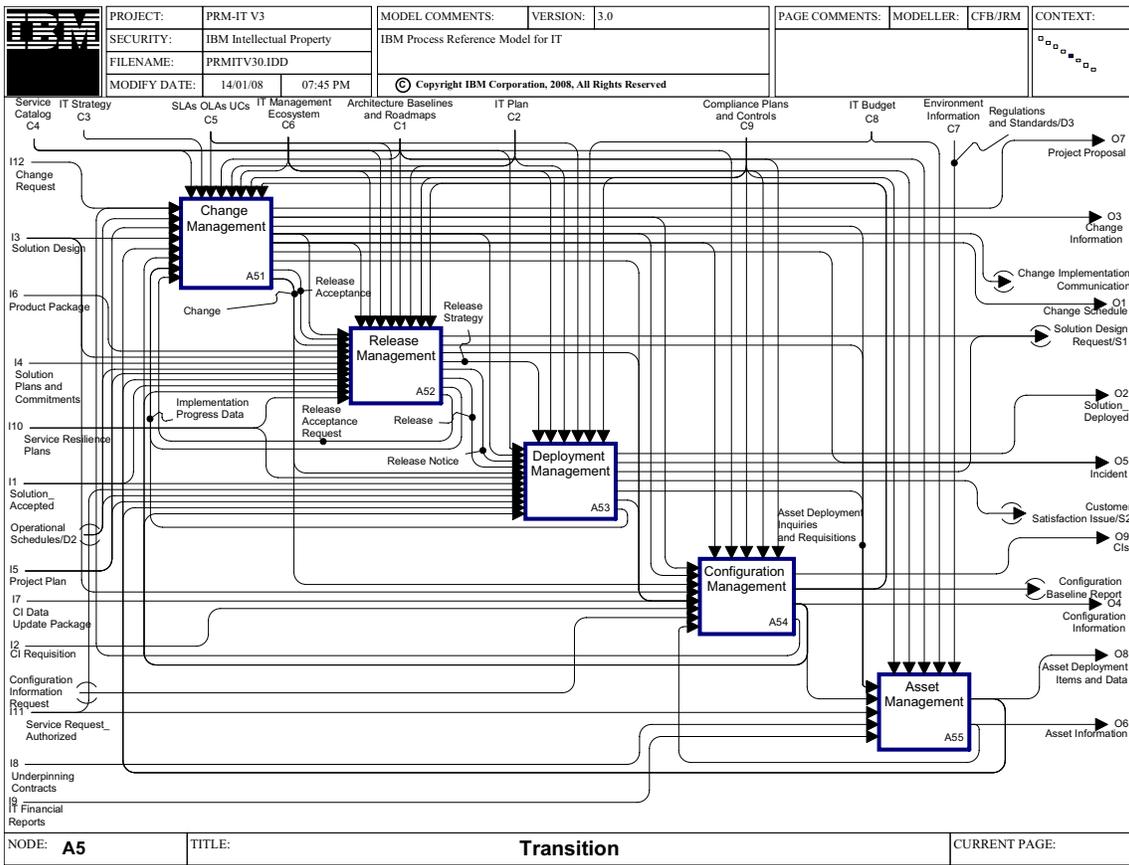


Figure 1. A5 Transition Diagram

## [A51] Change Management

### Purpose

The purpose of the Change Management process is to achieve the successful introduction of changes to an IT system or environment. Success is measured as a balance of the timeliness and completeness of change implementation, the cost of implementation, and the minimization of disruption caused in the target system or environment. The process also ensures that appropriate details of changes to IT resources (assets, CIs) are recorded.

Basically, a change is anything that alters the status of a configuration item (CI). This typically includes anything that adds to, deletes from, or modifies the IT environment. The definition of a change is the addition, modification or removal of approved, supported or baselined hardware, network, software, application, environment, system, desktop build or associated documentation.

A change request (for which RFC is an established synonym) is the means for documenting proposed change and actual change activity in IT resources or capabilities. Change requests can be triggered for a wide variety of reasons, from a wide variety of sources. Change requests can be concerned with any part of the infrastructure or with any service or activity.

### Outcomes

As a result of the successful implementation of the Change Management process:

- Changes are introduced in a timely and controlled manner
- Proposed changes are not approved nor introduced without an accurate assessment of their costs and other effects
- Incidents resulting from the introduction of changes are minimized
- Service quality is measurably improved
- Appropriate balance is maintained between the business need to deploy innovation and the need to maintain the stability of IT service

### Scope

Change Management typically begins with the creation of a Change Request (RFC). The change request documents details of the proposed change in order to support a range of business and technical assessments, leading to approval (or rejection) and ultimately to application of the change.

The Change Management process represents a pattern of activities and work flow, which can be implemented over a range of contexts. The most prominent contexts include operations and development. Operations Change Management and Development Change Management are similar in a number of ways, including recording of all change requests, assessment of all change requests prior to approval, a team-based approach to change approval, and review of change effectiveness. However, they are different in a number of ways:

- Development Change Management addresses changes proposed to a system under development. These changes may include requests for new functionality, patches, or redevelopment. In contrast, Operations Change Management focuses on changes to operational CIs in the entire IT infrastructure. These changes can include capacity tuning, asset transfer, and system resets.
- Changes are assessed and approved using a team. Each context typically has its own change board and membership, addressing different types of changes, and using different assessment criteria. In development, the team is often known as the Change Control Board; in ITIL, the term Change Advisory Board is used. A higher level board can be established to ensure integration of changes across contexts.

Change Management can appear in other contexts besides operations and development. There can be a single implementation of the Change Management process or several, with each implementation covering the scope of a defined context. Factors such as size of the organization and different start and end points defining a change can lead to multiple implementations of change management, with each following the process principles and pattern described but employing procedures and decision criteria customized for their context.

This process establishes classification and categorization schemes to assist with change assessment activities. It also defines the implementation approaches that will be assigned to approved changes in order to standardize the supervisory control levels, consistent with the assessment recommendations. ITIL, in the context of managing production environments, uses the term Change Model for these schemes.

Definition of Change Model: “A repeatable way of dealing with a particular Category of Change. A Change Model defines specific pre-defined steps that will be followed for a Change of this Category. Change Models may be very simple, with no requirement for approval (e.g. Password Reset) or may be very complex with many steps that require approval (e.g. major software Release).”<sup>1</sup>

Examples of change models:

- A standard change is “A pre-approved Change that is low Risk, relatively common and follows a Procedure or Work Instruction. For example password reset or provision of standard equipment to a new employee. RFCs are not required to implement a Standard Change, and they are logged and tracked using a different mechanism, such as a Service Request.”<sup>2</sup>
- An emergency change is “A Change that must be introduced as soon as possible. For example to resolve a Major Incident or implement a Security patch.”<sup>3</sup>
- For software development, there will frequently be different change types based on the impact to the overall system, and hence requiring different levels of approval, such as architectural change as compared with scope change, and change that is local to one component.

Some activities in the process require examination of several or all changes collectively rather than on an individual basis. For example, scheduling changes for implementation requires consideration of the other changes planned for the same dates and target environments in order to identify conflicts.

### Includes

- ◆ Planned changes, standard changes (pre-approved by policy), and emergency changes (policy exception request)
- ◆ Establishing both recurring and one-time only schedules (change windows) during which changes can be performed without negatively affecting commitments, such as project schedules, projected availability, or SLA commitments
- ◆ Enforcement of standard methods and procedures from request for change through post implementation review
- ◆ Establishing regular meetings and communication schedules to evaluate proposed changes and schedules
- ◆ Control and management coordination of the implementation of those changes that are subsequently approved

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- ◆ Maintenance of open channels of communications to promote smooth transition when changes take place
- ◆ Increased visibility and communication of changes to both business and support staff

### Excludes

- ◆ Requirements Management (Stakeholder Requirements Management)
- ◆ Creation of new or revised functionality (Realization category processes)
- ◆ Building the packaging for the delivery of new or revised functionality (Release Management)
- ◆ Technical implementation, such as distribution, preparation, installation, and back out if necessary (Deployment Management)
- ◆ Configuration Management, although the interface to this process must be managed
- ◆ Asset Management, although the interface to this process must be managed
- ◆ Business transformation and organizational change (IT Customer Transformation Management)

### Controls

#### ■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>4</sup>

#### ■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

#### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs)

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the

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responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>5</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>6</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>7</sup>

These agreements can be in a draft or finalized status.

- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- **IT Plan (From: A3 A36 A365)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- **Compliance Plans and Controls (From: A7 A71 A714)**

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- **Configuration Baseline Report (From: A54 A542 A543)**

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

## Inputs

- **Change Request (From: A2 A23 A232 A3 A35 A355 A4 A42 A422 A43 A432 A44 A442 A54 A542 A6 A61 A613 A62 A621 A64 A644 A65 A655 A66 A665 A7 A72 A725 A73 A737 A74 A744 A745 A75 A752 A754 A76 A765 A766)**

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

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- **Operational Schedules (From: A621)**  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- **Project Plan (From: A3 A37 A374)**  
The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.
- **Solution Design (From: A4 A42 A425)**  
Solution design, including *conceptual*, *macro*, and *micro* designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Asset Deployment Items and Data (From: A5 A55)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Implementation Progress Data (From: A375 A52 A523 A524 A53 A535 A536 A635)**  
The record of each incremental activity performed as part of the implementation of a change or release.
- **Release Acceptance Request (From: A52 A524)**  
A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.

## Outputs

- **Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)**  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- **Change Information (To: A2 A23 A233 A235 A3 A35 A355 A513 A514 A515 A516 A517 A54 A542 A543 A6 A61 A613 A615 A62 A621 A63 A632 A64 A641 A65 A654 A66 A662 A666 A7 A72 A721 A725 A73 A731 A735 A736 A74 A741 A742 A743 A75 A751 A76 A761 A764)**  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Asset Deployment Inquiries and Requisitions (To: A55)**  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- **Change Implementation Communication (To: A375 A52 A522 A523 A524 A53 A535 A536 A54 A542 A543 A635 A655 A665)**  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementation
 This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

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- Change Schedule (To: A514 A516 A517 A52 A522 A525 A54 A543 A545 A6 A63 A632 A66 A665 A7 A74 A744 A745 A75 A752 A753)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>8</sup>

- Incident (To: A537 A6 A65 A652)

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- Release Acceptance (To: A52 A524 A525)

The notification of approval that the *release* can proceed to its rollout activities.

- Change (To: A412 A516 A517 A518 A52 A522 A53 A532 A54 A543 A753)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

## Activities

This process is composed of these activities:

- A511 Establish Change Management Framework
- A512 Create and Record Change Request
- A513 Accept and Categorize Change
- A514 Assess Change
- A515 Authorize and Schedule Change
- A516 Coordinate Change Implementation
- A517 Review and Close Change
- A518 Monitor and Report Change Management
- A519 Evaluate Change Management Performance

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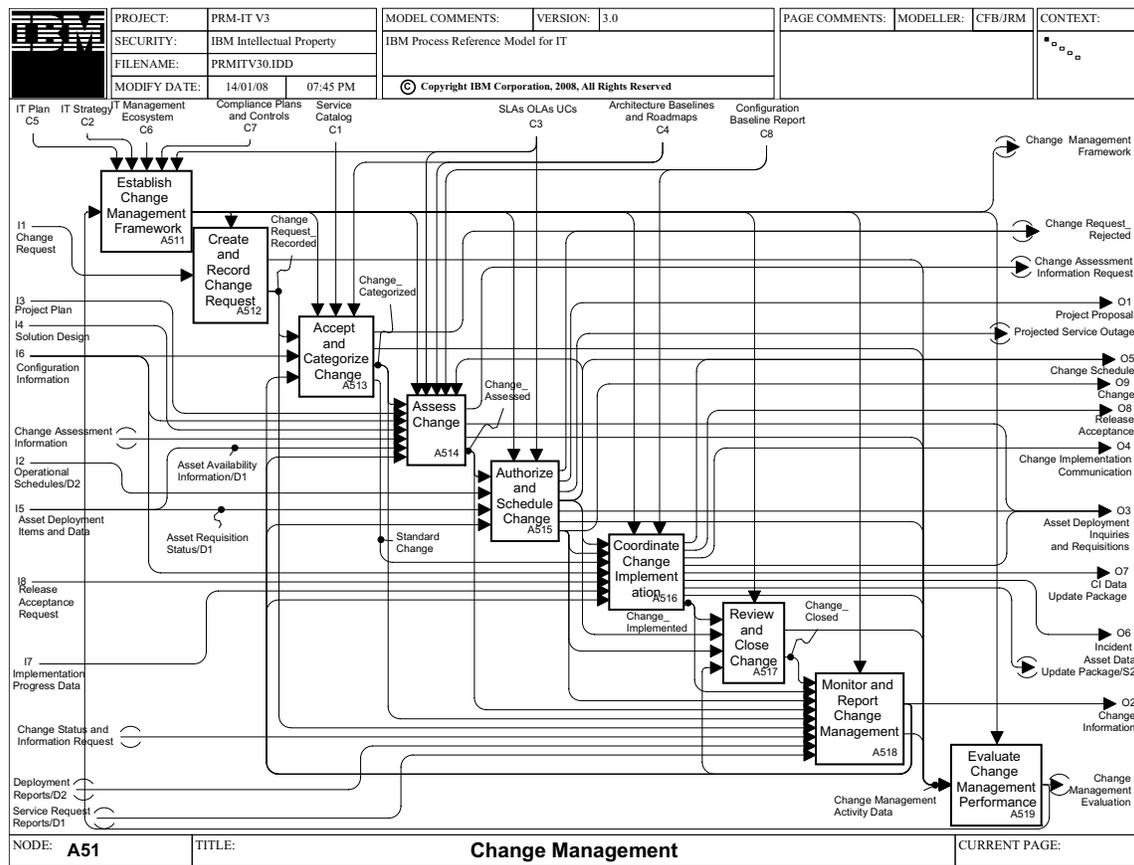


Figure 2. A51 Change Management

## [A511] Establish Change Management Framework

### Description

This activity defines the way Change Management will be managed and controlled. It defines the rules by which Changes can be allowed to flow through the Change Management Process, and takes into account other functions that will be affected by the Change Management process, such as Configuration Management.

This activity facilitates the creation of a Change Management Framework, which is essential in ensuring that changes that are introduced to a live environment are done so with mitigated risk, and with minimal or no disruption.

- It creates and maintains the scope, policies, standards, responsibilities, and procedures of the Change Management process. This includes defining change models, determining relationships with other processes, change request specifications, and the composition of the change advisory board (CAB).
- It also carries out the assignment of roles and responsibilities.

This is not a one-off activity. It should be undertaken periodically to ensure that the framework remains suitable for the business, and it should take into account changes to the size of the organization, service levels, business, IT strategies, and operational plans.

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## Controls

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs)

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>9</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>10</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>11</sup>

These agreements can be in a draft or finalized status.

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## Inputs

- Change Management Evaluation (From: A519)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Change Management Framework (To: A233 A234 A512 A513 A514 A515 A516 A517 A518 A519 A611 A641)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

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## [A512] Create and Record Change Request

### Description

The activity of formulating and storing the information about any proposed or after-the-fact change. The request will contain a defined outline of informational sections which have been established as necessary in order for it to be progressed into assessment and the further activities of Change Management. Information can vary depending upon the context, scale, and potential impact of the requested change.

### Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

### Inputs

- Change Request (From: A2 A23 A232 A3 A35 A355 A4 A42 A422 A43 A432 A44 A442 A54 A542 A6 A61 A613 A62 A621 A64 A644 A65 A655 A66 A665 A7 A72 A725 A73 A737 A74 A744 A745 A75 A752 A754 A76 A765 A766)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

### Outputs

- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Change Request\_ Recorded (To: A513 A518)  
The details of a change request, captured in a document or other format defined by the Change Management Framework.

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## [A513] Accept and Categorize Change

### Description

This activity begins with the examination of the change request to determine if it can be accepted for consideration. To accept a change request all required information must be logged; omitted or incomplete information can cause a change request to be returned. The return of the change request will usually indicate that the request can be re-submitted if the missing or inadequate information is provided. After initial acceptance, the change request is categorized. Categorizing consists of identifying whether the change request fits categories such as:

- Standard change typically pre-approved
- Normal change requiring control using the designed, preferred Change Management process and procedures
- Exception change (such as an emergency change) requiring Change Management control but under non-preferred circumstances

ITIL suggests that each categorization can have an associated change model, defined as: “A repeatable way of dealing with a particular Category of Change. A Change Model defines specific pre-defined steps that will be followed for a Change of this Category. Change Models may be very simple, with no requirement for approval (e.g. Password Reset) or may be very complex with many steps that require approval (e.g. major software Release).”<sup>12</sup>

Finally, the change request is assigned to the appropriate roles, functions or teams, to evaluate the change.

- Change requests that are out of scope or not within policy are rejected. In these cases, the submitter might be guided to present their request as a new requirement.
- Standard changes are sent for implementation.
- The remaining change requests are marked for assessment, and routed according to their content and categorization.

### Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>13</sup>
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

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## Inputs

- Change Request\_ Recorded (From: A512)  
The details of a change request, captured in a document or other format defined by the Change Management Framework.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Change Request\_ Rejected  
Any change request which has been rejected, and sent back to the requestor. Reasons for rejection include:
  - Lack of authorization or funding
  - The change requested is beyond the scope of Change Management (for example, it is a new requirement)
  - The change request is incomplete or in error
  - The change request has been assessed as having too high a risk and needs rework
- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Change\_ Categorized (To: A514 A518)  
The change request, which has completed acceptance, is now recognized as a *change*. The categorization indicates the types and levels of assessment needed.
- Standard Change (To: A516)  
Those changes that have been pre-approved for deployment. They include well known and proven tasks, and have limited (and well understood) or no impact on the integrity of the target context, such as the infrastructure. These changes will also have all entitlement issues, like financial approvals, and licensing already resolved.  
Implementation can be either user-driven or managed by the IT function. Examples include:
  - Installation of printer drivers from a pre-installed library on a PC
  - Downloading and installation of software or fixes from vendor sites
  - Upgrading a laptop to a larger hard drive

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## [A514] Assess Change

### Description

This activity analyzes each change to determine its impact on existing and planned CIs as well as the impact on resources required to build and deploy the change. This involves identifying the appropriate change model for handling the change, scheduling a CAB meeting if specified by the change model, and obtaining a complete set of analysis results and issues.

In this activity, the impact of a change is evaluated from both the IT and business perspectives, ensuring that the change can be successfully implemented with a minimal impact to committed services and still meet business requirements.

This activity allocates priority based on urgency, and if the change is for the resolution of a problem, the priority will also reflect projected impact. Assessment often assigns impact categorization classes such as *minor*, *significant*, or *major*.

### Controls

- Change Management Framework (From: A511)

The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>14</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>15</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>16</sup>

These agreements can be in a draft or finalized status.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

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- Configuration Baseline Report (From: A54 A542 A543)  
A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>17</sup>

## Inputs

- Change\_ Categorized (From: A513)  
The change request, which has completed acceptance, is now recognized as a change. The categorization indicates the types and levels of assessment needed.
- Project Plan (From: A3 A37 A374)  
The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Change Assessment Information  
Any information about the potential impact or risks relating to a change, including input from the business and from any other relevant process within IT.
- Asset Availability Information (From: A552)  
Details of the ability of the subject IT asset or assets to be made available for deployment or development use. The details will include:
  - Quantities
  - Specifications
  - Dates
  - Locations.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Request for Change Assessment Information Request  
A request to any relevant party to provide information that will contribute to the assessment of a change.

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- Asset Deployment Inquiries and Requisitions (To: A55)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Change\_ Assessed (To: A515 A518)  
The change, including the collection of assessment recommendations.

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## [A515] Authorize and Schedule Change

### Description

This activity represents a decision checkpoint against the change based on impact. It examines the analysis results from Assess Change and determines whether to approve the change.

If approved, the change deployment approach and targeted change deployment schedule are determined for the change. Approval types can include financial, technical, and business, all of which can be considered by any body approving the change. The manner in which the change is approved will depend on the organization structure, but formal approval will be obtained for each change from the change authority (CA). This can be Change Management, Service Management, or some other nominated person or group.

If a solution does not exist, one can be requested (through Project Proposal) before the change is approved. If a solution does exist, a change can then be scheduled.

The activity for scheduling a change takes into account the Change Schedule, eliminating conflict between differing changes, and assigning appropriate resources accordingly. Approved changes can be subsequently scheduled into target releases, in line with the policy for determining releases. The result is an updated Change Schedule, containing details of all approved changes and their implementation dates, along with the Projected Service Availability document, containing details of changes to agreed service level agreements and service availability.

### Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>18</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>19</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>20</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Change\_ Assessed (From: A514)  
The change, including the collection of assessment recommendations.
- Operational Schedules (From: A621)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Asset Requisition Status (From: A552)  
The acknowledgement, including status information such as expected dates, that a requisition for one or more assets has been received and processed.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Change Request\_ Rejected  
Any change request which has been rejected, and sent back to the requestor. Reasons for rejection include:
  - Lack of authorization or funding
  - The change requested is beyond the scope of Change Management (for example, it is a new requirement)
  - The change request is incomplete or in error
  - The change request has been assessed as having too high a risk and needs rework
- Project Proposal (To: A3 A34 A342 A35 A352 A36 A364)  
A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.
- Projected Service Outage (To: A244 A734)  
As defined in ITIL: “A Document that identifies the effect of planned Changes, maintenance Activities and Test Plans on agreed Service Levels.”<sup>21</sup>
- Change Schedule (To: A514 A516 A517 A52 A522 A525 A54 A543 A545 A6 A63 A632 A66 A665 A7 A74 A744 A745 A75 A752 A753)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of

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Change, even though it also contains information about Changes that have already been implemented.”<sup>22</sup>

- Asset Deployment Inquiries and Requisitions (To: A55)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Change (To: A412 A516 A517 A518 A52 A522 A53 A532 A54 A543 A753)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

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## [A516] Coordinate Change Implementation

### Description

This activity takes an approved change and coordinates its implementation. If the approved change involved creating or updating a solution, then the solution components must first be built and supplied by Solution Realization.

Approved changes are made available primarily through Release Management, but some changes are implemented through assignment by the Change Manager (within Change Management). This determination is made by Change Management policies and the appropriate change model.

Change Management monitors the actual deployment of the change, as carried out by Deployment Management.

### Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.
- Configuration Baseline Report (From: A54 A542 A543)  
A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

### Inputs

- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>23</sup>

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- **Change (From: A51 A515)**

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- **Standard Change (From: A513)**

Those changes that have been pre-approved for deployment. They include well known and proven tasks, and have limited (and well understood) or no impact on the integrity of the target context, such as the infrastructure. These changes will also have all entitlement issues, like financial approvals, and licensing already resolved.

Implementation can be either user-driven or managed by the IT function. Examples include:

  - Installation of printer drivers from a pre-installed library on a PC
  - Downloading and installation of software or fixes from vendor sites
  - Upgrading a laptop to a larger hard drive
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests. (From: A52 A524)Release Acceptance Request

A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.
- **Implementation Progress Data (From: A375 A52 A523 A524 A53 A535 A536 A635)**

The record of each incremental activity performed as part of the implementation of a change or release.
- **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- **Change Schedule (To: A514 A516 A517 A52 A522 A525 A54 A543 A545 A6 A63 A632 A66 A665 A7 A74 A744 A745 A75 A752 A753)**

As defined in ITIL: "A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented."<sup>24</sup>
- **Release Acceptance (To: A52 A524 A525)**

The notification of approval that the Release can proceed to its rollout activities.
- **Change Implementation Communication (To: A375 A52 A522 A523 A524 A53 A535 A536 A54 A542 A543 A635 A655 A665)**

Information used to coordinate and implement a change. It can reflect either or both the:

  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

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- **Asset Deployment Inquiries and Requisitions (To: A55)**  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- **CI Data Update Package (To: A5 A54 A542 A543)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships.
- **Incident (To: A537 A6 A65 A652)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- **Asset Data Update Package (To: A553)**  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- **Change Management Activity Data (To: A519)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Change\_ Implemented (To: A517 A518)**  
The history and record of the change implementation activity which has culminated in the completion of the change related to the change request. It also includes the case of a failed implementation, with any back out results.

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## [A517] Review and Close Change

### Description

This activity contains the tasks involved in reviewing all implemented changes, after a predefined period has elapsed or another review trigger has been activated. It ensures that the change has had the desired effect and met its objectives, and that users and customers are content with the results, or to identify any shortcomings. The review activity determines whether the implementation plan and the back-out plan worked correctly, and whether the change was implemented on time and to cost. It determines whether any follow up action (such as the creation of a new change request) is required.

A formal close of the change is performed. The closure of a change includes updating other process areas of the status of the change.

### Controls

- **Change Management Framework (From: A511)**  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

## Inputs

- Change\_ Implemented (From: A516)  
The history and record of the change implementation activity which has culminated in the completion of the change related to the change request. It also includes the case of a failed implementation, with any back out results.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>25</sup>
- Change (From: A51 A515)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Change\_ Closed (To: A518)  
The change having completed all parts of the change life cycle, and reached *closed* status.

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## [A518] Monitor and Report Change Management

### Description

This activity is responsible for looking over all changes, whether active or closed, and being able to provide information on the status and details of one or many changes. The other activities in Change Management each update change data maintained in *change records*, defined in ITIL as: “A Record containing the details of a Change. Each Change Record documents the Lifecycle of a single Change. A Change Record is created for every Request for Change that is received, even those that are subsequently rejected. Change Records should reference the Configuration Items that are affected by the Change. Change Records are stored in the Configuration Management System.”<sup>26</sup>

The information can be provided in an ad hoc manner or using predetermined reports. This scope is inclusive of the other parts of Change Management. In addition, it examines detailed information and summary statistics about the volumes, success rates, and issues with the workings of changes outside this process:

- The deployment activities coordinated by Change Management
- Standard changes (so those changes not requiring direct Change Management coordination)

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## Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

## Inputs

- Change\_ Closed (From: A517)  
The change having completed all parts of the change life cycle, and reached *closed* status.
- Change\_ Implemented (From: A516)  
The history and record of the change implementation activity which has culminated in the completion of the change related to the change request. It also includes the case of a failed implementation, with any back out results.
- Change (From: A51 A515)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- Change\_ Assessed (From: A514)  
The change, including the collection of assessment recommendations.
- Change\_ Categorized (From: A513)  
The change request, which has completed acceptance, is now recognized as a change. The categorization indicates the types and levels of assessment needed.
- Change Request\_ Recorded (From: A512)  
The details of a change request, captured in a document or other format defined by the Change Management Framework.
- Change Status and Information Request  
A request for the current status of a change within the control of Change Management.
- Deployment Reports (From: A538)  
Report about how well deployments are progressing or have been completed.
- Service Request Reports (From: A615)  
Any reports that reflect the status of service requests with the purpose to control the quality of service fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.

## Outputs

- Change Information (To: A2 A23 A233 A235 A3 A35 A355 A513 A514 A515 A516 A517 A54 A542 A543 A6 A61 A613 A615 A62 A621 A63 A632 A64 A641 A65 A654 A66 A662 A666 A7 A72 A721 A725 A73 A731 A735 A736 A74 A741 A742 A743 A75 A751 A76 A761 A764)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Change Management Activity Data (To: A519)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A519] Evaluate Change Management Performance

### Description

This activity describes the tasks required to assess the efficiency and effectiveness of the Change Management process. It includes the capture of information on change records, the relationship with other process areas, and the suitability of procedures and training. It is used as a basis to ensure the Change Management process remains fit for purpose and identifies where changes to the process might be required. Examples of topics addressed include:

- Assessing the Change Advisory Board (CAB) and its effectiveness
- Analyzing policies and procedures
- Analyzing rejected change requests
- Analyzing change failures
- Analyzing change successes

### Controls

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

### Inputs

- Change Management Activity Data (From: A512 A513 A514 A515 A516 A517 A518)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Change Management Evaluation (To: A511)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A52] Release Management

### Purpose

The purpose of the Release Management process is to prepare and finalize release packages that are fit for deployment so that optimal business value will be attained when deployment occurs.

Definition of release: “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>27</sup>

### Outcomes

As a result of the successful implementation of the Release Management process:

- Release packages – whether supporting new business capability, improvement in cost performance, or other advances in service quality - form the basis for deployment
- Deployment risks to existing service quality are minimized
- Customer and user satisfaction upon release deployment is increased
- All implications to the parties involved in deploying or receiving a release are identified and validated prior to the deployment event
- Only authorized releases are introduced into the live environment

### Scope

Release Management spans the planning and direction of the rollout of software, hardware, and operational processes including related documentation, and operating procedures. The changes that comprise the release are managed by Change Management, and their inclusion in the release can be determined by time, technology interdependencies, target, risk mitigation, organization, scale (multiple copies) or service dependencies. The design of the release will need to consider how rollout is achieved. For example, whether or not the release can be requested by a user using a self-service selection and then installed automatically and transparently.

#### Includes

- ◆ Release design, creation, and testing
  - For example, implementation scripts
- ◆ Specifying the deployment model for a release. The deployment model provides a template of the activities and plans from which specific deployment instances can be customized for geography, scale, local conditions, and other factors
- ◆ Checking and testing training materials and incorporating them into the deployment model
- ◆ Verification of successful release package installation, including ensuring that the integrity of function has been maintained
- ◆ Roll back (also known as back out) mechanisms and procedures

#### Excludes

- ◆ Solution Realization (creation of functionality, usage procedures, training materials, and any other release deliverable) (Realization category)

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- ◆ Testing of solution functionality (Solution Test)
- ◆ Management of change requests (Change Management)
- ◆ Deployment of release packages (Deployment Management)

## Controls

### ■ Change Schedule (From: A5 A51 A515 A516)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>28</sup>

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>29</sup>

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>30</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>31</sup>

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29. ITIL V3 Glossary

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- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>32</sup>

These agreements can be in a draft or finalized status.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- Configuration Baseline Report (From: A54 A542 A543)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

## Inputs

- Change Implementation Communication (From: A51 A516)

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions
- Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

- Release Acceptance (From: A51 A516)

The notification of approval that the release can proceed to its rollout activities.

- Change (From: A51 A515)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

- Product Package (From: A3 A35 A353 A354 A355)

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

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- **Solution Design (From: A4 A42 A425)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.
- **Operational Schedules (From: A621)**  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- **Project Plan (From: A3 A37 A374)**  
The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.
- **Asset Deployment Items and Data (From: A5 A55)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **Solution\_ Accepted (From: A4 A45 A456)**  
The Solution which has been approved by the stakeholder community, and is now ready to be deployed.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Service Resilience Plans (From: A7)**  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management (See the definition of the *plan* output from each individual process for more details.)

## Outputs

- **Solution Design Request (To: A42 A422)**  
A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).
- **Asset Deployment Inquiries and Requisitions (To: A55)**  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Release Strategy (To: A523 A524 A525 A526 A53 A532 A533 A534 A535 A536 A537 A538)  
The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- Release Notice (To: A53 A534 A535)  
The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.
- Release (To: A53 A532 A533 A535 A536)  
The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.  
In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>33</sup>
- Implementation Progress Data (To: A51 A516 A537)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Release Acceptance Request (To: A51 A516 A525)  
A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.

## Activities

This process is composed of these activities:

- A521 Establish Release Management Framework
- A522 Plan Release Strategy
- A523 Design and Build Release
- A524 Test and Verify Release
- A525 Monitor and Report Release
- A526 Review and Close Release
- A527 Evaluate Release Management Performance

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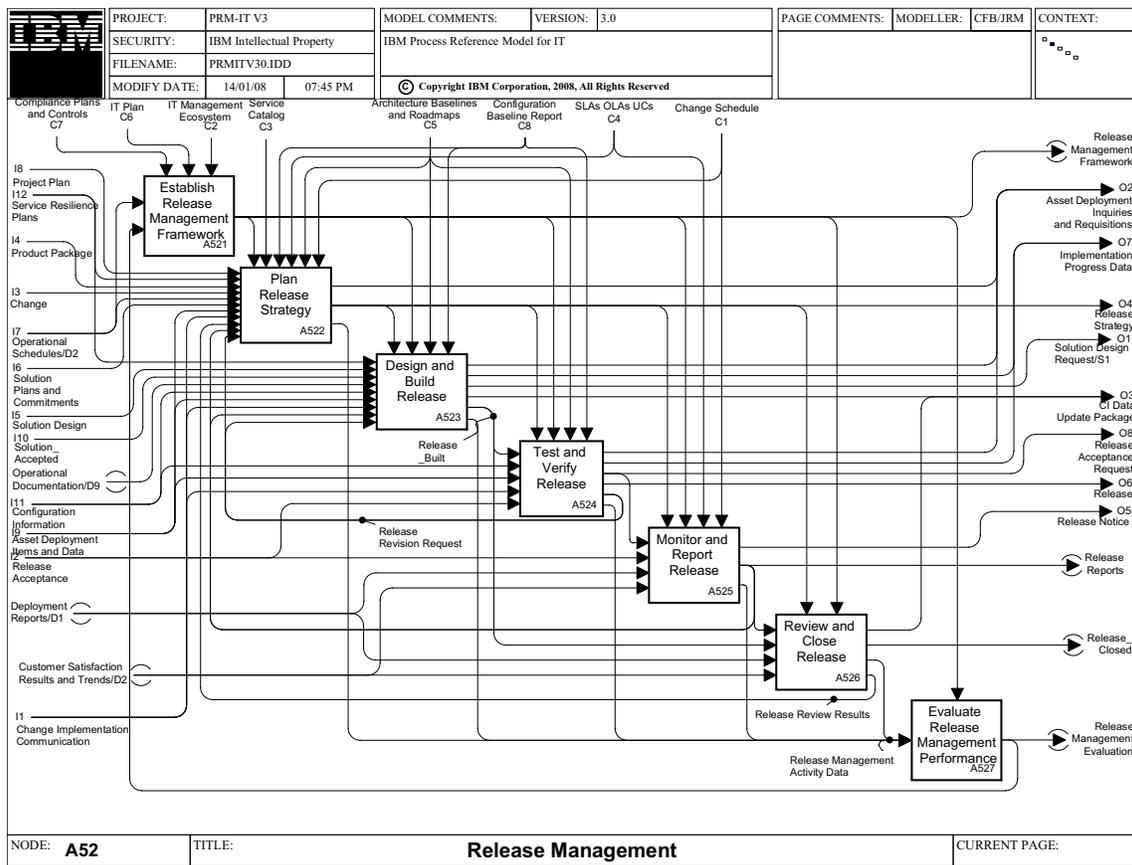


Figure 3. A52 Release Management

## [A521] Establish Release Management Framework

### Description

A framework and guidelines for Release Management are developed based on business and IT strategy. The tasks in this activity include:

- Understanding the requirements and specifications for Release Management practices
- Enacting the strategy for Release Management automated support
- Defining evaluation criteria for Release Management solutions and services
- Establishing the framework for Release Management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of Release Management including escalation responsibilities have to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of Release Management, meaning the consideration of the Release Management process evaluation and the implementation of recommended improvement actions.

### Controls

- Compliance Plans and Controls (From: A7 A71 A714)  
 The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

## Inputs

■ Operational Schedules (From: A621)

The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).

■ Release Management Evaluation (From: A527)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

■ Release Management Framework (To: A522 A523 A524 A525 A526 A527)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

## [A522] Plan Release Strategy

### Description

This activity determines the strategy for how each release is defined and then brought into existence in a state ready for deployment. It includes understanding the constituents of the release (from one or more Service Packages) and then considering the impact of the one or more authorized changes, which relate to the release contents in order to create the overall plan for the release. The planning covers building, testing and verifying the release (including the possible need for pilot deployments), as well as establishing a model for how the finalized release should be deployed.

### Controls

- Release Management Framework (From: A521)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>34</sup>

- Configuration Baseline Report (From: A54 A542 A543)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer.

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Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>35</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>36</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>37</sup>

These agreements can be in a draft or finalized status.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>38</sup>

## Inputs

- Project Plan (From: A3 A37 A374)  
The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Product Package (From: A3 A35 A353 A354 A355)  
A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through the various stages of realization, deployment and operation.

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- **Change (From: A51 A515)**

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- **Operational Schedules (From: A621)**

The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.
- **Asset Deployment Items and Data (From: A5 A55)**

Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **Change Implementation Communication (From: A51 A516)**

Information used to coordinate and implement a change. It can reflect either or both the:

  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.
- **Release Review Results (From: A526)**

Analysis of release usage, with identification of successes and areas for release improvement.
- **Release Reports (From: A525)**

Reports showing the outcome of the release implementations.
- **Release Revision Request (From: A524)**

Identification of a need to re-plan a release following the outcomes of test and acceptance work.

## Outputs

- **Asset Deployment Inquiries and Requisitions (To: A55)**

Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- **Release Strategy (To: A523 A524 A525 A526 A53 A532 A533 A534 A535 A536 A537 A538)**

The overall approach which will guide the release through its complete lifecycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- **Release Management Activity Data (To: A527)**

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A523] Design and Build Release

### Description

This activity determines what needs to be built for the release and how it will be assembled and deployed. During this activity, the release build, installation, and rollback scripts are designed at a high level. In addition, software and hardware components are obtained for the build activity and the test environment is put in place.

After the release has been designed, this activity builds the scripts and other aspects needed to assemble and to deploy the release. This includes

- Creating the build environment
- Creating build, install, and rollback scripts
- Placing software in the DML
- Creating support, training, and deployment documentation
- Updating the CMS with information about the release package

### Controls

- Release Strategy (From: A52 A522)  
The overall approach which will guide the release through its complete lifecycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- Release Management Framework (From: A521)  
This framework describes:
  - Types of releases
  - Naming and other release conventions
  - Release policies and procedures
  - Definitive Media Library (DML) specifications
  - Roles and responsibilities
  - Scheduling policies
  - Process review schedule.This framework provides governance information for the other activities in Release Management.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Configuration Baseline Report (From: A54 A542 A543)  
A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

### Inputs

- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management

- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution\_ Accepted (From: A4 A45 A456)  
The Solution which has been approved by the stakeholder community, and is now ready to be deployed.
- Operational Documentation (From: A855)  
The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Asset Deployment Items and Data (From: A5 A55)  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- Change Implementation Communication (From: A51 A516)  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementationThis dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.
- Release Reports (From: A525)  
Reports showing the outcome of the release implementations.
- Release Revision Request (From: A524)  
Identification of a need to re-plan a release following the outcomes of test and acceptance work.

## Outputs

- Asset Deployment Inquiries and Requisitions (To: A55)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- Implementation Progress Data (To: A51 A516 A537)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Solution Design Request (To: A42 A422)  
A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
- Release \_BuiltRelationships. (To: A524 A526)  
The release ready for testing.
- Release Management Activity Data (To: A527)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A524] Test and Verify Release

### Description

This activity takes the built release package and tests to determine if installation, configuration, and rollback work properly. If successful, the release is ready for deployment. If not, the release must go through another round of either design or build, and a subsequent retesting.

After testing, the release package is either accepted or rejected.

### Controls

- Release Strategy (From: A52 A522)  
The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- Release Management Framework (From: A521)  
This framework describes:
  - Types of releases
  - Naming and other release conventions
  - Release policies and procedures
  - Definitive Media Library (DML) specifications
  - Roles and responsibilities
  - Scheduling policies
  - Process review schedule.

This framework provides governance information for the other activities in Release Management.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Configuration Baseline Report (From: A54 A542 A543)  
A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

### Inputs

- Release \_Built (From: A523)  
The release ready for testing.

- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Asset Deployment Items and Data (From: A5 A55)  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- Change Implementation Communication (From: A51 A516)  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementationThis dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.
- Release Acceptance (From: A51 A516)  
The notification of approval that the release can proceed to its rollout activities.

## Outputs

- Asset Deployment Inquiries and Requisitions (To: A55)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- Implementation Progress Data (To: A51 A516 A537)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Release Acceptance Request (To: A51 A516 A525)  
A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.
- Release (To: A53 A532 A533 A535 A536)  
The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.  
In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>39</sup>
- Release Revision Request (To: A522 A523)  
Identification of a need to re-plan a release following the outcomes of test and acceptance work.
- Release Management Activity Data (To: A527)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A525] Monitor and Report Release

### Description

This activity monitors the progress of the release as it might be updated and throughout its deployment instances, and produces the required reporting. The reports provide both users and IT staff with the communications material such as general awareness, training schedules and plans, actual release documentation, and training content.

### Controls

- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

- Release Management Framework (From: A521)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>40</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>41</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>42</sup>

These agreements can be in a draft or finalized status.

- Change Schedule (From: A5 A51 A515 A516)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>43</sup>

## Inputs

- Release Acceptance Request (From: A52 A524)

A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.

- Release Acceptance (From: A51 A516)

The notification of approval that the release can proceed to its rollout activities.

- Deployment Reports (From: A538)

Report about how well deployments are progressing or have been completed.

- Customer Satisfaction Results and Trends (From: A27 A276)

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

## Outputs

- Release Notice (To: A53 A534 A535)

The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.

- Release Reports (To: A522 A523 A526)

Reports showing the outcome of the release implementations.

- Release Management Activity Data (To: A527)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A526] Review and Close Release

### Description

This activity examines the information relating to the usage of a release in order to identify what has worked well and what has not. For the latter, it works to identify improvements in any aspect of the release. These aspects can include:

- Success rates from deploying the release
- Efficiency, in both people and technical resource, in deploying the release
- User feedback on missing and erroneous documentation and usage guidance

This activity includes checking the actual performance and outcomes of the new or changed service against the requirements.

When the Release Strategy indicates that a particular release is to be *closed* (in other words, no longer be available for deployment), this activity will perform the tasks associated with achieving that objective.

### Controls

- Release Strategy (From: A52 A522)  
The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

- Release Management Framework (From: A521)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

### Inputs

- Release Reports (From: A525)  
Reports showing the outcome of the release implementations.
- Release \_Built (From: A523)  
The release ready for testing.
- Deployment Reports (From: A538)  
Report about how well deployments are progressing or have been completed.
- Customer Satisfaction Results and Trends (From: A27 A276)  
A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

### Outputs

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships
- Release\_Closed  
Information and technical content related to the closure of a release.
- Release Management Activity Data (To: A527)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Release Review Results (To: A522)  
Analysis of release usage, with identification of successes and areas for release improvement.

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## [A527] Evaluate Release Management Performance

### Description

This activity looks at the performance of the Release Management process and identifies improvement opportunities for the Release Management Framework. This includes examining:

- Adequacy of release management resources
- Rejected or failed releases
- Trends in the effectiveness and efficiency in managing releases
- Release Management policies and procedures

### Controls

- Release Management Framework (From: A521)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

### Inputs

- Release Management Activity Data (From: A522 A523 A524 A525 A526)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Release Management Evaluation (To: A521)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A53] Deployment Management

### Purpose

The purpose of the Deployment Management process is to place releases and other desired changes into their target environments, and to activate them in order that the functionality and operational improvements they contain can create their intended value.

Definition of Deployment: “movement of new or changed hardware, software, documentation, Process, etc to the Live Environment.”<sup>44</sup>

The *other desired changes* includes transferring the responsibility for any subset of an IT endeavor’s operations from ownership by one service provider to another, while maintaining service continuity. For certain such transfers, deployment involves managing the effective transfer of resources necessary to deliver the service. Resources include staff, technology infrastructure, and intellectual capital.

### Outcomes

As a result of the successful implementation of the Deployment Management process:

- New capability is introduced on a timely basis, and with minimized risk, disruption and cost
- Transfers of service responsibility are effected on a timely basis, and with minimized risk, disruption and cost
- All parties involved in a deployment (for example, users of the capabilities being deployed, service providers performing the deployment) are appropriately prepared, trained and skilled to ensure successful deployment
- In the event of failures during deployment, contingency plans ensure the expected level of service quality is delivered

### Scope

Deployment Management is primarily triggered by an instruction to roll out any approved combination of software, related hardware, documentation, and operating procedures to one or more defined targets (for example: systems, user groups) within constraints such as cost and time. An alternative trigger for the instantiation of Deployment Management relates to the transfer of the responsibility for one or more services between providers or across business or organizational boundaries. At the other end of the scale, the implementation work related to a change which impacts a single CI is also performed by this process.

The completion of each deployment is indicated when the stakeholders affirm that the expected outcomes of a deployment are achieved and a business-as-usual operational service state has been attained.

#### Includes

- ◆ Deployment planning and co-ordination with affected parties
- ◆ Identification of resources (hardware, software, processes and procedures, and staff) to be deployed, or to be transferred between service providers
- ◆ Creating capabilities and procedures to support deployment activities, and to verify the readiness of and account for resources impacted
- ◆ Creating a plan for continuity of service

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- ◆ Execution of the deployment plan, including:
  - Electronic distribution of software and other soft-copy items
  - Invoking logistical movements for physical items
  - Installing technical resources
  - Activating the desired configuration
  - Testing the installation against defined criteria (as provided in the Release Package and Change)
  - Back out of installed items, when needed
  - Delivering training
  - Providing initial user assistance
- ◆ Assessment of readiness to begin service delivery, and for handover to business-as-usual
- ◆ Management of risks and issues related to the deployment activities.

### **Excludes**

- ◆ Logistics and movement of physical assets (Asset Management)
- ◆ Preparation and commissioning of the supporting environment (Facilities Management)
- ◆ Accounting for capital transfers and deployment expenditures (Financial Management)
- ◆ Program and project management techniques (Program and Project Management)
- ◆ Achievement of business benefits from new functionality (IT Customer Transformation Management)
- ◆ Updates to the CMS (Configuration Management)
- ◆ Knowledge and skill transfer (Knowledge Management)

### **Controls**

- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as

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operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>45</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>46</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>47</sup>

These agreements can be in a draft or finalized status.

■ IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

■ Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>48</sup>

■ Change Implementation Communication (From: A51 A516)

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions

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- Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

- Release Notice (From: A52 A525)

The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.

- Release (From: A52 A524)

The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.

In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>49</sup>

- Change (From: A51 A515)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Solution\_ Accepted (From: A4 A45 A456)

The Solution which has been approved by the stakeholder community, and is now ready to be deployed.

- Service Request\_ Authorized (From: A6 A61 A613)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.

- Operational Schedules (From: A621)

The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).

- Project Plan (From: A3 A37 A374)

The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.

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- **Asset Deployment Items and Data (From: A5 A55)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

## Outputs

- **Solution\_ Deployed (To: A3 A32 A4 A43 A433 A44 A443 A6 A62 A63 A634 A64 A641 A7 A76)**  
The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- **Incident (To: A537 A6 A65 A652)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- **Solution Design Request (To: A42 A422)**  
A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).
- **Customer Satisfaction Issue (To: A27 A274)**  
Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.
- **Asset Deployment Inquiries and Requisitions (To: A55)**  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- **CI Data Update Package (To: A5 A54 A542 A543)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships.
- **Implementation Progress Data (To: A51 A516 A537)**  
The record of each incremental activity performed as part of the implementation of a change or release.

## Activities

This process is composed of these activities:

- A531 Establish Deployment Management Framework
- A532 Plan Deployment Program
- A533 Prepare Deployment Capabilities
- A534 Perform Transition Administration
- A535 Perform Deployment
- A536 Verify Deployment and Activate Service
- A537 Review and Close Deployment
- A538 Monitor and Report Deployment Program
- A539 Evaluate Deployment Management Performance

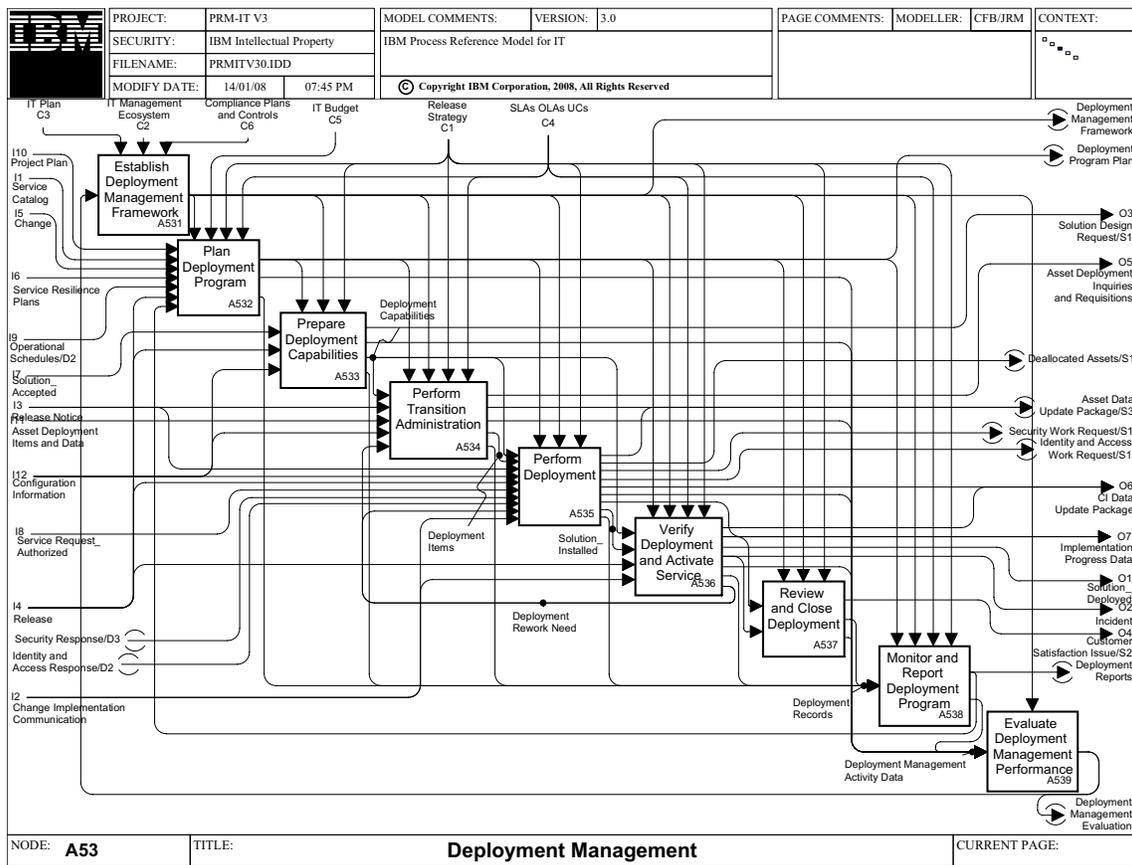


Figure 4. A53 Deployment Management

## [A531] Establish Deployment Management Framework

### Description

This activity involves creating or updating the Deployment Management Framework. It addresses:

- Policies and procedures
- Roles and responsibilities
- Technical standards
- Deployment models
- Process measurements and controls
- Process review schedule.

This framework provides governance information for the other activities in Deployment Management.

### Controls

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

- Deployment Management Evaluation (From: A539)

An analysis of deployment management activity data providing an understanding of the current success or failure of the deployment management process, and an identification of potential process improvements.

## Outputs

- Deployment Management Framework (To: A532 A533 A534 A535 A536 A537 A538 A539)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.

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## [A532] Plan Deployment Program

### Description

In this activity, the deployment plan details are generated concerning specifically what will be done during deployment. This includes:

- Assignment of individuals to specific activities
- Detailed sequence of events
- Specifications of requirements (number, type) for assets to be ordered and delivered as part of each deployment event
- Identification of the CIs installed, changed, and removed
- Multi-site plans
- Restoration plans
- Plans for communicating the deployment to stakeholders
- Generating release notes for users

Deployment plan details will vary depending upon the type of deployment. Deployment types include:

- Rollouts involving site preparation, siting and installation of physical machinery, and other activities requiring on-site availability of deployment personnel
- Software distribution, both

- *Pushed* from a deployment control point
- *Pulled* for example, by a user invoking a download and install
- Education and training events in support of technology introduction
- Transfer of responsibility between providers (with or without any alteration in service content or quality)

## Controls

- Deployment Management Framework (From: A531)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.
- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.
- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>50</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>51</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>52</sup>

These agreements can be in a draft or finalized status.

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## Inputs

- Project Plan (From: A3 A37 A374)  
The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>53</sup>
- Change (From: A51 A515)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Operational Schedules (From: A621)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Release (From: A52 A524)  
The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.  
In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>54</sup>
- Deployment Reports (From: A538)  
Report about how well deployments are progressing or have been completed.

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## Outputs

- Deployment Program Plan (To: A533 A534 A535 A536 A537 A538)

The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process, to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

- Deployment Management Activity Data (To: A539)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- Deployment Records (To: A538)

A set of records containing the details of each deployment program and each deployment instance within that program.

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## [A533] Prepare Deployment Capabilities

### Description

This activity prepares the Deployment Capabilities required for a given deployment. Examples include:

- Training staff to be able to execute deployment tasks
- Creating a facility for volume pre-installation of base software prior to delivery to the ultimate destination
- Customizing standard release or solution materials to target site needs

### Controls

- Deployment Program Plan (From: A532)

The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

- Deployment Management Framework (From: A531)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.

- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

## Inputs

- Solution\_ Accepted (From: A4 A45 A456)

The Solution which has been approved by the stakeholder community, and is now ready to be deployed.

- Release (From: A52 A524)

The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.

In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>55</sup>

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

## Outputs

- Solution Design Request (To: A42 A422)

A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).

- Deployment Management Activity Data (To: A539)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- Deployment Capabilities (To: A534 A535 A536)

Combination of knowledge, skills, experience, processes, systems and technologies required to deploy new or changed deployment objects into the target environment.

- Deployment Records (To: A538)

A set of records containing the details of each deployment program and each deployment instance within that program.

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## [A534] Perform Transition Administration

### Description

In this activity, the administrative and other tasks of a preparatory nature for the transition to the desired deployment status are performed. The tasks include:

- Requisitioning hardware and software assets for deployment
- Making logistical arrangements
- Executing transfers of ownership

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The activity ensures that appropriate data on assets is provided to the Asset Management process to reflect their updated status. Items impacted include location, financial status (support contracts), and ownership.

## Controls

### ■ Deployment Program Plan (From: A532)

The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

### ■ Deployment Management Framework (From: A531)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.

### ■ Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>56</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>57</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>58</sup>

These agreements can be in a draft or finalized status.

## Inputs

- **Deployment Capabilities (From: A533)**  
Combination of knowledge, skills, experience, processes, systems and technologies required to deploy new or changed deployment objects into the target environment.
- **Release Notice (From: A52 A525)**  
The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.
- **Asset Deployment Items and Data (From: A5 A55)**  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Deployment Rework Need (From: A536)**  
The identification that any parts of the deployment plan need to be reworked prior to the capability reaching full service status. Everyday changes in business operations within the organization that is the target of deployment can be the cause of such a need. For example, changes in staff since plan creation.

## Outputs

- **Asset Deployment Inquiries and Requisitions (To: A55)**  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- **Asset Data Update Package (To: A553)**  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- **Deployment Management Activity Data (To: A539)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Deployment Items (To: A535)**  
The collection of items that are ready for deployment and for which all title and ownership information reflects the imminent deployment into the target environment. These items are instances of what ITIL calls Service Assets, defined as “Any Capability or Resource of a Service Provider.”<sup>59</sup>
- **Deployment Records (To: A538)**  
A set of records containing the details of each deployment program and each deployment instance within that program.

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## [A535] Perform Deployment

### Description

This activity performs the physical, technical, and other tasks (such as delivering training and registering users) which move the capabilities being deployed from *not deployed* to *deployed*. It includes:

- Distribution and installation of hardware and software, ensuring appropriate data is provided for asset and configuration updates
- Customization, where needed, of:
  - CIs to reflect their specific usage context
  - Identity and access records (by initiating updates using the Identity and Access Management process)
  - Security mechanisms (also using update requests, to the Security Management process)
- Removal of redundant services and assets, (processes, procedures and tools).
- Introduction of new or changed processes to the service provider teams responsible for Service Management activities.

Perform deployment has fulfilled its responsibilities when the capability being deployed is ready for verification and activation.

### Controls

- Deployment Program Plan (From: A532)  
The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:
  - Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
  - Rollout timetables for deployments that are repeated, and associated logistical plans
  - Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availabilityThe deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.
- Deployment Management Framework (From: A531)  
This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.  
This framework provides governance information for the other activities in Deployment Management.
- Release Strategy (From: A52 A522)  
The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

### Inputs

- Deployment Capabilities (From: A533)  
Combination of knowledge, skills, experience, processes, systems and technologies required to deploy new or changed deployment objects into the target environment.

- **Deployment Items (From: A534)**

The collection of items that are ready for deployment and for which all title and ownership information reflects the imminent deployment into the target environment. These items are instances of what ITIL calls Service Assets, defined as “Any Capability or Resource of a Service Provider.”<sup>60</sup>
- **Release Notice (From: A52 A525)**

The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Release (From: A52 A524)**

The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.

In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>61</sup>
- **Service Request\_ Authorized (From: A6 A61 A613)**

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- **Security Response (From: A726)**

The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:

  - For a protection request the protections put in place
  - For an access authorization request the success or failure of the request
- **Identity and Access Response (From: A673 A674)**

The result of processing an identity and access request. The result will reflect a range of possibilities, depending on the nature of the request:

  - For an identity request actions taken to create, maintain, or delete the identity
  - For an access (rights) request the success or failure of the request, with relevant information describing the status of access rights
- **Deployment Rework Need (From: A536)**

The identification that any parts of the deployment plan need to be reworked prior to the capability reaching full service status. Everyday changes in business operations within the organization that is the target of deployment can be the cause of such a need. For example, changes in staff since plan creation.
- **Change Implementation Communication (From: A51 A516)**

Information used to coordinate and implement a change. It can reflect either or both the:

  - Status of the overall change as a result of carrying out previous instructions

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- Instructions for the next stages of implement

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

## Outputs

- Asset Data Update Package (To: A553)  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- Deallocated Assets (To: A552)  
Assets that are no longer deployed to specific owners. These assets are free to be allocated to new owners.
- Security Work Request (To: A72)  
A Security Request originating from another process.
- Identity and Access Work Request (To: A67)  
An identity and access request originating from another process.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Deployment Management Activity Data (To: A539)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Implementation Progress Data (To: A51 A516 A537)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Solution Installed (To: A536)  
A solution under deployment for which all tasks required to achieve deployment status have been completed other than final activation.
- Deployment Records (To: A538)  
A set of records containing the details of each deployment program and each deployment instance within that program.

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## [A536] Verify Deployment and Activate Service

### Description

This activity verifies the integrity of the solution under deployment and transitions the new changed service to Service Operations.

Integrity testing can include the following items:

- Service assets and capabilities are in place
- Documentation updates are completed
- Learning material has been made available to stakeholders
- Users are prepared to operate the new or changed service
- Measurements and reporting systems are established.

Transition to full service status can include a defined period as *early life support*, defined by ITIL as “Support provided for a new or Changed IT Service for a period of time after it is Released. During Early Life Support the IT Service Provider may review the KPIs, Service Levels and Monitoring Thresholds, and provide additional Resources for Incident and Problem Management.”<sup>62</sup>

### Controls

- Deployment Program Plan (From: A532)

The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

- Deployment Management Framework (From: A531)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

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- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>63</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>64</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>65</sup>

These agreements can be in a draft or finalized status.

- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

## Inputs

- Deployment Capabilities (From: A533)

Combination of knowledge, skills, experience, processes, systems and technologies required to deploy new or changed deployment objects into the target environment.

- Solution Installed (From: A535)

A solution under deployment for which all tasks required to achieve deployment status have been completed other than final activation.

- Release (From: A52 A524)

The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.

In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>66</sup>

- Change Implementation Communication (From: A51 A516)

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions
- Instructions for the next stages of implement

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

## Outputs

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

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- Attributes
- Relationships.
- Implementation Progress Data (To: A51 A516 A537)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Solution\_ Deployed (To: A3 A32 A4 A43 A433 A44 A443 A6 A62 A63 A634 A64 A641 A7 A76)  
The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Deployment Management Activity Data (To: A539)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Deployment Records (To: A538)  
A set of records containing the details of each deployment program and each deployment instance within that program.
- Deployment Rework Need (To: A534 A535)  
The identification that any parts of the deployment plan need to be reworked prior to the capability reaching full service status. Everyday changes in business operations within the organization that is the target of deployment can be the cause of such a need. For example, changes in staff since plan creation.

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## [A537] Review and Close Deployment

### Description

This activity reviews the tasks completed during deployments and determines that all objectives of the deployment plan were met. A management plan is established for outstanding risks, issues, incidents and known errors before the deployment is closed. Deployment is completed with a handover of the support to Service Operations.

### Controls

- Deployment Program Plan (From: A532)  
The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:
  - Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
  - Rollout timetables for deployments that are repeated, and associated logistical plans
  - Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availabilityThe deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

- Deployment Management Framework (From: A531)  
This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.  
This framework provides governance information for the other activities in Deployment Management.
- Release Strategy (From: A52 A522)  
The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

## Inputs

- Implementation Progress Data (From: A375 A52 A523 A524 A53 A535 A536 A635)  
The record of each incremental activity performed as part of the implementation of a change or release.
- Incident (From: A2 A27 A273 A5 A51 A516 A53 A536 A61 A613 A62 A625 A63 A637 A64 A644 A646 A67 A675 A7 A72 A75 A754)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

## Outputs

- Customer Satisfaction Issue (To: A27 A274)  
Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.
- Deployment Records (To: A538)  
A set of records containing the details of each deployment program and each deployment instance within that program.
- Deployment Management Activity Data (To: A539)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A538] Monitor and Report Deployment Program

### Description

This activity ensures that the overall set of deployment programs and all of the deployment instances within each program are monitored throughout their entire life cycles.

Aspects include:

- Maintaining currency and integrity of data on deployments
- Monitoring status and deployment impact on service level agreements
- Identification of any requirement for deployment instance: *reprioritization* or *escalation*
- Communicating status and progress to stakeholders and support groups

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## Controls

- Deployment Program Plan (From: A532)

The set of plans for achieving the deployment of an identified set of information technology capabilities. Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

- Deployment Management Framework (From: A531)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.

This framework provides governance information for the other activities in Deployment Management.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>67</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>68</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>69</sup>

These agreements can be in a draft or finalized status.

- Release Strategy (From: A52 A522)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

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## Inputs

- Deployment Records (From: A532 A533 A534 A535 A536 A537)  
A set of records containing the details of each deployment program and each deployment instance within that program.

## Outputs

- Deployment Reports (To: A518 A525 A526 A532)  
Report about how well deployments are progressing or have been completed.
- Deployment Management Activity Data (To: A539)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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# [A539] Evaluate Deployment Management Performance

## Description

This activity looks at the performance of the Deployment Management process and determines if changes to the Deployment Management Framework should be recommended. This includes examining:

- Adequacy of release management resources
- Rejected or failed deployments
- Deployment Management policies and procedures

## Controls

- Deployment Management Framework (From: A531)  
This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals.  
This framework provides governance information for the other activities in Deployment Management.

## Inputs

- Deployment Management Activity Data (From: A532 A533 A534 A535 A536 A537 A538)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## Outputs

- Deployment Management Evaluation (To: A531)  
An analysis of deployment management activity data providing an understanding of the current success or failure of the deployment management process, and an identification of potential process improvements.

## [A54] Configuration Management

### Purpose

The purpose of the Configuration Management process is to maintain the integrity of the configuration items (CIs) employed in, or related to, IT systems and infrastructure in either a development or operational context, and to provide accurate information about CIs and their relationships.

Configuration Management emerged out of complementary needs within both IT development and IT operations. IT development needs to maintain the integrity of evolving development artifacts in a development project. Similarly, IT operations should maintain the integrity of CIs that have been made operational.

Definition of a configuration item: "Any Component that needs to be managed in order to deliver an IT Service. Information about each CI is recorded in a Configuration Record within the Configuration Management System and is maintained throughout its Lifecycle by Configuration Management. CIs are under the control of Change Management. CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>70</sup>

### Outcomes

As a result of the successful implementation of this process:

- All configuration items within IT systems and infrastructure are accurately identified and cataloged
- All configuration items are adequately tracked and controlled
- Authorized requests to obtain CIs from secure libraries or stores (or to return them) are satisfied promptly and accurately
- Accurate configuration information is provided in response to informational requests
- Any exceptions between configuration records and the corresponding CIs are identified and corrected
- In development projects: development CIs in multiple development streams are controlled and coordinated

### Scope

#### Relationship with Asset Management

To properly understand Configuration Management, it is necessary to understand its relationship with Asset Management. Asset Management keeps track of things of value (assets) to an IT organization, whether that value is financial, technical, or otherwise, throughout the asset's entire life cycle. That life cycle stretches from the time the asset is ordered or commissioned to the time when it is retired and disposed.

At various stages in an asset's life cycle, the usage of that asset can cause it to become a part of some larger object requiring management (for example, a processor is added to a pool of processors allocated to a particular task) or it can be split into a number of parts at smaller granularity (for example, a physical server is operated as several virtual servers). Similarly, an ERP system licensed from a vendor might represent one or a handful of assets to be tracked (for financial or contract management purposes), whereas it can represent hundreds of modules which

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must be identified individually. For example, for local customization, problem determination, or maintenance patch application purposes.

The characteristic of these events is that the asset has been applied to some defined purpose, typically through any or all of the Solution Development and Integration process, the Release Management process and the Deployment Management process. At these times, those parts become configuration items (CIs) and are managed by Configuration Management. Configuration Management focuses on the internal and external relationships of a CI and addresses the configuration needs of a stage in an asset's life cycle.

For instance, during development of a software asset, Configuration Management might be used for source code control of the components that make up that asset. Another instance is when a system becomes operational within the IT infrastructure. In that instance, Configuration Management is used to maintain operational information about that CI and its relationships to other CIs in the IT infrastructure. The two most widely recognized uses of Configuration Management are *development* Configuration Management and *operations* Configuration Management.

### Configuration Management in Development and Operations

Configuration Management addresses the needs of both IT development and IT operations. The characteristics of these domains are similar,<sup>71</sup> yet also have differences. Similarities include:

- Both development and operations focus on the various configuration items that make up their domains. In development, these include evolving hardware, software, and documentation that constitute an IT system being developed. In operations, these include fully developed hardware, software, and documentation that have been deployed and made operational within the IT infrastructure.
- Both development and operations maintain information about CIs and their relationships.
- On a regular basis, that information is checked for accuracy against the actual configuration items and inaccurate information is corrected.

Differences between *development* Configuration Management and *operations* Configuration Management include:

- IT development maintains the integrity of development CIs primarily by controlling the CIs themselves, whereas IT operations maintains the integrity of operational CIs by controlling information about the CIs.
- Check-in/check-out of IT development CIs is a normal practice in Configuration Management for IT development. (There is a distinct difference in how check-in and check-out is performed for electronic as opposed to physical CIs.) IT operations does not perform check-in/check-out of CIs.
- IT operations focuses on controlling updates to information about CIs. Significant information about CIs must be manually maintained. In contrast, information about development CIs is primarily obtained from the CI itself.
- Development CIs (such as software and hardware components and document chapters) are typically smaller-grained than operational CIs (such as PCs, applications, servers, and others).
- The configuration management system for IT development (often called a source code control system) is typically maintained separately from the configuration management system for IT operations, and the technology and procedures used by each system is usually different.
- The CIs that make up an operational IT infrastructure are typically also considered assets. However, most CIs in a development project are not considered to be assets because their value to the IT organization is considered too small (or too intangible) to track. For this

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71. Industry examples of this can be seen in ISO/IEC 15288 Systems and Software Engineering - System Life Cycle Processes and ISO/IEC 12207 Systems and Software Engineering - Software Life Cycle Processes.

reason, a development project might have few *assets* tracked by Asset Management other than the overall system under development.

The similarities in Configuration Management between IT development and IT operations are sufficient to define a single process at a high level. The differences between IT development and IT operations are significant only at a lower level of the process.

### Common Data

In practical terms, Asset Management and Configuration Management carry out their activities using data about these assets and CIs, which is largely common to them both, though each has some attributes and relationships not significant to the other. Successful implementation of both processes requires joint work on their data models and clear rules (that is, governance) on which process *owns* any shared attribute.

### Types of CIs

The ITIL definitions of asset and of configuration item include a range of types of IT elements which can fall under Configuration Management. Whether an implementation covers all or just some of these types, it is likely that there will be some process aspects that are dependent on the needs of different component types. Consideration of a few examples illustrates this:

- Each hardware item is a candidate for both configuration and asset management, though probably at different levels of granularity. An IT organization will want to keep track of that hardware item throughout its life cycle from the standpoint of Asset Management. At the same time, when that system is operational, Configuration Management might be interested in internal hardware components (which are CIs) as well as other CIs that have some operational relationship to this CI. Hardware items cannot usually be cloned.
- Software components might have no record in the asset register. They can be subject to tight access controls (for example, to avoid erroneous multiple update during development) and at the same time they can be cloned to create as many instances as needed within limitations such as license counts. Larger software elements, such as applications can be both a CI as well as an asset.

The process will also need to take into account the arrangement of the set of internal and external service providers and establish appropriate interfaces with the Configuration Management process of those service providers.

### Includes

- ◆ Establishing naming conventions for configuration items and relationships
- ◆ Designing, creating, populating, and updating the Configuration Management System (CMS)
- ◆ Managing movements into and out of secure libraries
- ◆ Supporting configuration item audits
- ◆ Identifying configuration item interdependencies
- ◆ Linking configuration item changes to specific change requests (RFCs)
- ◆ Defining and reporting configuration baselines

### Excludes

- ◆ Inventory tracking (Asset Management)
- ◆ Procurement of configuration items (Supplier Management)
- ◆ Tuning and installing configuration items (Capacity Management, Deployment Management)
- ◆ Assets that are not CIs, such as:

- Items ordered but not received
- Items no longer in operation
- Bulk inventory
- Assets not operationally managed

## Controls

### ■ Change Schedule (From: A5 A51 A515 A516)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>72</sup>

### ■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>73</sup>

### ■ Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

### ■ Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

### ■ Change Implementation Communication (From: A51 A516)

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions

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- Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

- Change (From: A51 A515)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- CI Data Update Package (From: A4 A42 A424 A43 A433 A434 A435 A436 A437 A44 A444 A45 A456 A51 A516 A52 A523 A526 A53 A535 A536 A6 A63 A634 A64 A645 A65 A652 A7 A75 A753 A754)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- CI Requisition (From: A4 A42 A423 A424 A43 A433 A434 A44 A444)

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.

- Configuration Information Request (From: A336 A422 A423 A424 A442 A443 A664)

Any request for information about one or more configuration items. Many IT processes will make such requests.

- Asset Information (From: A5 A55 A553)

Could be reports, covering multiple asset items, or just the specific information on an individual asset.

## Outputs

- CIs (To: A4 A43 A434 A44 A444)

CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>74</sup>

- Configuration Baseline Report (To: A423 A51 A514 A516 A52 A522 A523 A524)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

- Configuration Information (To: A3 A33 A336 A4 A42 A422 A423 A424 A44 A442 A443 A51 A513 A514 A516 A52 A523 A524 A53 A533 A534 A535 A545 A55 A553 A6 A61 A612 A62)

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A623 A63 A634 A635 A64 A642 A65 A652 A653 A654 A66 A662 A67 A674 A7 A72 A724 A726 A727 A73 A735 A736 A74 A742 A743 A744 A75 A752 A76 A764 A765 A766)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

### Activities

This process is composed of these activities:

- A541 Establish Configuration Management Framework
- A542 Identify Configuration Items
- A543 Control Configuration Items
- A544 Report Configuration Status
- A545 Verify and Audit Configuration Items
- A546 Evaluate Configuration Management Performance

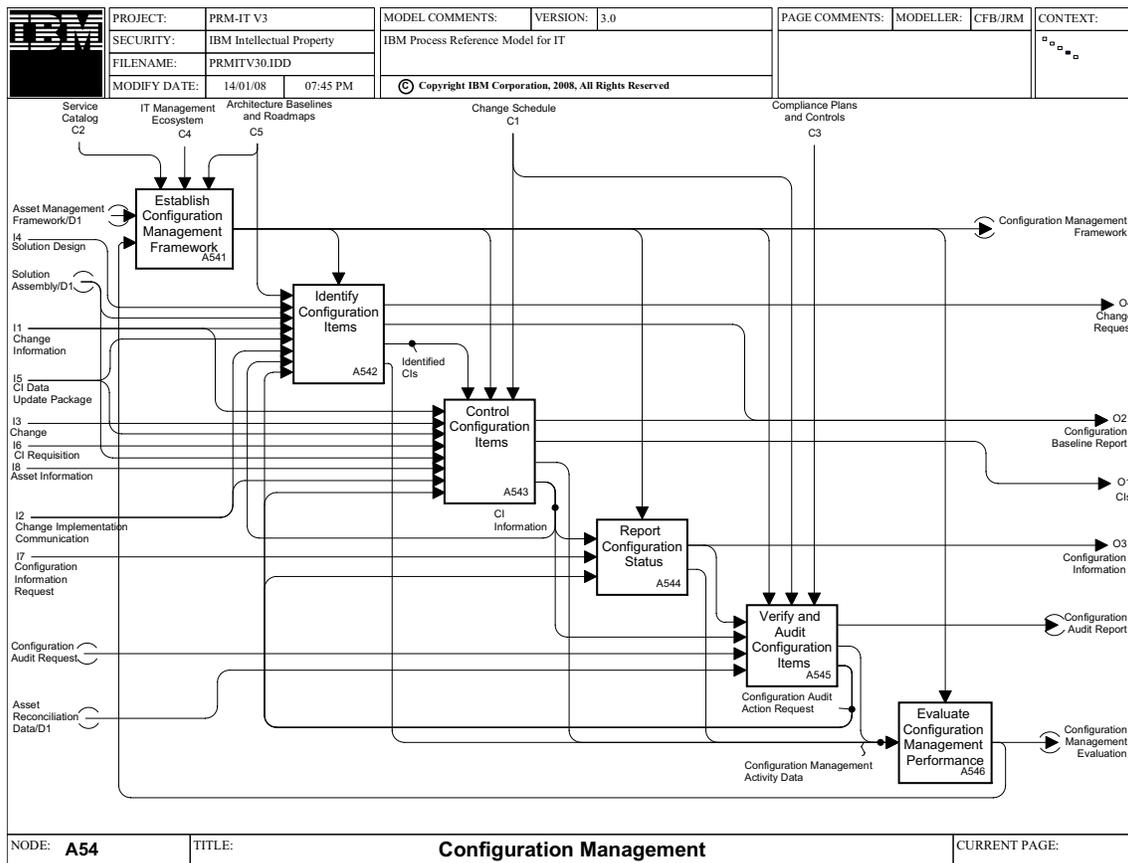


Figure 5. A54 Configuration Management

## [A541] Establish Configuration Management Framework

### Description

The framework for Configuration Management should be consistent with business and IT models and strategies, as well as general IT guidelines and practices.

The tasks in this activity include:

- Understanding the requirements of the overall IT Management System for Configuration Management
- Defining the strategy, policies, and conventions for controlling configuration items, including:
  - Creation of configuration baselines
  - License control
  - Version numbering and control
  - Identification of approved procedures that may make changes to the CMS
  - Identification of procedures related to workspaces, branching, and merging
  - Generic naming conventions
  - Generic configuration item status codes
  - Attributes necessary for all CI types
  - CI control procedures, such as check-in/check-out procedures
  - Generic information and integration standards for all CMDBs within the CMS

It should be noted that specific practices for individual CI types are defined in Identify Configuration Items.

- Designing, championing, and overseeing the implementation of Configuration Management solutions
- Defining ownership and relationships within the Configuration Management System (CMS). Within an operations context, the CMS represents all CIs within the IT infrastructure. Within a development context, the CMS represents all artifacts used to create the system under development.
- Identifying roles and responsibilities, determining skill requirements for the staff and assigning staff
- Defining process metrics and practices for collecting those metrics
- Establishing two-way agreements with other parties where there is a mutual requirement for configuration information and control.

Finally, the structure and process for Configuration Management (including procedures and tools) must be communicated to the process users and stakeholders.

The establishment of the Configuration Management Framework also includes the continuous improvement of Configuration Management. For example, the consideration of the Configuration Management process evaluation and the implementation of recommended improvement actions.

## Controls

- Service Catalog

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.(From: A2 A23 A235)

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes."<sup>75</sup>

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

- Asset Management Framework (From: A551)

The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

- Configuration Management Evaluation (From: A546)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Configuration Management Framework (To: A542 A543 A544 A545 A546 A551)

The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.

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## [A542] Identify Configuration Items

### Description

This activity defines the types of configuration items under the control of Configuration Management. This might be done during the initial population of a CMDB within the Configuration Management System (CMS) or when a new type of CI is identified for inclusion within the CMS. This discovery can be done manually or automatically.

As a result of design at either the architectural level or within a particular solution, a new CI type can be generated that should be reflected within the CMS schema.

Once a new type of CI is identified, a number of steps might need to occur, including:

- Creating specific naming conventions for this CI type
- Creating specific labeling conventions

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- Defining attributes for the CI type
- Defining documentation for the CI type
- Defining relationships to other CI types
- Defining specific control procedures

This information is stored in the Configuration Identification Practices.

Each of the decisions can result in an update to or modification of the CMS schema, resulting in a proposal to update the CMS.

## Controls

- Configuration Management Framework (From: A541)  
The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.

## Inputs

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution Assembly (From: A43)  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- CI Data Update Package (From: A4 A42 A424 A43 A433 A434 A435 A436 A437 A44 A444 A45 A456 A51 A516 A52 A523 A526 A53 A535 A536 A6 A63 A634 A64 A645 A65 A652 A7 A75 A753 A754)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Change Implementation Communication (From: A51 A516)  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.
- CI Information (From: A543)  
The definitive configuration information about each and every managed configuration item. The collection of this information is represented by the concept of a CMDB.

- Configuration Audit Action Request (From: A545)

A request for some corrective action to be taken to reflect the outcomes of configuration audit.

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Configuration Baseline Report (To: A423 A51 A514 A516 A52 A522 A523 A524)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

- Identified CIs (To: A543)

The set of CI types, with details of their:

- Attributes
- Relationships
- Structures in which they are expected to participate

- Configuration Management Activity Data (To: A546)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A543] Control Configuration Items

### Description

All transactions with the CMS are carefully controlled so that only authorized access is allowed. The functionality of a CMS can vary based on the context in which it works. For example, in an operations context, the CMS stores information about CIs within the IT infrastructure and transactions with the CMS will include creating new CI records, deleting CI records, and updating existing CI records. In a counter example, within a software development context, the CMS stores an electronic version of the CI itself and transactions with the CMS will include creating or deleting CIs within the build structure as well as checking in and checking out CIs for development work. Regardless of the context, all transactions (whether additions, deletions, cloning or branching, merging, or modifications) are recorded in the CMS.

As noted previously, CI transactions can include information about CIs or could be electronic versions of the CIs themselves (if the CIs are software modules in a development environment). Submitted CI transactions are validated, and then checked for proper authorization. Specific operational procedures might already be approved for specific types of transactions with the CMS. (For example, service desk personnel might have authority to update records within an operations CMS, or developers within a software development project might have such authority within a development CMS.) Non-typical requests can be routed to a person to obtain proper authorization or rejected outright, based upon policy.

During processing of the transaction, relevant linkages to other CIs and to any other information, such as change requests, will also be defined, checked and recorded.

New configuration baselines can be generated based on configuration management practices. A baseline might be created within an operations context to help restore a set of CIs to a known stable state if a change or release fails. In a development context, a baseline represents a known state of a system under development to which the project could return if necessary.

## Controls

- Identified CIs (From: A542)  
The set of CI types, with details of their:
  - Attributes
  - Relationships
  - Structures in which they are expected to participate
- Configuration Management Framework (From: A541)  
The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>76</sup>

## Inputs

- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Change (From: A51 A515)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- CI Data Update Package (From: A4 A42 A424 A43 A433 A434 A435 A436 A437 A44 A444 A45 A456 A51 A516 A52 A523 A526 A53 A535 A536 A6 A63 A634 A64 A645 A65 A652 A7 A75 A753 A754)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- CI Requisition (From: A4 A42 A423 A424 A43 A433 A434 A44 A444)  
A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.
- Solution Assembly (From: A43)  
The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Change Implementation Communication (From: A51 A516)  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions

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- Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

- Configuration Audit Action Request (From: A545)

A request for some corrective action to be taken to reflect the outcomes of configuration audit.

## Outputs

- Configuration Baseline Report (To: A423 A51 A514 A516 A52 A522 A523 A524)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

- CIs (To: A4 A43 A434 A44 A444)

CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: "Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs."<sup>77</sup>

- Configuration Management Activity Data (To: A546)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- CI Information (To: A542 A544 A545)

The definitive configuration information about each and every managed configuration item. The collection of this information is represented by the concept of a CMDB.

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## [A544] Report Configuration Status

### Description

This activity makes CI and CMS information available to any authorized requestor. The information can range from detailed attributes and relationships to summarized information. It can cover an individual CI or a collection of CIs. It can be essentially unformatted raw data or predetermined reports. Finally, it can be provided in line with a planned schedule or in response to an individual request.

### Controls

- Configuration Management Framework (From: A541)

The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.

### Inputs

- CI Information (From: A543)

The definitive configuration information about each and every managed configuration item. The collection of this information is represented by the concept of a CMDB.

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- Configuration Information Request (From: A336 A422 A423 A424 A442 A443 A664)  
Any request for information about one or more configuration items. Many IT processes will make such requests.
- Configuration Audit Action Request (From: A545)  
A request for some corrective action to be taken to reflect the outcomes of configuration audit.

## Outputs

- Configuration Information (To: A3 A33 A336 A4 A42 A422 A423 A424 A44 A442 A443 A51 A513 A514 A516 A52 A523 A524 A53 A533 A534 A535 A545 A55 A553 A6 A61 A612 A62 A623 A63 A634 A635 A64 A642 A65 A652 A653 A654 A66 A662 A67 A674 A7 A72 A724 A726 A727 A73 A735 A736 A74 A742 A743 A744 A75 A752 A76 A764 A765 A766)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Configuration Management Activity Data (To: A546)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A545] Verify and Audit Configuration Items

### Description

This activity determines how well the contents of the CMS match an audit target, such as a development baseline or the IT infrastructure. This configuration audit checks to make sure the CI information matches the physical reconciliation data, that naming conventions are followed, that the DML and DHS agree with the CI, and that change requests match the composition of the CI. The audit takes place on a regular basis, as stipulated by the Configuration Management Plan, or as requested by the Configuration Manager or other authorized personnel. Audits can help verify the effects of approved changes and can help identify unauthorized changes.

There are two contexts in which a configuration audit might take place. In both instances, the audit determines whether the contents of the CMS match some known collection of CIs. The first context is an operations context, and the purpose of the audit is to determine if the contents of the CMS matches the existing CIs in the IT infrastructure. The second context is a development context, and the purpose of the audit is to determine if the development baseline contains all development CIs in the CMS. The audit takes place on a regular basis, as stipulated by the Configuration Management Plan, or as requested by the Configuration Manager or other authorized personnel.

### Controls

- Configuration Management Framework (From: A541)  
The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: "A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented."<sup>78</sup>

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- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Inputs

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- CI Information (From: A543)

The definitive configuration information about each and every managed configuration item. The collection of this information is represented by the concept of a CMDB.

- Configuration Audit Request (From: A554 A716)

A request for any aspect of the collected configuration information to be audited against the actual, real managed object.

- Asset Reconciliation Data (From: A554)

Data collected during auditing and inspection of assets. Typically includes location, condition and verification results.

## Outputs

- Configuration Audit Report (To: A455 A554 A716)

The outcomes of a configuration audit. The outcomes cover both status of configuration items and audit trails of changes to configuration items, such as logs of identities of the people making such changes.

- Configuration Management Activity Data (To: A546)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- Configuration Audit Action Request (To: A542 A543 A544)

A request for some corrective action to be taken to reflect the outcomes of configuration audit.

## [A546] Evaluate Configuration Management Performance

### Description

This activity analyzes the Configuration Management process and its effectiveness. This includes:

- Identifying suggested improvements to the Configuration Management Plan
- Analyzing CI requests to determine how to improve the processing of such requests
- Analyzing CI information errors to determine how to improve the quality of information received
- Analyzing stakeholder needs

All of this analysis is used to create a Configuration Management Performance Evaluation. This will be a key input when updating the Configuration Management Framework.

### Controls

- Configuration Management Framework (From: A541)  
The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.

### Inputs

- Configuration Management Activity Data (From: A542 A543 A544 A545)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Configuration Management Evaluation (To: A541)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A55] Asset Management

### Purpose

The purpose of the Asset Management process is to control all assets owned by the IT endeavor throughout their life cycle and to maintain accurate information about them in an Asset Register. The aspects of asset control under this purpose include inventory, contractual (licensing, maintenance), ownership and location

ITIL provides the following definitions:

- Asset: “Any Resource or Capability. Assets of a Service Provider include anything that could contribute to the delivery of a Service. Assets can be one of the following types: Management, Organisation, Process, Knowledge, People, Information, Applications, Infrastructure, and Financial Capital.”<sup>79</sup>
- Asset Register: “A list of Assets, which includes their ownership and value. The Asset Register is maintained by Asset Management.”<sup>80</sup>

The definition of *asset* is much broader than those in widespread usage within the IT industry.<sup>81</sup> In this model, many of the types identified are controlled by other processes specialized for the management issues that pertain to them.

- Items Management, Organization, Process are the subject of the IT Governance and Management System category of processes
- Knowledge Management is a process in its own right
- People are recruited, developed, and assigned to responsibilities by the Workforce Management process
- Financial Capital is under the custodianship of the Financial Management process, with interfaces to this process where Asset activities have an impact on financial valuation (for example, by a decision to dispose of an asset or to transfer ownership to a new owner).

The technology object types Information, Applications, Infrastructure are all covered by this process, where each individual item can qualify for any of the asset control purposes in scope. For example, it is not unusual for accessories for PCs (such as keyboards, mice) to be excluded from asset control.

### Outcomes

As a result of the successful implementation of the Asset Management process:

- Value is maximized from technology assets over their lifetime
- Assets are provided in an accurate and timely manner to supply, movement or other requests
- Accurate and timely information about technology assets supports informed IT decision making, at both strategic and tactical levels
- Exposure to risks relating to IT assets is minimized
- IT assets are managed in compliance with legal, industry and corporate standards and requirements
- Governance of assets drives the right trade-offs in investments in asset and usage of assets

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79. ITIL V3 Glossary

80. ITIL V3 Glossary

81. See [HTTP://en.wikipedia.org/wiki/IT\\_asset\\_management](http://en.wikipedia.org/wiki/IT_asset_management)

## Scope

Asset Management has dual responsibilities:

1. To control each asset from initial creation (such as receipt from suppliers) through all life cycle events (such as change of location, transfer of ownership, change of use) until eventual retirement or disposal.
2. To identify, collect, maintain, control, and report inventory and financial information about IT assets throughout their life cycle

### Includes

- ◆ License management (including software license compliance)
- ◆ Lease and maintenance administration of each asset
- ◆ Inventory management (includes physical components and specifications)
- ◆ Allocation of available assets to meet approved requests
- ◆ Physical logistics (such as transportation) of assets
- ◆ Retirement of outdated assets
- ◆ Triggering requisition for the procurement of additional assets (for example, if a policy of maintaining minimum inventory stock levels for standard, frequently needed asset item is in place)
- ◆ Financial life cycle of assets (including valuation)

### Excludes

- ◆ Risk Management
- ◆ Contract and Supplier Management (including Procurement) (Supplier Management)
- ◆ Configuration Management (logical relationships)
- ◆ Managing the security of an asset (Facilities Management, Security Management)

## Controls

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

## Inputs

- Asset Deployment Inquiries and Requisitions (From: A433 A434 A51 A514 A515 A516 A52 A522 A523 A524 A53 A534)  
Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Service Request\_ Authorized (From: A6 A61 A613)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Underpinning Contracts (From: A8 A82 A823)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>82</sup>
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

## Outputs

- Asset Deployment Items and Data (To: A4 A43 A51 A52 A522 A523 A524 A53 A534)  
Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.
- Asset Information (To: A54 A543 A7 A71 A713 A72 A724 A8 A81 A812 A814 A815)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.

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## [A551] Establish Asset Management Framework

### Description

Define and maintain a framework of policies and procedures that guides and governs the behavior of the Asset Management process and its activities.

Incorporate mandatory elements from the IT Management Ecosystem.

Define a set of metrics to be used by each process for measuring and reporting performance.

Review process evaluations based on analysis of current performance, and approve recommendations for improvements. Refine the metrics to encourage process vitality and cost effectiveness.

Incorporate updated metrics and process change recommendations into the framework and communicate the changes.

### Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

### Inputs

- Configuration Management Framework (From: A541)  
The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.
- Asset Management Evaluation (From: A558)  
Assessment results for the Asset Management process and its activities, including process performance metrics and the identification of potential process improvement items.

### Outputs

- Asset Management Framework (To: A541 A552 A553 A554 A555 A556 A557 A558 A751)  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

## [A552] Ready and Control Asset

### Description

Prepare assets that are to be made available to users. This includes receiving the asset either from an asset provider or from the recycling of existing assets.

Prior to deployment, respond to inquiries concerning the status of the asset (such as whether it has been shipped from the vendor or not). Prepare assets for deployment (such as installing IT approved images, appropriate asset ID tags, among others). Allocate assets to specific users or sites, based on distribution instructions, and transfer assets to their appropriate locations.

Determine when to retire an asset.

### Controls

- Asset Management Framework (From: A551)  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.
- Asset Contracts and Financial Data (From: A555)  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.

### Inputs

- Service Request\_ Authorized (From: A6 A61 A613)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Deallocated Assets (From: A535)  
Assets that are no longer deployed to specific owners. These assets are free to be allocated to new owners.
- Asset (From: A82 A824)  
Each asset that has completed the procurement process (business now holds the title) and is available for productive deployment. During its useful life, it is managed by the Asset Management process.
- Asset Requisition  
The placement of an *order* for one or more specified assets (or asset types) to be *delivered* or otherwise made available for productive use.
- Asset Availability Inquiry  
A planning inquiry to establish the outlook for the availability of specified IT assets for productive use.

- **Asset Distribution Instruction**  
The formal trigger for IT assets, probably already reserved for this purpose, to be distributed. The instruction would include details such as:
  - Date
  - Location
  - Quantity
  - Specification
  - Personnel involved and contact details.
- **Asset\_ Reactivated (From: A556)**  
An asset that was previously retired, but has been brought back into active service.
- **Asset Retirement and Disposal Data (From: A556)**  
Data that describes the disposition and status of assets slated for retirement and disposal.
- **Asset Audit Action Request (From: A554)**  
A request to perform some action based on the findings of an asset audit. This can include instructions such as to locate a known asset or to reassign it.
- **Asset Register (From: A553)**  
The complete set of records in asset information repositories.

## Outputs

- **Asset Availability Information (To: A514)**  
Details of the ability of the subject IT asset or assets to be made available for deployment or development use. The details will include:
  - Quantities
  - Specifications
  - Dates
  - Locations
- **Asset Requisition Status (To: A515)**  
The acknowledgement, including status information such as expected dates, that a requisition for one or more assets has been received and processed.
- **Allocated Asset Items (To: A433 A434 A435 A436)**  
The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.
- **Asset Replenishment Request (To: A824)**  
A trigger to indicate that additional quantities of an asset are required in order to meet existing or anticipated requisitions.
- **Asset\_ Retired (To: A556)**  
An asset that is to be removed from service. Such an asset will be in a storage location (such as the Definitive Hardware Store or DHS) until it is either restored (recovered) for active use or disposed.
- **Asset Operational Data (To: A553)**  
Relevant individual data values describing the specifics of the current state of an asset. Examples include:
  - Location
  - Owner
  - Maintenance contract end date
  - Original purchase price

- Asset Retirement and Disposal Instructions (To: A556)  
Directives concerning assets slated for retirement and disposal.
- Asset Management Activity Data (To: A558)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

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## [A553] Control Asset Information

### Description

Maintain asset data model and create, update, or delete asset information based on update data provided by various sources. These sources include other processes that provide administration and support of assets and configuration items (such as Incident Management, Problem Management, and Configuration Management).

Manage the repository or set of repositories containing asset information. Carry out actions that reconcile issues with asset records. Asset information includes assets within the entire asset life cycle, including received assets, active assets, retired assets, and disposed assets.

Make available information about specific assets.

### Controls

- Asset Management Framework (From: A551)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Asset Management process will operate to meet its mission and goals.

### Inputs

- Asset Operational Data (From: A552)  
Relevant individual data values describing the specifics of the current state of an asset. Examples include:
  - Location
  - Owner
  - Maintenance contract end date
  - Original purchase price
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Asset Data Update Package (From: A516 A534 A535 A652 A753 A754)  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- Asset Information or Report Request  
A request to obtain information about a deployed asset. This request specifies whether the information should be in a formal report or simply provided asset data. It covers a range of request types, such as:
  - Need for information on an individual asset
  - A scheduled report
  - A request for an asset analysis report.
- Asset Retirement and Disposal Data (From: A556)  
Data that describes the disposition and status of assets slated for retirement and disposal.

- **Asset Audit Action Request (From: A554)**  
A request to perform some action based on the findings of an asset audit. This can include instructions such as to locate a known asset or to reassign it.
- **Asset Contracts and Financial Data (From: A555)**  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.

## Outputs

- **Asset Information (To: A54 A543 A7 A71 A713 A72 A724 A8 A81 A812 A814 A815)**  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- **Asset Register (To: A552 A554 A555 A556 A557)**  
The complete set of records in asset information repositories.
- **Asset Management Activity Data (To: A558)**  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

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## [A554] Monitor, Audit and Reconcile Asset Records

### Description

Monitor IT assets to determine their overall health or status. Areas of interest include meeting licensing requirements, whether assets are sufficiently up to date, and compliance with security requirements, among others.

In addition, more formal auditing is performed to ensure that data in asset information repositories corresponds to assets in the physical environment. Audits match discovered inventory information with existing assets. Reconcile discrepancies between information repositories and the physical environment by either updating data in the information repositories or requesting changes to the physical environment. Also, the findings of an audit might result in a request for an audit of the IT configuration.

### Controls

- **Asset Management Framework (From: A551)**  
The policies, procedures, organizational roles and responsibilities, and other information under which the Asset Management process will operate to meet its mission and goals.
- **Compliance Plans and Controls (From: A7 A71 A714)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.

### Inputs

- **Asset Register (From: A553)**

- **Asset Information or Report Request**The complete set of records in asset information repositories.  
A request to obtain information about a deployed asset. This request specifies whether the information should be in a formal report or simply provided asset data. It covers a range of request types, such as:
  - Need for information on an individual asset
  - A scheduled report
  - A request for an asset analysis report.
- **Configuration Audit Report (From: A545)**  
The outcomes of a configuration audit. The outcomes cover both status of configuration items and audit trails of changes to configuration items, such as logs of identities of the person(s) making such changes.
- **Asset Contracts and Financial Data (From: A555)**  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.
- **Asset Licenses**  
A documented permission to use an asset or set of assets. The license can contain specific terms and conditions, including details such as the number of users, any rights to copy and distribute, and the license period.

## Outputs

- **Asset Replenishment Request (To: A824)**  
A trigger to indicate that additional quantities of an asset are required in order to meet existing or anticipated requisitions.
- **Configuration Audit Request (To: A545)**  
A request for any aspect of the collected configuration information to be audited against the actual, real managed object.
- **Asset Reconciliation Data (To: A545)**  
Data collected during auditing and inspection of assets. Typically includes location, condition and verification results.
- **Asset Audit Action Request (To: A552 A553 A555)**  
A request to perform some action based on the findings of an asset audit. This can include instructions such as to locate a known asset or to reassign it.
- **Asset Retirement and Disposal Instructions (To: A556)**  
Directives concerning assets slated for retirement and disposal.
- **Asset Management Activity Data (To: A558)**  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

## [A555] Oversee Asset Contracts and Financials

### Description

Manage and control all asset contracts and related records. This includes lease agreements, leasing schedules, tax data, and financial data. Manage financial aspects of assets, including asset costs, current value, depreciation, and tax determination. Conduct negotiations concerning terms and warranties. Correlate underpinning contracts to asset records (including lease agreements and schedules, tax data, and financial information). Provide financial information concerning the need to retire assets.

### Controls

- **Asset Management Framework (From: A551)**  
The policies, procedures, organizational roles and responsibilities, and other information under which the Asset Management process will operate to meet its mission and goals.
- **Compliance Plans and Controls (From: A7 A71 A714)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.

### Inputs

- **Asset Audit Action Request (From: A554)**  
A request to perform some action based on the findings of an asset audit. This can include instructions such as to locate a known asset or to reassign it.
- **Asset Register (From: A553)**  
The complete set of records in asset information repositories.
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Asset Licenses**  
A documented permission to use an asset or set of assets. The license may contain specific terms and conditions, including details such as the number of users, any rights to copy and distribute, and the license period.
- **Underpinning Contracts (From: A8 A82 A823)**  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>83</sup>

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- Asset Retirement and Disposal Data (From: A556)  
Data that describes the disposition and status of assets slated for retirement and disposal.

## Outputs

- Asset Contracts and Financial Data (To: A552 A553 A554 A557 A814 A825)  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.
- Asset Retirement and Disposal Instructions (To: A556)  
Directives concerning assets slated for retirement and disposal.
- Asset Management Activity Data (To: A558)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

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## [A556] Retire and Dispose of Asset

### Description

Collect assets scheduled for retirement and disposal. Return assets to storage (such as the Definitive Hardware Store or DHS). Some retired assets will be restored to active use, while others will be disposed of.

Prepare assets for disposal by removing data and harvesting any useful or recyclable components. Recycle designated assets by making them available for reuse (see Ready and Control Asset). Once properly prepared, transfer assets to be disposed to a disposal site for final processing.

Notify the asset status of all assets being retired or disposed.

### Controls

- Asset Management Framework (From: A551)  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

### Inputs

- Asset\_ Retired (From: A552)  
An asset that is to be removed from service. Such an asset will be in a storage location (such as the Definitive Hardware Store or DHS) until it is either restored (recovered) for active use or disposed.
- Asset Register (From: A553)  
The complete set of records in asset information repositories.
- Asset Retirement and Disposal Instructions (From: A552 A554 A555)  
Directives concerning assets slated for retirement and disposal.

### Outputs

- Asset\_ Disposed  
Assets that have reached the end of their useful lifecycle and have been removed from service and inventory. Disposal can involve selling, scrapping or recycling.
- Asset Management Activity Data (To: A558)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

- **Asset\_ Reactivated (To: A552)**  
An asset that was previously retired, but has been brought back into active service.
- **Asset Retirement and Disposal Data (To: A552 A553 A555)**  
Data that describes the disposition and status of assets slated for retirement and disposal.

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## [A557] Report Asset Information

### Description

Receive and process requests for asset reports. These can include ad hoc reports or standard reports. Design (if needed), generate, and disseminate asset reports as per request.

### Controls

- **Asset Management Framework (From: A551)**  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

### Inputs

- **Asset Contracts and Financial Data (From: A555)**  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.
- **Asset Register (From: A553)**  
The complete set of records in asset information repositories.
- **Asset Information or Report Request**  
A request to obtain information about a deployed asset. This request specifies whether the information should be in a formal report or simply provided asset data. It covers a range of request types, such as:
  - Need for information on an individual asset
  - A scheduled report
  - A request for an asset analysis report.

### Outputs

- **Asset Reports**  
Ad hoc or standard reports describing assets. These reports may describe one or more selected assets or may summarize data about a set of assets, or possibly all assets.
- **Asset Management Activity Data (To: A558)**  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

## [A558] Evaluate Asset Management Performance

### Description

This activity assesses the performance of the Asset Management process activities against defined performance criteria and measures, and provides input to the IT Management System Framework.

The evaluation of process performance identifies areas that need improvement. This might include the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Asset Management Framework (From: A551)  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

### Inputs

- Asset Management Activity Data (From: A552 A553 A554 A555 A556 A557)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

### Outputs

- Asset Management Evaluation (To: A551)  
Assessment results for the Asset Management process and its activities, including process performance metrics and the identification of potential process improvement items.

## PRM-IT A5 Node Tree

<b>A5 – TRANSITION</b>	
<b>A51</b>	<b>Change Management</b>
A511	Establish Change Management Framework
A512	Create and Record Change Request
A513	Accept and Categorize Change
A514	Assess Change
A515	Authorize and Schedule Change
A516	Coordinate Change Implementation
A517	Review and Close Change
A518	Monitor and Report Change Management
A519	Evaluate Change Management Performance
<b>A52</b>	<b>Release Management</b>
A521	Establish Release Management Framework
A522	Plan Release Strategy
A523	Design and Build Release
A524	Test and Verify Release
A525	Monitor and Report Release
A526	Review and Close Release
A527	Evaluate Release Management Performance
<b>A53</b>	<b>Deployment Management</b>
A531	Establish Deployment Management Framework
A532	Plan Deployment Program
A533	Prepare Deployment Capabilities
A534	Perform Deployment
A535	Perform Deployment
A536	Verify Deployment and Activate Service
A537	Review and Close Deployment
A538	Monitor and Report Deployment Program
A539	Evaluate Deployment Management Performance
<b>A54</b>	<b>Configuration Management</b>
A541	Establish Configuration Management Framework
A542	Identify Configuration Items
A543	Control Configuration Items
A544	Report Configuration Status
A545	Verify and Audit Configuration Items
A546	Evaluate Configuration Management Performance
<b>A55</b>	<b>Asset Management</b>
A551	Establish Asset Management Framework
A552	Ready and Control Asset
A553	Control Asset Information
A554	Monitor, Audit and Reconcile Asset Records
A555	Oversee Asset Contracts and Financials

<b>A5 – TRANSITION</b>	
A556	Retire and Dispose of Asset
A557	Report Asset Information
A558	Evaluate Asset Management Performance

*Figure 7. A5 Transition Node Tree*





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- Compliance Plans and Controls (From: A7 A71 A714)

## Inputs

- Solution\_ Deployed (From: A5 A53 A536)
- Change Information (From: A5 A51 A518)
- Configuration Information (From: A5 A54 A544)
- Solution Design (From: A4 A42 A425)
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)
- Incident (From: A2 A27 A273 A5 A51 A516 A53 A536 A61 A613 A62 A625 A63 A637 A64 A644 A646 A67 A675 A7 A72 A75 A754)
- User Input (From: Outside-the-Model)
- Service Resilience Plans (From: A7)

## Outputs

- User Output (To: Outside-the-Model)
- Identity and Access Rights Register (To: A674 A675 A7 A72 A726 A727 A75 A754)
- Service Metric Data and Reports (To: A2 A24 A244 A7 A71 A716 A8 A81 A814 A815 A83 A832)
- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)
- Incident Information (To: A2 A24 A244 A61 A613 A615 A652 A653 A654 A655 A656 A66 A662 A7 A72 A726 A73 A736 A74 A744 A75 A754)
- Problem Information (To: A2 A24 A244 A245 A356 A61 A613 A615 A65 A653 A654 A656 A662 A663 A664 A665 A666 A7 A73 A736 A74 A744 A76 A764)
- Service Request\_ Authorized (To: A5 A53 A535 A55 A552 A62 A622 A63 A67 A7 A72 A75)
- CI Data Update Package (To: A5 A54 A542 A543)
- Change Request (To: A5 A51 A512)

## Processes

This process category is composed of these processes:

- A61 Request Fulfillment
- A62 Service Execution
- A63 Data Management
- A64 Event Management
- A65 Incident Management
- A66 Problem Management
- A67 Identity and Access Management

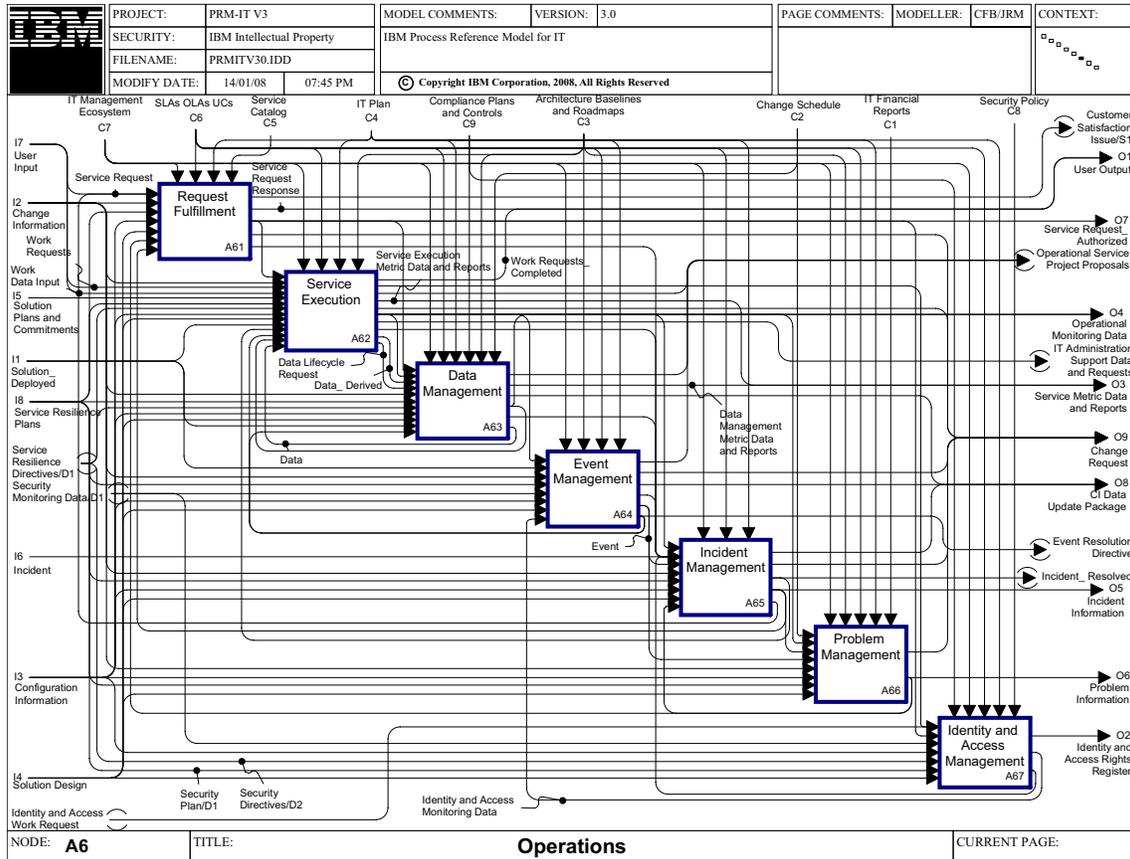


Figure 1. A6 Operations Diagram

## [A61] Request Fulfillment

### Purpose

The purpose of the Request Fulfillment Process is to receive service requests from users and route each request to the appropriate process for handling. Some service requests are handled by the Request Fulfillment Process, whereas many others are routed to other processes for fulfillment. Request Fulfillment can be the contact management process for an implementation of an IT Service Desk (or equivalent).

Definition of service request: “A request from a user for information, or advice, or for a standard change or for access to an IT service. For example to reset a password, or to provide standard IT services for a new user. Service requests are usually handled by a service desk, and do not require an RFC to be submitted.”<sup>1</sup>

### Outcomes

As a result of the successful implementation of the Request Fulfillment Process:

- User and customer satisfaction is enhanced
- User requests to the IT organization are successfully received and processed for fulfillment or other appropriate handling
- Requests are accurately and appropriately routed to the correct process and correct service provider for handling (fulfillment)
- Service level targets for service desk responsiveness and quality are achieved
- Users receive accurate and timely communication concerning the status of their service requests

### Scope

At the initial receipt of a service request from a user, the nature of the request and information within it has to be established. Many such service requests can be dealt with by the set of activities within this process. Other service requests, once initially assessed, will be beyond the capability of this process to perform the primary added-value work needed by those requests and will be passed on to other, more specific processes. This process will interact at the process framework level with the specific processes to determine which types of service requests should be handled by which processes. Over time, the range of service requests which can be directly fulfilled is likely to increase.

Examples of interactions are:

- Incidents are routed to the Incident Management process
- Service requests assessed as standard changes are passed directly to other appropriate processes
- Other, more significant change requests are transferred to the Change Management process

Wherever the service request is dealt with, this process retains ownership of the service request on the user's behalf and is responsible for achievement of service level targets relating to service requests.

This process provides the primary interface point for users of IT services with the service provider.

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## Includes

Receipt and management of service requests relating to:

- ◆ Incidents
- ◆ Standard changes (such as deployment of standard software)
- ◆ Identity
- ◆ Access rights
- ◆ Security service requests
- ◆ Information, advice, guidance
- ◆ User satisfaction interactions
- ◆ Complaints

Items which are assessed to be change requests (rather than standard changes) can be routed to Change Management

## Excludes

- ◆ Those interactions between the business (and other customers) and the IT service provider that consider the status, scope or coverage of the overall service provision agreements. (Service Level Management)
- ◆ The direct fulfillment of those service requests which are dealt with by other processes. Where such fulfillment workings require direct contact between IT service provider staff performing those processes and users, then those activities are part of those processes. An example of this would be interacting with a user as part of deploying a PC (Deployment Management)
- ◆ Establishing entitlement limits for user communities against each service (Combination of Service Marketing and Sales, and Service Level Management)
- ◆ Granting access rights (found in Identity and Access Management)
- ◆ Installing standard technical components (Deployment Management)

## Controls

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the

responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>2</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>3</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>4</sup>

These agreements can be in a draft or finalized status.

■ **IT Plan (From: A3 A36 A365)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

■ **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>5</sup>

## Inputs

■ **Service Request (From: A65 A653)**

A request to perform a standard and straightforward IT task for a user. Service requests are tasks that are within the scope of existing IT services.

ITIL definition: “A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do not require an RFC to be submitted.”<sup>6</sup>

■ **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

■ **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management

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- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Configuration Information (From: A5 A54 A544)
 

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution Design (From: A4 A42 A425)
 

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Problem Information (From: A6 A66 A667)
 

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Incident Information (From: A6 A65 A657)
 

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

## Outputs

- Customer Satisfaction Issue (To: A27 A274)
 

Any determination of a customer satisfaction issue. Can be either direct from a customer, or prompted by any IT staff member in carrying out other processes.
- Service Request Response
 

The interim and final outcomes of the service request, which can be many aspects, including:

  - The information requested by the user
  - A request for more information or an acknowledgement of a milestone within the request processing
  - Status of the work effort triggered by the request, including plans to address the work items contained in the request
- Service Request\_ Authorized (To: A5 A53 A535 A55 A552 A62 A622 A63 A67 A7 A72 A75)
 

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Change Request (To: A5 A51 A512)
 

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Incident (To: A537 A6 A65 A652)
 

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to service. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a user contact and becomes an incident once it is determined that a fault is being reported.

## Activities

This process is composed of these activities:

- A611 Establish Request Fulfillment Framework
- A612 Receive and Approve Service Request
- A613 Fulfill or Route Service Request
- A614 Close Service Request
- A615 Own, Monitor, Track and Communicate Service Requests
- A616 Evaluate Request Fulfillment Performance

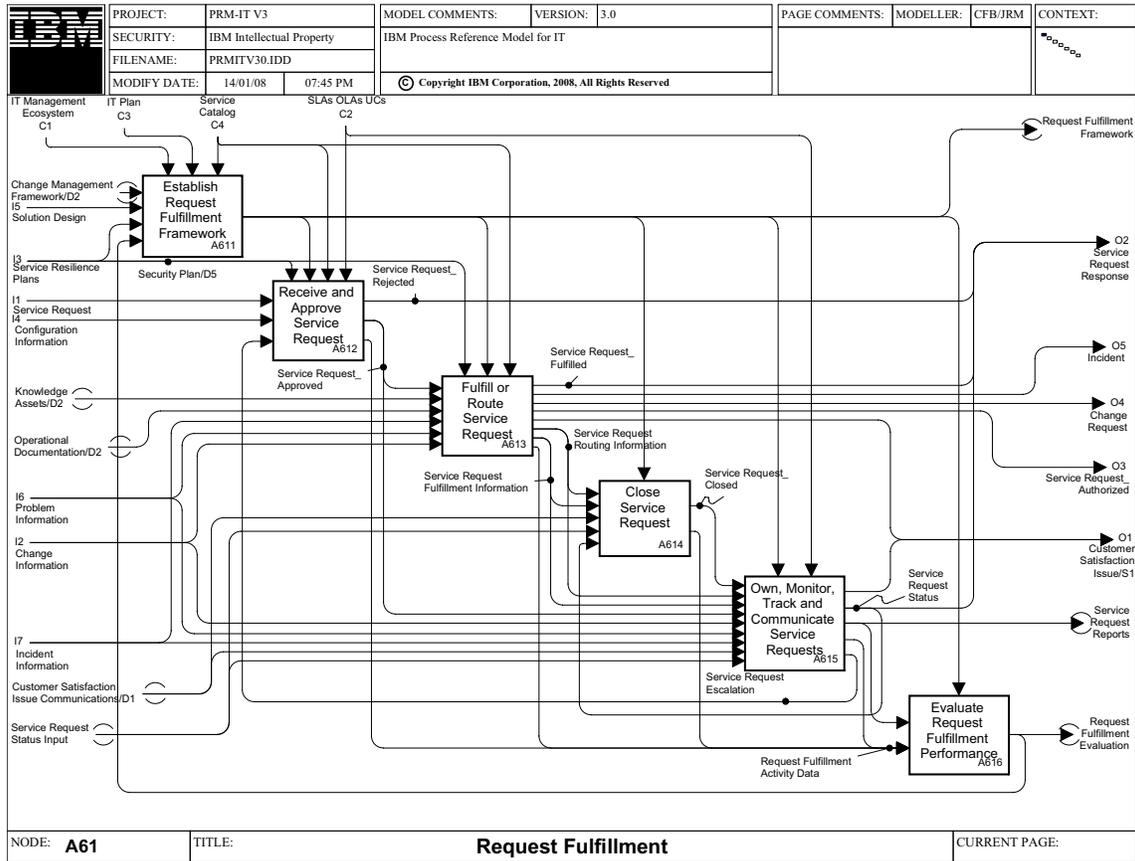


Figure 2. A61 Request Fulfillment



## Inputs

- Change Management Framework (From: A511)  
The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the plan output from each individual process for more details.)
- Request Fulfillment Evaluation (From: A616)  
The result of the evaluation of the Request Fulfillment process, including any identification of potential process improvement areas.

## Outputs

- Request Fulfillment Framework (To: A612 A613 A614 A615 A616)  
The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:
  - Structure of the request fulfillment center (often known as or linked to a *service desk*)
  - Technology support
  - Request routing tables and completion details of request completion targets and commitments
  - Format of information transfer
  - Categorization and prioritization aspects for service requestsIt defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

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## [A612] Receive and Approve Service Request

### Description

When a user makes a request for service using one of the available channels (such as by calling a service desk, by sending an e-mail or by completing a self-service dialog), the request is examined and checked to see if it passes the criteria for acceptance. If not, it is rejected.

Typical tasks include:

- Checking completeness and accuracy of user information
- Confirming user entitlement to have the request processed, and perhaps defining a class of service for the request
- Calling up and confirming relevant configuration information.

In order to be able to follow up on the service request later, a reference number is typically assigned to the request and the contact details are stored in a repository (tool or database, depending on the selected tooling for request fulfillment). If the request is rejected, this decision and the reasons are communicated to the user.

Once accepted, the request is classified, meaning that the request handler performs a request assessment. This includes understanding and analyzing the request content so that a categorization is possible as well as a prioritization of the request (based on the rules defined in the request fulfillment framework). Additionally, all relevant information about the request is documented in the request details.

### Controls

- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, and encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- Request Fulfillment Framework (From: A611)  
The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:
  - Structure of the request fulfillment center (often known as or linked to a *service desk*)
  - Technology support
  - Request routing tables and completion details of request completion targets and commitments
  - Format of information transfer
  - Categorization and prioritization aspects for service requests

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the

sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>8</sup>

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>9</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>10</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>11</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Service Request (From: A65 A653)

A request to perform a standard and straightforward IT task for a user. Service requests are tasks that are within the scope of existing IT services.

ITIL definition: “A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do not require an RFC to be submitted.”<sup>12</sup>

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Service Request Escalation (From: A615)

Information about a service request that has not been fulfilled in ways that meets satisfaction criteria and which requires escalation.

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8. ITIL V3 Glossary  
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10. ITIL V3 Glossary  
11. ITIL V3 Glossary  
12. ITIL V3 Glossary

## Outputs

- Service Request\_ Rejected  
A service request that is not accepted as falling into one of the pre-defined categories for requests or which fails the entitlement tests. An example of this would be a new requirement for functionality (for which the user should be guided to invoke the Stakeholder Requirements process).
- Service Request\_ Approved (To: A613 A615)  
A service request which has met the classification and entitlement rules and which includes all the information needed for fulfillment. It is ready to be fulfilled or routed.
- Request Fulfillment Activity Data (To: A616)  
Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.

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## [A613] Fulfill or Route Service Request

### Description

Depending on the request assessment, the service request can be satisfied within this process (within the remit established by the Request Fulfillment Framework) or routed to other processes.

If the service request is to be fulfilled within the capabilities of this process (for example, by providing information or guidance), the response to the request will be created and documented and sent to the user. Either the service request is resolved (the user is satisfied), or the request handler escalates the issue. The latter can lead to a reconsideration of the request fulfillment approach or to a transfer to other processes (if the request cannot be fulfilled in a satisfying way by the request handler).

If the service request has to be transferred to another process, the request item will be assigned depending on categorization (for example, to Incident Management) or prioritization of the request. This means that the request including all relevant information and documentation (detailed description, any advice, guidance) is routed and the receiving process is notified about the assigned request item.

If the service request is resolved, a check can be made with the user concerning their satisfaction with the resolution, and all relevant information is updated, culminating with marking the service request as ready for closure.

### Controls

- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- Request Fulfillment Framework (From: A611)  
The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:
  - Structure of the request fulfillment center (often known as or linked to a service desk)
  - Technology support
  - Request routing tables and completion details of request completion targets and commitments
  - Format of information transfer

- Categorization and prioritization aspects for service requests

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>13</sup>

## Inputs

- Service Request\_ Approved (From: A612)

A service request which has met the classification and entitlement rules and which includes all the information needed for fulfillment. It is ready to be fulfilled or routed.

- Knowledge Assets (From: A85 A855)

Any information from knowledge management that fulfills a knowledge request.

- Operational Documentation (From: A855)

The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

- ITIL uses the term Operational Document Library to refer to an implementation of this output.

- Incident Information (From: A6 A65 A657)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

## Outputs

- Service Request Fulfilled

A service request that has been fulfilled within the Request Fulfillment process or in the processes to which it had been routed. Is either the actual fulfillment itself (for example, service usage guidance), or just information about the work carried out elsewhere (such as notification of incident resolution or confirmation of software download and installation).

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13. ITIL V3 Glossary

- Incident (To: A537 A6 A65 A652)

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Service Request\_ Authorized (To: A5 A53 A535 A55 A552 A62 A622 A63 A67 A7 A72 A75)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Customer Satisfaction Issue (To: A27 A274)

Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.
- Service Request Routing Information (To: A614 A615)

Details of how the work represented by the service request has been assessed and planned for fulfillment by or to be passed to one or more other processes. The details include:

  - The request classification, including the cases where the request has been re-classified as an incident or a change request
  - The process and specific team or individual where the work has been assigned
- Service Request Fulfillment Information (To: A614 A615)

Information about a service request that has been successfully fulfilled.
- Request Fulfillment Activity Data (To: A616)

Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.

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## [A614] Close Service Request

### Description

This activity describes the tasks involved in reviewing service requests that have been marked for closure. It checks that the service request has had the desired effect and met its objectives, and that *users* and *customers* are content with the results, or to identify any shortcomings. It further examines the work undertaken to fulfill the request and ensures that all data required by the request fulfillment framework is fully and properly captured. The activity determines whether any follow-up action (such as the update of request handling documentation) is required and if not, a formal close of the service request is performed.

### Controls

- Request Fulfillment Framework (From: A611)

The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:

  - Structure of the request fulfillment center (often known as or linked to a service desk)
  - Technology support

- Request routing tables and completion details of request completion targets and commitments
- Format of information transfer
- Categorization and prioritization aspects for service requests

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

## Inputs

- Service Request Routing Information (From: A613)  
Details of how the work represented by the service request has been assessed and planned for fulfillment by or to be passed to one or more other processes. The details include:
  - The request classification, including the cases where the request has been re-classified as an incident or a change request
  - The process and specific team or individual where the work has been assigned
- Service Request Fulfillment Information (From: A613)  
Information about a service request that has been successfully fulfilled.
- Customer Satisfaction Issue Communications (From: A27 A274)  
Information provided to customers about any aspect of a satisfaction issue, covering analysis of causes, committed plans to address, and progress to issue resolution.
- Service Request Status Input  
Details, from any process involved in processing the service request, on status and plan to complete the work involved. It can include a request to obtain more information or some form of acknowledgement from the user.
- Service Request Status (From: A615)  
The status of a service request (received, work in progress, resolved, or closed). Used to communicate the information to the user (originator of the request).

## Outputs

- Service Request\_ Closed (To: A615)  
A service request for which all fulfillment activities have been completed and information about the fulfillment has been captured.
- Request Fulfillment Activity Data (To: A616)  
Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.

## [A615] Own, Monitor, Track and Communicate Service Requests

### Description

Throughout the period of request handling and fulfillment the service request status is monitored for several reasons:

- It must be ensured that the status of the request can be communicated to the originating user at any time.
- The status of the request must be known in order to initiate escalation (according to existing escalation management policies and guidelines) if the current fulfillment status breaches agreed SLAs.

Monitoring the request status not only relates to individual requests, but also to all requests collectively so that the overall compliance with SLAs for request fulfillment as a service or part of a service can be controlled.

Analysis and reporting on the service requests will be carried out on a predetermined basis (weekly, monthly, and when exceptions are indicated) in order to control the quality of request fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.

Examples of reports to be produced include:

- The number, categories, and sources of requests
- The elapsed time until requests are fulfilled
- The workload per request or per staff member
- Analysis of patterns of potentially avoidable requests that might have been caused through incorrect or inadequate user understanding of service characteristics and features

There will be reports about the availability of the request fulfillment center and the overall compliance with SLAs. Basically, the reports serve as a measure to check if the service requests are handled in a way that complies with the agreed targets.

These reports and their analysis will also help to do some trend analysis and forecasting with regard to service requests, relevant for the planning of staffing and other request fulfillment related topics. The output of this process will also be available to the knowledge management process with the objective of enhancing the effectiveness and efficiency of request fulfillment.

### Controls

- Request Fulfillment Framework (From: A611)  
The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:
  - Structure of the request fulfillment center (often known as or linked to a service desk)
  - Technology support
  - Request routing tables and completion details of request completion targets and commitments
  - Format of information transfer
  - Categorization and prioritization aspects for service requests

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a

service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>14</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>15</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>16</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Service Request\_ Closed (From: A614)  
A service request for which all fulfillment activities have been completed and information about the fulfillment has been captured.
- Service Request Routing Information (From: A613)  
Details of how the work represented by the service request has been assessed and planned for fulfillment by or to be passed to one or more other processes. The details include:
  - The request classification, including the cases where the request has been re-classified as an incident or a change request
  - The process and specific team or individual where the work has been assigned
- Service Request Fulfillment Information (From: A613)  
Information about a service request that has been successfully fulfilled.
- Service Request\_ Approved (From: A612)  
A service request which has met the classification and entitlement rules and which includes all the information needed for fulfillment. It is ready to be fulfilled or routed.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

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14. ITIL V3 Glossary  
15. ITIL V3 Glossary  
16. ITIL V3 Glossary

- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Customer Satisfaction Issue Communications (From: A27 A274)  
Information provided to customers about any aspect of a satisfaction issue, covering analysis of causes, committed plans to address, and progress to issue resolution.
- Service Request Status Input  
Details, from any process involved in processing the service request, on status and plan to complete the work involved. It can include a request to obtain more information or some form of acknowledgement from the user.

## Outputs

- Customer Satisfaction Issue (To: A27 A274)  
Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.
- Service Request Status (To: A614)  
The status of a service request (received, work in progress, resolved, or closed). Used to communicate the information to the user (originator of the request).
- Service Request Reports (To: A244 A518 A616)  
Any reports that reflect the status of service requests with the purpose to control the quality of service fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.
- Request Fulfillment Activity Data (To: A616)  
Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.
- Service Request Escalation (To: A612)  
Information about a service request that has not been fulfilled in ways that meet satisfaction criteria and which requires escalation.

## [A616] Evaluate Request Fulfillment Performance

### Description

The evaluation of the performance of the Request Fulfillment process aims at identifying improvement areas of the overall process, such as the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation as well as the roles and responsibilities including the respective skills.

Basis for the improvements are insights and lessons learned that are gained from the reports and their analysis. Basically, the improvements should lead to more efficiency and a better compliance with the SLAs.

### Controls

- Request Fulfillment Framework (From: A611)

The framework that contains all relevant information about the structure of the Request Fulfillment process. For example:

- Technology support{ Structure of the request fulfillment center (often known as or linked to a service desk)
- Request routing tables and completion details of request completion targets and commitments
- Format of information transfer
- Categorization and prioritization aspects for service requests

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

### Inputs

- Service Request Reports (From: A615)

Any reports that reflect the status of service requests with the purpose to control the quality of service fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.

- Request Fulfillment Activity Data (From: A612 A613 A614 A615)

Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.

### Outputs

- Request Fulfillment Evaluation (To: A611)

The result of the evaluation of the Request Fulfillment process, including any identification of potential process improvement areas.

## [A62] Service Execution

### Purpose

The purpose of the Service Execution process is to deliver operational services to IT customers, by matching resources to commitments and employing the IT infrastructure to conduct IT operations.

Definition of operation: "Day-to-day management of an IT Service, System, or other Configuration Item. Operation is also used to mean any pre-defined Activity or Transaction. For example loading a magnetic tape, accepting money at a point of sale, or reading data from a disk drive."<sup>17</sup>

### Outcomes

As a result of the successful implementation of this process:

- Services are delivered in a reliable, robust, secure, and consistent manner
- Services are provided within service level targets
- Resources needed to operate IT services are managed effectively and efficiently
- Consumable resources used to deliver services are supplied in a timely manner
- Up-to-date service metric information is available

### Scope

This process is responsible for the scheduling, operation and execution of the IT-based services which have been committed to customers. These services are of many types, including business transaction and batch processing, and also many types of self-service functionality offered as standard services to users.

Service Execution applies the resources made available to it through Deployment Management to the dynamic mix of workload demands. It makes adjustments to resource allocations within the tolerances provided and specified in the solution design.

#### Includes

- ◆ Understanding, creation, and maintenance of operational schedules
- ◆ Starting, stopping, and other operational resource management actions on system components, applications and other services
- ◆ Monitoring of system resources
- ◆ Detecting events and sending significant events to Event Management
- ◆ Understanding and maintenance of operational status
- ◆ Managing production workloads from submission through delivery of results and from service start to service close

#### Excludes

- ◆ Correlating and processing significant events (Event Management)
- ◆ Operational security (Security Management)
- ◆ Data management, backup, and recovery (Data Management)

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17. ITIL V3 Glossary

## Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>18</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>19</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>20</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

- Service Request\_ Authorized (From: A6 A61 A613)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.

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18. ITIL V3 Glossary  
19. ITIL V3 Glossary  
20. ITIL V3 Glossary

- **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Work Requests**

An unqualified request for processing services involving IT resources. To be accepted for processing, it must contain sufficient detail in order to match it against the list of existing services and to determine the characteristics (parameters) of this specific request. Work requests can range from highly granular individual interactions (pressing a function key on a PC) to a large clump of work (a long running batch job, perhaps with many dependent steps and subsequent, dependent jobs).
- **Work Data Input**

The data that is submitted along with a work request and which has not yet been processed (so that it becomes *managed data*). It could have been captured in many ways of which keyboard, magnetic card reader, barcode reader, RFID tag are just some examples.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- **Service Resilience Directives (From: A72 A74 A76)**

The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution\_ Deployed (From: A5 A53 A536)**

The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

- Incident\_ Resolved (From: A65 A655)  
An incident for which a workaround or fix has been successfully applied.
- Event Resolution Directive (From: A64 A645)  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operational service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Data (From: A63 A634)  
All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.

## Outputs

- Work Requests\_ Completed  
The results, in terms of data and any confirmation responses, returned to the work requestor upon completion of the triggering request for work to be performed by the IT operational service. This output represents the fundamental item for which the customer is paying; that is, the processing of transactions whether real time or batched.  
Can include negative outcomes, such as unsuccessful processing, resource authorization failure, and resource insufficiency.
- Identity and Access Work Request (To: A67)  
An identity and access request originating from another process.
- Operational Service Project Proposals  
Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- Service Execution Metric Data and Reports  
Significant service execution event logs, volume and other measurement data relating to how effectively and efficiently service execution has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is the basis for service level reporting.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- IT Administration Support Data and Requests  
Covers requests for supply of new or additional consumable materials and relevant data reporting on consumption and usage of the consumables (tapes, paper, toner, forms, and others), which might be required for charging.

- Incident (To: A537 A6 A65 A652)  
 A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Data\_Derived (To: A63 A634)  
 Any informational item created or modified as part of the workings of any business process and which is to be managed within an IT service. Data could be specific information like order numbers, invoice numbers, receipts, inventory change data, and could be received in batches or in individual transactions. It can relate to business processes, or be relevant to the management of the IT endeavor.
- Data Lifecycle Request (To: A63 A632 A634 A636)  
 The identification of any need for a lifestyle management action of any data item as part of productive usage of that data.

## Activities

This process is composed of these activities:

- A621 Establish Service Execution Framework
- A622 Schedule and Adjust Workload
- A623 Assign and Control Delivery Resources
- A624 Deliver Service
- A625 Monitor and Report Service Execution Operations
- A626 Evaluate Service Execution Performance

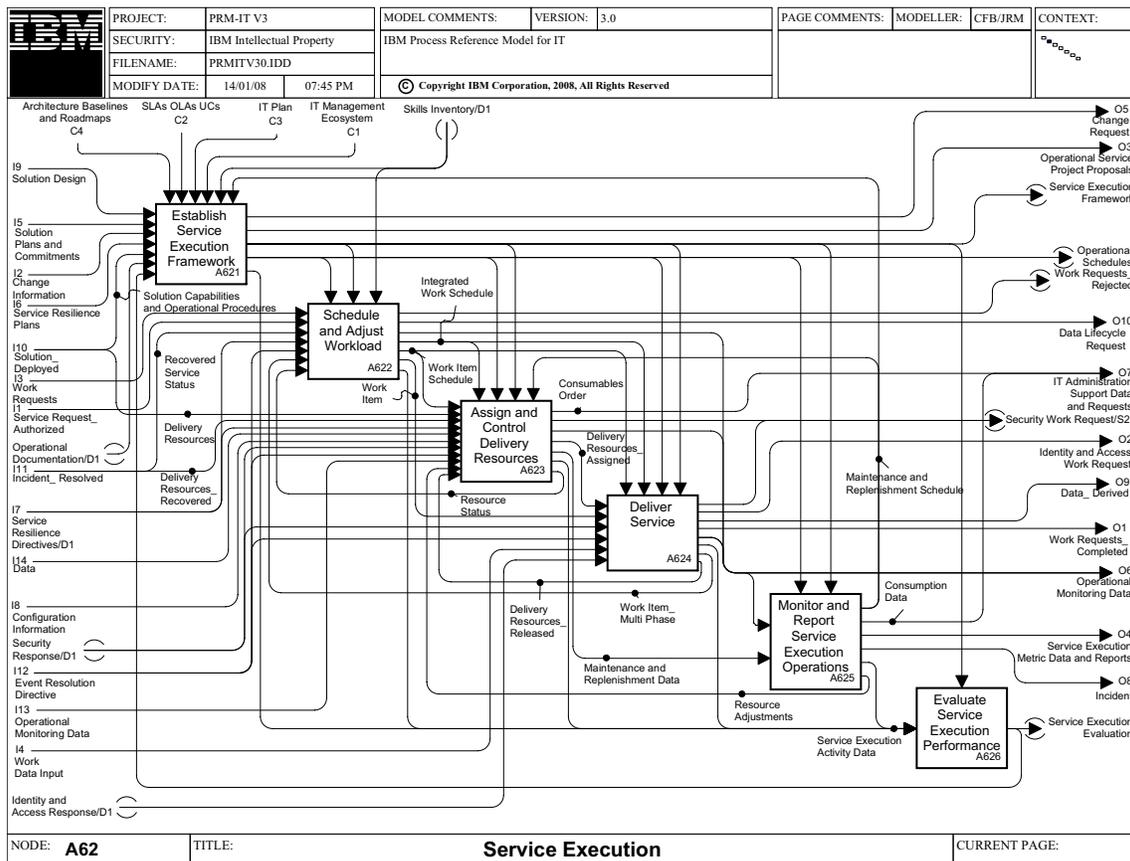


Figure 3. A62 Service Execution

## [A621] Establish Service Execution Framework

### Description

This is the activity of defining and documenting the rules and policies governing day-to-day service execution activities. The purpose of this activity is the creation of a working framework geared to deliver agreed services to the customer of information technology. All services must meet expected quality, be within budget, and in such a way as to produce a high degree of customer satisfaction while keeping to the IT strategy.

### Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>21</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>22</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>23</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

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21. ITIL V3 Glossary  
22. ITIL V3 Glossary  
23. ITIL V3 Glossary

- Skills Inventory (From: A844)  
Repository for current and planned skills.
- Maintenance and Replenishment Schedule (From: A625)  
The time, date, quantity and other related information relating to the maintenance of delivery resources and to the re-supply of consumable materials.

## Inputs

- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- Solution Capabilities and Operational Procedures  
The capabilities and operational procedures deployed as part of current solutions. These might require further development and tuning in order to reach optimal effectiveness as part of Service Execution.  
(Subset of *Solution Deployed*.)
- Operational Documentation (From: A855)  
The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Service Execution Evaluation (From: A626)  
A report or data providing measurements, trending and metrics on the health and performance of Service Execution. Includes identification of potential process improvement areas.

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Operational Service Project Proposals
- Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- Service Execution Framework (To: A622 A623 A624 A625 A626)  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan
- Operational Schedules (To: A51 A515 A52 A521 A522 A53 A532 A622 A623 A624 A625 A743)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Service Execution Activity Data (To: A626)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A622] Schedule and Adjust Workload

### Description

This activity operates at both a macro and micro-level to prepare work schedules, and to preprocess work items where necessary so that they are ready for actual processing. It operates in concert with the activity that ensures the delivery resources can be matched to the demands of the flow of work in an optimal fashion.

### Controls

- Operational Schedules (From: A621)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Service Execution Framework (From: A621)  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan

- Skills Inventory (From: A844)  
Repository for current and planned skills.

## Inputs

- Work Requests  
An unqualified request for processing services involving IT resources. To be accepted for processing, it must contain sufficient detail in order to match it against the list of existing services and to determine the characteristics (parameters) of this specific request. Work requests can range from highly granular individual interactions (pressing a function key on a PC) to a large clump of work (a long running batch job, perhaps with many dependent steps and subsequent, dependent jobs).
- Service Request\_ Authorized (From: A6 A61 A613)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Recovered Service Status  
Status information on the recovered service.
- Service Resilience Directives (From: A72 A74 A76)  
The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- Event Resolution Directive (From: A64 A645)  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.
- Work Item\_ Multi Phase (From: A624)  
A partially-completed output created by Deliver Services that flows internally within the process. The output would signify that other service execution activities would need to be started. An example of this complex work item is a payroll application: a new employee is added, the new employee can create a new work item to add a new person to an enterprise employee directory. The directory update service is triggered by the payroll addition service.
- Resource Status (From: A623)  
Information pertaining to the status of any IT resource that is used in the provision of service. The status could be available, not available, failing, over-utilized, approaching peak usage, and would include actual status and predictive information for ensuring adequate availability of resources at all times. This also includes Resource Commit Failure.

## Outputs

- Rejected Work Requests  
Notification that the request does not comply with work request acceptance criteria, and therefore was rejected.
- Data Lifecycle Request (To: A63 A632 A634 A636)  
The identification of any need for a life cycle management action of any data item as part of productive usage of that data.
- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Integrated Work Schedule (To: A623 A624)  
A consolidation of all individual work item schedules (planned out sequence of work) based on resources, commitments, skills and available services.
- Work Item Schedule (To: A623 A624)  
Control information on the combination of the work item, the required IT resources, and the timing parameters and instructions which enable matching of work demands with resource supply.
- Work Item (To: A624)  
The basic unit of work of an IT service or work request, ready to be processed.
- Service Execution Activity Data (To: A626)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A623] Assign and Control Delivery Resources

### Description

This activity assigns, monitors, and adjusts IT delivery resources on a real-time basis against the current mix of workload that has been requested. It applies the appropriate resources, from those available and within their capacity and other operational characteristic limitations, to be ready to deliver and execute those workload requests. It also works to optimize the output capability of each resource by, for example, carrying out resource housekeeping and maintenance when indicated.

### Controls

- Integrated Work Schedule (From: A622)  
A consolidation of all individual work item schedules (planned out sequence of work) based on resources, commitments, skills and available services.
- Operational Schedules (From: A621)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Service Execution Framework (From: A621)  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan
- Maintenance and Replenishment Schedule (From: A625)  
The time, date, quantity and other related information relating to the maintenance of delivery resources and to the re-supply of consumable materials.

### Inputs

- Work Item Schedule (From: A622)  
Control information on the combination of the work item, the required IT resources, and the timing parameters and instructions which enable matching of work demands with resource supply.
- Delivery Resources  
Technological and people resources which can be utilized in the process of delivering IT services to the organization.

- **Delivery Resources\_ Recovered**  
Any IT delivery resources which have been restored to normal (or acceptable) operational capability as a result of incident resolution.
- **Service Resilience Directives (From: A72 A74 A76)**  
The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- **Data (From: A63 A634)**  
All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Security Response (From: A726)**  
The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:
  - For a protection request – the protections put in place
  - For an access authorization request – success or failure of the request
- **Event Resolution Directive (From: A64 A645)**  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.
- **Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Resource Adjustments (From: A625)**  
Adjustments to IT technical resources that might be required to optimize service execution as a result of analysis of the service execution data, workload, and so forth.
- **Delivery Resources\_ Released (From: A624)**  
Resources (tapes, storage devices, networks, LANS, programs, data stores, processors, memory) that have been used in the process of performing operational services but are now available for re-assignment to other work.

## Outputs

- **Consumables Order**  
An order for materials used up in the process of providing agreed-to services. Materials like paper, magnetic tape, printer toner or ribbons, and others are included.
- **Security Work Request (To: A72)**  
A Security Request originating from another process.
- **Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Delivery Resources\_ Assigned (To: A624)**  
All IT resources required and available to perform the required service.

- **Maintenance and Replenishment Data (To: A625)**  
Information pertaining to maintenance activities and to restocking consumable resources. This data could include resource name, amount replenished, location, vendor, and other information.
- **Service Execution Activity Data (To: A626)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Resource Status (To: A622)**  
Information pertaining to the status of any IT resource that is used in the provision of service. The status could be available, not available, failing, over-utilized, approaching peak usage, and would include actual status and predictive information for ensuring adequate availability of resources at all times. This also includes Resource Commit Failure.

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## [A624] Deliver Service

### Description

This activity processes work items through the series of value-added actions which constitute the requested service. It employs the appropriate combination of human and technology resources necessary to perform those actions. It delivers the work results, both final data and processing log, to the specified destinations.

### Controls

- **Work Item Schedule (From: A622)**  
Control information on the combination of the work item, the required IT resources, and the timing parameters and instructions which enable matching of work demands with resource supply.
- **Integrated Work Schedule (From: A622)**  
A consolidation of all individual work item schedules (planned out sequence of work) based on resources, commitments, skills and available services.
- **Operational Schedules (From: A621)**  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- **Service Execution Framework (From: A621)**  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan

### Inputs

- **Delivery Resources\_ Assigned (From: A623)**  
All IT resources required and available to perform the required service.
- **Work Item (From: A622)**  
The basic unit of work of an IT service or work request, ready to be processed.
- **Security Response (From: A726)**  
The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:

- For a protection request – the protections put in place
- For an access authorization request – success or failure of the request
- **Event Resolution Directive (From: A64 A645)**  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.
- **Work Data Input**  
The data that is submitted along with a work request and which has not yet been processed (so that it becomes managed data). It could have been captured in many ways of which keyboard, magnetic card reader, barcode reader, RFID tag are just some examples.
- **Identity and Access Response (From: A673 A674)**  
The result of processing an identity and access request. The result will reflect a range of possibilities, depending on the nature of the request:
  - For an identity request – actions taken to create, maintain, or delete the identity
  - For an access (rights) request – the success or failure of the request, with relevant information describing the status of access rights

## Outputs

- **Security Work Request (To: A72)**  
A Security Request originating from another process.
- **Identity and Access Work Request (To: A67)**  
An identity and access request originating from another process.
- **Data\_ Derived (To: A63 A634)**  
Any informational item created or modified as part of the workings of any business process and which is to be managed within an IT service. Data could be specific information like order numbers, invoice numbers, receipts, inventory change data, and could be received in batches or in individual transactions. It can relate to business processes, or be relevant to the management of the IT endeavor.
- **Work Requests\_ Completed**  
The results, in terms of data and any confirmation responses, returned to the work requestor upon completion of the triggering request for work to be performed by the IT operational service. This output represents the fundamental item for which the customer is paying; that is, the processing of transactions whether real time or batched.  
Can include negative outcomes, such as unsuccessful processing, resource authorization failure, and resource insufficiency.
- **Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Service Execution Activity Data (To: A626)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Work Item\_ Multi Phase (To: A622)**  
A partially-completed output created by Deliver Services that flows internally within the process. The output would signify that other service execution activities would need to be started. An example of this complex work item is a payroll application: a new employee is added, the new employee can create a new work item to add a new person to an enterprise

employee directory. The directory update service is triggered by the payroll addition service.

- Delivery Resources\_ Released (To: A623)  
Resources (tapes, storage devices, networks, LANS, programs, data stores, processors, memory) that have been used in the process of performing operational services but are now available for re-assignment to other work.

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## [A625] Monitor and Report Service Execution Operations

### Description

Examines all monitoring data from the operational delivery tasks within Service Execution and analyzes it against targets to identify any requirement for intervention. Intervention possibilities include within-guidelines resource adjustments and signaling to invoke Incident Management for circumstances that cannot be addressed within this process.

The analysis also provides the basis for reporting (as defined by the framework). These reports could include attainments, trending, and the identification of current and potential issues, as well as the production of the service metric data required by many Service Management processes.

### Controls

- Operational Schedules (From: A621)  
The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).
- Service Execution Framework (From: A621)  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan.

### Inputs

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Maintenance and Replenishment Data (From: A623)  
Information pertaining to maintenance activities and to restocking consumable resources. This data could include resource name, amount replenished, location, vendor, and other information.

### Outputs

- Maintenance and Replenishment Schedule (To: A621 A623)  
The time, date, quantity and other related information relating to the maintenance of delivery resources and to the re-supply of consumable materials.
- Consumption Data  
Usage statistics for consumable supplies reported with each use and intended to be the basic information that would lead the IT organization to know when consumables are nearing depletion so the material can be re-supplied without disruption to processing.

- **Service Execution Metric Data and Reports**  
Significant service execution event logs, volume and other measurement data relating to how effectively and efficiently service execution has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is the basis for service level reporting.
- **Incident (To: A537 A6 A65 A652)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- **Service Execution Activity Data (To: A626)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- **Resource Adjustments (To: A623)**  
Adjustments to IT technical resources that might be required to optimize service execution as a result of analysis of the service execution data, workload, and so forth.

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## [A626] Evaluate Service Execution Performance

### Description

This activity evaluates the current performance of the Service Execution process against the established Service Execution Framework. Specific feedback is provided to the Service Execution Framework to help tune the overall effectiveness and efficiency of Service Execution.

The evaluation of process performance identifies areas that need improvement; such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- **Service Execution Framework (From: A621)**  
The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:
  - Operational Procedures
  - Service Execution Plan.

### Inputs

- **Service Execution Activity Data (From: A621 A622 A623 A624 A625)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- **Service Execution Evaluation (To: A621)**  
A report or data providing measurements, trending and metrics on the health and performance of Service Execution. Includes identification of potential process improvement areas.

## [A63] Data Management

### Purpose

The purpose of the Data Management process is to ensure that all data necessary in providing and supporting business and operational services is available for use and is actively managed from creation and introduction until final disposal or destruction.

### Outcomes

As a result of successful implementation of this process:

- Data life cycle management policies and governance capabilities are effectively provided
- Data life cycle management services are sustained in order to meet or exceed service level commitments
- Legal, regulatory, and business requirements are met for data privacy, quality, and retention
- The accessibility, performance, cost, and value characteristics of data are established, managed and optimized throughout the full life cycle
- The integrity of data at all stages of its life cycle is ensured, including protection of business (and IT) data from accidental loss and destruction

### Scope

Management of the full life cycle of both externally acquired and enterprise generated data, as well as information about that data.

#### Includes

- ◆ Managing data as a portfolio and the overall plan for the portfolio's elements
- ◆ Cataloging and controlling all data types, such as:
  - Business data
  - Journals and logs
  - Program libraries
  - Systems management data
- ◆ Accepting and cataloging new data
- ◆ Planning and control of data placement, retention, and disposalData backup and restoration of data to prior states

#### Excludes

- ◆ Information management activities:
  - Data typing and classification (Architecture Management)
  - Content management (Business responsibility, as part of each business process)
- ◆ Change management
- ◆ Access control and security protection (Identity and Access Management, Security Management)
- ◆ Configuration Management

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## Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>24</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>25</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>26</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

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24. ITIL V3 Glossary

25. ITIL V3 Glossary

26. ITIL V3 Glossary

- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>27</sup>

## Inputs

- Service Request\_ Authorized (From: A6 A61 A613)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Data\_ Derived (From: A62 A624)  
Any informational item created or modified as part of the workings of any business process and which is to be managed within an IT service. Data could be specific information like order numbers, invoice numbers, receipts, inventory change data, and could be received in batches or in individual transactions. It can relate to business processes, or be relevant to the management of the IT endeavor.
- Data Lifecycle Request (From: A62 A622)  
The identification of any need for a life cycle management action of any data item as part of productive usage of that data.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Service Resilience Directives (From: A72 A74 A76)  
The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

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27. ITIL V3 Glossary

- **Solution Design (From: A4 A42 A425)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Solution\_ Deployed (From: A5 A53 A536)**  
The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- **Event Resolution Directive (From: A64 A645)**  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.

## Outputs

- **Operational Service Project Proposals**
- **Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:**
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- **Data Management Metric Data and Reports (To: A632 A634)**  
Significant event logs, volume and other measurement data relating to how effectively and efficiently data and storage work has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is a basis for service level reporting.
- **CI Data Update Package (To: A5 A54 A542 A543)**  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- **Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Incident (To: A537 A6 A65 A652)**  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- **Data (To: A62 A623 A635 A636)**  
All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.

## Activities

This process is composed of these activities:

- A631 Establish Data Management Framework
- A632 Plan Data Portfolio Lifecycle
- A633 Acquire and Prepare Data
- A634 Control, Deploy and Maintain Data
- A635 Backup and Restore Data
- A636 Dispose of Data
- A637 Monitor and Report Data Management Operations
- A638 Evaluate Data Management Performance

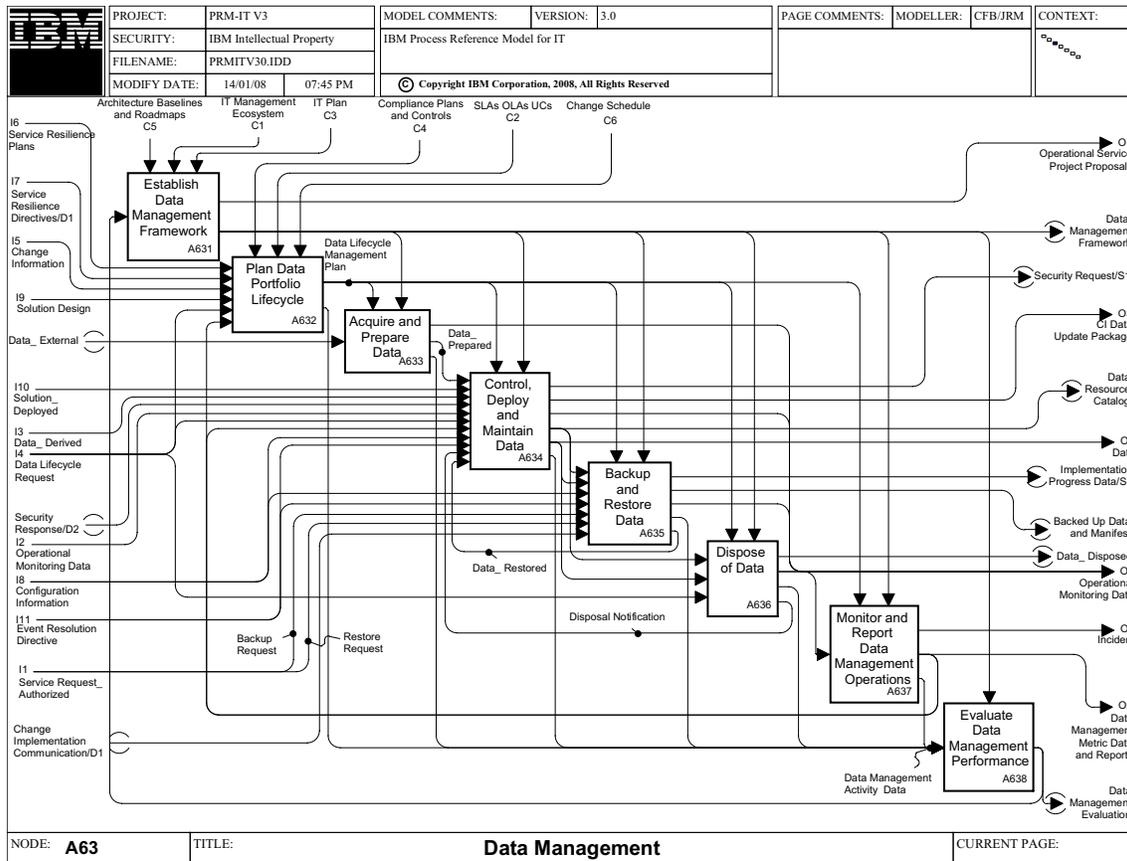


Figure 4. A63 Data Management

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## [A631] Establish Data Management Framework

### Description

Define and maintain a framework of policies and procedures that guides and governs the behavior of the Data Management process and its activities.

Incorporate mandatory elements from the IT Management Ecosystem.

Define a set of measures to be used by each process for measurement and reporting of performance.

Review process evaluations based on analysis of current performance, and approve recommendations for improvements. Refine the metrics to encourage process vitality and cost effectiveness.

Incorporate updated metrics and process change recommendations into the framework and communicate the changes.

### Controls

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### Inputs

- Data Management Evaluation (From: A638)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Outputs

- Operational Service Project Proposals
- Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- Data Management Framework (To: A633 A634 A635 A636 A637 A638)  
The Data Management Framework guides the operation of the process, and includes the following information:
  - Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)

- Data life cycle models
- General approach to what storage media types will be used for which classes of data
- Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
- Capacity Management plans that affect Data Management
- Data Management requirements based on existing SLAs
- High-level plans for improvement

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## [A632] Plan Data Portfolio Lifecycle

### Description

Identify each candidate collection of data.

Determine the life cycle management requirements and characteristics of each candidate.

Analyze the current portfolio of data and data practices to identify suitable existing practices and needs for new and modified life cycle practices.

Plan the life cycle management scheme for each collection of data.

### Controls

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>28</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>29</sup>

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- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>30</sup>

These agreements can be in a draft or finalized status.

- Change Schedule (From: A5 A51 A515 A516)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>31</sup>

## Inputs

- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

- Service Resilience Directives (From: A72 A74 A76)

The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Data Lifecycle Request (From: A62 A622)

The identification of any need for a life cycle management action of any data item as part of productive usage of that data.

- Data Management Metric Data and Reports (From: A63 A637)

Significant event logs, volume and other measurement data relating to how effectively and efficiently data and storage work has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is a basis for service level reporting.

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## Outputs

- Data Lifecycle Management Plan (To: A633 A634 A635 A636 A637)  
The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:
  - Media types to be used, for each activity level of data (such as currency)
  - Archive parameters
  - Backup plan
  - Selection of data sensitivity classification
- Data Management Activity Data (To: A638)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A633] Acquire and Prepare Data

### Description

Obtain or receive a data collection (per schedule).

Convert, transform or otherwise prepare (extract, clean up) the data.

Package the data.

### Controls

- Data Lifecycle Management Plan (From: A632)  
The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:
  - Media types to be used, for each activity level of data (such as currency)
  - Archive parameters
  - Backup plan
  - Selection of data sensitivity classification
- Data Management Framework (From: A631)  
The Data Management Framework guides the operation of the process, and includes the following information:
  - Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
  - Data life cycle models
  - General approach to what storage media types will be used for which classes of data
  - Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
  - Capacity Management plans that affect Data Management
  - Data Management requirements based on existing SLAs
  - High-level plans for improvement

## Inputs

- Data\_ External

Data sourced and obtained from outside the current service coverage. Examples of this would include:

- Reference data, from external providers, such as postal coding schemes
- Transaction data from external partners, such as banks

## Outputs

- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Data\_ Prepared (To: A634)

Data that has been collected (acquired) and prepared (filtered, grouped, reordered, rearranged) to match the planned usage. Prepared data is ready to be placed (deployed) onto its target media and managed throughout its life cycle.

- Data Management Activity Data (To: A638)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A634] Control, Deploy and Maintain Data

### Description

The site or place the data is located, which invokes the Security process for applying the required protections.

Catalog the data, and maintain it with other life cycle activities for which notification is received.

Maintain the data's operational characteristics throughout its deployment.

Migrate data when indicated by policy. The types of migration include from one technology to another, and across locations and system images.

Archive data.

### Controls

- Data Lifecycle Management Plan (From: A632)

The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:

- Media types to be used, for each activity level of data (such as currency)
- Archive parameters
- Backup plan
- Selection of data sensitivity classification

- Data Management Framework (From: A631)

The Data Management Framework guides the operation of the process, and includes the following information:

- Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
- Data life cycle models
- General approach to what storage media types will be used for which classes of data
- Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
- Capacity Management plans that affect Data Management
- Data Management requirements based on existing SLAs
- High-level plans for improvement

## Inputs

- Data\_ Prepared (From: A633)  
Data that has been collected (acquired) and prepared (filtered, grouped, reordered, rearranged) to match the planned usage. Prepared data is ready to be placed (deployed) onto its target media and managed throughout its life cycle.
- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Data\_ Derived (From: A62 A624)  
Any informational item created or modified as part of the workings of any business process and which is to be managed within an IT service. Data could be specific information like order numbers, invoice numbers, receipts, inventory change data, and could be received in batches or in individual transactions. It can relate to business processes, or be relevant to the management of the IT endeavor.
- Security Response (From: A726)  
The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:
  - For a protection request – the protections put in place
  - For an access authorization request – success or failure of the request
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Data Lifecycle Request (From: A62 A622)  
The identification of any need for a life cycle management action of any data item as part of productive usage of that data.
- Data Management Metric Data and Reports (From: A63 A637)  
Significant event logs, volume and other measurement data relating to how effectively and efficiently data and storage work has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is a basis for service level reporting.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Event Resolution Directive (From: A64 A645)  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.

- Disposal Notification (From: A636)  
Notification that one or more collections of data have been disposed of and are no longer accessible.
- Data\_ Restored (From: A635)  
Availability of data for productive or other use as a result of restoring it.

## Outputs

- Security Request (To: A726)  
System or external request to secure IT resources or validate authority for access.
  - Secure IT resources: identifies one or more specific resources which need to be included in the security protection scheme, or need to have their level and means of protection adjusted
  - Request to access: a communication soliciting access to a particular resource or class of resources
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships.
- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Data Resource Catalog (To: A635 A636)  
The master record of the location and disposition of every data collection under data management. Depending on the policy choices as specified within the framework, it can include usage records such as space employed and lists of users (people, programs) by time and date.
- Data (To: A62 A623 A635 A636)  
All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.
- Data Management Activity Data (To: A638)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A635] Backup and Restore Data

### Description

This activity provides for the local and remote backup and restoration of data from one storage medium to another. It includes replication of data from like storage to like storage and is primarily used to satisfy availability and disaster recovery requirements.

### Controls

- Data Lifecycle Management Plan (From: A632)  
The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:
  - Media types to be used, for each activity level of data (such as currency)
  - Archive parameters
  - Backup plan
  - Selection of data sensitivity classification
- Data Management Framework (From: A631)  
The Data Management Framework guides the operation of the process, and includes the following information:
  - Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
  - Data life cycle models
  - General approach to what storage media types will be used for which classes of data
  - Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
  - Capacity Management plans that affect Data Management
  - Data Management requirements based on existing SLAs
  - High-level plans for improvement

### Inputs

- Data Resource Catalog (From: A634)  
The master record of the location and disposition of every data collection under data management. Depending on the policy choices as specified within the framework, it can include usage records such as space employed and lists of users (people, programs) by time and date.
- Data (From: A63 A634)  
All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Event Resolution Directive (From: A64 A645)  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.
- Backup Request  
Service Requests from any user or other process that a backup be taken.
- Restore Request  
Service Requests from any user or other process for a data restore to be performed.

- **Change Implementation Communication (From: A51 A516)**

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions
- Instructions for the next stages of implement

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

## Outputs

- **Implementation Progress Data (To: A51 A516 A537)**

The record of each incremental activity performed as part of the implementation of a change or release.

- **Backed Up Data and Manifest (To: A765 A766)**

The data which is the result of taking a backup, in whatever format (for example, compressed, incremental) which has been selected as the basis for any subsequent restore action, plus the indexes and inventories (the manifest) of the content with regard to specific file placement on backup media.

- **Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)**

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- **Data Management Activity Data (To: A638)**

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- **Data\_ Restored (To: A634)**

Availability of data for productive or other use as a result of restoring it.

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## [A636] Dispose of Data

### Description

Destroy or delete the data so that it is no longer stored and cannot again be accessed. The disposal technique will vary in terms of completeness of data destruction in line with the designation of data sensitivity.

Provide notification so that the data resource catalog can be updated to reflect the disposal.

### Controls

- **Data Lifecycle Management Plan (From: A632)**

The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:

- Media types to be used, for each activity level of data (such as currency)
- Archive parameters
- Backup plan
- Selection of data sensitivity classification

- Data Management Framework (From: A631)

The Data Management Framework guides the operation of the process, and includes the following information:

- Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
- Data life cycle models
- General approach to what storage media types will be used for which classes of data
- Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
- Capacity Management plans that affect Data Management
- Data Management requirements based on existing SLAs
- High-level plans for improvement

## Inputs

- Data Resource Catalog (From: A634)

The master record of the location and disposition of every data collection under data management. Depending on the policy choices as specified within the framework, it can include usage records such as space employed and lists of users (people, programs) by time and date.

- Data (From: A63 A634)

All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.

- Data Lifecycle Request (From: A62 A622)

The identification of any need for a life cycle management action of any data item as part of productive usage of that data.

## Outputs

- Data\_ Disposed

The data that has been taken out of active management. Depending on how it has been stored, it can include the associated media; for example, paper or microfiche records.

- Operational Monitoring Data (To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Data Management Activity Data (To: A638)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- Disposal Notification (To: A634)

Notification that one or more collections of data have been disposed of and are no longer accessible.

## [A637] Monitor and Report Data Management Operations

### Description

Monitor all aspects of Data Management, including:

- State changes of each and every collection of data
- Matching data status against policies in case action is required (for example, to trigger migration of data between media)

Identify activity which has resulted in data not matching its expected operational characteristics and raise incidents as necessary.

Create data management metrics, including trend data, and reports. Reports can be regular or ad hoc, as circumstances occur.

### Controls

- Data Lifecycle Management Plan (From: A632)  
The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life cycle management requirements. The life cycle plan will cover aspects such as:
  - Media types to be used, for each activity level of data (such as currency)
  - Archive parameters
  - Backup plan
  - Selection of data sensitivity classification
- Data Management Framework (From: A631)  
The Data Management Framework guides the operation of the process, and includes the following information:
  - Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
  - Data life cycle models
  - General approach to what storage media types will be used for which classes of data
  - Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
  - Capacity Management plans that affect Data Management
  - Data Management requirements based on existing SLAs
  - High-level plans for improvement

### Inputs

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

### Outputs

- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

- Data Management Metric Data and Reports (To: A632 A634)

Significant event logs, volume and other measurement data relating to how effectively and efficiently data and storage work has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is a basis for service level reporting.

- Data Management Activity Data (To: A638)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A638] Evaluate Data Management Performance

### Description

This activity is designed to measure the effectiveness and efficiency of different aspects of the Data Management process, by ensuring that all the necessary information necessary for its management is available for making informed decisions related to the process.

The evaluation of process performance identifies areas that need improvement. This includes the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Data Management Framework (From: A631)

The Data Management Framework guides the operation of the process, and includes the following information:

- Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
- Data life cycle models
- General approach to what storage media types will be used for which classes of data
- Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
- Capacity Management plans that affect Data Management
- Data Management requirements based on existing SLAs
- High-level plans for improvement

### Inputs

- Data Management Activity Data (From: A632 A633 A634 A635 A636 A637)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Data Management Evaluation

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.(To: A631)

## [A64] Event Management

### Purpose

The purpose of the Event Management process is to identify and prioritize infrastructure, service, business process and security events, and to establish the appropriate response to those events, especially responding to conditions that could lead to potential faults or incidents.

Definition of event: "A change of state which has significance for the management of a configuration item or IT service. The term event is also used to mean an alert or notification created by any IT service, configuration item or monitoring tool. Events typically require IT operations personnel to take actions, and often lead to Incidents being logged."<sup>32</sup>

### Outcomes

As a result of the successful implementation of the Event Management process:

- Service quality is sustained and improved
- Incidents are detected early
- The time between event occurrence and detection is minimized
- Appropriate actions are taken in response to events, in order to resolve some without manual response
- Responses to understood faults are started with minimal delay

### Scope

Event Management is accomplished through scanning monitoring data and from this collecting, evaluating, responding to, and reporting events throughout the business.

Not all events require a response, only those deemed significant events. Typically, a response to a significant event involves either a predefined response or the creation of an incident in the Incident Management process.

### Includes

- ◆ Providing both real time and historical event information to other IT processes, to facilitate service quality improvement and resource availability
- ◆ Providing similar information relating to the automated aspects of business processes for business analysis
- ◆ Correlation and filtering of events, to identify alert notifications and other conditions
- ◆ Examination and analysis of individual events in isolation as well as events in context with other events
- ◆ Creation of incidents from event information
- ◆ Capture, logging and administration of data generated by the activities within this process

### Excludes

- ◆ System monitoring – Monitoring all things that happen related to a system, whereas event management identifies meaningful changes of state that can represent faults.<sup>33</sup> System monitoring takes place in Service Execution and Data Management.

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## Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>34</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>35</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>36</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

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33. ITIL *Service Operation*, 36

34. ITIL V3 Glossary

35. ITIL V3 Glossary

36. ITIL V3 Glossary

- **Solution\_ Deployed (From: A5 A53 A536)**

The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Service Resilience Plans (From: A7)**

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)
- **Security Monitoring Data (From: A72 A726)**

Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Identity and Access Monitoring Data (From: A67 A673 A674)**

Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.

## Outputs

- **Operational Service Project Proposals**
- **Proposals, from the Framework activities within the Operations category, for project funding.** The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- **Change Request (To: A5 A51 A512)**

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships.
- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Event (To: A643 A65 A654 A66 A662)  
Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.  
ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>37</sup>
- Event Resolution Directive (To: A62 A622 A623 A624 A63 A634 A635)  
The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.

## Activities

This process is composed of these activities:

- A641 Establish Event Management Framework
- A642 Detect and Log Event
- A643 Filter Event
- A644 Correlate Events and Select Response
- A645 Resolve Event
- A646 Close Event
- A647 Evaluate Event Management Performance

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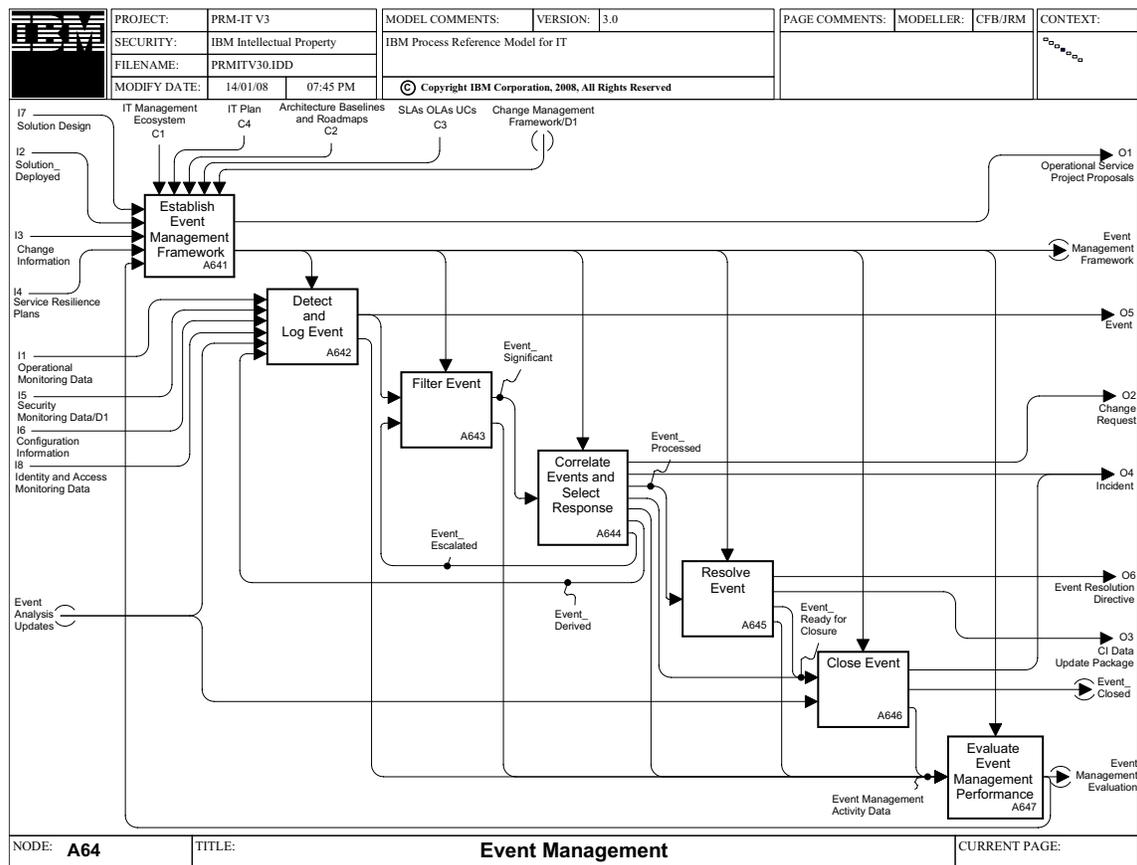


Figure 5. A64 Event Management

## [A641] Establish Event Management Framework

### Description

Based on the business and IT strategy and the architectural models, guidelines and a framework for Event Management have to be developed. The tasks in this activity include:

- Understanding the requirements and specifications for Event Management
- Defining the strategy for event solutions over and above those provided within individual solutions. For example, should they be developed in-house or rely more on vendor capabilities
- Defining evaluation criteria for event solutions and services
- Establishing the framework for Event Management by defining and implementing practices and systems that support process activities
- Based on these capabilities, determining skill requirements for the staff and assigning staff

Finally, the structure and process of Event Management, including escalation responsibilities, has to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of Event Management: the consideration of the Event Management process evaluation and the implementation of recommended improvement actions.

## Controls

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>38</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>39</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>40</sup>

These agreements can be in a draft or finalized status.

- Change Management Framework (From: A511)

The policies, procedures, organizational roles and responsibilities and other information under which the Change Management process will operate to meet its mission and goals.

## Inputs

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders.

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It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Solution\_ Deployed (From: A5 A53 A536)  
The new or adjusted solution in live status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.  
The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Event Management Evaluation (From: A647)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Operational Service Project Proposals
- Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:
  - To establish additional or improved capabilities for performing any activities or tasks within the process
  - To satisfy the operational needs of new technical solutions coming on-stream
  - To improve any relevant aspect of service performance
- Event Management Framework (To: A642 A643 A644 A645 A646 A647)  
Includes the following:
  - Specification of what makes an *event*
  - Specification of what makes a *significant event*
  - Identification of significant events that can be processed (responded to), and what those procedures are
  - Practices for logging and filtering events
  - Definition of the event life cycle

## [A642] Detect and Log Event

### Description

In this activity, monitoring data from various system resources are input and converted into events. Monitoring data can be generated by a vast number of system resources. The data might be generated by a resource or by a monitor of that resource. This data is used to identify status changes to resources.

Many system resources generate monitoring data that is not indicative of a fault. This activity monitors that data in order to identify all potential events contained in the data. Events generated by this activity are also recorded. This information includes information about Managed Objects (MOs) related to events and might be necessary for the resolution of incidents, problems, reviewing SLAs, or other service management purpose.

### Controls

- Event Management Framework (From: A641)  
Includes the following:
  - Specification of what makes an event
  - Specification of what makes a significant event
  - Identification of significant events that can be processed (responded to), and what those procedures are
  - Practices for logging and filtering events
  - Definition of the event life cycle

### Inputs

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Security Monitoring Data (From: A72 A726)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Identity and Access Monitoring Data (From: A67 A673 A674)  
Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.
- Event Analysis Updates  
Any additional data added to (but not modifying) the primary data of a logged event as a result of other IT processes carrying out their investigations. Examples of such processes would be Incident, Capacity and Availability Management.
- Event\_ Derived (From: A644)  
A new event created as a result of correlation across multiple events, usually signifying some new out-of-tolerance conditions requiring action.

## Outputs

- Event (To: A643 A65 A654 A66 A662)

Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.

ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>41</sup>

- Event Management Activity Data (To: A647)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

---

## [A643] Filter Event

### Description

The stream of logged events is examined and filtered to identify only those abnormal events for which a response is needed. These remaining events, designated as significant events, indicate an abnormal state of an MO. This set of significant events requires a response from either Event Management activities or from the Incident Management process. This activity is also responsible for determining the appropriate time frame for event resolution.

### Controls

- Event Management Framework (From: A641)

Includes the following:

- Specification of what makes an event
- Specification of what makes a significant event
- Identification of significant events that can be processed (responded to), and what those procedures are
- Practices for logging and filtering events
- Definition of the event life cycle

### Inputs

- Event (From: A64 A642)

Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.

ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>42</sup>

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- Event\_ Escalated (From: A644)

An event, or set of events, that requires re-examination and filtering as a result of event processing or correlation. This is typically indicated by increasing the priority classification.

## Outputs

- Event\_ Significant (To: A644)

Unsolicited, (formatted), significant information which must be communicated from a managed object for the purpose of meeting a management objective.

An Alert is an example of a significant event. It is defined by ITIL as: "A warning that a threshold has been reached, something has changed, or a Failure has occurred. Alerts are often created and managed by System Management tools and are managed by the Event Management Process."<sup>43</sup>

- Event Management Activity Data (To: A647)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

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## [A644] Correlate Events and Select Response

### Description

This activity eliminates duplicate events, correlates multiple events, and throttles processing of repeated events. The criticality of the event is assessed to determine if it should be escalated.

Correlated events are either routed for handling within Incident Management or preferably, designated for automated resolution within the scope of Event Management. The Event Management Framework identifies rules used to determine how to process various categories of significant events. This can include opening an incident, changing the status or severity of an event, dropping an event, or sending the event for automated recovery (Resolve Events).

### Controls

- Event Management Framework (From: A641)

Includes the following:

- Specification of what makes an event
- Specification of what makes a significant event
- Identification of significant events that can be processed (responded to), and what those procedures are
- Practices for logging and filtering events
- Definition of the event life cycle

### Inputs

- Event\_ Significant (From: A643)

Unsolicited, (formatted), significant information which must be communicated from a managed object for the purpose of meeting a management objective.

An Alert is an example of a significant event. It is defined by ITIL as: "A warning that a threshold has been reached, something has changed, or a Failure has occurred. Alerts are often created and managed by System Management tools and are managed by the Event Management Process."<sup>44</sup>

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43. ITIL V3 Glossary

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Event\_ Processed (To: A645)  
An event which has been analyzed for cause of out-of-tolerance conditions and led to its creation for which a plan, within the scope of Event Management, has been formulated to resolve those conditions.
- Event\_ Ready for Closure (To: A646)  
The complete audit trail of an event and all states of processing through its life cycle.
- Event Management Activity Data (To: A647)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.
- Event\_ Derived (To: A642)  
A new event created as a result of correlation across multiple events, usually signifying some new out-of-tolerance conditions requiring action.
- Event\_ Escalated (To: A643)  
An event, or set of events, that requires re-examination and filtering as a result of event processing or correlation. This is typically indicated by increasing the priority classification.

---

## [A645] Resolve Event

### Description

During this activity, events are flagged as ready for closure. Some events will have required no direct resolution action; others will have. In the latter case, this can mean that the fault has been corrected, and so closure is straightforward.

However, it can also be that the fault still exists and so an incident notification is needed. Depending upon the design of the Event Management solution, events of this type could be closed immediately or remain open until the relevant Service Management processes indicate readiness for closure.

In either case, when the event is closed the success or otherwise of its resolution is indicated.

### Controls

- Event Management Framework (From: A641)  
Includes the following:
  - Specification of what makes an event
  - Specification of what makes a significant event

- Identification of significant events that can be processed (responded to), and what those procedures are
- Practices for logging and filtering events
- Definition of the event life cycle

## Inputs

- Event\_ Processed (From: A644)

An event which has been analyzed for cause of out-of-tolerance conditions and led to its creation for which a plan, within the scope of Event Management, has been formulated to resolve those conditions.

## Outputs

- Event Resolution Directive (To: A62 A622 A623 A624 A63 A634 A635)

The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.

- CI Data Update Package (To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships

- Event\_ Ready for Closure (To: A646)

The complete audit trail of an event and all states of processing through its life cycle.

- Event Management Activity Data (To: A647)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

## [A646] Close Event

### Description

During this activity, events that went through Resolve Events are closed. Typically, this means that the fault has been corrected. However, it can also be that the fault still exists. In either case, the event is closed and the success of its resolution is indicated.

### Controls

- Event Management Framework (From: A641)  
Includes the following:
  - Specification of what makes an event
  - Specification of what makes a significant event
  - Identification of significant events that can be processed (responded to), and what those procedures are
  - Practices for logging and filtering events
  - Definition of the event life cycle

### Inputs

- Event\_ Ready for Closure (From: A644 A645)  
The complete audit trail of an event and all states of processing through its life cycle.
- Event Analysis Updates  
Any additional data added to (but not modifying) the primary data of a logged event as a result of other IT processes carrying out their investigations. Examples of such processes would be Incident, Capacity and Availability Management.

### Outputs

- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Event\_ Closed  
The event audit trail and life cycle with the addition of any information from the event closure activity.
- Event Management Activity Data (To: A647)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

## [A647] Evaluate Event Management Performance

### Description

Performance evaluation of the Event Management process aims to identify overall areas requiring improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. Basis for improvements are the insights and lessons learned from the observations and analysis of activity accomplishments and results.

In this activity, the performance of the Event Management process is analyzed and reported. The following are included in the analysis:

- Number and type of events
- Event trends
- Event resolution trends
- Event detection effectiveness
- Event filtering rules
- Event processing scripts
- Event management life cycle

### Controls

- Event Management Framework (From: A641)  
Includes the following:
  - Specification of what makes an event
  - Specification of what makes a significant event
  - Identification of significant events that can be processed (responded to), and what those procedures are
  - Practices for logging and filtering events
  - Definition of the event life cycle

### Inputs

- Event Management Activity Data (From: A642 A643 A644 A645 A646)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

### Outputs

- Event Management Evaluation (To: A641)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A65] Incident Management

### Purpose

The purpose of the Incident Management process is to focus on the restoration of a service affected by any real or potential interruption which has impact upon the quality of that service.

Definition of incident: "An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example Failure of one disk from a mirror set."<sup>45</sup>

### Outcomes

As a result of the successful implementation of the Incident Management process:

- Following interruptions, IT service is rapidly restored
- IT service availability is sustained at a high level
- Workarounds to resolve similar service interruptions are created
- Potential improvements to services may be identified

*Normal service operation* is defined here as working within agreed service level targets.

### Scope

The management of the life cycle of incidents (including reception, logging, acknowledgement, classification, response, tracking and reporting) for all components involved in the provision of IT service.

#### Includes

- ◆ Incidents reported by users or discovered within the IT organization by automation or people
- ◆ Handling (automatically or with human assistance) of system events that have been identified as incidents by the Event Management process
- ◆ Creation of workarounds
  - While service restoration has the highest priority, consideration has to be made of the risk that a workaround could exacerbate the original incident. For example, certain virus infections might spread beyond their initial scope if a simple service restoration is put into effect
- ◆ Implementation of workarounds (with Change Management, where required by the change policy)
- ◆ Participation within the procedures (typically involving several processes working in conjunction) defined for handling *major incidents*

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## Excludes

- ◆ Monitoring (Service Execution, Data Management)
- ◆ Responding to business-as-usual perturbations in the running of services (Event Management)
- ◆ Service requests (Request Fulfillment)
- ◆ IT Resilience – ensuring the continued readiness and integrity of the IT services (Resilience category processes)

## Controls

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>46</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>47</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>48</sup>

These agreements can be in a draft or finalized status.

### ■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

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46. ITIL V3 Glossary  
47. ITIL V3 Glossary  
48. ITIL V3 Glossary

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## Inputs

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operational service. This can include measurements of resource utilization, transaction volumes, processing status, etc.
- Incident (From: A2 A27 A273 A5 A51 A516 A53 A536 A61 A613 A62 A625 A63 A637 A64 A644 A646 A67 A675 A7 A72 A75 A754)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Event (From: A64 A642)  
Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.  
ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>49</sup>
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Service Resilience Plans (From: A7)  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the *plan* output from each individual process for more details.)
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

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## Outputs

- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Incident\_ Resolved (To: A62 A656 A657)  
An incident for which a workaround or fix has been successfully applied.
- Incident Information (To: A2 A24 A244 A61 A613 A615 A652 A653 A654 A655 A656 A66 A662 A7 A72 A726 A73 A736 A74 A744 A75 A754)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Service Request (To: A61 A612)  
A request to perform a standard and straightforward IT task for a user. Service requests are tasks that are within the scope of existing IT services.  
ITIL definition: "A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do not require an RFC to be submitted."<sup>50</sup>

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## Activities

This process is composed of these activities:

- A651 Establish Incident Management Framework
- A652 Identify and Log Incident
- A653 Classify Incident and Provide Initial Support
- A654 Investigate and Diagnose Incident
- A655 Resolve Incident and Recover Service
- A656 Close Incident
- A657 Own, Monitor, Track and Communicate Incidents
- A658 Evaluate Incident Management Performance

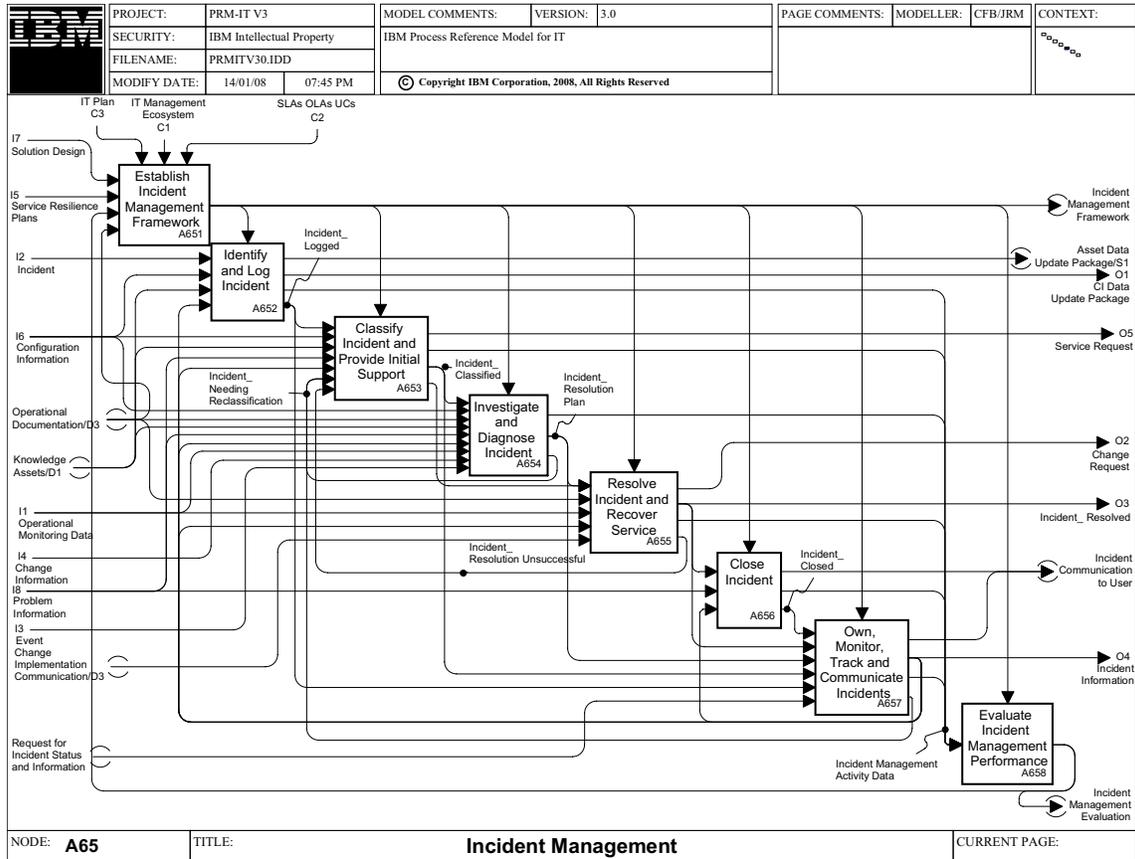


Figure 6. A65 Incident Management

## [A651] Establish Incident Management Framework

### Description

Define and maintain a framework of policies and procedures that guides and governs the behavior of the Incident Management process and its activities.

Incorporate mandatory elements from the IT management ecosystem.

Define a set of metrics to be used by each process for measurement and reporting of performance.

Review process evaluations based on analysis of current performance, and approve recommendations for improvements. Refine the metrics to encourage process vitality and cost effectiveness.

Incorporate updated metrics and process change recommendations into the framework and communicate the changes.

### Controls

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>51</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>52</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>53</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the plan output from each individual process for more details.)

- Incident Management Evaluation (From: A658)

An analysis of how well the Incident Management process was performed. This can also include suggested areas for modifications to the Incident Management Framework.

- Operational Documentation (From: A855)

The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

- ITIL uses the term Operational Document Library to refer to an implementation of this output.

## Outputs

- Incident Management Framework (To: A652 A653 A654 A655 A656 A657 A658)

The set of policies and procedures for performing the Incident Management process, including data items such as:

- Priority and severity classification schemes
- Resolution targets
- Tables identifying teams to be assigned, by system or service

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## [A652] Identify and Log Incident

### Description

To detect or acknowledge incidents from other activities, record basic details about the incident, notify Configuration Management and Asset Management processes as necessary. Also, to alert support groups as necessary.

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident (From: A2 A27 A273 A5 A51 A516 A53 A536 A61 A613 A62 A625 A63 A637 A64 A644 A646 A67 A675 A7 A72 A75 A754)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Knowledge Assets (From: A85 A855)  
Any information from knowledge management that fulfills a knowledge request.
- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

### Outputs

- Asset Data Update Package (To: A553)  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Incident Management Activity Data (To: A658)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Incident\_Logged (To: A653 A657)  
An identified incident that has been saved in a database.

## [A653] Classify Incident and Provide Initial Support

### Description

Determine the impact, urgency and priority of logged incidents.

- Identify the reasons for the incident, using initial diagnosis
- Compare to Problems and Known Errors
- Correlate with other Incidents
- Assess related configuration details

If the incident is assessed as *no trouble found*, it is transferred to the Request Fulfillment process as a Service Request. Incidents exceeding a defined threshold of impact and urgency are categorized as Major Incidents and the appropriate procedure is invoked.

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident\_ Logged (From: A652)  
An identified incident that has been saved in a database.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Knowledge Assets (From: A85 A855)  
Any information from knowledge management that fulfills a knowledge request.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Incident\_ Needing Reclassification (From: A654 A657)  
An incident that requires to be moved to a different classification, perhaps to a different team.
- Incident\_ Resolution Unsuccessful (From: A655)  
An incident for which a workaround or fix was not provided or was unsuccessful. Normally, an incident should eventually yield a workaround or a fix for that incident. However, in some situations, no workaround or fix works to resolve the incident.

## Outputs

- Service Request (To: A61 A612)

A request to perform a standard and straightforward IT task for a user. Service requests are tasks that are within the scope of existing IT services.

ITIL definition: “A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do not require an RFC to be submitted.”<sup>54</sup>

- Incident Management Activity Data (To: A658)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

- Incident\_ Classified (To: A654 A657)

An incident that has been assigned a classification. The classification helps narrow the realm of possibilities for resolving the incident. For instance, the classification can be based on platform, type of problem, component, or other information.

- Incident\_ Resolution Plan (To: A655 A657)

An incident for which a resolution plan has been created or obtained. Subsequently (and beyond this activity), the resolution plan has to be applied and the outcome verified with the user.

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## [A654] Investigate and Diagnose Incident

### Description

This activity assesses Incidents and all data associated with them in order to identify appropriate responses and actions, and to formulate Incident Resolution Plans.

Actions can include identifying workarounds, reclassifying the incident based on further analysis, and updating Incident records.

### Controls

- Incident Management Framework (From: A651)

The set of policies and procedures for performing the Incident Management process, including data items such as:

- Priority and severity classification schemes
- Resolution targets
- Tables identifying teams to be assigned, by system or service

### Inputs

- Incident\_ Classified (From: A653)

An incident that has been assigned a classification. The classification helps narrow the realm of possibilities for resolving the incident. For instance, the classification can be based on platform, type of problem, component, or other information.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

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- Operational Documentation (From: A855)

The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Knowledge Assets (From: A85 A855)

Any information from knowledge management that fulfills a knowledge request.
- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Incident Information (From: A6 A65 A657)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Change Information (From: A5 A51 A518)

Covers the full scope of information about one or many changes, from individual detail within a particular change through ad hoc or pre-determined reporting of a set of changes.
- Event (From: A64 A642)

Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.

ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>55</sup>

## Outputs

- Incident Management Activity Data (To: A658)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Incident\_ Resolution Plan (To: A655 A657)

An incident for which a resolution plan has been created or obtained. Subsequently (and beyond this activity), the resolution plan has to be applied and the outcome verified with the user.
- Incident Needing Reclassification (To: A653)

An incident that requires to be moved to a different classification, perhaps to a different team.

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## [A655] Resolve Incident and Recover Service

### Description

This activity takes actions necessary to resolve the incident and restore service using an existing solution work around or, alternatively, raising a change request (RFC) to effect a new solution.

It also prompts any action necessary to recover the service to committed levels of delivery.

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident\_ Resolution Plan (From: A653 A654)  
An incident for which a resolution plan has been created or obtained. Subsequently (and beyond this activity), the resolution plan has to be applied and the outcome verified with the user.
- Operational Documentation (From: A855)  
The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Change Implementation Communication (From: A51 A516)  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

### Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Incident\_ Resolved (To: A62 A656 A657)  
An incident for which a workaround or fix has been successfully applied.
- Incident Management Activity Data (To: A658)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Incident\_ Resolution Unsuccessful (To: A653)  
An incident for which a workaround or fix was not provided or was unsuccessful. Normally, an incident should eventually yield a workaround or a fix for that incident. However, in some situations, no workaround or fix works to resolve the incident.

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## [A656] Close Incident

### Description

This activity examines the case history of an Incident which has reached *resolved* status. It ensures that all required incident documentation has been completed, including details of cause, resolution, outcome and effort expended. It reviews the original classification against whatever root cause information is available to determine the classification accuracy. In line with policy, it obtains stakeholder agreement with resolution activity and status.

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident\_ Resolved (From: A65 A655)  
An incident for which a workaround or fix has been successfully applied.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

### Outputs

- Incident\_ Communication to User  
Communications with a user about the status or progress of an incident. Could be to provide status information or to solicit additional data or request some user action as part of diagnosis.

- Incident Management Activity Data (To: A658)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Incident\_ Closed (To: A657)  
The finalization of all data related to an incident, including structured data which supports analysis of incident causes, patterns, costs and resolution effectiveness.

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## [A657] Own, Monitor, Track and Communicate Incidents

### Description

This activity ensures that the Incident is managed throughout its entire life cycle. It examines the data and status changes (noted in other activities within the Incident Management process) as recorded in Incident Records, defined in ITIL as: “A Record containing the details of an Incident. Each Incident record documents the Life cycle of a single Incident.”<sup>56</sup>

Aspects of the activity include:

- Monitoring status and incident impact on service level agreements
- Incident reclassification and escalation if necessary
- Maintaining incident information
- Communicating status and progress to stakeholders and support groups

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident\_ Closed (From: A656)  
The finalization of all data related to an incident, including structured data which supports analysis of incident causes, patterns, costs and resolution effectiveness.
- Incident\_ Resolved (From: A65 A655)  
An incident for which a workaround or fix has been successfully applied.
- Incident\_ Resolution Plan (From: A653 A654)  
An incident for which a resolution plan has been created or obtained. Subsequently (and beyond this activity), the resolution plan has to be applied and the outcome verified with the user.
- Incident\_ Classified (From: A653)  
An incident that has been assigned a classification. The classification helps narrow the realm of possibilities for resolving the incident. For instance, the classification can be based on platform, type of problem, component, or other information.
- Incident\_ Logged (From: A652)  
An identified incident that has been saved in a database.

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- Request for Incident Status and Information  
Notification of the need for information about incidents.

## Outputs

- Incident\_ Communication to User  
Communications with a user about the status or progress of an incident. Could be to provide status information or to solicit additional data or request some user action as part of diagnosis.
- Incident Information (To: A2 A24 A244 A61 A613 A615 A652 A653 A654 A655 A656 A66 A662 A7 A72 A726 A73 A736 A74 A744 A75 A754)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Incident Management Activity Data (To: A658)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Incident\_ Needing Reclassification (To: A653)  
An incident that requires to be moved to a different classification, perhaps to a different team.

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## [A658] Evaluate Incident Management Performance

### Description

The purpose of this activity is to evaluate the performance of the Incident Management process activities against defined performance criteria and measures, and to provide input to the IT Management System framework.

### Controls

- Incident Management Framework (From: A651)  
The set of policies and procedures for performing the Incident Management process, including data items such as:
  - Priority and severity classification schemes
  - Resolution targets
  - Tables identifying teams to be assigned, by system or service

### Inputs

- Incident Management Activity Data (From: A652 A653 A654 A655 A656 A657)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Incident Management Evaluation (To: A651)  
An analysis of how well the Incident Management process was performed. This can also include suggested areas for modifications to the Incident Management Framework.

## [A66] Problem Management

### Purpose

The purpose of the Problem Management process is to resolve problems affecting the IT service, both reactively and proactively. Problem Management finds trends in incidents, groups those incidents into problems, identifies the root causes of problems, and initiates change requests (RFCs) against those problems.

Definition of problem: "A cause of one or more incidents. The cause is not usually known at the time a problem record is created, and the Problem Management Process is responsible for further investigation."<sup>57</sup>

### Outcomes

As a result of the successful implementation of this process:

- The number and adverse impact of incidents and problems is minimized
- Potential incidents are prevented
- Recurrence of incidents is prevented
- The management of incidents is more effective and efficient
- The productivity of support staff is improved

For example, by improving Service Desk first time fix rate

An effective problem management process maximizes system availability, improves service levels, reduces costs, and improves customer convenience and satisfaction.

### Scope

The process is primarily concerned with establishing the root cause of an incident and its subsequent resolution and prevention. The reactive function is to solve problems relating to one or more incidents. The proactive function is to identify and solve problems before incidents occur.

Effective problem management requires the identification and classification of problems, root cause analysis, and resolution of problems. The problem management process also includes the formulation of recommendations for improvement, maintenance of problem records, and review of the status of corrective actions.

### Includes

- ◆ Root cause analysis and identification
- ◆ Solution (and workaround) definition and selection
- ◆ Submission of change requests (RFCs)
- ◆ Appropriate prioritization of resources required for resolution based on business need
- ◆ Contribution to the collective problem resolution knowledge base

### Excludes

- ◆ Identification, creation and resolution of incidents (Incident Management)

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- ◆ Actual implementation of the resolution of a problem. Problem Management initiates their resolution through Change Management and participates in the Post Implementation Review (PIR)
- ◆ Knowledge management methodology (Knowledge Management)

## Controls

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>58</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>59</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>60</sup>

These agreements can be in a draft or finalized status.

### ■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### ■ IT Financial Reports (From: A8 A81 A813 A814 A815)

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

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## Inputs

- **Change Schedule (From: A5 A51 A515 A516)**  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>61</sup>
- **Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Incident Information (From: A6 A65 A657)**  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Event (From: A64 A642)**  
Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.  
ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>62</sup>
- **Change Information (From: A5 A51 A518)**  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Service Resilience Plans (From: A7)**  
The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:
  - Compliance Management
  - Security Management
  - Availability Management
  - Capacity Management
  - Facilities Management
  - IT Service Continuity Management(See the definition of the plan output from each individual process for more details.)
- **Solution Design (From: A4 A42 A425)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

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## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Problem Information (To: A2 A24 A244 A245 A356 A61 A613 A615 A65 A653 A654 A656 A662 A663 A664 A665 A666 A7 A73 A736 A74 A744 A76 A764)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

## Activities

This process is composed of these activities:

- A661 Establish Problem Management Framework
- A662 Detect and Log Problem
- A663 Categorize and Prioritize Problem
- A664 Investigate and Diagnose Problem
- A665 Resolve Problem
- A666 Close and Review Problem
- A667 Monitor, Track and Report Problems
- A668 Evaluate Problem Management Performance

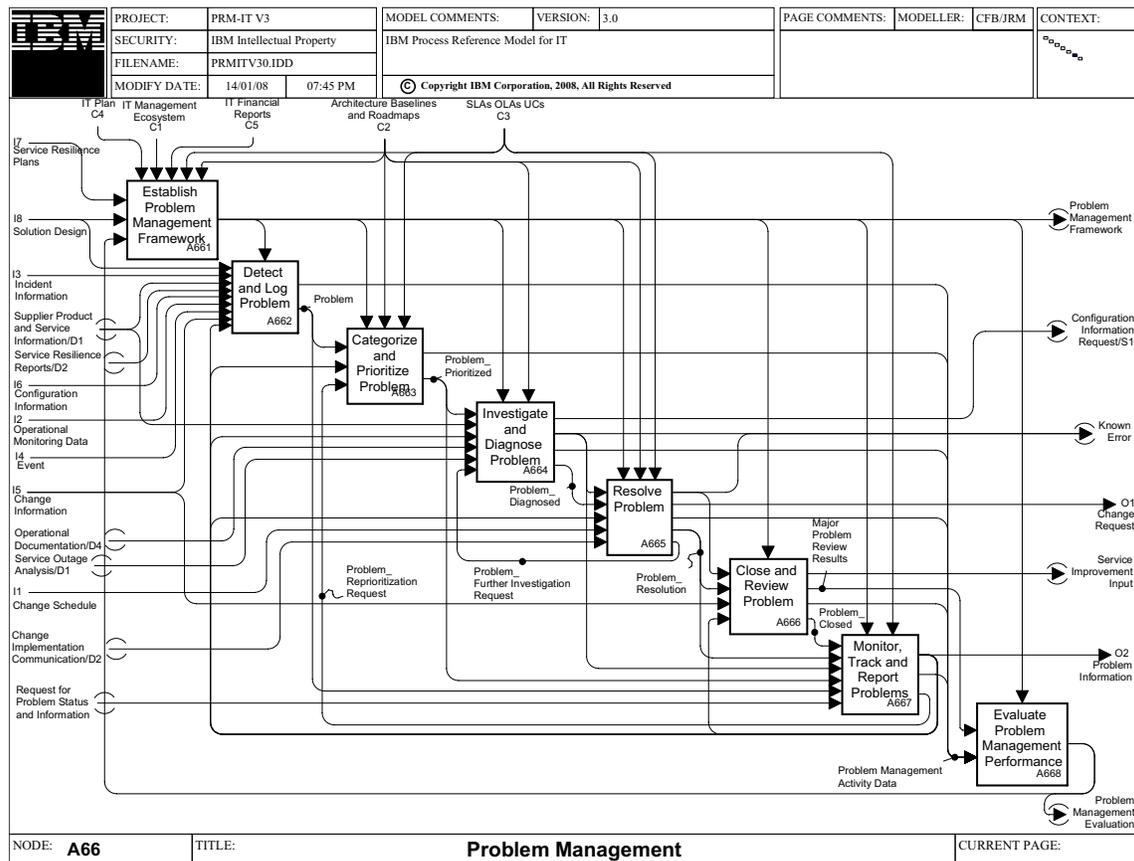


Figure 7. A66 Problem Management

## [A661] Establish Problem Management Framework

### Description

This activity identifies resources necessary for the total process to function as desired and designed. It is within this activity that:

- Interfaces and relationships to other processes are identified
- Information inputs and outputs are identified
- Guidelines for problem classification and prioritization are defined
- Sources and receivers of information necessary for Problem Management to be effective are identified
- Tool requirements are documented
- Successful process measurement criteria are documented
- Roles and responsibilities (including the role of the process owner) must be tailored to meet the requirements of the organization and must be assigned
- Skill requirements are identified and training is requested if needed

Service levels with regard to Problem Management have to be taken into account during this activity. Finally, the structure and process of Problem Management have to be communicated to those concerned.

### Controls

- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>63</sup>

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- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>64</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>65</sup>

These agreements can be in a draft or finalized status.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

## Inputs

- Service Resilience Plans (From: A7)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the plan output from each individual process for more details.)

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Problem Management Evaluation (From: A668)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Problem Management Framework (To: A662 A663 A664 A665 A666 A667 A668)

The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

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## [A662] Detect and Log Problem

### Description

Whether it is for proactive problem handling or reactive problem activities, this activity ensures that monitoring, analysis, and notification mechanisms are implemented to detect problems. Once detected, problems are fully recorded and linked to the associated incidents. Incidents provide the primary source for problem detection; the activity includes further ways to identify problems:

- Notification from suppliers
- Feedback from the service desk or technical support groups
- Proactive approaches like trend analysis.

Problem detection and logging can include both automated and manual activities. The result of this activity is the formal creation of a problem, with the relevant details captured in a problem record.

### Controls

- Problem Management Framework (From: A661)

The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

### Inputs

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Incident Information (From: A6 A65 A657)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

- Supplier Product and Service Information (From: A826)

Information about the items (products or services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items, including:

- Prices
- Service levels
- Supply options (suppliers can provide supply items)

Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.

- Service Resilience Reports

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the plan output from each individual process for more details.)

These reports detail the volumes, attainments, issues outstanding and other characteristics detailing the performance and contribution to the overall delivery of service. They include efficiency reviews and audit reports.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Event (From: A64 A642)

Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.

ITIL defines Alert as: "A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged."<sup>66</sup>

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

## Outputs

- Problem Management Activity Data (To: A668)

Any data about the accomplishment of process activities that support the evaluation of the overall Problem Management process.

- Problem (To: A663 A667)

As defined in ITIL: "A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation."<sup>67</sup>

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## [A663] Categorize and Prioritize Problem

### Description

This activity ensures that problems are classified to enable appropriate analysis and resolution. It further takes into account the severity of problems that can be encountered, and the potential impact to business goals. The result of this activity is a prioritized problem.

### Controls

- Problem Management Framework (From: A661)

The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>68</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>69</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>70</sup>

These agreements can be in a draft or finalized status.

### Inputs

- Problem (From: A662)

As defined in ITIL: "A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation."<sup>71</sup>

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- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Problem\_ Reprioritization Request (From: A667)  
In the course of monitoring and tracking problems there could be a need to lower or raise the priority of an individual problem due to a change in the business impact. The problem is referred for reprioritization.

## Outputs

- Problem Management Activity Data (To: A668)  
Any data about the accomplishment of process activities that support the evaluation of the overall Problem Management process.
- Problem\_ Prioritized (To: A664 A667)  
A problem for which the category and priority are understood and recorded in the problem record. ITIL has the following definitions for these terms:
  - Category is defined as “A named group of things that have something in common.”<sup>72</sup>
  - Priority is defined as “A Category used to identify the relative importance of an Incident, Problem or Change. Priority is based on Impact and Urgency, and is used to identify required times for actions to be taken.”<sup>73</sup>

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## [A664] Investigate and Diagnose Problem

### Description

Investigate and Diagnose Problem includes activities for *root cause analysis*, creating workarounds where possible, and recording a known error. This activity must ensure that workarounds are in place and effective, and that sufficient analysis and diagnosis has ensued to complete the root cause analysis. The result of this activity will be:

- The creation of a *known error record* that describes the diagnosis and available workarounds
- An updated problem record that indicates the diagnosed problem

### Controls

- Problem Management Framework (From: A661)  
The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

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## Inputs

- Problem\_ Prioritized (From: A663)

A problem for which the category and priority are understood and recorded in the problem record. ITIL has the following definitions for these terms:

  - Category is defined as “A named group of things that have something in common.”<sup>74</sup>
  - Priority is defined as “A Category used to identify the relative importance of an Incident, Problem or Change. Priority is based on Impact and Urgency, and is used to identify required times for actions to be taken.”<sup>75</sup>
- Supplier Product and Service Information (From: A826)

Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items including

  - Prices
  - Service levels
  - Supply options, (suppliers can provide these supply items)

Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.
- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Operational Documentation (From: A855)

The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Service Outage Analysis (From: A736)

The results from identifying root causes of service outage, assessing the effectiveness of service availability, and identifying key recommendations for improving availability. There is a corresponding technique described in the ITIL *Service Delivery, Availability Management* book.
- Problem\_ Further Investigation Request (From: A665)

In the process of resolving a known error, if additional problems are identified, a request is made for additional root cause analysis.

## Outputs

- Configuration Information Request (To: A54 A544)

Any request for information about one or more configuration items. Many IT processes will make such requests.
- Known Error (To: A665 A666 A667)

As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>76</sup>

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- Problem Management Activity Data (To: A668)  
Any data about the accomplishment of process activities that support the evaluation of the overall Problem Management process.
  - Problem\_ Diagnosed (To: A665)  
A problem for which the root cause is understood.
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## [A665] Resolve Problem

### Description

This activity ensures the resolution of known errors (that is, problems for which the root cause is fully understood). This includes the search for a solution, the implementation planning of resolution actions to eliminate known errors (initiating an RFC or a Project Proposal), and tracking the successful implementation of the change to the infrastructure. The submission of an RFC or Project Proposal is a result of this activity. The error resolution has to be documented in the problem and known error records.

### Controls

- Problem Management Framework (From: A661)  
The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>77</sup>
  - OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>78</sup>
  - UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>79</sup>  
These agreements can be in a draft or finalized status.

## Inputs

- **Known Error (From: A664 A665)**  
As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>80</sup>
- **Problem\_ Diagnosed (From: A664)**  
A problem for which the root cause is understood.
- **Problem Information (From: A6 A66 A667)**  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- **Change Schedule (From: A5 A51 A515 A516)**  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>81</sup>
- **Change Implementation Communication (From: A51 A516)**  
Information used to coordinate and implement a change. It can reflect either or both the:
  - Status of the overall change as a result of carrying out previous instructions
  - Instructions for the next stages of implementationThis dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

## Outputs

- **Known Error (To: A665 A666 A667)**  
As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>82</sup>
- **Change Request (To: A5 A51 A512)**  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- **Problem Management Activity Data (To: A668)**  
Any data about the accomplishment of process activities that supports the evaluation of the overall Problem Management process.

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- Problem\_ Resolution (To: A666 A667)  
Actions taken to repair permanently a known error or implement a workaround.
- Problem\_ Further Investigation Request (To: A664)  
In the process of resolving a known error, if additional problems are identified, a request is made for additional root cause analysis.

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## [A666] Close and Review Problem

### Description

This activity includes closing problems, ensuring that known error records have been updated, and performing reviews for major problems. Each problem record is checked for completeness so that other processes have the appropriate information available.

- For example, incident management could need to close or update incidents as a result of the problem resolution and closure.

For each major problem, a review will be conducted and the results incorporated in communication, training, and reviewing the service.

### Controls

- Problem Management Framework (From: A661)  
The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

### Inputs

- Known Error (From: A664 A665)  
As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>83</sup>
- Problem\_ Resolution (From: A665)  
Actions taken to repair permanently a known error or implement a workaround.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

### Outputs

- Service Improvement Input  
Any information from problem resolution (proactively or reactively) that can help to improve the overall service delivery. For example, there could be a finding that a specific service part or component frequently generates problems and a determination that a modification

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to the procedures used to operate the service would remove the incident-inducing circumstances.

■ Major Problem Review Results (To: A668)

The analysis and outcome of reviewing those problems classified as major. This classification can reflect a variety of reasons, such as:

- Service impact
- Problem duration
- Cost and efficiency to achieve resolution and closure

Review outputs will reflect these topics.

■ Problem Management Activity Data (To: A668)

Any data about the accomplishment of process activities that supports the evaluation of the overall Problem Management process.

■ Problem\_Closed (To: A667)

The finalization of all data related to a problem. This includes structured data, which supports analysis of problem causes, patterns, costs and resolution effectiveness.

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## [A667] Monitor, Track and Report Problems

### Description

This activity is responsible for examining all information about all problems, using the records updated by the other activities within the Problem Management process. ITIL defines a Problem Record as “A Record containing the details of a Problem. Each Problem Record documents the Life cycle of a single Problem.”<sup>84</sup>

The ongoing monitoring and tracking of the handling of problems and known errors must be accomplished to report on service level attainment with regard to problem management. The reports and relevant statistics are created mainly based on problem record data. It could also take into account feedback from customers.

This monitoring and reporting activity has to be done regularly, but can also be initiated by a special request. It might result in problems being reprioritized and might prompt further *root cause analysis* and the development of new resolution plans. An additional result of this activity is problem information that is used in service reviews.

### Controls

■ Problem Management Framework (From: A661)

The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer.

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Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>85</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>86</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>87</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Problem\_ Closed (From: A666)  
The finalization of all data related to a problem. This includes structured data, which supports analysis of problem causes, patterns, costs and resolution effectiveness.
- Problem\_ Resolution (From: A665)  
Actions taken to repair permanently a known error or implement a workaround.
- Known Error (From: A664 A665)  
As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>88</sup>
- Problem\_ Prioritized (From: A663)  
A problem for which the category and priority are understood and recorded in the problem record. ITIL has the following definitions for these terms:
  - Category is defined as “A named group of things that have something in common.”<sup>89</sup>
  - Priority is defined as “A Category used to identify the relative importance of an Incident, Problem or Change. Priority is based on Impact and Urgency, and is used to identify required times for actions to be taken.”<sup>90</sup>
- Problem (From: A662)  
As defined in ITIL: “A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation.”<sup>91</sup>
- Request for Problem Status and Information  
Request for information with regard to overall problem status and service level attainment with regard to problem management.

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86. ITIL V3 Glossary  
87. ITIL V3 Glossary  
88. ITIL V3 Glossary  
89. ITIL V3 Glossary  
90. ITIL V3 Glossary  
91. ITIL V3 Glossary

## Outputs

- Problem Information (To: A2 A24 A244 A245 A356 A61 A613 A615 A65 A653 A654 A656 A662 A663 A664 A665 A666 A7 A73 A736 A74 A744 A76 A764)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Problem Management Activity Data (To: A668)  
Any data about the accomplishment of process activities that supports the evaluation of the overall Problem Management process.
- Problem\_ Reprioritization Request (To: A663)  
In the course of monitoring and tracking problems, there could be a need to lower or raise the priority of an individual problem due to a change in the business impact. The problem is referred to reprioritization.

## [A668] Evaluate Problem Management Performance

### Description

This activity is responsible for the ongoing assessment and management of the Problem Management process, according to predetermined criteria. It is responsible for managing and reporting process measurements at regularly scheduled intervals. Also, the generation of any improvement opportunity areas that might be necessary to facilitate meeting business objectives.

Basis for the improvements are insights and lessons learned from the observations and analysis of activity accomplishments and results.

Basically, the improvements should lead to more efficiency in the process (better Problem Management).

### Controls

- Problem Management Framework (From: A661)  
The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

### Inputs

- Major Problem Review Results (From: A666)  
The analysis and outcome of reviewing those problems classified as major. This classification can reflect a variety of reasons, such as:
  - Service impact
  - Problem duration
  - Cost and efficiency to achieve resolution and closureReview outputs will reflect these topics.
- Problem Management Activity Data (From: A662 A663 A664 A665 A666 A667)  
Any data about the accomplishment of process activities that supports the evaluation of the overall Problem Management process.

### Outputs

- Problem Management Evaluation (To: A661)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A67] Identity and Access Management

### Purpose

The purpose of the Identity and Access Management process is to establish and maintain a registry of IT user identities and their associated access rights for each service. The registry provides a key reference for the authorization or rejection by the Security Management process of service usage attempts.

The process provides the ability to control and track who has access to data and services. It contributes to achieving the appropriate confidentiality, availability, and integrity of the organization's data.

ITIL definition of identity: "A unique name that is used to identify a user, person or role. The identity is used to grant rights to that user, person, or role."<sup>92</sup> This definition is narrower than those established in ISO standards relating to security. For the purposes of this process, the user might not be directly linked to one or more persons; it can take the form of an IT product or system for which access rights must be established and tracked, and for which an identity is therefore established.<sup>93</sup>

Definition of rights: "Entitlements, or permissions, granted to a user or role. For example, the right to modify particular data, or to authorize a change."<sup>94</sup>

### Outcomes

As a result of the successful implementation of the Identity and Access Management process:

- An accurate and complete identity registry and associated rights is maintained
- There is a definitive source so that decisions can be made allowing users have access to information and the services they need while unauthorized access attempts are denied
- Authorized access to data and services is aligned with security policies
- Records of access attempts can be audited
- The data necessary to demonstrate compliance in relation to service and information access is available

### Scope

This process operates within the set of controls described by the IT Security Policy, which itself takes direction from the Business Security Policy. The users for whom (or which) an identity is registered include not only those outside the IT organizational entity but also all resources involved in running the IT capability itself. Levels of control of identities and access rights will vary depending upon the scope of access required and the level of potential harm (fraud) from malicious access.

Access policies can be dynamic, reflecting the need to vary access rights depending on the time of day or the role being performed. The process must recognize that the authority to give access rights, or even to delegate the authority to give access rights, is a normal activity for many users.

### Includes

- ◆ An identity schema aligned with business and security policies

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93. ISO/IEC 15408-1, *Information technology – Security techniques – Evaluation criteria for IT security*. "Part 1: Introduction and general model." Widely known as the *Common Criteria*.

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- ◆ Establishment and maintenance of identities
- ◆ Establishment and maintenance of access rights
- ◆ Translation of business rules for roles and group authorities so as to enact them within the identity schema
- ◆ Access to the registry for those processes providing affiliated security services, like physical access (Facilities Management)
- ◆ Raising warnings or revoking access rights when access attempt thresholds are breached

### **Excludes**

- ◆ Definition, implementation, and operation of authentication mechanisms (Security Management)
- ◆ Enforcement of access rights (Security Management)
- ◆ Definition of the rules for business role and group authorities – defined by the business
- ◆ Physical security and access (Facilities Management)
- ◆ Security policies – defined by the business and Security Management

### **Controls**

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>95</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>96</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>97</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- Identity and Access Work Request (From: A535 A62 A624)

An identity and access request originating from another process.

- Service Request\_ Authorized (From: A6 A61 A613)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.

- Security Monitoring Data (From: A72 A726)

Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Security Directives (From: A725)

The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

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95. ITIL V3 Glossary

96. ITIL V3 Glossary

97. ITIL V3 Glossary



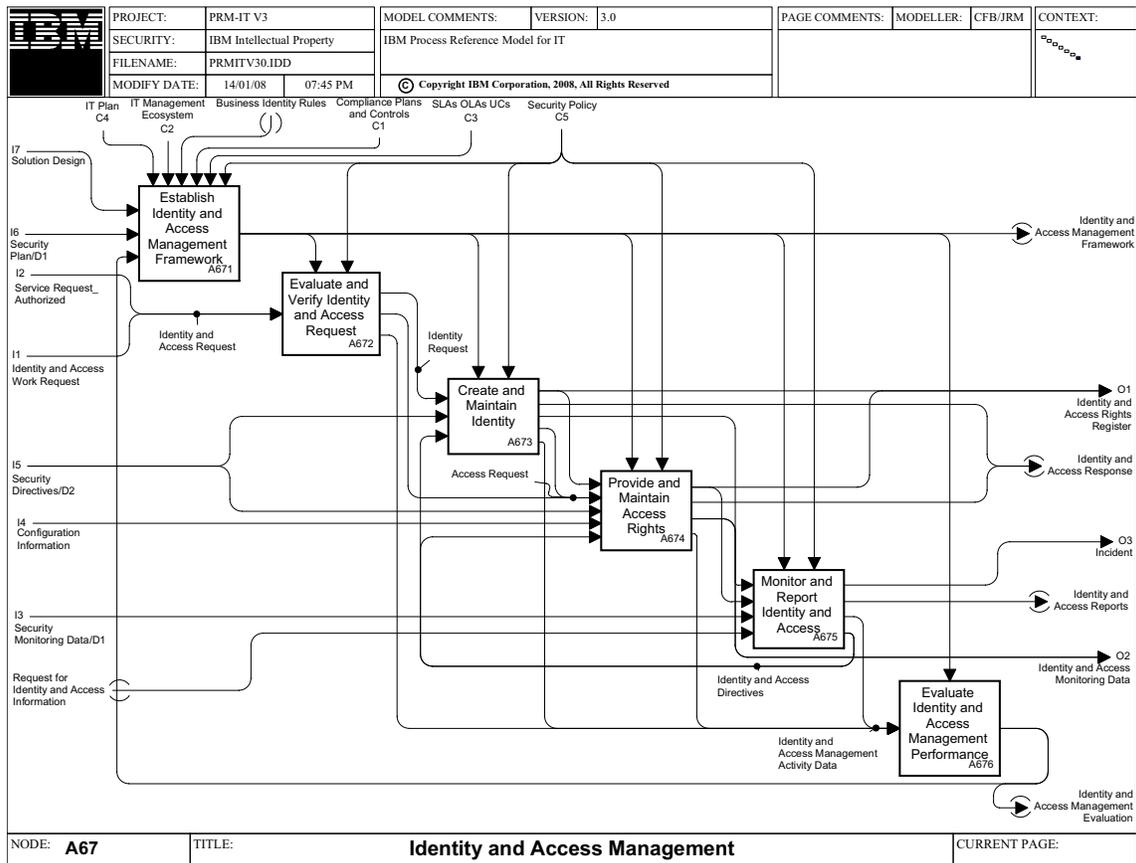


Figure 8. A67 Identity and Access Management

## [A671] Establish Identity and Access Management Framework

### Description

This activity defines a framework of policies, procedures, organizational roles and responsibilities, and other information under which the Identity and Access Management process will operate to meet its mission and goals. It is within this activity that:

- Interfaces and relationships to other processes are identified
- Information inputs and outputs are identified
- Sources and receivers of information necessary for Identity and Access Management to be effective are identified
- Tool requirements are documented
- Successful process measurement criteria are documented
- Roles and responsibilities (including the role of the process owner) must be tailored to meet the requirements of the organization and must be assigned
- Skill requirements are identified and training is requested if needed

Service levels with regard to Identity and Access Management have to be taken into account during this activity. Finally, the structure and process of Identity and Access Management have to be communicated to those concerned.

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## Controls

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- Business Identity Rules

Set of rules that will be used to determine if identity requests and access requests will be approved. Part of Business Security Policies and Plans.

- Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>98</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>99</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>100</sup>

These agreements can be in a draft or finalized status.

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98. ITIL V3 Glossary

99. ITIL V3 Glossary

100. ITIL V3 Glossary

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

- Identity and Access Management Evaluation (From: A676)

An assessment of the overall performance of the process and of its activities against the targets set in the Identity and Access Management process framework. It includes identification of potential process improvement items. This may also include proposed modifications to the Identity and Access Management Framework.

## Outputs

- Identity and Access Management Framework (To: A672 A673 A674 A675 A676)

The policies, guidelines, plans, procedures, organizational roles and responsibilities and other information under which the Identity and Access Management process will operate to meet its mission and goals.

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## [A672] Evaluate and Verify Identity and Access Request

### Description

This activity evaluates and verifies the identity of the person listed in each request and verifies that a reasonable substantiation is provided for the access to a system or application. This activity also verifies that the request has been approved by a legitimate approver.

### Controls

- Identity and Access Management Framework (From: A671)

The policies, guidelines, plans, procedures, organizational roles and responsibilities and other information under which the Identity and Access Management process will operate to meet its mission and goals.

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.



## Outputs

- Identity and Access Rights Register (To: A674 A675 A7 A72 A726 A727 A75 A754)  
The records which provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Identity and Access Response (To: A535 A624)  
The result of processing an identity and access request. The result will reflect a range of possibilities, depending on the nature of the request:
  - For an identity request – actions taken to create, maintain, or delete the identity
  - For an access (rights) request – the success or failure of the request, with relevant information describing the status of access rights.
- Identity and Access Monitoring Data (To: A64 A642 A675 A727)  
Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.
- Access Request (To: A674)  
An access request that has been evaluated and verified. Each access request is associated with a verified user identity.
- Identity and Access Management Activity Data (To: A676)  
Data resulting from all work carried out by each process activity. Examples would be resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A674] Provide and Maintain Access Rights

### Description

This activity provides the access rights based on predefined policies and regulations. It updates the identity records to reflect the updated access rights and confirms that the access rights have been implemented.

Access rights can be removed as well as granted. Accordingly, this activity will restrict or revoke rights in order to execute policies and decisions made by appropriate authorities.

### Controls

- Identity and Access Management Framework (From: A671)  
The policies, guidelines, plans, procedures, organizational roles and responsibilities and other information under which the Identity and Access Management process will operate to meet its mission and goals.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- Identity and Access Rights Register (From: A6 A67 A673 A674)  
The records which provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Access Request (From: A672 A673)  
An access request that has been evaluated and verified. Each access request is associated with a verified user identity.
- Security Directives (From: A725)  
The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Identity and Access Directives (From: A675)  
Individual or collective commands, instructions or other requests to modify or adjust identities or the access rights register. Such directives are usually the result of monitoring patterns of identity and access behavior as well as from security monitoring data.

## Outputs

- Identity and Access Rights Register (To: A674 A675 A7 A72 A726 A727 A75 A754)  
The records which provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Identity and Access Response (To: A535 A624)  
The result of processing an identity and access request. The result will reflect a range of possibilities, depending on the nature of the request:
  - For an identity request – actions taken to create, maintain, or delete the identity
  - For an access (rights) request – the success or failure of the request, with relevant information describing the status of access rights
- Identity and Access Monitoring Data (To: A64 A642 A675 A727)  
Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.
- Identity and Access Management Activity Data (To: A676)  
Data resulting from all work carried out by each process activity. Examples would be resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A675] Monitor and Report Identity and Access

### Description

This activity includes logging, tracking and auditing access to systems and applications. This activity also includes the recurring validation of identity records for currency. Finally, this activity will produce regular and ad hoc reports.

### Controls

- Identity and Access Management Framework (From: A671)  
The policies, guidelines, plans, procedures, organizational roles and responsibilities and other information under which the Identity and Access Management process will operate to meet its mission and goals.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Identity and Access Monitoring Data (From: A67 A673 A674)  
Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.
- Identity and Access Rights Register (From: A6 A67 A673 A674)  
The records which provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Security Monitoring Data (From: A72 A726)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Request for Identity and Access Information  
A request from another process or from a customer or user for information on some aspect of one or more identities and their registered access rights, including historical data.

### Outputs

- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Identity and Access Reports  
These reports contain a summary of identity and access records, and the amount and type of identity and access transaction completed (additions, changes, deletions) in a given timeframe.



## PRM-IT A6 Node Tree

<b>A6 – OPERATIONS</b>	
<b>A61</b>	<b>Request Fulfillment</b>
A611	Establish Request Fulfillment Framework
A612	Receive and Approve Service Request
A613	Fulfill or Route Service Request
A614	Close Service Request
A615	Own, Monitor, Track and Communicate Service Requests
A616	Evaluate Request Fulfillment Performance
<b>A62</b>	<b>Service Execution</b>
A621	Establish Service Execution Framework
A622	Schedule and Adjust Workload
A623	Assign and Control Delivery Resources
A624	Deliver Service
A625	Monitor and Report Service Execution Operations
A626	Evaluate Service Execution Performance
<b>A63</b>	<b>Data Management</b>
A631	Establish Data Management Framework
A632	Plan Data Portfolio Lifecycle
A633	Acquire and Prepare Data
A634	Control, Deploy and Maintain Data
A635	Backup and Restore Data
A636	Dispose of Data
A637	Monitor and Report Data Management Operations
A638	Evaluate Data Management Performance
<b>A64</b>	<b>Event Management</b>
A641	Establish Event Management Framework
A642	Detect and Log Event
A643	Filter Event
A644	Correlate Events and Select Response
A645	Resolve Event
A646	Close Event
A647	Evaluate Event Management Performance
<b>A65</b>	<b>Incident Management</b>
A651	Establish Incident Management Framework
A652	Identify and Log Incident
A653	Classify Incident and Provide Initial Support
A654	Investigate and Diagnose Incident
A655	Resolve Incident and Recover Service
A656	Close Incident
A657	Own, Monitor, Track and Communicate Incidents
A658	Evaluate Incident Management Performance





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# [A7] Resilience

## Description

### Purpose

The Resilience category of processes describes the analysis and proactive planning required to enable resilient infrastructure, applications, and services. Resilience is here defined as the ability to absorb conditions or faults without service failure and the ability to quickly return to a previous good condition. Each process covers a range of activities from handling everyday adjustments as required by service operations through anticipating the potential future demands upon its specific domain.

In order to accomplish their collective mission, all processes require input from a wide range of other processes, including such items as architectural information, problem and known error information, solution designs, scheduled projects and changes, as well as operational monitoring data. Resilience processes use this input to establish ongoing resilience capabilities, ensuring service level attainment and customer satisfaction while controlling costs.

### Rationale

All of the processes in this category analyze information from a variety of sources and then generate proactive plans to minimize risks associated with the potential failure of any component (or group of components) or human actor used to deliver services. The processes in this category are also responsible for ensuring compliance with (internal and external) laws and regulations, internal policies and procedures, as well as maintaining defined levels of security on information and IT services.

### Value

- Ensures compliance with all security and regulatory considerations and requirements, reducing both IT and business risk
- Establishes proactive plans to ensure that infrastructure and application-based services are reliable, robust, secure, consistent and facilitate the efficient and effective support of business processes
- Provides the means to monitor both current IT system availability as well as to project future capacity requirements, improving IT's ability to support business direction
- Establishes responsibility for operation, management and maintenance of all physical facilities necessary to deliver services to the business
- Provides assurance that agreed to IT Services will continue to support business requirements in the event of a catastrophic disruption to the business environment

### Controls

- Identity and Access Rights Register (From: A6 A67 A673 A674)
- IT Plan (From: A3 A36 A365)
- IT Strategy (From: A3 A31 A315)
- Service Catalog (From: A2 A23 A235)
- SLAs, OLAs, UCs (From: A2 A24 A243)
- IT Management Ecosystem (From: A1)
- Environment Information (From: outside the model)
- Business Strategy

- 
- IT Budget (From: A8 A81 A813)

## Inputs

- Architecture Baselines and Roadmaps (From: A3 A33 A334)
- Change Schedule (From: A5 A51 A515 A516)
- Service Metric Data and Reports (From: A6)
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)
- Incident Information (From: A6 A65 A657)
- Problem Information (From: A6 A66 A667)
- Stakeholder Requirements (From: A2 A21 A213)
- Solution\_ Deployed (From: A5 A53 A536)
- Change Information (From: A5 A51 A518)
- Configuration Information (From: A5 A54 A544)
- Asset Information (From: A5 A55 A553)
- Solution Design (From: A4 A42 A425)
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)
- Business and IT Models (From: A3 A33 A333)
- Service Request\_ Authorized (From: A6 A61 A613)
- Service Level Package (From: A2 A25 A255)
- Business Input (From: outside the model)

## Outputs

- Business Output (To: Outside-the-Model)
- Compliance Plans and Controls (To: A1 A11 A111 A113 A114 A3 A36 A361 A37 A371 A4 A41 A412 A413 A5 A51 A511 A52 A521 A53 A531 A54 A545 A55 A554 A555 A6 A63 A632 A67 A671 A715 A716 A72 A725 A76 A763 A8 A81 A811)
- Security Policy (To: A2 A21 A213 A24 A243 A3 A31 A314 A33 A331 A332 A333 A34 A341 A342 A343 A4 A41 A413 A6 A67 A671 A672 A673 A674 A675 A71 A712 A713 A723 A724 A725 A726 A727 A73 A732 A75 A752 A76 A763 A8 A82 A822 A85 A852)
- Service Resilience Plans (To: A2 A22 A221 A24 A243 A246 A25 A255 A26 A265 A266 A3 A35 A353 A354 A36 A364 A5 A52 A522 A523 A53 A532 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661)
- CI Data Update Package (To: A5 A54 A542 A543)
- Change Request (To: A5 A51 A512)
- Incident (To: A537 A6 A65 A652)

## Processes

This process category is composed of these processes:

- A71 Compliance Management
- A72 Security Management
- A73 Availability Management
- A74 Capacity Management
- A75 Facilities Management
- A76 IT Service Continuity Management

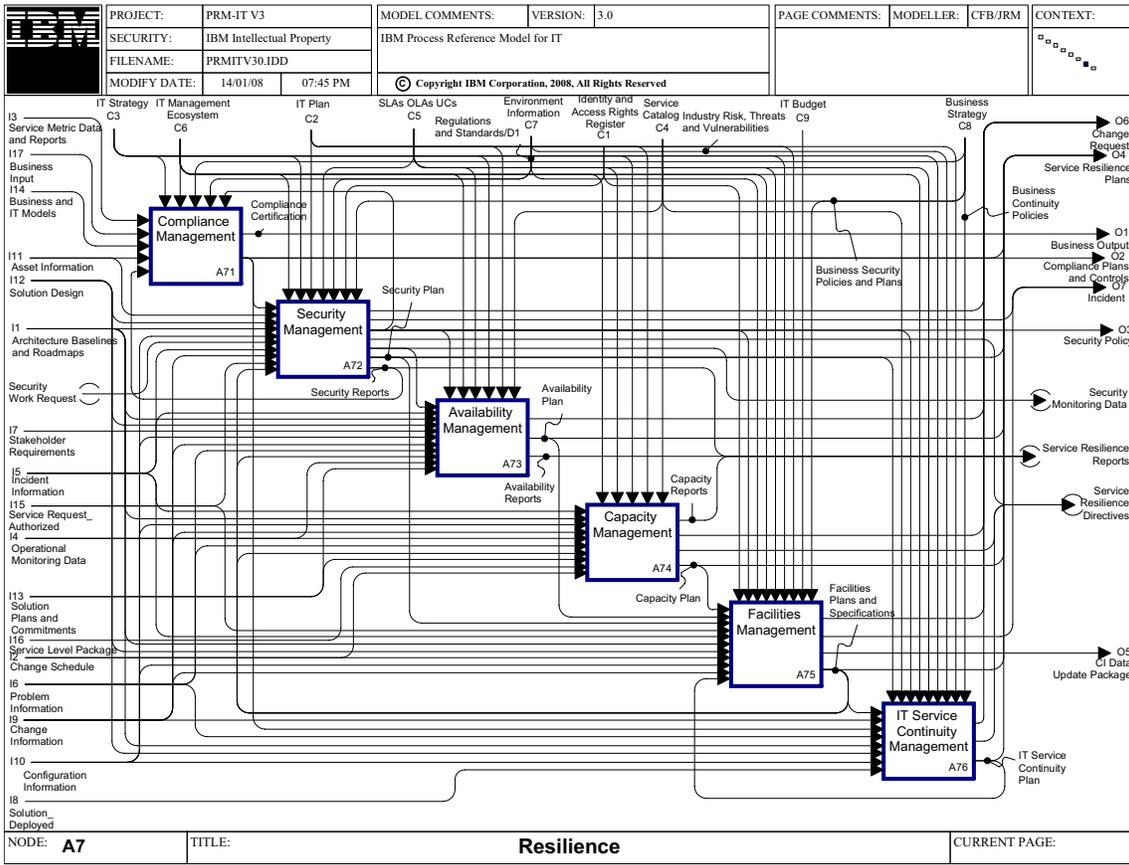


Figure 1. A7 Resilience Diagram

## [A71] Compliance Management

### Purpose

The purpose of the Compliance Management process is to ensure adherence to laws and regulations, internal policies, procedures, and stakeholder commitments.

### Outcomes

As a result of successful implementation of this process:

- Regulatory, audit, and other internal compliance is ensured and demonstrated
- Legal liabilities and related productivity losses consequential upon any compliance breach are avoided
- The reputation and value of the brand of the businesses that IT serves is protected

### Scope

Integrity (sound operating) and compliance as an outcome across all of the IT endeavor's undertakings.

#### Includes

- ◆ Consideration of internal and external regulations, standards and legal obligations impacting the business where they could require IT support. For example:
  - Privacy regulations
  - Laws such as Sarbanes Oxley
  - Industry standards and guidelines such as ISO 27001 (ISO17799), COSO and CobiT
- ◆ Specification of compliance controls needed within IT services and solutions and also within other IT processes
- ◆ Internal and external audit readiness preparations
- ◆ Compliance audits

#### Excludes

- ◆ Setting internal policies (IT Governance and Management System Framework)
- ◆ Modification to IT services and solutions to establish compliance controls (through Realization and Deployment categories)
- ◆ Modification to other IT processes (through IT Governance and Management System categories)
- ◆ Operation of the defined compliance controls within the transactions of the IT endeavor. This responsibility becomes part of the activity of each relevant IT process

### Controls

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- **IT Management Ecosystem (From: A1)**  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- **Regulations and Standards**
- **External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:**
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- **Security Policy (From: A7 A72 A722)**  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- **Service Metric Data and Reports (From: A6)**  
Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- **Business Input (From: outside the model)**  
The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:
  - Guidance
  - Instructions
  - General commentary and information about business operating conditions
- **Business and IT Models (From: A3 A33 A333)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Asset Information (From: A5 A55 A553)**  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- **Security Reports (From: A72 A727)**  
The reports from auditing and other analyses of IT security monitoring data.

## Outputs

- **Compliance Certification**  
Formal declaration by the accountable executive of adherence to regulatory requirements.
- **Compliance Plans and Controls (To: A1 A11 A111 A113 A114 A3 A36 A361 A37 A371 A4 A41 A412 A413 A5 A51 A511 A52 A521 A53 A531 A54 A545 A55 A554 A555 A6 A63 A632 A67 A671 A715 A716 A72 A725 A76 A763 A8 A81 A811)**  
The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

## Activities

This process is composed of these activities:

- A711 Establish Compliance Management Framework
- A712 Identify Compliance Requirements
- A713 Assess Compliance Requirements
- A714 Define Compliance Controls Plan
- A715 Implement Compliance Controls
- A716 Audit and Report Compliance
- A717 Evaluate Compliance Management Performance

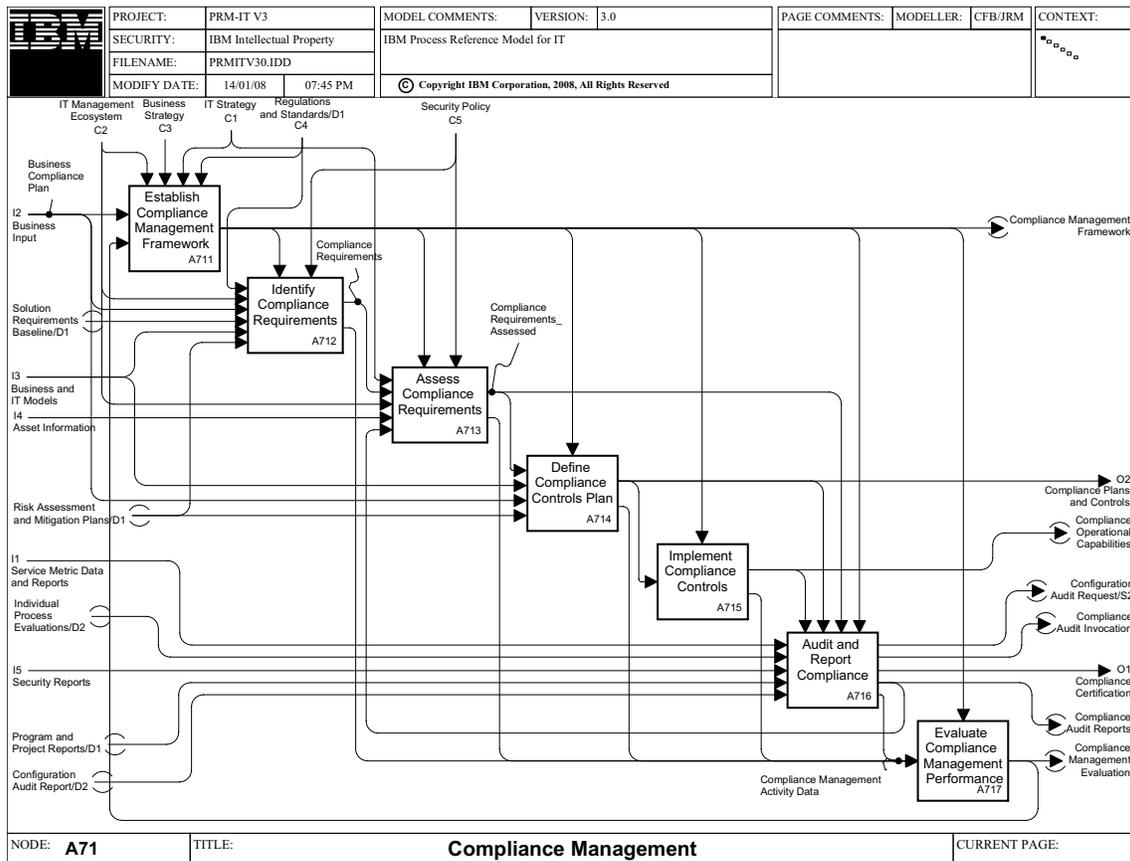


Figure 2. A71 Compliance Management



- Compliance Management Evaluation (From: A717)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Compliance Management Framework (To: A712 A713 A714 A715 A716 A717)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

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## [A712] Identify Compliance Requirements

### Description

This activity seeks out and collates the requirements for compliance. The requirements can be derived from several sources, including:

- The business, through the Business Compliance Plan
- External regulations and standards (with particular applicability to the design and operation of IT solutions)
- Internal IT policies

### Controls

- Compliance Management Framework (From: A711)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Business Compliance Plan  
The compliance requirements determined by the business, derived by examination across the span of its activities and details of the specifications and implementations of corresponding compliance plans.

- Solution Requirements Baseline (From: A41 A415)  
Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Risk Assessment and Mitigation Plans (From: A34)  
The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as projects, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.

## Outputs

- Compliance Requirements (To: A713)  
The necessary conditions and actions needed to adhere to external regulations or standard practices and also to requirements established by the business through activities such as audit and oversight.
- Compliance Management Activity Data (To: A717)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A713] Assess Compliance Requirements

### Description

Assessment of identified compliance requirements to establish exactly which of the potential compliance aspects must be put into effect, and to what degree. In a fashion similar to Risk Assessment, it includes evaluating the costs of compliance against the consequences of noncompliance. The output will be the base from which all compliance controls are built.

### Controls

- Compliance Management Framework (From: A711)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Inputs

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- Compliance Requirements (From: A712)  
The necessary conditions and actions needed to adhere to external regulations or standard practices and also to requirements established by the business through activities such as audit and oversight.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Compliance Audit Reports (From: A716)  
Documents communicating the results of individual process compliance and mitigation audits.

## Outputs

- Compliance Requirements\_ Assessed (To: A714 A716)  
Sets of categorized, quantified, and prioritized compliance items that the IT endeavor must address. Also includes any compliance requirements for which noncompliance has been assessed, with decision reasons and analysis of likely consequences.
- Compliance Management Activity Data (To: A717)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A714] Define Compliance Controls Plan

### Description

The compliance controls that must be put into effect are specified and designed. Compliance controls identified here must be consistent with the overall business compliance plan and also provide the basis by which the IT executives will be able to attest (certify) that the IT endeavor has met compliance requirements specific to IT undertakings.

### Controls

- Compliance Management Framework (From: A711)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

### Inputs

- Compliance Requirements\_ Assessed (From: A713)  
Sets of categorized, quantified, and prioritized compliance items that the IT endeavor must address. Also includes any compliance requirements for which noncompliance has been assessed, with decision reasons and analysis of likely consequences.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

- **Business Compliance Plan**  
The compliance requirements determined by the business, derived by examination across the span of its activities and details of the specifications and implementations of corresponding compliance plans.
- **Risk Assessment and Mitigation Plans (From: A34)**  
The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.

## Outputs

- **Compliance Plans and Controls (To: A1 A11 A111 A113 A114 A3 A36 A361 A37 A371 A4 A41 A412 A413 A5 A51 A511 A52 A521 A53 A531 A54 A545 A55 A554 A555 A6 A63 A632 A67 A671 A715 A716 A72 A725 A76 A763 A8 A81 A811)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- **Compliance Management Activity Data (To: A717)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A715] Implement Compliance Controls

### Description

The overseeing of the development and deployment of defined compliance controls. The outcome is that the compliance controls are in operation across all relevant IT activities.

### Controls

- **Compliance Management Framework (From: A711)**  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

### Inputs

- **Compliance Plans and Controls (From: A7 A71 A714)**  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.

## Outputs

- Compliance Operational Capabilities (To: A716)  
The set of capabilities which implement the various controls required to adhere to specific regulatory or more informally generated requirements.
- Compliance Management Activity Data (To: A717)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A716] Audit and Report Compliance

### Description

Compliance control activities and outcomes are monitored and analyzed for progress and certification. Exposures and findings that are discovered during the audit will be documented and communicated to ensure compliance. Where required, conformance will be formally certified: for example, SOX Attestation. Reports are produced on any aspect of compliance workings.

### Controls

- Compliance Operational Capabilities (From: A715)  
The set of capabilities which implement the various controls required to adhere to specific regulatory or more informally generated requirements.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- Compliance Requirements\_ Assessed (From: A713)  
Sets of categorized, quantified, and prioritized compliance items that the IT endeavor must address. Also includes any compliance requirements for which noncompliance has been assessed, with decision reasons and analysis of likely consequences.
- Compliance Management Framework (From: A711)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

### Inputs

- Service Metric Data and Reports (From: A6)  
Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Individual Process Evaluations  
A collection of metrics which describe the effectiveness and efficiency of an individual process.

- Security Reports (From: A72 A727)  
The reports from auditing and other analyses of IT security monitoring data.
- Program and Project Reports (From: A37)  
The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.
- Configuration Audit Report (From: A545)  
The outcomes of a configuration audit. The outcomes cover both status of configuration items and audit trails of changes to configuration items, such as logs of identities of the person(s) making such changes.

## Outputs

- Configuration Audit Request (To: A545)  
A request for any aspect of the collected configuration information to be audited against the actual, real managed object.
- Compliance Audit Invocation  
A directive to all processes that are required to operate under the risk and compliance controls for evidence which will be examined to identify whether and how well those controls are being operated.
- Compliance Certification  
Formal declaration by the accountable executive of adherence to regulatory requirements.
- Compliance Audit Reports (To: A143 A713)  
Documents communicating the results of individual process compliance and mitigation audits.
- Compliance Management Activity Data (To: A717)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A717] Evaluate Compliance Management Performance

### Description

The evaluation of the performance of the process aims at identifying areas of the overall process requiring improvement. This covers the foundation and interfaces of the process, all activities, their accomplishments, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for improvements are insights and the lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Compliance Management Framework (From: A711)  
The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

### Inputs

- Compliance Management Activity Data (From: A712 A713 A714 A715 A716)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Compliance Management Evaluation (To: A711)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A72] Security Management

### Purpose

The purpose of the Security Management process is to establish and operate security controls and protections over all IT assets and services in order to conform to overall business security as well as IT-specific requirements. It includes activities to mitigate the risk posed by malicious outsiders and insiders, and to decrease vulnerabilities in the IT services, systems and processes that would make it easier for such malicious parties to succeed.

### Outcomes

As a result of the successful implementation of the Security Management process:

- The confidentiality, integrity, and accessibility of information meets agreed requirements:
  - Information is available for approved purposes
  - Access (whether internal or external) to protected items can be validated and tracked
  - Information and systems are protected from unauthorized access and any attacks
- IT services and infrastructure meet external security requirements from service level agreements, contracts, and legislative dictates
- IT security aligns with the business' overall security requirements
- The reputation of the business as secure and trustworthy is protected

### Scope

The process covers the life cycle of security concerns, including planning, operational measures, evaluation, and audit. It will identify IT security threats, vulnerabilities, and risks in order to develop an overall approach to counter and handle them that is aligned with business security requirements. It will operate security protections and mechanisms which meet the desired level of confidentiality, availability and integrity for information and IT services.

### Includes

- ◆ Information security policy
- ◆ Specification of information security controls including asset use, access, documentation, and information controls and overseeing their establishment
- ◆ Operation of controls and measures such as:
  - Credential operations
  - Perimeter defense
  - Intrusion detection
  - Secure coding standards
  - Key and encryption management
  - Separation of duties
  - Application isolation
- ◆ Identification of IT security incidents
- ◆ Management of supplier and partner access to services and systems
- ◆ Compliance enforcement measures (related to security)

## Excludes

- ◆ Establishment and maintenance of identities and access rights (Identity and Access Management)
- ◆ Health and safety (Business responsibility, with contribution from Facilities Management)
- ◆ Business security management, including trust management as it relates to business processes (Business responsibility)
- ◆ Identification of privacy requirements (within the scope of Compliance Management)

## Controls

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### ■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>1</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>2</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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1. ITIL V3 Glossary  
2. ITIL V3 Glossary

Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>3</sup>

These agreements can be in a draft or finalized status.

- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Identity and Access Rights Register (From: A6 A67 A673 A674)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.

## Inputs

- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Security Work Request (From: A535 A623 A624)  
A Security Request originating from another process.

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3. ITIL V3 Glossary

- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Service Request\_ Authorized (From: A6 A61 A613)  
The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.
- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity. (To: A537 A6 A65 A652) Incident  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Security Policy (To: A2 A21 A213 A24 A243 A3 A31 A314 A33 A331 A332 A333 A34 A341 A342 A343 A4 A41 A413 A6 A67 A671 A672 A673 A674 A675 A71 A712 A713 A723 A724 A725 A726 A727 A73 A732 A75 A752 A76 A763 A8 A82 A822 A85 A852)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Service Resilience Directives (To: A62 A622 A623 A63 A632)  
The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- Security Monitoring Data (To: A64 A642 A67 A675 A727 A73 A735)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Security Plan (To: A33 A334 A335 A336 A34 A344 A345 A346 A42 A422 A423 A424 A44 A442 A612 A613 A67 A671 A75 A752 A76 A764 A843)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- Security Reports (To: A346 A71 A716 A723 A725)  
The reports from auditing and other analyses of IT security monitoring data.



## [A721] Establish Security Management Framework

### Description

The purpose is define and maintain a framework of policies and procedures that guides and governs the behavior of the Security Management process and its activities. Incorporate mandatory elements from the Management Ecosystem, and define a set of metrics to be used by each process for measurement and reporting of performance. It also must review the process evaluation based on analysis of current performance, and approve recommendations for improvements. Finally, to refine the metrics to encourage process vitality and cost effectiveness, an to incorporate updated metrics and process change recommendations into the framework and communicate the changes.

### Controls

- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### Inputs

- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Security Management Evaluation (From: A728)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Outputs

- Security Management Framework (To: A331 A341 A722 A723 A724 A725 A726 A727 A728 A751 A761)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

## [A722] Produce and Maintain Security Policy

### Description

This activity creates the overall statement of the aims and objectives for the security that is to be established and operated in relation to IT services and resources, and maintains its currency as circumstances change for both the IT service provider and its customer set. It works within the limits set for the security policy of the parent business, modifying or extending its coverage to include aspects specific to information technology.

### Controls

- Security Management Framework (From: A721)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

### Inputs

- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.
- Identified Risks (From: A342)  
Areas in the business where there is a potential for realization of unwanted, adverse consequences if an event or a given set of events occurs.

### Outputs

- Security Policy (To: A2 A21 A213 A24 A243 A3 A31 A314 A33 A331 A332 A333 A34 A341 A342 A343 A4 A41 A413 A6 A67 A671 A672 A673 A674 A675 A71 A712 A713 A723 A724 A725 A726 A727 A73 A732 A75 A752 A76 A763 A8 A82 A822 A85 A852)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A723] Analyze Security Threats, Vulnerabilities and Risks

### Description

Identify security threats, determine risks and vulnerabilities which effect the IT organization or that IT can affect, and recommend mitigating changes based on this analysis.

### Controls

- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.
- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>4</sup>
  - OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>5</sup>
  - UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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4. ITIL V3 Glossary  
5. ITIL V3 Glossary

Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”

These agreements can be in a draft or finalized status.

## Inputs

- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Operational Documentation (From: A855)  
The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.
- Security Reports (From: A72 A727)  
The reports from auditing and other analyses of IT security monitoring data.

## Outputs

- Security Risk Assessment (To: A42 A424 A425 A44 A444 A445 A45 A454 A455)  
A detailed analysis of the current and projected security risk factors facing the enterprise.
- Security Risk Analysis (To: A724 A725)  
The results and recommendations of an in-depth study of the threats, vulnerabilities and risk factors to be mitigated by security practices and protection mechanisms.
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A724] Classify Information Asset Security

### Description

Develop a security classification scheme for information assets by examining the inventory. The scheme identifies the required level of security for each categorization.

### Controls

- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

### Inputs

- Security Risk Analysis (From: A723)  
The results and recommendations of an in-depth study of the threats, vulnerabilities and risk factors to be mitigated by security practices and protection mechanisms.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

### Outputs

- Information Asset Security Classification (To: A725)  
The level of protection to be established and operated against each category of information assets. It includes:
  - Identification of ownership requirements
  - Handling and labeling procedures
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A725] Plan and Implement Security Practices

### Description

This activity establishes the Security plan. It defines and creates an appropriate security infrastructure and procedures, translates actions in the plan to security directives, and communicates them. It also makes request changes in the environment to realize the Security plan.

### Controls

- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Security Management Framework (From: A721)  
The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.

### Inputs

- Information Asset Security Classification (From: A724)  
The level of protection to be established and operated against each category of information assets. It includes:
  - Identification of ownership requirements
  - Handling and labeling procedures
- Security Risk Analysis (From: A723)  
The results and recommendations of an in-depth study of the threats, vulnerabilities and risk factors to be mitigated by security practices and protection mechanisms.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- Security Reports (From: A72 A727)  
The reports from auditing and other analyses of IT security monitoring data.

## Outputs

- Security Plan (To: A33 A334 A335 A336 A34 A344 A345 A346 A42 A422 A423 A424 A44 A442 A612 A613 A67 A671 A75 A752 A76 A764 A843)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- Security Directives (To: A333 A334 A67 A673 A674)  
The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Security Procedures and Infrastructure (To: A726 A727)  
The collected design, components, policies and direction which together establish an infrastructure to be put into place for security management.
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A726] Operate Security Protection Mechanisms

### Description

This activity puts in place prescribed security controls and procedures throughout all aspects of IT, both in terms of the IT organization and by activating the security protections within IT solutions and services.

Applying the mechanisms involves the full range of education and training, installing new systems, and testing to make sure that security controls and procedures work properly.

This activity actuates and monitors the full range of security measures and capabilities, responding to service or resource access authorization requests in addition to noting security violations and initiating incidents when necessary.

Real-time intrusion detection sensing and immediate responses are an important part of the function of this activity.

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## Controls

- Security Procedures and Infrastructure (From: A725)  
The collected design, components, policies and direction which together establish an infrastructure to be put into place for security management.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>6</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>7</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>8</sup>

These agreements can be in a draft or finalized status.

- Identity and Access Rights Register (From: A6 A67 A673 A674)  
The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

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6. ITIL V3 Glossary  
7. ITIL V3 Glossary  
8. ITIL V3 Glossary

## Inputs

- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.
- Security Request (From: A634)  
System or external request to secure IT resources or validate authority for access.
  - Secure IT resources: identifies one or more specific resources which need to be included in the security protection scheme, or need to have their level and means of protection adjusted
  - Request to access: a communication soliciting access to a particular resource or class of resources
- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

## Outputs

- Security Response (To: A535 A623 A624 A634)  
The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:
  - For a protection request - the protections put in place
  - For an access authorization request - success or failure of the request
- Security Monitoring Data (To: A64 A642 A67 A675 A727 A73 A735)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Security Violation (To: A727)  
An event (an activity or state) that is inconsistent with defined security practices and requires further inspection and evaluation.
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A727] Monitor, Assess, Audit and Report Security

### Description

This activity addresses reviewing security controls and mechanisms and determining whether they appropriately and effectively implement security policies and procedures as described in the Security Management Framework and the Security plan.

### Controls

- Security Procedures and Infrastructure (From: A725)  
The collected design, components, policies and direction which together establish an infrastructure to be put into place for security management.

■ Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

■ Security Management Framework (From: A721)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>9</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>10</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>11</sup>

These agreements can be in a draft or finalized status.

■ Identity and Access Rights Register (From: A6 A67 A673 A674)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

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9. ITIL V3 Glossary

10. ITIL V3 Glossary

11. ITIL V3 Glossary

## Inputs

- Security Monitoring Data (From: A72 A726)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Security Violation (From: A726)  
An event (an activity or state) that is inconsistent with defined security practices and requires further inspection and evaluation.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Identity and Access Monitoring Data (From: A67 A673 A674)  
Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.

## Outputs

- Security Reports (To: A346 A71 A716 A723 A725)  
The reports from auditing and other analyses of IT security monitoring data.
- Security Management Activity Data (To: A728)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## [A728] Evaluate Security Management Performance

### Description

The evaluation of Security Management process performance identifies areas that need improvement; such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

### Inputs

- Security Management Activity Data (From: A722 A723 A724 A725 A726 A727)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Security Management Evaluation (To: A721)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A73] Availability Management

### Purpose

The purpose of Availability Management is to match the availability of the IT services against the current and future identified needs of the business or to exceed them. Availability Management enhances the availability of services by planning long-term service availability, measuring and monitoring service availability, and formulating service availability design criteria that meet requirements.

Definition of availability: "Ability of a Configuration Item or IT Service to perform its agreed Function when required. Availability is determined by Reliability, Maintainability, Serviceability, Performance, and Security. Availability is usually calculated as a percentage. This calculation is often based on Agreed Service Time and Downtime. It is Best Practice to calculate Availability using measurements of the Business output of the IT Service."<sup>12</sup>

### Outcomes

As a result of the successful implementation of the Availability Management process:

- IT infrastructure provides a consistent level of availability that enables the business to meet its current and future objectives
- Availability related incidents and problems are minimized
- The provided level of availability is cost justified and optimized

### Scope

ITIL defines components of availability to be:

- Reliability – "A measure of how long a Configuration Item or IT Service can perform its agreed Function without interruption."<sup>13</sup>
- Maintainability – "A measure of how quickly and Effectively a Configuration Item or IT Service can be restored to normal working after a Failure. Maintainability is also used in the context of Software or IT Service Development to mean ability to be Changed or Repaired easily."<sup>14</sup>
- Serviceability – "The ability of a Third Party Supplier to meet the terms of their Contract. This Contract will include agreed levels of Reliability, Maintainability or Availability for a Configuration Item."<sup>15</sup>

### Includes

- ◆ Availability needs and requirements
- ◆ Identification of capabilities needed to meet requirements
- ◆ New and existing IT services
- ◆ Ensuring that availability provision of underlying services and suppliers in support of primary IT services is factored in
- ◆ Considering all aspects of IT service delivery and support that could impact availability (training, tools)

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## Excludes

- ◆ Business Continuity Management or disaster recovery (Business responsibility along with IT Service Continuity Management)
- ◆ Direct handling of service failures (Incident Management)
- ◆ Approval of capabilities needed to meet requirements (Portfolio Management)
- ◆ Creation of capabilities needed to meet requirements (Realization category of processes)
- ◆ Managing suppliers (Supplier Management)

## Controls

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>16</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>17</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>18</sup>

These agreements can be in a draft or finalized status.

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16. ITIL V3 Glossary  
17. ITIL V3 Glossary  
18. ITIL V3 Glossary

- **IT Strategy (From: A3 A31 A315)**

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- **IT Plan (From: A3 A36 A365)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>19</sup>

## Inputs

- **Security Monitoring Data (From: A72 A726)**

Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- **Incident Information (From: A6 A65 A657)**

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Stakeholder Requirements (From: A2 A21 A213)**

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Change Information (From: A5 A51 A518)**

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

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- **Problem Information (From: A6 A66 A667)**  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- **Facilities Plans and Specifications (From: A75 A752)**  
Specifications, designs and plans for the IT facilities to support the provision of IT service.
- **Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)**  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.

## Outputs

- **Change Request (To: A5 A51 A512)**  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- **Availability Plan (To: A75 A752)**  
A forward-looking plan aimed at improving the overall availability of the IT infrastructure within cost constraints.
- **Availability Reports (To: A736 A737)**  
Statistics expressed on how well the IT Infrastructure has met the needs of the business in availability terms. Might be included in Service achievement reports.

## Activities

This process is composed of these activities:

- A731 Establish Availability Management Framework
- A732 Determine Availability Requirements
- A733 Formulate Availability and Recovery Design Criteria
- A734 Define and Implement Availability Targets and Related Measures
- A735 Monitor, Analyze and Report Availability
- A736 Investigate Unavailability
- A737 Produce Availability Plan
- A738 Evaluate Availability Management Performance

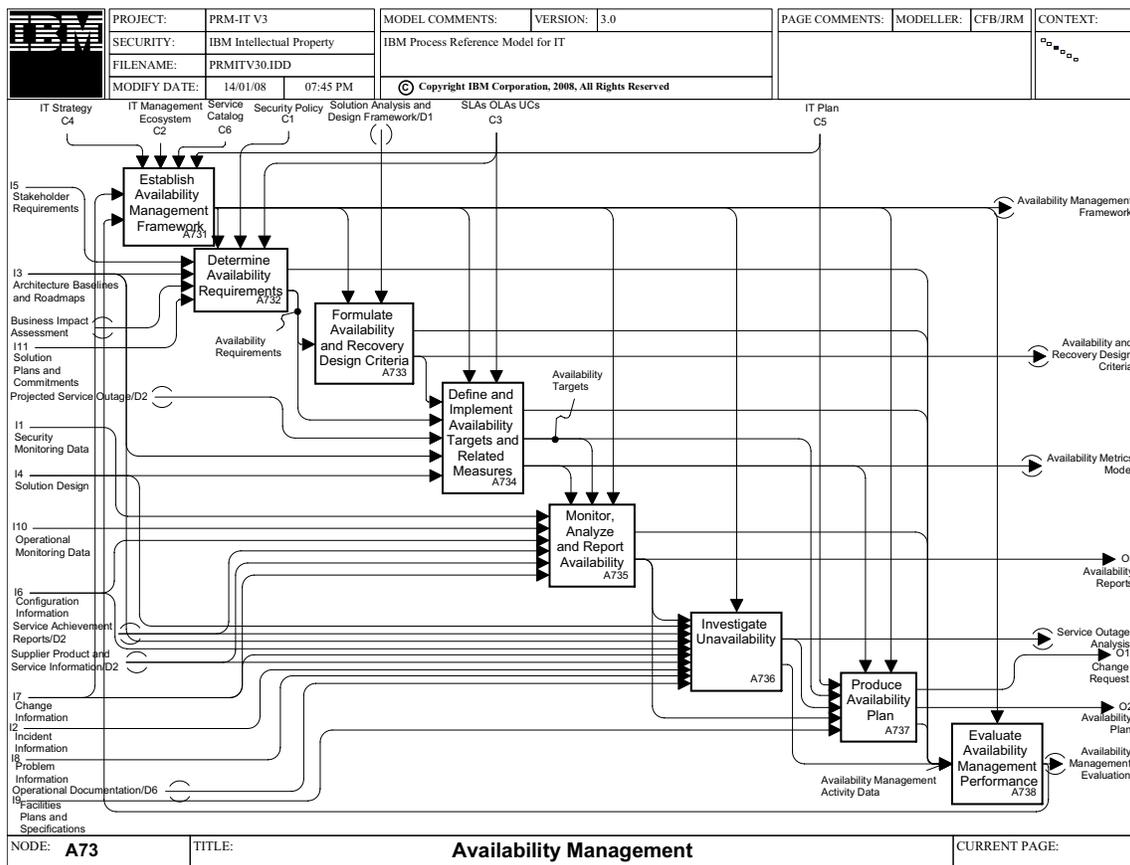


Figure 4. A73 Availability Management

## [A731] Establish Availability Management Framework

### Description

Based on the business, IT strategy, and the architectural models, guidelines and a framework for Availability Management have to be developed. The tasks in this activity include:

- Understanding the requirements and specifications for availability management
- Defining the strategy for availability management tools and capabilities, and how they should be sourced. For instance, should they be developed in-house or rely more on vendor capabilities
- Specifying the data model for an Availability Management Information System:
  - Defined by ITIL as: “A virtual repository of all Availability Management data, usually stored in multiple physical locations.”<sup>20</sup>
- Defining evaluation criteria for availability management solutions and services
- Establishing the framework for Availability Management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff, and assigning staff based on these systems

Finally, the structure and process of Availability Management including escalation responsibilities have to be communicated to the process users.

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The establishment of the process framework also includes the continuous improvement of Availability Management. For example, the consideration of the Availability Management process evaluation and the implementation of recommended improvement actions.

## Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>21</sup>
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Availability Management Evaluation (From: A738)  
An analysis of how well the Availability Management process was performed. This can also include proposed modifications to the Availability Management Framework.

## Outputs

- Availability Management Framework (To: A732 A733 A734 A735 A736 A737 A738)  
The set of policies, procedures and mechanisms for performing the Availability Management process.

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21. ITIL V3 Glossary

## [A732] Determine Availability Requirements

### Description

This activity addresses the translation of business user and IT stakeholder requirements into quantifiable availability terms and conditions and targets, and then into availability-specific requirements that eventually contribute to the Availability Plan.

### Controls

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>22</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>23</sup>

These agreements can be in a draft or finalized status. UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>24</sup>

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22. ITIL V3 Glossary  
23. ITIL V3 Glossary  
24. ITIL V3 Glossary

## Inputs

- Stakeholder Requirements (From: A2 A21 A213)  
The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.  
These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Business Impact Assessment  
An appraisal of the impact of service unavailability on the business.
- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)  
The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.
  - Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
  - Commitments: Sets of requirements, designs and other deliverables, such as test cases.

## Outputs

- Availability Management Activity Data (To: A738)  
Results and metrics that describe the results of performing the Availability Management process.
- Availability Requirements (To: A733 A734)  
An examination of the requirements for availability as expressed by the various stakeholders. As there might be some contention between these, this process must establish the definitive set of availability requirements which will influence solution and service development and operation.

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# [A733] Formulate Availability and Recovery Design Criteria

## Description

This activity endeavors to understand the vulnerabilities to failure of a given IT infrastructure design, and to present design criteria that optimize the availability characteristics of solutions in the IT environment, including recovery capabilities.

## Controls

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.
- Solution Analysis and Design Framework (From: A421)  
The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

## Inputs

- Availability Requirements (From: A732)  
An examination of the requirements for availability as expressed by the various stakeholders. As there might be some contention between these, this process must establish the definitive set of availability requirements which will influence solution and service development and operation.

## Outputs

- Availability Management Activity Data (To: A738)  
Results and metrics that describe the results of performing the Availability Management process.
- Availability and Recovery Design Criteria (To: A243 A422 A734 A764)  
General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.

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# [A734] Define and Implement Availability Targets and Related Measures

## Description

This activity is responsible for the negotiation of achievable availability targets with the business, based on business needs and priorities balanced with current IT capabilities and capacity. Both business application and IT infrastructure elements should be taken into consideration as targets are set.

In parallel, the activity represents availability measurement needs (through the Availability Plan) so that appropriate measurement and reporting capabilities can be established and ready to support monitoring and reporting of availability achieved against the targets.

Finalizing targets and associated mechanisms in place usually requires a cycle of feasibility interactions rather than being completed in a single pass.

## Controls

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>25</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>26</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>27</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Availability and Recovery Design Criteria (From: A733)  
General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.
- Availability Requirements (From: A732)  
An examination of the requirements for availability as expressed by the various stakeholders. As there might be some contention between these, this process must establish the definitive set of availability requirements which will influence solution and service development and operation.
- Projected Service Outage (From: A515)  
As defined in ITIL: “A Document that identifies the effect of planned Changes, maintenance Activities and Test Plans on agreed Service Levels.”<sup>28</sup>
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

## Outputs

- Availability Management Activity Data (To: A738)  
Results and metrics that describe the results of performing the Availability Management process.
- Availability Targets (To: A735 A737)  
Objectives for service availability, typically focusing on service unavailability and business impact.
- Availability Metrics Model (To: A735 A737)  
The range of availability metrics and areas of reporting that are used to describe service availability.

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25. ITIL V3 Glossary

26. ITIL V3 Glossary

27. ITIL V3 Glossary

28. ITIL V3 Glossary

## [A735] Monitor, Analyze and Report Availability

### Description

This activity supports continuous monitoring and analysis of operational results data and comparison with service achievement reporting to identify availability trends and issues.

Configuration information is used to generate detailed service component availability reporting as well as a perspective on overall service availability.

### Controls

- Availability Metrics Model (From: A734)  
The range of availability metrics and areas of reporting that are used to describe service availability.
- Availability Targets (From: A734)  
Objectives for service availability, typically focusing on service unavailability and business impact.
- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.

### Inputs

- Security Monitoring Data (From: A72 A726)  
Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.
- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)  
Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Supplier Product and Service Information (From: A826)  
Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items including
  - Prices
  - Service levels
  - Supply options, (suppliers can supply these supply items)Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.
- Change Information (From: A5 A51 A518)  
Covers the full scope of information about one or many changes, from individual detail within a particular change through ad hoc or pre-determined reporting of a set of changes.

## Outputs

- Availability Management Activity Data (To: A738)  
Results and metrics that describe the results of performing the Availability Management process.
- Availability Reports (To: A736 A737)  
Statistics expressed on how well the IT Infrastructure has met the needs of the business in availability terms. Might be included in Service achievement reports.

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## [A736] Investigate Unavailability

### Description

The detailed investigation by this activity is performed to identify the underlying causes (not just the symptoms) of any single incident, or set of related incidents, which have resulted in significant service unavailability.

The Service Outage Analysis' resultant recommendations might raise one or more RFCs to address these underlying causes.

### Controls

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.

### Inputs

- Availability Reports (From: A73 A735)  
Statistics expressed on how well the IT Infrastructure has met the needs of the business in availability terms. Might be included in Service achievement reports.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Service Achievement Reports (From: A24 A244)  
One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Change Information (From: A5 A51 A518)  
Covers the full scope of information about one or many changes, from individual detail within a particular change through ad hoc or pre-determined reporting of a set of changes.

- **Supplier Product and Service Information (From: A826)**

Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items including

  - Prices
  - Service levels
  - Supply options, (suppliers can supply these supply items)

Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.
- **Incident Information (From: A6 A65 A657)**

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Problem Information (From: A6 A66 A667)**

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- **Operational Documentation (From: A855)**

The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

  - ITIL uses the term Operational Document Library to refer to an implementation of this output.

## Outputs

- **Service Outage Analysis (To: A664 A737)**

The results from identifying root causes of service outage, assessing the effectiveness of service availability, and identifying key recommendations for improving availability. There is a corresponding technique described in the ITIL *Service Delivery, Availability Management* book.
- **Availability Management Activity Data (To: A738)**

Results and metrics that describe the results of performing the Availability Management process.

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## [A737] Produce Availability Plan

### Description

This activity generates the consolidated Availability Plan that summarizes resource availability optimization decisions and commitments for the planning period. It includes availability profiles, availability targets, availability issues descriptions, historical analyses of achievements with regard to targets summaries, and documents useful lessons learned. The Availability Plan is a comprehensive record of IT's approach and success in meeting user expectations for IT resource availability.

### Controls

- **Availability Metrics Model (From: A734)**

The range of availability metrics and areas of reporting that are used to describe service availability.

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.

## Inputs

- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Availability Targets (From: A734)  
Objectives for service availability, typically focusing on service unavailability and business impact.
- Service Outage Analysis (From: A736)  
The results from identifying root causes of service outage, assessing the effectiveness of service availability, and identifying key recommendations for improving availability. There is a corresponding technique described in the ITIL *Service Delivery*, Availability Management book.
- Availability Reports (From: A73 A735)  
Statistics expressed on how well the IT Infrastructure has met the needs of the business in availability terms. Might be included in Service achievement reports.
- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Availability Plan (To: A75 A752)  
A forward-looking plan aimed at improving the overall availability of the IT infrastructure within cost constraints.
- Availability Management Activity Data (To: A738)  
Results and metrics that describe the results of performing the Availability Management process.

## [A738] Evaluate Availability Management Performance

### Description

The evaluation of Evaluate Availability Management process performance identifies areas that need improvement. For example, the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, as well as the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

### Controls

- Availability Management Framework (From: A731)  
The set of policies, procedures and mechanisms for performing the Availability Management process.

### Inputs

- Availability Management Activity Data (From: A732 A733 A734 A735 A736 A737)  
Results and metrics that describe the results of performing the Availability Management process.

### Outputs

- Availability Management Evaluation (To: A731)  
An analysis of how well the Availability Management process was performed. This can also include proposed modifications to the Availability Management Framework.

## [A74] Capacity Management

### Purpose

The purpose of Capacity Management is to match the capacity of the IT services and infrastructure to the current and future identified needs of the business. Capacity Management focuses on the complete spectrum from design and planning of service capacities through the operational aspects of service capacity.

Definition of Capacity: "The maximum Throughput that a Configuration Item or IT Service can deliver whilst meeting agreed Service Level Targets. For some types of CI, Capacity may be the size or volume, for example a disk drive."<sup>29</sup>

### Outcomes

As a result of the successful implementation of the Capacity Management process:

- IT always has the capacity to meet the expected (agreed) current and future identified needs of the business
- Scalability requirements of the business are understood and accommodated
- Incidents caused by lack of capacity are averted
- The cost of capacity acquisition is reduced by planning and optimizing capacity usage.

### Scope

The process covers a wide range: understanding service requirements, determining component capacities, the design and deployment of capacity, and meeting expectations. It collects and analyzes data that is relevant to application and infrastructure utilization and performance for the purpose of determining whether there are potential problems and issues that need to be addressed.

ITIL defines three focus areas which are addressed by Capacity Management. Each uses the primary activities of the process decomposition in differing ways, to differing end results.

- Business Capacity Management
  - This focus area is responsible for ensuring that the impacts of future business requirements for IT services upon IT resources are considered, planned, and implemented in a timely fashion
- Service Capacity Management
  - This focus area is the management of the performance of the IT services used by the customers. It is responsible for ensuring that service performance is monitored, measured, and reported; and meets business requirements and agreements
- Component Capacity Management
  - This focus area is the management of the performance, utilization, and capacity of individual technical components possessing finite resources

### Includes

- ◆ All aspects of the Performance Management discipline
- ◆ Interfacing with Demand Management on Service Demand Forecasts

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- ◆ Component capacity management (both as it affects in-house service operations and with consideration of impacts to and requirements upon service partners)
- ◆ High-level service capacity monitoring
- ◆ Determining the requirements for space and other facilities that will result from capacity proposals and plans

#### **Excludes**

- ◆ Low-level system capacity monitoring (Service Execution)
- ◆ Generalized human resource management (Workforce Management)
- ◆ Designing and implementing the facilities needed to support capacity plans (Facilities Management)

#### **Controls**

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>30</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organization. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>31</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>32</sup>

These agreements can be in a draft or finalized status.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and

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required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>33</sup>

## Inputs

- Incident Information (From: A6 A65 A657)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

- Facilities Plans and Specifications (From: A75 A752)

Specifications, designs and plans for the IT facilities to support the provision of IT service.

- Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

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- Plans: Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>34</sup>
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>35</sup>

## Outputs

- Capacity Reports (To: A256 A744)  
Information about the results and outcomes observed and achieved relating to all aspects of capacity. Reports include:
  - Performance and capacity results
  - Workload analysis
  - Forecasts and predictions
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Service Resilience Directives (To: A62 A622 A623 A63 A632)  
The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.
- Capacity Plan (To: A742 A743 A744 A75 A752)  
The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:
  - SLA recommendations
  - Threshold and alarm definitions

## Activities

This process is composed of these activities:

- A741 Establish Capacity Management Framework
- A742 Model and Size Capacity Requirements
- A743 Monitor, Analyze and Report Capacity Usage
- A744 Supervise Tuning and Capacity Delivery
- A745 Produce and Maintain Capacity Plan
- A746 Evaluate Capacity Management Performance

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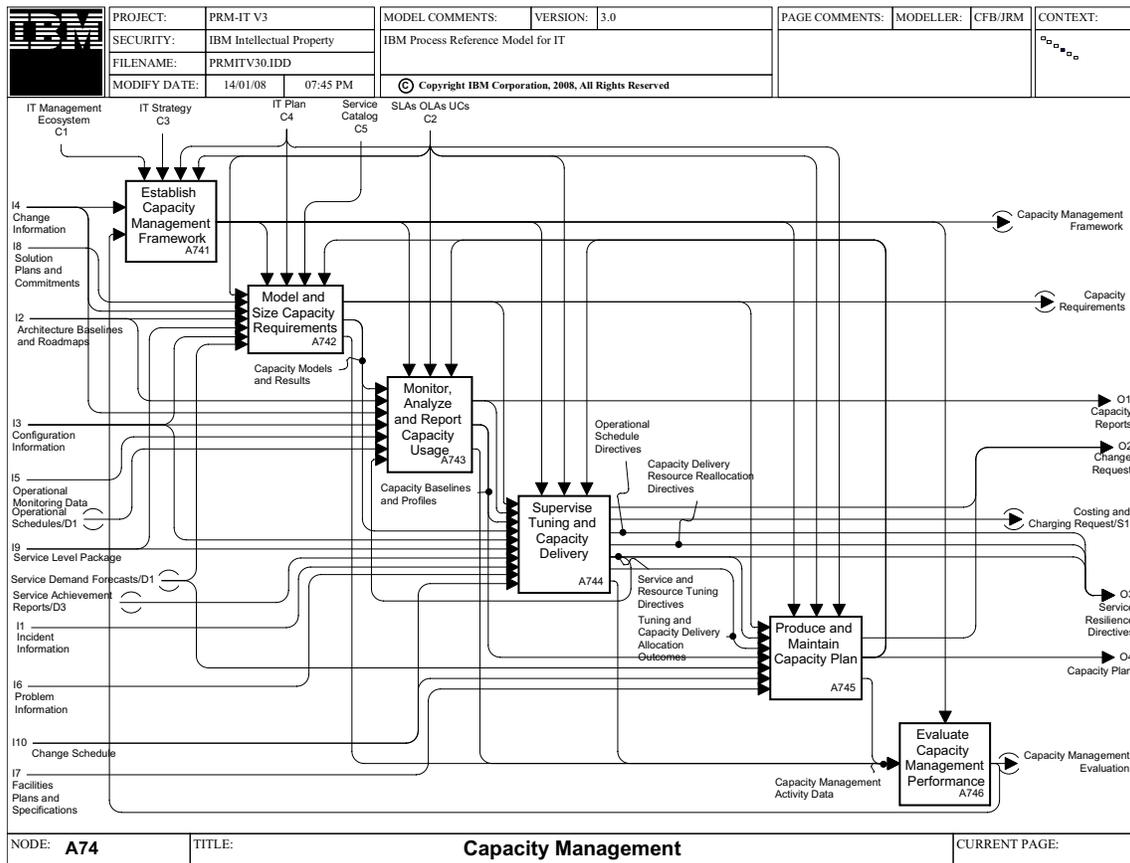


Figure 5. A74 Capacity Management

## [A741] Establish Capacity Management Framework

### Description

Based on the business, IT strategy, architectural models and guidelines, a framework for Capacity Management has to be developed.

Some particular items for Capacity Management are:

- Identify the IT resources that will provide the Performance and Capacity services. If a centralized, dedicated team is required and not already in place, then it must be formed by pooling labor fragments from more general IT service support groups.
- Training is a critical step for establishing performance and capacity services due to constant technology change, key linkages with business directions, and the need for good communication and project management skills.
- Establish the basis for a capacity database to contain the business, technical, services and resource information related to capacity. This involves tool selection and deployment, and the establishment of data management for the performance and capacity data. It also involves specifying the data model for a Capacity Management Information System.
  - Defined by ITIL as: “A virtual repository of all Capacity Management data, usually stored in multiple physical locations.”<sup>36</sup>

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- Determination of appropriate SLAs and SLRs with the business is required. Establishment of reports against those SLAs and SLRs is required. Definition of IT services to meet the SLAs and SLRs is also required with estimated financial impacts for labor and IT resources.
- Formal linkage with the processes and tools for Incident, Problem, Change, and Release Management, and the Service Desk need to be established. This, too, includes the creation of templates and models for each.

The establishment of the process framework also includes the continuous improvement of Capacity Management. For example, this includes the consideration of the Capacity Management process evaluation and the implementation of recommended improvement actions.

## Controls

- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>37</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>38</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>39</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Capacity Management Evaluation (From: A746)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Capacity Management Framework (To: A742 A743 A744 A745 A746)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

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## [A742] Model and Size Capacity Requirements

### Description

Modeling involves performance and capacity prediction through estimation, trend analysis, analytical modeling, simulation modeling and benchmarking. Modeling can be performed for all or any layer of the IT solution including the business, application and technology infrastructure.

Application sizing is a technique that predicts the service level requirements for response times, throughput, and batch elapsed times. It also predicts resource consumption and cost implications for new or changed applications. It predicts the effect on other interfacing applications. It is performed at the beginning of the solution life cycle and continues through the development, testing and implementation phases. Application sizing has a strong correlation with performance engineering.

Performance engineering is a technique that focuses on the assessment, establishment, and integration of performance planning processes and performance engineering methods within the development life cycle and implementation of prepackaged software. Performance engineering can aid in planning for effective use of existing resources, making informed equipment purchase decisions, and addressing potential performance risks and exposures more quickly. To improve strategic planning and reduce development costs, performance engineering methods and practices can be incorporated into the application development and business planning processes.

Understanding application design implications, system requirements, capabilities and costs early in the application development process improves project planning to help ensure success. Using these processes also helps your staff continually improve system performance, reduce costs, and increase productivity and user satisfaction.

Modeling and sizing are used to determine performance and capacity requirements. These requirements are met by the formulation and implementation of policies. Establishing and maintaining Performance and Capacity Management policies involves administration of pools of specific computing resources by managing policies for how resources are reserved, whether overbooking is allowed, how resources are monitored, and so forth. Resource-specific policies

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depend on the characteristics that are associated with particular resource types. For example, storage systems have different characteristics (space allocated, striping, access control) than networks (bandwidth allocation, packet loss rate). A policy framework provides a general, formalized way of controlling such customization and variability within a system through the use of policies.

## Controls

- Capacity Management Framework (From: A741)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>40</sup>

- Capacity Plan (From: A74 A745)

The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions

## Inputs

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the

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responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>41</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>42</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>43</sup>

These agreements can be in a draft or finalized status.

- **Solution Plans and Commitments (From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452)**

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- **Plans:** Sets of committed solution phases, activities, tasks and milestones together with timeframe.
- **Commitments:** Sets of requirements, designs and other deliverables, such as test cases.

- **Change Information (From: A5 A51 A518)**

Covers the full scope of information about one or many changes, from individual detail within a particular change through ad hoc or pre-determined reporting of a set of changes.

- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- **Service Level Package (From: A2 A25 A255)**

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>44</sup>

- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- **Service Demand Forecasts (From: A25 A254)**

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.

## Outputs

- **Capacity Requirements (To: A744 A745)**

Detailed forecasts of the IT resource capacity needed to satisfy projected workloads and service level commitments while maintaining acceptable utilization and load factors.

For example, they can include: CPU processing power, storage space, and network bandwidth.

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- Capacity Models and Results (To: A743 A744)  
Qualitative and quantitative algorithms and projections used to track and predict IT resource capacity and usage patterns.
- Capacity Management Activity Data (To: A746)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A743] Monitor, Analyze and Report Capacity Usage

### Description

Monitors should be established on all the components and for each of the services. The data should be analyzed using, wherever possible, expert systems to compare usage levels against thresholds. The results of the analysis should be included in reports, and recommendations made as appropriate.

There is a fundamental level of data collection and reporting necessary in any environment before capacity and performance services can be established.

Monitors and Data Collection and Reporting suites might be required at many levels, including but not limited to, the operating system, the database, the transaction processor, middleware, network, Web Services, and end-to-end (user) experience.

### Controls

- Capacity Management Framework (From: A741)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>45</sup>
  - OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>46</sup>

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- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>47</sup>

These agreements can be in a draft or finalized status.

- Capacity Plan (From: A74 A745)

The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions

## Inputs

- Capacity Models and Results (From: A742)

Qualitative and quantitative algorithms and projections used to track and predict IT resource capacity and usage patterns.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Operational Monitoring Data (From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

- Operational Schedules (From: A621)

The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).

- Service and Resource Tuning Directives (From: A744)

Ranges from traditional performance tuning through capacity and workload allocation adjustments.

## Outputs

- Capacity Reports (To: A256 A744)

Information about the results and outcomes observed and achieved relating to all aspects of capacity. Reports include:

- Performance and capacity results
- Workload analysis

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- Forecasts and predictions (To: A254 A255 A744 A745)Capacity Baselines and Profiles  
Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.
- Capacity Management Activity Data (To: A746)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A744] Supervise Tuning and Capacity Delivery

### Description

Outputs from monitoring, analyzing, and reporting activities are examined and actions to tune individual resources or to re-balance the available capacity are planned and initiated through Change and Release Management. They can also be performed through the Service Desk in the case of simple requests to other support groups or self-help for users. Some recommendations might involve changes in the way that the users use the IT systems. This can include simple recommendations, like moving discretionary workloads to off-peak periods or performing a business function using a more efficient IT service path. Other changes can take the form of balancing services, changing concurrency levels, and adding or removing resources. The cycle then begins again, monitoring any changes made to ensure they have had a beneficial effect and collecting the data for the next day, week, or month.

Service and resource tuning enables effective utilization of IT resources by identifying inefficient performance, excess or insufficient capacity, and making recommendations for optimization. It can balance the need to maintain service while reducing capacity capability to reduce the cost of service.

Understanding the combined performance impact of various components within a complex infrastructure is needed to accurately differentiate symptoms from actual problems. This level of understanding provides the most accurate baseline for future planning. Analysis and tuning can reduce support costs by identifying performance and availability problems, often before they impact your business operations or users. Using this information, decisions can be made to better allocate resources to those areas with the highest business priority.

Recommendations can be made to improve the performance of off-the-shelf applications or unique in-house business applications.

This activity examines the monitored workload demand for servers, middleware, and applications under management. It can sense if performance has degraded and determine what actions need to be taken, either by provisioning and configuring servers, operating systems, middleware, applications, storage, and network devices.

It can be reactive in response to unpredictable business activity. For example, the existing infrastructure provisioning is inadequate relative to increased demand. It can also be done reactively, if a dependent IT infrastructure component is faulty or not working to its expected performance specification. Based on examining performance of resources over time, it can choose to adjust thresholds and warning levels.

The activity can be performed proactively. For example, workload policies are enforced to limit or increase the amount of resources consumed by a particular application or business function. Limitations and constraints can be applied to contain IT processing costs or differentiate the level of service received by one business function over another. Increases in capacity capability can be applied to manage unexpected increases in workload demand.

In summary, this activity makes decisions and performs or requests actions that will result in a better match between resource supply and demand.

Increasingly, the management of resource demand is being automated or semi-automated. Typically, workloads to be managed are expressed in a technology independent manner or virtualized for subsequent mapping onto a physical IT infrastructure. The tools that manage resource demand in this way are said to be performing orchestration or choreography.

## Controls

- Capacity Management Framework (From: A741)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>48</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>49</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>50</sup>

These agreements can be in a draft or finalized status.

- Capacity Plan (From: A74 A745)

The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions.

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## Inputs

- **Capacity Requirements (From: A742)**

Detailed forecasts of the IT resource capacity needed to satisfy projected workloads and service level commitments while maintaining acceptable utilization and load factors. For example, they can include: CPU processing power, storage space, and network bandwidth.
- **Capacity Reports (From: A74 A743)**

Information about the results and outcomes observed and achieved relating to all aspects of capacity. Reports include:

  - Performance and capacity results
  - Workload analysis
  - Forecasts and predictions
- **Capacity Baselines and Profiles (From: A743)**

Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.
- **Capacity Models and Results (From: A742)**

Qualitative and quantitative algorithms and projections used to track and predict IT resource capacity and usage patterns.
- **Configuration Information (From: A5 A54 A544)**

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Service Level Package (From: A2 A25 A255)**

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>51</sup>
- **Service Achievement Reports (From: A24 A244)**

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts – both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.
- **Incident Information (From: A6 A65 A657)**

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- **Problem Information (From: A6 A66 A667)**

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- **Change Schedule (From: A5 A51 A515 A516)**

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of

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Change, even though it also contains information about Changes that have already been implemented.”<sup>52</sup>

## Outputs

- **Change Request (To: A5 A51 A512)**  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- **Costing and Charging Request (To: A833)**  
An inquiry about (or an estimate of) the cost or charge related to a particular IT service or cluster of services.
- **Operational Schedule Directives**  
Desired changes and adjustments to operational schedules, used to optimize the workload throughput or other characteristic within a finite capacity. Sometimes a part of a general Service Resilience Directive.
- **Capacity Delivery Resource Reallocation Directives**  
Desired changes and adjustments to resource allocations for the purpose of optimizing available capacity against demand. Sometimes a part of a general Service Resilience Directive.
- **Service and Resource Tuning Directives (To: A256 A743 A745)**  
Ranges from traditional performance tuning through capacity and workload allocation adjustments.
- **Tuning and Capacity Delivery Allocation Outcomes (To: A745)**  
The results of tuning and capacity delivery allocation activities upon balancing resource supply with workload demand. Some actions will be considered sufficiently permanent to influence the overall capacity plan.
- **Capacity Management Activity Data (To: A746)**  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A745] Produce and Maintain Capacity Plan

### Description

The objective of this activity is to develop, maintain, test and revise alternative approaches in satisfying various enterprise-shared resource requirements. It delivers the capacity plan that addresses the customer's resource requirements. This plan is configurable, meets performance expectations, and has the required commitment to implement.

The inputs to this activity are forecast assumptions, forecast projections, and subject matter expert recommendations. The controls for this activity are financial constraints, hardware constraints, performance policies, resource standards and definitions, and strategy and direction. The deliverables from this activity are the agreed capacity plan, alternative solutions, and an optimized resource solution.

The Capacity Plan will detail existing usage of critical IT resources under management. Typically, for servers this involves reporting and trend analysis for CPU, I/O, memory, storage, and the network interfaces. The Capacity Plan can also include correlation of IT resource usage to IT

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applications (services) and business usage patterns. Similarly, planned business activity and IT application changes and deployments might be factored into forecasts for IT resource requirements.

## Controls

- Capacity Management Framework (From: A741)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>53</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>54</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>55</sup>

These agreements can be in a draft or finalized status.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

- Capacity Requirements (From: A742)

Detailed forecasts of the IT resource capacity needed to satisfy projected workloads and service level commitments while maintaining acceptable utilization and load factors.

For example, they can include: CPU processing power, storage space, and network bandwidth.

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- Service and Resource Tuning Directives (From: A744)  
Ranges from traditional performance tuning through capacity and workload allocation adjustments.
- Tuning and Capacity Delivery Allocation Outcomes (From: A744)  
The results of tuning and capacity delivery allocation activities upon balancing resource supply with workload demand. Some actions will be considered sufficiently permanent to influence the overall capacity plan.
- Capacity Baselines and Profiles (From: A743)  
Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.
- Service Demand Forecasts (From: A25 A254)  
Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: "A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented."<sup>56</sup>
- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Capacity Plan (To: A742 A743 A744 A75 A752)  
The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:
  - SLA recommendations
  - Threshold and alarm definitions
- Capacity Management Activity Data (To: A746)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A746] Evaluate Capacity Management Performance

### Description

Measurements include the definition, collection of measurements, the analysis, and the review and reporting for Capacity Management. Primarily, the data provides a mechanism to identify and reduce process incidents and problems, propagate best practices as a means for continuous improvement, and to maintain or improve customer satisfaction. Measurement data is also

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commonly used to evaluate performance against service level agreement (SLA) objectives and to provide billing and credit information.

There are a number of external factors that can contribute to substandard Capacity Management. However, the measurements are focused on the results of activities within the scope of this process.

The effectiveness and efficiency measurements for Capacity Management are described. Note that the order of the measurements listed does not necessarily indicate their order of importance.

- The percentage of IT resources under management for which a standard, pre-defined set of performance and capacity data is routinely collected, summarized and reported on for trends and exceptions.
- The timely production and distribution of accurate standard reports. In order to assure the timely delivery of reports, report timeliness is calculated as a percentage of standard reports delivered on or before the commitment date.
- Capacity Planner Productivity: Work units per analyst where work units are normalized measurements of workload taking into account various server support variables like maturity, complexity, and seasonal variability.
- Number of escalations per month, raised by Incident or Problem Management. Escalations are defined as *severity one* incidents where the root cause has been determined to be within the scope of Capacity Management.
- Proactive Capacity Planning for planning timeliness and accuracy. The capacity plan is accepted and maintained in a timely manner and approved recommendations from the capacity plan for hardware or software upgrades are implemented and validated for efficacy and cost.
- The percentage of performance and capacity service level agreements achieved in a specified period of time.
- The accuracy of tuning benefits predicted.

## Controls

- Capacity Management Framework (From: A741)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

## Inputs

- Capacity Management Activity Data (From: A742 A743 A744 A745)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

## Outputs

- Capacity Management Evaluation (To: A741)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

# [A75] Facilities Management

## Purpose

The purpose of the Facilities Management process is to create and maintain a physical environment that houses IT resources and to optimize the capabilities and cost of that environment.

Definition of Facilities Management: “The Function responsible for managing the physical Environment where the IT Infrastructure is located. Facilities Management includes all aspects of managing the physical Environment, for example power and cooling, building Access Management, and environmental Monitoring”.<sup>57</sup>

## Outcomes

As a result of the successful implementation of the Facilities Management process:

- The physical environment within which information technology resources perform supports operational needs
- Availability of IT systems is protected from physical threats (including environmental, security, continuity)
- Facility requirements are analyzed, planned for, and met in a timely and cost-effective manner

## Scope

### Includes

- ◆ Physical facilities planning and implementation (physical planning) – space, power, HVAC, physical cables and connectors, physical security implementation, protection (such as sprinklers, halon systems, badge readers, security personnel)
- ◆ Physical logistics (receipt, staging, moving)
- ◆ Physical environment for all information and communications technology
  - For example, participating in the design of racks and cabling
- ◆ Physical access management to IT facilities
- ◆ Safety
- ◆ Managing incidents concerning facilities, and interfacing with Incident Management when both IT and Facilities components are involved

### Excludes

- ◆ Asset Management
- ◆ Procurement (Supplier Management)
- ◆ Business resilience and continuity (Business responsibility, in conjunction with IT Service Continuity Management)
- ◆ Corporate facilities (buildings, maintenance, catering, mail delivery, desks, lights) unless associated with a secure data center (Business responsibility)

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- ◆ Security of corporate facilities, such as office buildings, factories (Business responsibility)
- ◆ IT security policies and practices (Security Management)
- ◆ Media management (see Data Management) but would include physical transportation and security of media
- ◆ Management of suppliers (Supplier Management)

## Controls

- Identity and Access Rights Register (From: A6 A67 A673 A674)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).
- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Regulations and Standards
- External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>58</sup>

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- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>59</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>60</sup>

These agreements can be in a draft or finalized status.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

- Business Security Policies and Plans

This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.

## Inputs

- Capacity Plan (From: A74 A745)

The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions

- Availability Plan (From: A73 A737)

A forward-looking plan aimed at improving the overall availability of the IT infrastructure within cost constraints.

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

- Service Request\_ Authorized (From: A6 A61 A613)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.

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- Incident Information (From: A6 A65 A657)  
Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>61</sup>
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- IT Service Continuity Plan (From: A76 A764)  
A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Facilities Plans and Specifications (To: A72 A723 A726 A73 A737 A74 A745 A753 A754 A76 A764)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.

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## Activities

This process is composed of these activities:

- A751 Establish Facilities Management Framework
- A752 Plan Facilities
- A753 Manage Facility Request
- A754 Operate and Maintain Facilities
- A755 Evaluate Facilities Management Performance

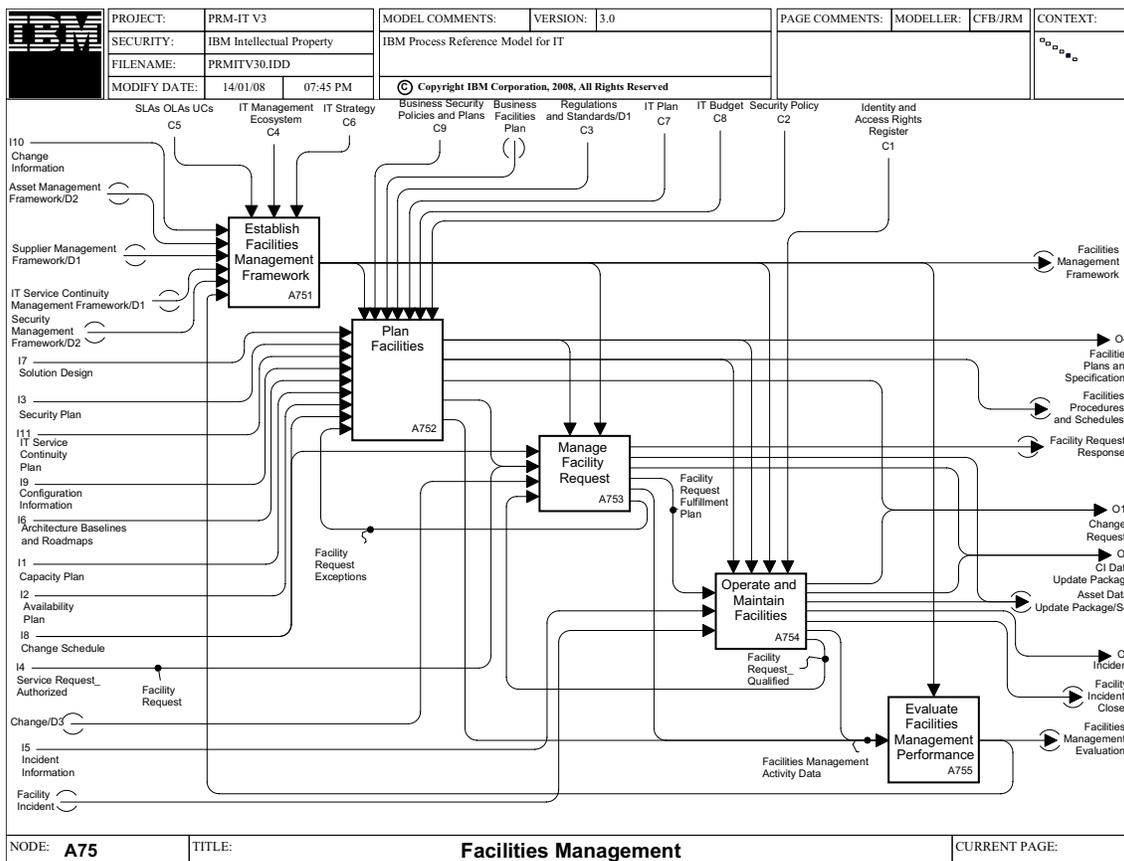


Figure 6. A75 Facilities Management

## [A751] Establish Facilities Management Framework

### Description

This activity defines and documents the rules, policies, standards, guidelines and practices governing day-to-day IT facility operations. The scope includes managing assets, service levels, suppliers of service (internal and third party), physical security, and IT continuity in accordance with corporate policies and plans.

### Controls

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>62</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>63</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>64</sup>

These agreements can be in a draft or finalized status.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

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63. ITIL V3 Glossary  
64. ITIL V3 Glossary

## Inputs

- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Asset Management Framework (From: A551)  
The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.
- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.
- IT Service Continuity Management Framework (From: A761)  
The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.
- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.
- Facilities Management Evaluation (From: A755)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Facilities Management Framework (To: A752 A753 A754 A755)  
The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.

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## [A752] Plan Facilities

### Description

This activity is the ongoing effort to plan new buildings or updates to existing buildings and other facilities so they efficiently provide the physical infrastructure (electric, water, backup power, security, cabling) to support IT service level requirements. This activity should be closely aligned with the business strategy, regulations and standards, as well as IT plans.

### Controls

- Facilities Management Framework (From: A751)  
The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.
- Business Security Policies and Plans  
This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.

- **Business Facilities Plan**  
The plan, established by the Business, describing the quantity, locations, and other Facility items that enable it to operate.
- **Regulations and Standards**
- **External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:**
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- **IT Plan (From: A3 A36 A365)**  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- **IT Budget (From: A8 A81 A813)**  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **Security Policy (From: A7 A72 A722)**  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- **Solution Design (From: A4 A42 A425)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Security Plan (From: A72 A725)**  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- **IT Service Continuity Plan (From: A76 A764)**  
A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.
- **Configuration Information (From: A5 A54 A544)**  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- **Capacity Plan (From: A74 A745)**  
The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions
- Availability Plan (From: A73 A737)  
A forward-looking plan aimed at improving the overall availability of the IT infrastructure within cost constraints.
- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>65</sup>
- Facility Request Exceptions (From: A753)  
This is an ad hoc request that does not conform to the current plans, but is within the overall remit of the facility framework. It can potentially be addressed by some additional facility planning.

## Outputs

- Facilities Plans and Specifications (To: A72 A723 A726 A73 A737 A74 A745 A753 A754 A76 A764)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.
- Facilities Procedures and Schedules (To: A754)  
Documentation on facilities procedures, facilities availability, and use of facility infrastructure for IT and the user community. This information is available to Knowledge Management, for it to determine which parts (if any) are needed to be available to the IT processes.
- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Facility Request (To: A753)  
A request for Facility changes that conform to the framework or the plans for the facility.
- Facilities Management Activity Data (To: A755)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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## [A753] Manage Facility Request

### Description

This activity evaluates facility requests, formulates the plans on how they will be fulfilled, and manages the request through completion.

### Controls

- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.

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- Facilities Management Framework (From: A751)  
The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.

## Inputs

- Change Schedule (From: A5 A51 A515 A516)  
As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>66</sup>
- Facility Request (From: A752)  
A request for Facility changes that conform to the framework or the plans for the facility.
- Change (From: A51 A515)  
A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.
- Facility Request\_ Qualified (From: A754)  
A need for a facility request to be re-planned as a result of an operation or maintenance activity producing a result out of line with the plan.

## Outputs

- Facility Request Response  
The fulfillment of the Facility Request and information about it, including:
  - Description of the request
  - Notification to the requestor as to how the request was addressed
  - Updates to CI information and asset information
- Asset Data Update Package (To: A553)  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Facility Request Fulfillment Plan (To: A754)  
The plan (instructions, specifications) for the fulfillment of the facility request using normal facility operation or maintenance.
- Facilities Management Activity Data (To: A755)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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- Facility Request Exceptions (To: A752)

This is an ad hoc request that does not conform to the current plans, but is within the overall remit of the facility framework. It can potentially be addressed by some additional facility planning.

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## [A754] Operate and Maintain Facilities

### Description

This activity addresses the tasks that perform the work required to achieve efficient day-to-day running of the IT facilities, as well as raising requests for new facility elements and considering facilities-related incident information.

### Controls

- Facilities Procedures and Schedules (From: A752)

Documentation on facilities procedures, facilities availability, and use of facility infrastructure for IT and the user community. This information is available to Knowledge Management, for it to determine which parts (if any) are needed to be available to the IT processes.

- Facilities Plans and Specifications (From: A75 A752)

Specifications, designs and plans for the IT facilities to support the provision of IT service.

- Facilities Management Framework (From: A751)

The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.

- Identity and Access Rights Register (From: A6 A67 A673 A674)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

### Inputs

- Facility Request Fulfillment Plan (From: A753)

The plan (instructions, specifications) for the fulfillment of the facility request using normal facility operation or maintenance.

- Incident Information (From: A6 A65 A657)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

- Facility Incident

An external event resulting in a real or suspected failure of one or many components of the facility, and the related notification and information about the incident.

- Facility incidents might be handled separately (for example, by the business) from the IT Incident Management process

## Outputs

- Change Request (To: A5 A51 A512)  
Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- CI Data Update Package (To: A5 A54 A542 A543)  
The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:
  - Attributes
  - Relationships
- Asset Data Update Package (To: A553)  
All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.
- Incident (To: A537 A6 A65 A652)  
A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.
- Facility Incident\_ Closed  
Information about the facility incident life cycle and outcome, including:
  - Notification to the requestor that the request was addressed
  - Feedback to any relevant IT processes, such as supplier management, workforce management, financial management
- Facilities Management Activity Data (To: A755)  
Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.
- Facility Request\_ Qualified (To: A753)  
A need for a facility request to be re-planned as a result of an operation or maintenance activity producing a result out of line with the plan.

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## [A755] Evaluate Facilities Management Performance

### Description

This is the continuing activity of monitoring the current IT Facilities Management Performance. It utilizes established facilities measures (as defined by the process framework). This activity is conducted in order to make key measurements of the health of the facility management system, as well as factors other than measurements, that might indicate a need for change in the facility management system.

The evaluation of process performance identifies areas that need improvement; such as the foundation and interfaces of the process, activity definitions, key performance metrics, the state of supporting automation, and the roles and responsibilities and skills required. Insights and lessons learned from direct observation and data collected on process performance are the basis for improvement recommendations.

- Facilities Management FrameworkControls (From: A751)

The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.

### Inputs

- Facilities Management Activity Data (From: A752 A753 A754)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Outputs

- Facilities Management Evaluation (To: A751)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A76] IT Service Continuity Management

### Purpose

The purpose of the Service Continuity Management process is to ensure that agreed IT services will support business requirements in the event of a disruption to the business, based on the committed recovery schedule.

Definition of IT Service Continuity Management: “The Process responsible for managing Risks that could seriously impact IT Services. ITSCM ensures that the IT Service Provider can always provide minimum agreed Service Levels, by reducing the Risk to an acceptable level and Planning for the Recovery of IT Services. ITSCM should be designed to support Business Continuity Management.”<sup>67</sup>

### Outcomes

As a result of the successful implementation of the IT Service Continuity Management process:

- A set of IT Service Continuity and IT Recovery plans are created, maintained, and tested that support the organization’s overall Business Continuity Plans
- Business continuity targets can be met through the recovery of agreed IT services and technical facilities to agreed time scales, under Change Management control
- Regulatory requirements for IT service continuity are met
- Business vitality and functions are maintained at agreed levels

### Scope

The process fulfils its mission through risk reduction measures, controlled recovery options, and restoration facilities.

#### Includes

- ◆ Service capability for prioritized, critical business processes, and their attendant support requirements. Examples include:
  - IT application services
  - Organizational procedures
  - Consideration of facilities
  - Consideration of IT Services provided by business partners
- ◆ Specification of service continuity solutions
- ◆ Definition of circumstances and thresholds for continuity invocation
- ◆ Contributing to proactive prevention of IT disruptions (by identifying and analyzing risks, and sharing the analysis)
- ◆ Control of continuity solution invocation in the event of disruption
- ◆ Testing of the continuity solution

#### Excludes

- ◆ Normal operational fluctuations (Service Execution, Event Management)
- ◆ Minor technical faults that are covered by Incident Management

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- ◆ Deliberate business strategy changes and long term risks such as business diversification or restructuring (IT Strategy)
- ◆ Responsibility for identification and prioritization of critical business processes (performed in a business impact analysis by the Business Continuity Management process: outside the scope of this model)
- ◆ Development and implementation of service continuity solutions (once agreed by Portfolio Management, these solutions are treated as any other solution through Realization and Transition)
- ◆ Contractual arrangements with third parties (Supplier Management)

## Controls

- Security Plan (From: A72 A725)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>68</sup>

- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer.

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Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>69</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>70</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>71</sup>

These agreements can be in a draft or finalized status.

■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

■ Industry Risk Threats and Vulnerabilities

Known risks, threats and vulnerabilities which exist from other organizations in the same business sector, and environmental risk.

■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

■ Business Continuity Policies

Rules and guidelines used to assist in the determination of critical business services, and in the determination of potential risks, threats, and vulnerabilities.

## Inputs

■ Facilities Plans and Specifications (From: A75 A752)

Specifications, designs and plans for the IT facilities to support the provision of IT service.

■ Change Information (From: A5 A51 A518)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

■ Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance

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- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

- Problem Information (From: A6 A66 A667)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- Solution Design (From: A4 A42 A425)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

- Solution\_ Deployed (From: A5 A53 A536)

The new or adjusted solution in *live* status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

- Service Resilience Directives (To: A62 A622 A623 A63 A632)

The collection of commands, instructions or other requests from Resilience processes to the Operations processes which will lead to an improvement in, or correction of, any aspect of service.

- IT Service Continuity Plan (To: A75 A752 A765 A766)

A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.

## Activities

This process is composed of these activities:

- A761 Establish IT Service Continuity Management Framework
- A762 Identify Business Service Continuity Requirements
- A763 Create and Maintain IT Service Continuity Strategy
- A764 Create and Maintain IT Service Continuity Plan
- A765 Prepare IT Service Continuity Capability

- A766 Execute IT Service Continuity Plan
- A767 Evaluate IT Service Continuity Management Performance

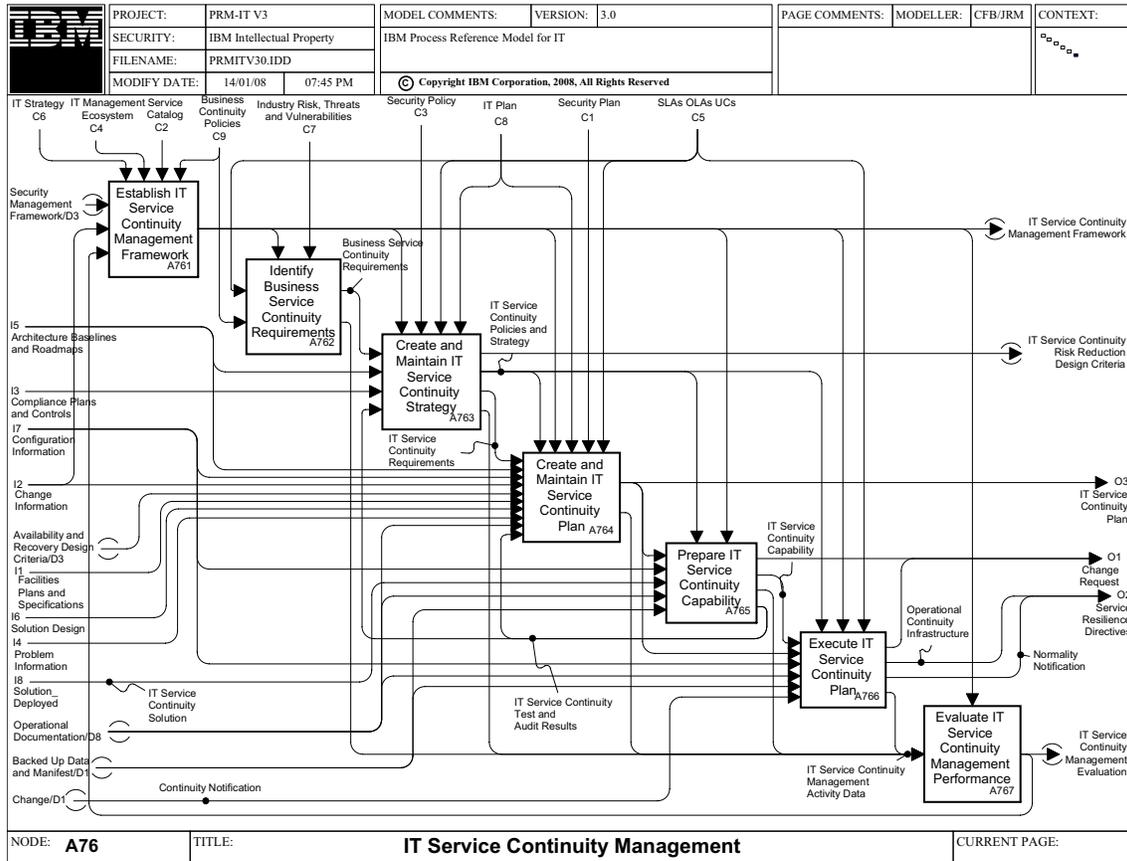


Figure 7. A76 IT Service Continuity Management

## [A761] Establish IT Service Continuity Management Framework

### Description

Based on the business and IT strategy and models, guidelines and a framework for IT Service Continuity Management have to be developed. The tasks in this activity include:

- Understanding and developing the business strategy and legal and self-imposed regulations with regard to service continuity
- Establishing the framework for Service Continuity Management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of IT Service Continuity Management including continuity responsibilities have to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of IT Service Continuity Management. For example, the consideration of the IT Service Continuity process evaluation and the implementation of recommended improvement actions.

## Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>72</sup>
- Business Continuity Policies  
Rules and guidelines used to assist in the determination of critical business services, and in the determination of potential risks, threats, and vulnerabilities.

## Inputs

- Security Management Framework (From: A721)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- IT Service Continuity Management Evaluation (From: A767)  
Assessment results for the IT Service Continuity Management process and its activities, including process performance metrics and the identification of potential process improvement items.

## Outputs

- IT Service Continuity Management Framework (To: A751 A762 A763 A764 A765 A766 A767)  
The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

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72. ITIL V3 Glossary

## [A762] Identify Business Service Continuity Requirements

### Description

This activity identifies those business services which are critical for the ability of an organization to survive. In carrying out the activities associated with the identification of these services, relevant IT support processes, such as Problem Management, are also identified as these too form a service in supporting the business.

The activity continues with an impact analysis that identifies what will happen in the result of the loss, or degradation, of one or more of those critical business services.

Further, an assessment is made to identify risks and determine the vulnerability of each business service.

This activity culminates in a set of Business Service Continuity requirements.

### Controls

- IT Service Continuity Management Framework (From: A761)  
The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.
- Industry Risk Threats and Vulnerabilities  
Known risks, threats and vulnerabilities which exist from other organizations in the same business sector, and environmental risk.

### Inputs

- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>73</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>74</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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73. ITIL V3 Glossary

74. ITIL V3 Glossary

Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>75</sup>

These agreements can be in a draft or finalized status.

- **Business Continuity Policies**

Rules and guidelines used to assist in the determination of critical business services, and in the determination of potential risks, threats, and vulnerabilities.

## Outputs

- **Business Service Continuity Requirements (To: A763)**

The results of a business impact analysis, with identified risks, threats, and vulnerabilities.

- **IT Service Continuity Management Activity Data (To: A767)**

Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

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## [A763] Create and Maintain IT Service Continuity Strategy

### Description

This activity is responsible for identifying risk reduction measures for the business services identified, and to establish what countermeasures and recovery options exist to support these services should they be adversely affected.

It takes into account the types of risks that might be encountered, and the potential costs involved for each recovery option.

The result of this activity is an agreed IT Service Continuity Strategy and a set of IT service continuity requirements.

### Controls

- **IT Service Continuity Management Framework (From: A761)**

The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

- **Security Policy (From: A7 A72 A722)**

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

- **SLAs, OLAs, UCs (From: A2 A24 A243)**

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer.

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75. ITIL V3 Glossary

Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>76</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>77</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>78</sup>

These agreements can be in a draft or finalized status.

■ IT Plan (From: A3 A36 A365)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

## Inputs

■ Business Service Continuity Requirements (From: A762)

The results of a Business Impact Analysis, with identified risks, threats, and vulnerabilities.

■ Architecture Baselines and Roadmaps (From: A3 A33 A334)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

■ Compliance Plans and Controls (From: A7 A71 A714)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

■ IT Service Continuity Test and Audit Results (From: A765)

Data (or reports) detailing the success or failure of a planned, or unplanned, test of the IT Service Continuity Plan.

## Outputs

■ IT Service Continuity Risk Reduction Design Criteria

Identification of approaches which, if adopted in the design of the solution and in its implementation as a service, would reduce overall continuity risk.

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76. ITIL V3 Glossary

77. ITIL V3 Glossary

78. ITIL V3 Glossary

- IT Service Continuity Policies and Strategy (To: A764 A765 A766)  
The guiding statements which direct the IT Service Continuity preparations, maintenance of readiness and actual invocation. For example, they include rules that must be adhered to in the event of either a test or an invocation of the IT Service Continuity Plan.
- IT Service Continuity Requirements (To: A764)  
Includes details of prioritization of Capacity, Availability, and other Service Level items that must be satisfied by the IT Service Continuity Capability.
- IT Service Continuity Management Activity Data (To: A767)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

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## [A764] Create and Maintain IT Service Continuity Plan

### Description

This process is responsible for identifying:

- The infrastructure (people, processes, technology) necessary to support the required services in the event that the continuity is invoked.
- The actions that would then be taken to result in successful invocation of the IT Service Continuity Plan.

It is also responsible for the ongoing maintenance of the plan and takes into account changes to critical business services and changes to the infrastructure that these business processes use. This process culminates in the creation of the IT Service Continuity Plan, which is then placed under change control and also forms part of the Business Continuity Plan.

### Controls

- IT Service Continuity Policies and Strategy (From: A763)  
The guiding statements which direct the IT Service Continuity preparations, maintenance of readiness and actual invocation. For example, they include rules that must be adhered to in the event of either a test or an invocation of the IT Service Continuity Plan.
- IT Service Continuity Management Framework (From: A761)  
The conceptional structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that

represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>79</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>80</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>81</sup>

These agreements can be in a draft or finalized status.

## Inputs

- IT Service Continuity Requirements (From: A763)  
Includes details of prioritization of Capacity, Availability, and other Service Level items that must be satisfied by the IT Service Continuity Capability.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Configuration Information (From: A5 A54 A544)  
The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Change Information (From: A5 A51 A518)  
The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.
- Availability and Recovery Design Criteria (From: A733)  
General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.
- Facilities Plans and Specifications (From: A75 A752)  
Specifications, designs and plans for the IT facilities to support the provision of IT service.
- Solution Design (From: A4 A42 A425)  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

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79. ITIL V3 Glossary  
80. ITIL V3 Glossary  
81. ITIL V3 Glossary

- Problem Information (From: A6 A66 A667)  
Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and informally as structured data for other processes to analyze for their own purposes.
- Operational Documentation (From: A855)  
The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- IT Service Continuity Test and Audit Results (From: A765)  
Data (or reports) detailing the success or failure of a planned, or unplanned, test of the IT Service Continuity Plan.

## Outputs

- IT Service Continuity Plan (To: A75 A752 A765 A766)  
A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.
- IT Service Continuity Management Activity Data (To: A767)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

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## [A765] Prepare IT Service Continuity Capability

### Description

This process ensures that an invocation of the IT Service Continuity Plan results in the ability to recover and restore required services to a predetermined level, and in a predetermined time frame. It has the responsibility for ensuring that all plans are tested regularly, both on a planned and unplanned basis; that the process passes audit requirements; and that the results from tests are captured and fed back to other processes to ensure that the IT Service Continuity Plan remains fit for purpose.

### Controls

- IT Service Continuity Policies and Strategy (From: A763)  
The guiding statements which direct the IT Service Continuity preparations, maintenance of readiness and actual invocation. For example, they include rules that must be adhered to in the event of either a test or an invocation of the IT Service Continuity Plan.
- IT Service Continuity Management Framework (From: A761)  
The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

## Inputs

- IT Service Continuity Plan (From: A76 A764)

A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.
- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- IT Service Continuity Solution  

The technical solution which will provide the infrastructure for continuity testing and invocation.
- Operational Documentation (From: A855)

The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Backed Up Data and Manifest (From: A635)

The data which is the result of taking a backup, in whatever format (for example, compressed, incremental) which has been selected as the basis for any subsequent restore action, plus the indexes and inventories (the manifest) of the content with regard to specific file placement on backup media.

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- IT Service Continuity Capability (To: A766)

The combination of infrastructure and human resources (associated process and organization) which IT can invoke the IT Service Continuity Plan.
- IT Service Continuity Management Activity Data (To: A767)

Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.
- IT Service Continuity Test and Audit Results (To: A763 A764)

Data (or reports) detailing the success or failure of a planned, or unplanned, test of the IT Service Continuity Plan.

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## [A766] Execute IT Service Continuity Plan

### Description

This process is responsible for implementing the IT Service Continuity Plan, according to predetermined criteria. It is responsible for maintaining business operations for an unspecified amount of time, and for ensuring a controlled restoration to normal service.

### Controls

- IT Service Continuity Policies and Strategy (From: A763)

The guiding statements which direct the IT Service Continuity preparations, maintenance of readiness and actual invocation. For example, they include rules that must be adhered to in the event of either a test or an invocation of the IT Service Continuity Plan.

- IT Service Continuity Management Framework (From: A761)

The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>82</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>83</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>84</sup>

These agreements can be in a draft or finalized status.

### Inputs

- IT Service Continuity Capability (From: A765)

The combination of infrastructure and human resources (associated process and organization) which IT can invoke the IT Service Continuity Plan.

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82. ITIL V3 Glossary

83. ITIL V3 Glossary

84. ITIL V3 Glossary

- IT Service Continuity Plan (From: A76 A764)

A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.
- Configuration Information (From: A5 A54 A544)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.
- Operational Documentation (From: A855)

The subset of *knowledge assets* that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Backed Up Data and Manifest (From: A635)

The data which is the result of taking a backup, in whatever format (for example, compressed, incremental) which has been selected as the basis for any subsequent restore action, plus the indexes and inventories (the manifest) of the content with regard to specific file placement on backup media.
- Continuity Notification

An urgent, formal command to invoke the IT Service Continuity Plan.

## Outputs

- Change Request (To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.
- Operational Continuity Infrastructure

The IT Service Continuity Solution in live state, ready for delivering the planned level of operational service, and all relevant details about it so that the regular set of processes can perform their work, within the limitations of that continuity solution.
- Normality Notification

A notification that critical business services have been stabilized to a condition that reflects the new *normal operation*, following a period of operating under continuity status.
- IT Service Continuity Management Activity Data (To: A767)

Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

## [A767] Evaluate IT Service Continuity Management Performance

### Description

This process evaluates the performance of the Service Continuity Management process. It aims to identify areas of the overall process requiring improvement. This means the foundation and interfaces of the process, its activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. Target for evaluations also includes the continuity suppliers and supply items.

The basis for the improvements is the insights and lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- IT Service Continuity Management Framework (From: A761)  
The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

### Inputs

- IT Service Continuity Management Activity Data (From: A762 A763 A764 A765 A766)  
Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

### Outputs

- IT Service Continuity Management Evaluation (To: A761)  
Assessment results for the IT Service Continuity Management process and its activities, including process performance metrics and the identification of potential process improvement items.

## PRM-IT A7 Node Tree

<b>A7 – RESILIENCE</b>	
<b>A71</b>	<b>Compliance Management</b>
A711	Establish Compliance Management Framework
A712	Identify Compliance Requirements
A713	Assess Compliance Requirements
A714	Define Compliance Controls Plan
A715	Implement Compliance Controls
A716	Audit and Report Compliance
A717	Evaluate Compliance Management Performance
<b>A72</b>	<b>Security Management</b>
A721	Establish Security Management Framework
A722	Produce and Maintain Security Policy
A723	Analyze Security Threats, Vulnerabilities and Risks
A724	Classify Information Asset Security
A725	Plan and Implement Security Practices
A726	Operate Security Protection Mechanisms
A727	Monitor, Assess, Audit and Report Security
A728	Evaluate Security Management Performance
<b>A73</b>	<b>Availability Management</b>
A731	Establish Availability Management Framework
A732	Determine Availability Requirements
A733	Formulate Availability and Recovery Design Criteria
A734	Define and Implement Availability Targets and Related Measures
A735	Monitor, Analyze and Report Availability
A736	Investigate Unavailability
A737	Produce Availability Plan
A738	Evaluate Availability Management Performance
<b>A74</b>	<b>Capacity Management</b>
A741	Establish Capacity Management Framework
A742	Model and Size Capacity Requirements
A743	Monitor, Analyze and Report Capacity Usage
A744	Supervise Tuning and Capacity Delivery
A745	Produce and Maintain Capacity Plan
A746	Evaluate Capacity Management Performance
<b>A75</b>	<b>Facility Management</b>
A751	Establish Facility Management Framework
A752	Plan Facilities
A753	Manage Facility Request
A754	Operate and Maintain Facilities
A755	Evaluate Facilities Management Performance
<b>A76</b>	<b>IT Service Continuity Management</b>

<b>A7 – RESILIENCE</b>	
A761	Establish IT Service Continuity Management Framework
A762	Identify Business Service Continuity Requirements
A763	Create and Maintain IT Service Continuity Strategy
A764	Create and Maintain IT Service Continuity Plan
A765	Prepare IT Service Continuity Capability
A766	Execute IT Service Continuity Plan
A767	Evaluate IT Service Continuity Management Performance

Figure 8. A7 Resilience Node Tree





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- Business Input (From: Outside-the-Model)
  - Solution Design (From: A4 A42 A425)
  - Business and IT Models (From: A3 A33 A333)
  - IT Research Guidance (From: A3 A32 A325)
  - Service Level Package (From: A2 A25 A255)
  - Customer Input (From: Outside-the-Model)
  - Supplier Input (From: Outside-the-Model)
  - Business Funding (From: Outside-the-Model)

## Outputs

- Customer Output (To: Outside-the-Model)
- IT Budget (To: A1 A12 A121 A123 A125 A13 A131 A132 A133 A14 A142 A2 A22 A221 A23 A233 A24 A241 A243 A26 A261 A3 A31 A314 A32 A321 A33 A331 A35 A353 A36 A365 A5 A53 A532 A55 A551 A7 A75 A752 A812 A814 A816 A82 A821 A84 A842 A843 A844)
- Supplier Output (To: Outside-the-Model)
- Underpinning Contracts (To: A1 A11 A114 A2 A24 A241 A243 A3 A31 A313 A5 A55 A555 A81 A813 A814 A824 A825 A826)
- IT Financial Reports (To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)

## Processes

This process category is composed of these processes:

- A81 Financial Management
- A82 Supplier Management
- A83 Service Pricing and Contract Administration
- A84 Workforce Management
- A85 Knowledge Management

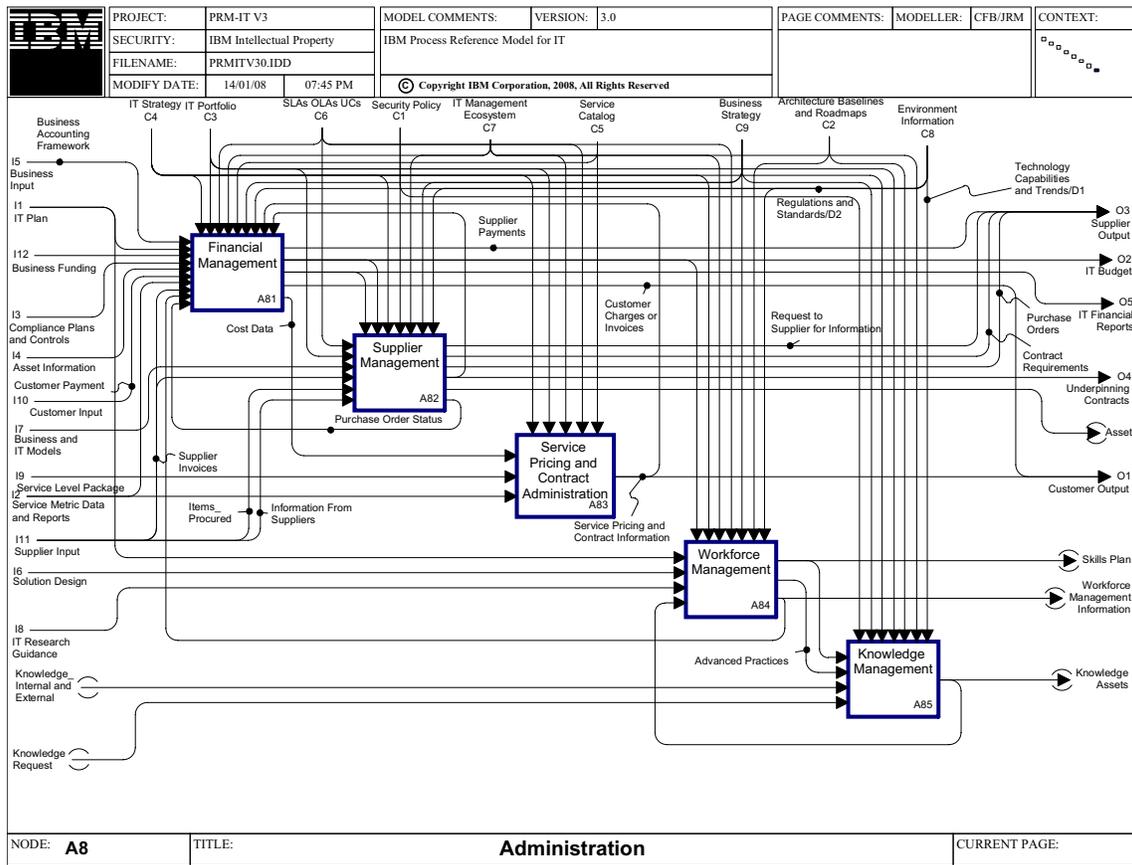


Figure 1. A8 Administration Diagram

## [A81] Financial Management

### Purpose

The purpose of the Financial Management process is to ensure that financial controls and procedures are in place to effectively predict and control IT budgets, enable business decisions, and ensure that legal, corporate and regulatory compliance is maintained. The outputs from the Financial Management process also enable benchmarking and business case analysis to support organizational decision making.

### Outcomes

As a result of the successful implementation of this process:

- IT financial controls are established and enforced
- Operational data is transformed into financial information and management actions
- Compliance is ensured with legal, industry, and corporate standards and procedures
- Benchmarking and other financial comparisons are enabled
- IT portfolio decisions are assisted on investment by providing detailed business cases and by providing financial input to decision support
- IT budgets are effectively predicted and controlled

### Scope

IT finance is focused on budgeting, accounting and (optionally) charging for IT resources

#### Includes

- ◆ Budgeting – capital and operational
- ◆ Accounting – including accounts receivable (AR) and accounts payable (AP)
- ◆ Charging
  - Metering, rating and billing
- ◆ Cost models and accounting systems
- ◆ Resource types:
  - Labor
  - Products
  - Services (inbound and outbound)
- ◆ Decision Support
- ◆ Financial analysis and reporting
- ◆ Collecting financial data
- ◆ Operational data collection requirements for financial purposes
- ◆ Design and implementation of accounting systems
- ◆ Analysis and control of the impact of chargebacks (influences on user and customer behavior)
- ◆ Paying internal and external invoices and bills
- ◆ Financial management (depreciation) of assets

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## Excludes

- ◆ Asset management (including life cycle management)
- ◆ Resource usage data collection
  - Systems and services (Service Execution)
  - Time recording and labor claiming (any process, especially Program and Project Management)
- ◆ Service, solution, and offering pricing (Service Pricing and Contract Administration)
- ◆ Contract management (Service Pricing and Contract Administration)
- ◆ Procurement (Supplier Management)

## Controls

### ■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### ■ IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>1</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>2</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>3</sup>

These agreements can be in a draft or finalized status.

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1. ITIL V3 Glossary  
 2. ITIL V3 Glossary  
 3. ITIL V3 Glossary

- **IT Management Ecosystem (From: A1)**

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>4</sup>

- **Business Strategy**

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

- **Regulations and Standards**

External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:

- Generally accepted accounting principles
- Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

- **Service Pricing and Contract Information (From: A83)**

Ranges from generic to specific:

- Services and price list (the complete service price model)
- Standard terms and conditions
- Individual actual and proposed terms and conditions for a specific customer

- **Underpinning Contracts (From: A8 A82 A823)**

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>5</sup>

## Inputs

- **Business Accounting Framework**

Details of the business-wide financial framework, including the required interfaces with the IT Financial Framework.

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4. ITIL V3 Glossary

5. ITIL V3 Glossary

- IT Plan (From: A3 A36 A365)
 

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Business Funding (From: Outside-the-Model)
 

Defines the overall planned budget effort (people, money) for all planned services and activities in IT.
- Compliance Plans and Controls (From: A7 A71 A714)
 

The authoritative and comprehensive statement of:

  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.
- Asset Information (From: A5 A55 A553)
 

Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Customer Payment
 

Customer payment describes the incoming cash flow (real or virtual) from a customer. It is either the information about a customer payment (from the business' accounts receivable process) or could be the actual payment.
- Service Metric Data and Reports (From: A6)
 

Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Supplier Invoices
 

Invoices from the suppliers for products and services delivered to IT.
- Workforce Management Information (From: A84 A842 A843 A844)
 

Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Purchase Order Status (From: A82 A824)
 

Status of orders (necessary to track the orders).

## Outputs

- Supplier Payments (To: A816)
 

Payments to suppliers, triggered by supplier invoices, for services delivered to IT.
- IT Budget (To: A1 A12 A121 A123 A125 A13 A131 A132 A133 A14 A142 A2 A22 A221 A23 A233 A24 A241 A243 A26 A261 A3 A31 A314 A32 A321 A33 A331 A35 A353 A36 A365 A5 A53 A532 A55 A551 A7 A75 A752 A812 A814 A816 A82 A821 A84 A842 A843 A844)
 

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Financial Reports (To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)
 

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

- Customer Charges or Invoices (To: A814 A816)
 

Customer charges or invoices describe how much a customer is being charged or billed for the usage of IT in a certain period of time.
- Cost Data (To: A816 A83 A832)
 

Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.

## Activities

This process is composed of these activities:

- A811 Establish Financial Management Framework
- A812 Perform Financial Modeling
- A813 Plan and Control Budgets
- A814 Perform Financial Accounting
- A815 Administer Charging
- A816 Audit Financials
- A817 Evaluate Financial Management Performance

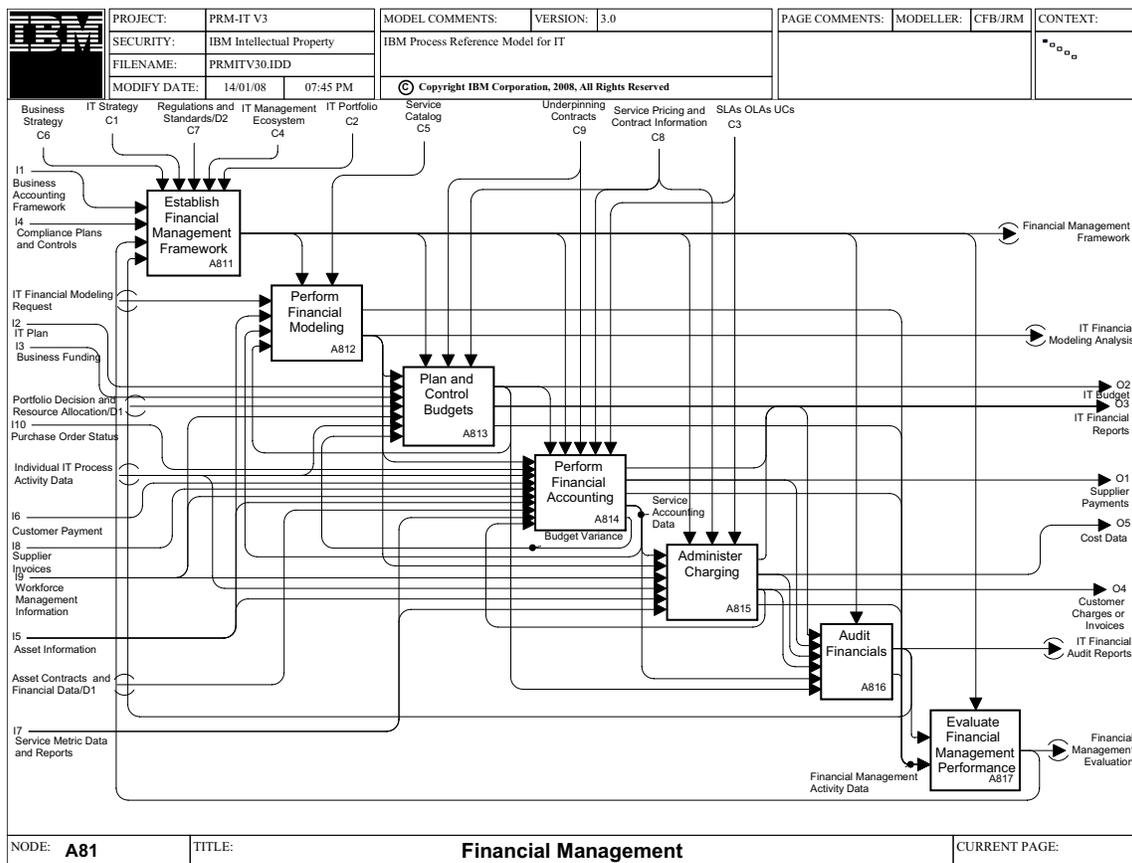


Figure 2. A81 Financial Management

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## [A811] Establish Financial Management Framework

### Description

To establish the framework necessary to perform Financial Management, the following activities must be addressed:

- A financial management strategy has to be defined, balancing the goals and the effort expended for Financial Management
- The scope of Financial Management has to be defined including a detailed life cycle for the process, taking legal requirements and audit guidelines into account
- Financial Management has to be integrated into the balanced scorecard (or similar performance management) method of IT evaluation
- Measurements have to be defined that characterize how Financial Management helps to improve the overall performance of IT
- Documented and published review procedures must be accessible for all financial management practices
- The appointment of a process owner and other defined roles for process management should be addressed
- All individual frameworks for budgeting, IT accounting, and chargeback or service pricing have to be integrated

Finally, the structure and process of Financial Management have to be communicated effectively to all participants and stakeholders.

The establishment of the Financial Management Framework also includes the continuous improvement of financial management. That is, the analysis of the Financial Management process evaluations and the implementation of recommended improvement actions.

### Controls

- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Regulations and Standards  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

## Inputs

- Business Accounting Framework  
Details of the business-wide financial framework, including the required interfaces with the IT Financial Framework.
- Compliance Plans and Controls (From: A7 A71 A714)  
The authoritative and comprehensive statement of:
  - The items for which compliance is required
  - The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
  - The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutinyIt will be the major vehicle for communications and guidance on compliance efforts.
- Financial Management Evaluation (From: A817)  
A report describing the performance against the process quality measures, legal requirements, and fraud detection.
- IT Financial Audit Reports (From: A816)  
Financial audits include validation that accounting rules are being accurately followed and that costs are aligned with the engagement and client objectives.

## Outputs

- Financial Management Framework (To: A812 A813 A814 A815 A816 A817 A831)  
The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for the management of IT finances
  - Policies and orientation that apply to operating the various aspects of IT finances
  - Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

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## [A812] Perform Financial Modeling

### Description

This activity carries out financial modeling in order to determine the likely financial outcomes for a wide range of propositions under consideration. These propositions can be limited to the management of IT finances or be linked to proposals relating to the reach and range of support for the business, infrastructure developments, service variations or any other consideration for which the costs and benefits need to be represented in financial terms. Many requests will require innovation in the modeling approaches employed, in order to satisfy requests which differ in some way from requests previously considered.

The book *ITIL Service Strategy*, describes some general types of modeling that could be performed,<sup>6</sup> including:

- Service Valuation – to identify the funding needed for a particular service, both the cost to the service provider and a view of the value added, in order to arrive at an overall cost to the customer that satisfies both provider and customer

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6. See ITIL V3 Service Strategy sections 5.1 and 5.2

- Demand Modeling – to quantify the financial variations associated with demand management proposals
- Service Investment Analysis – to provide the financial analysis that will be needed as part of any business case
- Variable Cost Dynamics – to model and project the cost implications of different cost strategies

## Controls

- Financial Management Framework (From: A811)  
The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for the management of IT finances
  - Policies and orientation that apply to operating the various aspects of IT finances
  - Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration
- Service Catalog (From: A2 A23 A235)  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>7</sup>

## Inputs

- IT Financial Modeling Request (From: A226 A255 A264 A352 A422 A823 A824)  
A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Service Accounting Data (From: A814)  
Information about the cost, ROI and value of IT services provided (or to be provided), used in financial reporting and for the allocation of costs and charges.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

## Outputs

- Financial Management Activity Data (To: A817)  
Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).

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7. ITIL V3 Glossary

- IT Financial Modeling Analysis (To: A226 A255 A264 A352 A422 A813 A814 A815 A823 A824)

The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

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## [A813] Plan and Control Budgets

### Description

Budgeting ensures that predicted costs are matched by the budget, and that early warnings are given where this is not the case. Budgeting enables an organization to:

- Predict the money required to run IT services for a given period
- Ensure that actual spend can be compared with predicted spend at any point
- Reduce the risk of overspending
- Ensure that revenues will be available to cover predicted spend (where charging is in place)

Plan and Control Budgets is split into an initial activity and a recurring, ongoing activity.

Initially you have to establish the budgeting framework. This framework will be the base to plan and control the IT Budgets. This framework consists of three parts:

- Information model
  - Cost and IT entity alignment model
  - General thresholds
  - Plan of IT performance and capacity development
  - Plan of IT costs and bills for individual user
- Process and workflow
  - Definition of the budgeting process (zero based budgeting)
  - Definition of the periods to check the budget
  - Definition of the escalation paths if a threshold is exceeded
- Tools
  - Data analysis tool
  - Reporting tool

There are two ongoing activities that are entangled with each other. In the planning part you analyze, together with representatives from the business, the future trends for business development, processes and activities. You use this data as input to define the future IT budget, breaking it down to single IT entities, and the budget planned for these entities (starting with hardware, software, personnel, among others). To be able to control the budget, these entities have to be connected with context information; that is, how many person hours are planned for a certain project, and how much capacity is needed for a certain application. You will get this data from the IT plan.

This budget planning has to be aligned with the overall budget planning process. After the budget is defined, it has to be approved.

This activity is revisited in a defined period, to adjust the IT budget planning to the changing business needs.

Using the actual cost data and performance data as gathered in Perform Financial Accounting, you measure periodically whether the cost and delivered capacity and performance are in line with the plan data. This information is compiled into reports and delivered to the sponsors of IT.

If these reports show deltas bigger than the defined thresholds, you have to take counteractions:

- Discussion of the deltas and their reasons with the sponsor

- Replanning of the budget needed for this entity
- Re-approving the budget for this entity or stopping of this entity
- Addressing and discussing the topic of changing bills for IT

This activity is revisited in a defined period to analyze plan versus reality and start adjustments where necessary.

## Controls

- Financial Management Framework (From: A811)  
The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for the management of IT finances
  - Policies and orientation that apply to operating the various aspects of IT finances
  - Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration
- Underpinning Contracts (From: A8 A82 A823)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>8</sup>
- Service Pricing and Contract Information (From: A83)  
Ranges from generic to specific:
  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer

## Inputs

- IT Financial Modeling Analysis (From: A812)  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Business Funding (From: Outside-the-Model)  
Defines the overall planned budget effort (people, money) for all planned services and activities in IT.
- Portfolio Decision and Resource Allocation (From: A36 A365)  
An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition,

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8. ITIL V3 Glossary

and plan for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.

- Workforce Management Information (From: A84 A842 A843 A844)

Profiles of current managed workforce including performance reviews, skills, training and compensation.

- Individual IT Process Activity Data (From every process)

All defined process based measures (usage data) aligned with services and activities from which relevant financial values can be extracted or derived.

- Budget Variance (From: A814)

Budget Variance defines the delta between the planned budget and planned results, and the actual spent effort and achieved results.

## Outputs

- IT Budget (To: A1 A12 A121 A123 A125 A13 A131 A132 A133 A14 A142 A2 A22 A221 A23 A233 A24 A241 A243 A26 A261 A3 A31 A314 A32 A321 A33 A331 A35 A353 A36 A365 A5 A53 A532 A55 A551 A7 A75 A752 A812 A814 A816 A82 A821 A84 A842 A843 A844)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

- IT Financial Reports (To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

- Financial Management Activity Data (To: A817)

Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).

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## [A814] Perform Financial Accounting

### Description

Financial Accounting accounts (tracks and records) for all costs incurred. It enables the attribution of costs to customer service provided. It should aid investment, renewal decisions, and identify poor value for money, but without going into more detail than required. For example, charge a fixed amount for an agreed capacity. Identifies cost of changes, and performs ROI and cost-benefit analysis.

Financial Accounting enables an organization to:

- Account for the money spent in providing IT services
- Calculate the cost of providing IT services to both internal and external customers
- Perform cost-benefit or return-on-investment analyses

The goal of financial accounting is to understand:

- What drives the IT costs
- Whether IT delivers a good value for money

You have to start to analyze to what extent you want to analyze these topics and from which kind of analysis your IT performance would improve most. That is, IT cost transparency, understanding of cost driver, understanding IT process cost, understanding of linkage of business performance and IT cost drivers, understanding service costs, and understanding platform costs.

Initially, you have to establish the financial accounting framework. Therefore, you identify and set the scope of financial accounting and the accounting policy. Here you define:

- Reports and structure needed to reach these goals
- Business and IT events driving the IT costs

This is the base for the Financial Accounting Framework. This framework consists of different parts:

- Information model:
  - Cost model – per cost unit, per system, per service, among others
  - Cost drivers – from performance data
  - Value model – service model and IT scorecard
- Process and workflow as described later:
- Tools: Focus of the tools is to gather the information from different sources and compile reports automatically from this data, helping to answer the IT goals. The tools needed come from these families:
  - Data mining tools
  - Data gathering tools fueled by the performance data
  - Reporting tools provides the performance data

Requirements for the Financial Accounting Framework will also be derived from Service Pricing and Contract Administration, as the pricing framework has to be represented in the accounting framework, and also from the overall financial management strategy.

After the framework has been implemented, Financial Accounting is an ongoing activity. On a regular basis:

- Cost data has to be gathered
- Performance data (like operational monitor data and labor data) have to be imported
- The data has to be calculated, analyzed, and linked according to the information model
- Reports on IT Performance (cost versus value) for the different stakeholders have to be generated
- Trends have to be identified and analyzed
- Actual financial data are reported to perform budgeting

Besides these cost and value analysis related activities, Financial Accounting includes some additional tasks:

- Collect, check, and pay bills to the suppliers
- Create financial reports, especially to serve legal requirements and requirements of corporate finance, such as depreciation of assets
- Support the investment appraisal process from a financial point of view

## Controls

- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Financial Management Framework (From: A811)

The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:

  - Strategic goals for the management of IT finances
  - Policies and orientation that apply to operating the various aspects of IT finances

- Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration
- Underpinning Contracts (From: A8 A82 A823)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>9</sup>
- Service Pricing and Contract Information (From: A83)

Ranges from generic to specific:

  - Services and price list (the complete service price model)
  - Standard terms and conditions
  - Individual actual and proposed terms and conditions for a specific customer
- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>10</sup>
  - OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>11</sup>
  - UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>12</sup>

These agreements can be in a draft or finalized status.

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9. ITIL V3 Glossary  
10. ITIL V3 Glossary  
11. ITIL V3 Glossary  
12. ITIL V3 Glossary

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## Inputs

- IT Financial Modeling Analysis (From: A812)  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- Purchase Order Status (From: A82 A824)  
Status of orders (necessary to track the orders).
- Individual IT Process Activity Data (From every process)  
All defined process based measures (usage data) aligned with services and activities from which relevant financial values can be extracted or derived.
- Customer Payment  
Customer payment describes the incoming cash flow (real or virtual) from a customer. It is either the information about a customer payment (from the business' accounts receivable process) or could be the actual payment.
- Supplier Invoices  
Invoices from the suppliers for products and services delivered to IT.
- Workforce Management Information (From: A84 A842 A843 A844)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Asset Contracts and Financial Data (From: A555)  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.
- Service Metric Data and Reports (From: A6)  
Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.
- Customer Charges or Invoices (From: A81 A815)  
Customer charges or invoices describe how much a customer is being charged or billed for the usage of IT in a certain period of time.

## Outputs

- IT Financial Reports (To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- Supplier Payments (To: A816)  
Payments to suppliers, triggered by supplier invoices, for services delivered to IT.
- Financial Management Activity Data (To: A817)  
Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).
- Service Accounting Data (To: A812 A815 A816)  
Information about the cost, ROI and value of IT services provided (or to be provided), used in financial reporting and for the allocation of costs and charges.

- Budget Variance (To: A813)

Budget Variance defines the delta between the planned budget and planned results, and the actual spent effort and achieved results.

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## [A815] Administer Charging

### Description

The main goal of this activity is to charge customers in order to recover the cost of the IT services or perhaps to generate a profit from the services offered. The chargeback strategy is dependent on the business and IT models. The strategic goals can vary between refinancing IT investments, using chargeback to optimize the IT cost and value relationship from a business point of view, and in generating profit from IT. In comparison to Perform IT Accounting where the cost structures were the primary focus, and to the process Service Pricing and Contract Administration where defining the price for the services is the primary focus, this activity focuses on billing the customers of IT services delivered and receiving payment. Charging recovers in a fair way the cost of the IT services and influences customer behavior where necessary.

Administer Charging is split into an initial activity to set up the chargeback framework and a recurring activity to actually bill the clients and receive the money.

Initially, a chargeback framework has to be defined. For example:

- Information model:
  - The pricing strategy is an input from Service Pricing and Contract Administration
  - The pricing model is an input from Service Pricing and Contract Administration
  - User to IT client linkage (to align the bill for an individual user to the organization unit that has to pay the bill)
- Process:
  - Definition of the charging and compensation process. Legal requirements to the process and the bill and the way the bill is composed will differ due to organization form of the IT shop and the company. For example, IT as internal department, IT as an own organization, or IT services different legal organizations in different countries.
- Tool:
  - A chargeback tool gathers the usage data aligned to a user, links it to the prices for the services, and calculates the bill for a user

After the framework is established, bills for the user have to be generated periodically. These bills are based on the pricing model. The pricing model describes what data to measure to compile the usage information of a service.

The first step is to gather the performance data that is linked to the customer. This is an input from the Perform Accounting operating processes. Using the pricing model, a price for the complete IT usage of a specific client is calculated.

This data has to be aggregated to the level of detail that is delivered to the customer organization, such as per cost unit or per department. Prior to delivery, the bill has to be checked for correctness.

After the bill has been delivered and depending on the chargeback and compensation process, correct payment has to be checked.

If the bill differs from the customer's expectation, an exception process is needed:

- To check the correctness of the bill
- To correct the bill, if necessary
- If correct and exceeding the expectation, to trigger exploration of the impact on the planned IT budget

## Controls

- Financial Management Framework (From: A811)

The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for the management of IT finances
- Policies and orientation that apply to operating the various aspects of IT finances
- Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

- Service Pricing and Contract Information (From: A83)

Ranges from generic to specific:

- Services and price list (the complete service price model)
- Standard terms and conditions
- Individual actual and proposed terms and conditions for a specific customer

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>13</sup>
- OLA: "An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties."<sup>14</sup>
- UC: "A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA."<sup>15</sup>

These agreements can be in a draft or finalized status.

## Inputs

- Service Accounting Data (From: A814)

Information about the cost, ROI and value of IT services provided (or to be provided), used in financial reporting and for the allocation of costs and charges.

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- IT Financial Modeling Analysis (From: A812)  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- Workforce Management Information (From: A84 A842 A843 A844)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Individual IT Process Activity Data (From every process)  
All defined process based measures (usage data) aligned with services and activities from which relevant financial values can be extracted or derived.
- Asset Information (From: A5 A55 A553)  
Could be reports, covering multiple asset items, or just the specific information on an individual asset.
- Service Metric Data and Reports (From: A6)  
Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.

## Outputs

- IT Financial Reports (To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- Cost Data (To: A816 A83 A832)  
Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.
- Customer Charges or Invoices (To: A814 A816)  
Customer charges or invoices describe how much a customer is being charged or billed for the usage of IT in a certain period of time.
- Financial Management Activity Data (To: A817)  
Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).

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## [A816] Audit Financials

### Description

Examination of financial data (under defined criteria and guidelines) and the workings of the financial management process is performed for the purpose of confirming conformance to standards and practices. Additionally identifies irregularities and improvement opportunities. ITIL defines an audit as “Formal inspection and verification to check whether a Standard or set of Guidelines is being followed, that Records are accurate, or that Efficiency and Effectiveness targets are being met. An Audit may be carried out by internal or external groups.”<sup>16</sup>

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## Controls

- Financial Management Framework (From: A811)  
The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:
  - Strategic goals for the management of IT finances
  - Policies and orientation that apply to operating the various aspects of IT finances
  - Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

## Inputs

- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- Supplier Payments (From: A81 A814)  
Payments to suppliers, triggered by supplier invoices, for services delivered to IT.
- Cost Data (From: A81 A815)  
Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.
- Customer Charges or Invoices (From: A81 A815)  
Customer charges or invoices describe how much a customer is being charged or billed for the usage of IT in a certain period of time.
- Service Accounting Data (From: A814)  
Information about the cost, ROI and value of IT services provided (or to be provided), used in financial reporting and for the allocation of costs and charges.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

## Outputs

- IT Financial Audit Reports (To: A143 A811 A817)  
Financial audits include validation that accounting rules are being accurately followed and that costs are aligned with the engagement and client objectives.
- Financial Management Activity Data (To: A817)  
Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).

## [A817] Evaluate Financial Management Performance

### Description

This governance activity includes the evaluation of the performance of the Financial Management process, and aims at identifying improvement areas of the overall process. For example, the foundation and interfaces of the process, all activities and their accomplishment, the adaptability of the process, as well as the roles and responsibilities, including the respective skills.

In addition, the Financial Management process is to be evaluated against the goals and measures to understand its influence on overall IT improvements.

The basis for the improvements is the insights and lessons learned from the observations and analysis of activity accomplishments and results.

Due to the importance of correct financial data, there are additional process evaluations that have to be performed. One example is:

- The process has to be evaluated against legal requirements, from a process and process output point of view; that is, the correctness of financial statements. In some industries and countries, fraud detection is a mandatory part of the evaluation. It might be necessary, due to legal requirements, for this evaluation be carried out by an independent third party.

### Controls

- Financial Management Framework (From: A811)

The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for the management of IT finances
- Policies and orientation that apply to operating the various aspects of IT finances
- Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

### Inputs

- IT Financial Audit Reports (From: A816)

Financial audits include validation that accounting rules are being accurately followed and that costs are aligned with the engagement and client objectives.

- Financial Management Activity Data (From: A812 A813 A814 A815 A816)

Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).

### Outputs

- Financial Management Evaluation (To: A811)

A report describing the performance against the process quality measures, legal requirements, and fraud detection.

## [A82] Supplier Management

### Purpose

The purpose of the Supplier Management process is to manage interactions with suppliers and partners formally by selecting them based on their ability to meet identified requirements, and managing performance against the agreed commitments.

### Outcomes

As a result of the successful implementation of this process:

- Attitudes and behaviors are promoted that encourage mutual success
- Procurement and delivery of products and services are optimized for maximum value across supplier relationships
- Obligations are met as efficiently and effectively as possible by both parties in the relationship
- Optimal value is achieved for costs in maintaining supplier relationships

### Scope

Involves all aspects of managing relationships with suppliers and outsourcers and of the procurement of assets and services. Addresses the complete supplier and procurement life cycle from strategic considerations to tactical considerations, and to operational considerations.

#### Includes

- ◆ Agreement on joint architecture and risk controls
- ◆ Negotiation and enforcement of contracts
- ◆ Supplier evaluation, selection, and relationship management
- ◆ Supplier performance review, including:
  - Benchmarking
  - Terms and conditions conformance
- ◆ Procurement (placing the order), both against established contracts and for off-the-shelf items
- ◆ Internal and external suppliers
- ◆ Formalizing the operational level agreement (OLA) items, where they are to be fulfilled by an external supplier, within an underpinning contract (UC)

#### Excludes

- ◆ Service Level Management
  - Establishing the substance of OLA items which relate to a supplier
  - OLA and UC service monitoring

- ◆ Physical logistics (Facilities Management)
  - Product and services requirements and specifications (from Solution Design, for example)

## Controls

- IT Financial Reports (From: A8 A81 A813 A814 A815)

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Security Policy (From: A7 A72 A722)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Business Strategy  

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- Regulations and Standards  

External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:

  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

## Inputs

- SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>17</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>18</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>19</sup>

These agreements can be in a draft or finalized status.

- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- Supplier Invoices  
Invoices from the suppliers for products and services delivered to IT.
- Items\_ Procured  
Items received from a supplier in response to a formal purchase order.
- Information From Suppliers  
Any information that the suppliers can provide about themselves that supports the selection and evaluation process for suppliers, including:
  - Responses to RFIs, RFPs
  - Vendor briefings
  - Financial information
  - Portfolio information

## Outputs

- Request to Supplier for Information  
Any request for information from suppliers that directly goes to the suppliers, including:
  - Financial information
  - Portfolio information (which items can be supplied)
  - Standard terms and conditions
  - RFIs
  - RFPs
  - Vendor briefings
- Contract Requirements  
Contract requirements for communication to, and negotiation with, suppliers. The requirements cover items such as specifications, quantities, delivery dates, desired terms and conditions, maximum price.

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- Purchase Orders (To: A825)  
Order for products or services to a supplier resulting from procurement requests, including detailed information about the order. Also covers the negative case (if an item has to be returned to the supplier).
- Underpinning Contracts (To: A1 A11 A114 A2 A24 A241 A243 A3 A31 A313 A5 A55 A555 A81 A813 A814 A824 A825 A826)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>20</sup>
- Asset (To: A552)  
Each asset that has completed the procurement process (business now holds the title) and is available for productive deployment. During its useful life, it is managed by the Asset Management process.
- Purchase Order Status (To: A81 A814 A824)  
Status of orders (necessary to track the orders).

## Activities

This process is composed of these activities:

- A821 Establish Supplier Management Framework
- A822 Manage Portfolio of Suppliers
- A823 Manage Supplier Contracts
- A824 Manage Procurement
- A825 Evaluate Supplier Performance
- A826 Provide Supplier Product and Service Information
- A827 Evaluate Supplier Management Performance

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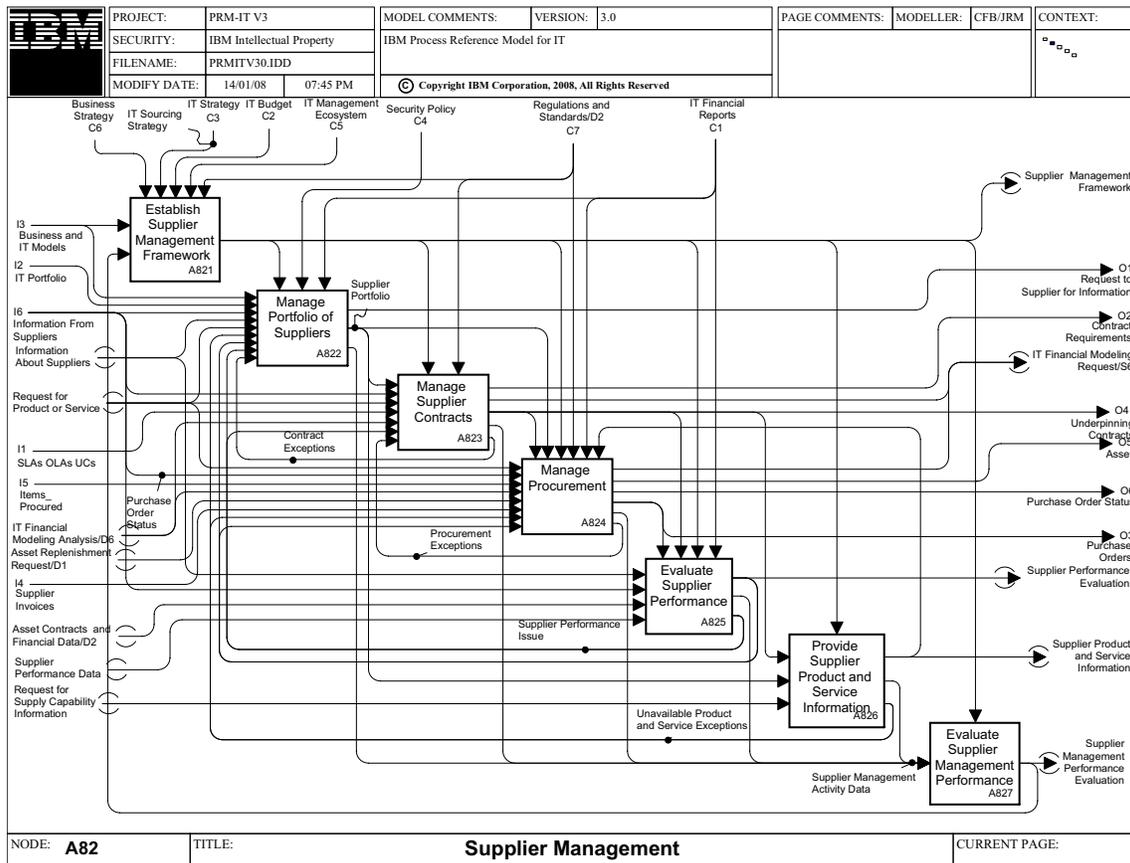


Figure 3. A82 Supplier Management

## [A821] Establish Supplier Management Framework

### Description

Based on the business and IT strategy and model, guidelines and a framework for Supplier Management have to be developed. The tasks in this activity include:

- Understanding the sourcing strategy and legal and self-imposed regulations with regard to suppliers
- Defining the strategy for supplier relationships: should they be long-term or will the business rely on ad hoc supplier selection
- Defining evaluation criteria for suppliers, supplier relationships and performance
- Defining and implementing practices and systems that support supplier management, including procurement and the maintenance of respective catalogs
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of the supplier management including procurement have to be communicated to the process users.

The establishment of the Supplier Management Framework also includes the continuous improvement of supplier management. For example, the consideration of the Supplier Management process evaluation and the implementation of recommended improvement actions.

## Controls

- **Business Strategy**  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- **IT Sourcing Strategy**  
Strategic guidelines about what services or business components are core (in-sourced or out-sourced) as far as this can influence the selection of suppliers for products and services.
- **IT Budget (From: A8 A81 A813)**  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- **IT Management Ecosystem (From: A1)**  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- **Regulations and Standards**  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

## Inputs

- **Business and IT Models (From: A3 A33 A333)**  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- **Supplier Management Performance Evaluation (From: A827)**  
The result of the evaluation of the Supplier Management process, including identification of potential process improvement items.

## Outputs

- **Supplier Management Framework (To: A751 A822 A823 A824 A825 A826 A827)**  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.

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## [A822] Manage Portfolio of Suppliers

### Description

This activity consists of the following tasks:

- Understand service or product requirements as a prerequisite for selecting the appropriate suppliers
- Search for appropriate suppliers
- Evaluate supplier candidates according to predefined criteria
- Select and prioritize suppliers
- Maintain supplier catalog with supplier information
- Manage (actively) the supplier portfolio by regularly revisiting supplier portfolio, maintaining and optimizing it according to the required services and products, as well as the supplier relationship management framework
- Manage supplier relationships to ensure optimal procurement ability

### Controls

- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- IT Financial Reports (From: A8 A81 A813 A814 A815)  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

### Inputs

- Business and IT Models (From: A3 A33 A333)  
Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Information From Suppliers  
Any information that the suppliers can provide about themselves that supports the selection and evaluation process for suppliers, including:
  - Responses to RFIs, RFPs
  - Vendor briefings
  - Financial information
  - Portfolio information
- Information About Suppliers  
Any information about potential suppliers that supports the selection and evaluation process for suppliers, including:

- Analyst reports and opinions
- Benchmark data
- Customer references
- Financial information
- Current relationship information
- Other publicly available information
- Request for Product or Service (From: A432 A442)  
Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.
- Unavailable Product and Service Exceptions (From: A826)  
Information about exceptions (unavailability, permanent or temporary) of supply items that can influence procurement or require that the portfolio of suppliers is adapted.
- Supplier Performance Evaluation (From: A825)  
Evaluation of suppliers with regard to the relationship, compliance with agreed contract conditions including costs. Input for management of portfolio of suppliers.
- Supplier Performance Issue (From: A825)  
Exceptions or non-compliance of suppliers with regard to the agreed contracts that are recognized during Evaluate Supplier Performance, and that are needed as input for Manage Portfolio of Suppliers so that the supplier portfolio can be adapted if necessary.
- Contract Exceptions (From: A823)  
Exceptions or non-compliance of contracts that are recognized during Manage Supplier Contracts, and that are needed as input for Manage Portfolio of Suppliers, so that the supplier portfolio can be adapted if necessary.

## Outputs

- Request to Supplier for Information  
Any request for information from suppliers that directly goes to the suppliers, including:
  - Financial information
  - Portfolio information (which items can be supplied)
  - Standard terms and conditions
  - RFIs
  - RFPs
  - Vendor briefings
- Supplier Portfolio (To: A823 A824 A826)  
List of potential suppliers. Includes information about each supplier (relationship) with regard to supply items, existing contracts, and the interfaces to this supplier.
- Supplier Management Activity Data (To: A827)  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.

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## [A823] Manage Supplier Contracts

### Description

Supplier contract management is about:

- Defining scope of supplier relationship
- Negotiating contracts
- Creating contracts
- Administering contracts
- Regularly optimizing supplier contract terms and conditions
- Continuously auditing contract compliance

### Controls

- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.
- Regulations and Standards  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

### Inputs

- Supplier Portfolio (From: A822)  
List of potential suppliers. Includes information about each supplier (relationship) with regard to supply items, existing contracts, and the interfaces to this supplier.
- Information From Suppliers  
Any information that the suppliers can provide about themselves that supports the selection and evaluation process for suppliers, including:
  - Responses to RFIs, RFPs
  - Vendor briefings
  - Financial information
  - Portfolio information
- Request for Product or Service (From: A432 A442)  
Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer.

Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>21</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>22</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>23</sup>

These agreements can be in a draft or finalized status.

- IT Financial Modeling Analysis (From: A812)

The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

- Supplier Performance Issue (From: A825)

Exceptions or non-compliance of suppliers with regard to the agreed contracts that are recognized during Evaluate Supplier Performance, and that are needed as input for Manage Portfolio of Suppliers so that the supplier portfolio can be adapted if necessary.

- Procurement Exceptions (From: A824)

Exceptions during procurement (item no longer available from supplier) that can influence the management of supplier contracts.

## Outputs

- Contract Requirements

Contract requirements for communication to, and negotiation with, suppliers. The requirements cover items such as specifications, quantities, delivery dates, desired terms and conditions, maximum price.

- IT Financial Modeling Request (To: A812)

A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.

- Underpinning Contracts (To: A1 A11 A114 A2 A24 A241 A243 A3 A31 A313 A5 A55 A555 A81 A813 A814 A824 A825 A826)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract

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defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>24</sup>

- Supplier Management Activity Data (To: A827)  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.
- Contract Exceptions (To: A822)  
Exceptions or non-compliance of contracts that are recognized during Manage Supplier Contracts, and that are needed as input for Manage Portfolio of Suppliers, so that the supplier portfolio can be adapted if necessary.

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## [A824] Manage Procurement

### Description

Procurement is about placing orders for items that have been requested and authorized. Includes hardware, software, services, external resources. The activities are:

- Receiving procurement requests
- Review procurement requests, and approve or reject them
- Initiate procurement by selecting the appropriate supplier and placing the order
- Tracking orders until delivery of ordered items
- Receiving procured items upon delivery by suppliers
- Maintaining valid information about the procured items received
- Handling escalations if necessary (during the entire procurement process until the potentially necessary return of ordered items)

### Controls

- Underpinning Contracts (From: A8 A82 A823)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>25</sup>
- Supplier Portfolio (From: A822)  
List of potential suppliers. Includes information about each supplier (relationship) with regard to supply items, existing contracts, and the interfaces to this supplier.
- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.

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- **Regulations and Standards**  
External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:
  - Generally accepted accounting principles
  - Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.
- **Supplier Product and Service Information (From: A826)**  
Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items including
  - Prices
  - Service levels
  - Supply options, (suppliers can supply these supply items)Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.

## Inputs

- **Request for Product or Service (From: A432 A442)**  
Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.
- **Purchase Order Status (From: A82 A824)**  
Status of orders (necessary to track the orders).
- **Items\_ Procured**  
Items received from a supplier in response to a formal purchase order.
- **IT Financial Modeling Analysis (From: A812)**  
The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.
- **Asset Replenishment Request (From: A552 A554)**  
A trigger to indicate that additional quantities of an asset are required in order to meet existing or anticipated requisitions.
- **Supplier Invoices**  
Invoices from the suppliers for products and services delivered to IT.
- **Unavailable Product and Service Exceptions (From: A826)**  
Information about exceptions (unavailability, permanent or temporary) of supply items that can influence procurement or require that the portfolio of suppliers is adapted.
- **Supplier Performance Evaluation (From: A825)**  
Evaluation of suppliers with regard to the relationship, compliance with agreed contract conditions including costs. Input for management of portfolio of suppliers.

## Outputs

- **IT Financial Modeling Request (To: A812)**  
A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.

- **Asset (To: A552)**  
Each asset that has completed the procurement process (business now holds the title) and is available for productive deployment. During its useful life, it is managed by the Asset Management process.
- **Purchase Order Status (To: A81 A814 A824)**  
Status of orders (necessary to track the orders).
- **Purchase Orders (To: A825)**  
Order for products or services to a supplier resulting from procurement requests, including detailed information about the order. Also covers the negative case (if an item has to be returned to the supplier).
- **Supplier Management Activity Data (To: A827)**  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.
- **Procurement Exceptions (To: A823)**  
Exceptions during procurement (item no longer available from supplier) that can influence the management of supplier contracts.

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## [A825] Evaluate Supplier Performance

### Description

In order to be able to manage the supplier portfolio successfully, a regular evaluation of the supplier performance has to take place. It will examine:

- Information from and about the suppliers
- Information about the compliance and service level attainment of suppliers according to the agreed contracts
- Information about how well procurement works with the suppliers

Based on this information the suppliers will be reviewed, the relationship to the suppliers will be evaluated and the compliance of suppliers with agreed contract terms and conditions as well as the agreed costs will be analyzed.

This performance assessment will result in recommendations by evaluating value and risks of the suppliers for the business.

### Controls

- **Purchase Orders (From: A82 A824)**  
Order for products or services to a supplier resulting from procurement requests, including detailed information about the order. Also covers the negative case (if an item has to be returned to the supplier).
- **Underpinning Contracts (From: A8 A82 A823)**  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>26</sup>

- **Supplier Management Framework (From: A821)**  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.
- **IT Financial Reports (From: A8 A81 A813 A814 A815)**  
All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

## Inputs

- **Information About Suppliers**  
Any information about potential suppliers that supports the selection and evaluation process for suppliers, including:
  - Analyst reports and opinions
  - Benchmark data
  - Customer references
  - Financial information
  - Current relationship information
  - Other publicly available information
- **Information From Suppliers**  
Any information that the suppliers can provide about themselves that supports the selection and evaluation process for suppliers, including:
  - Responses to RFIs, RFPs
  - Vendor briefings
  - Financial information
  - Portfolio information
- **Asset Contracts and Financial Data (From: A555)**  
Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.
- **Supplier Performance Data**  
Data from any IT process that relates to the performance of any supplied product or service that contributes to that process

## Outputs

- **Supplier Performance Evaluation (To: A822 A824)**  
Evaluation of suppliers with regard to the relationship, compliance with agreed contract conditions including costs. Input for management of portfolio of suppliers.
- **Supplier Management Activity Data (To: A827)**  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.
- **Supplier Performance Issue (To: A822 A823)**  
Exceptions or non-compliance of suppliers with regard to the agreed contracts that are recognized during Evaluate Supplier Performance, and that are needed as input for Manage Portfolio of Suppliers so that the supplier portfolio can be adapted if necessary.

## [A826] Provide Supplier Product and Service Information

### Description

This activity is about providing information about supply items, like establishing and maintaining a supply item catalog (hardware, software, services, external resources) that contains information about:

- Supply items themselves
- Potential suppliers for these items including supplier priorities and options
- Supply item availability

This is a prerequisite for being able to handle procurement.

### Controls

- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.

### Inputs

- Underpinning Contracts (From: A8 A82 A823)  
Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.  
Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>27</sup>
- Supplier Portfolio (From: A822)  
List of potential suppliers. Includes information about each supplier (relationship) with regard to supply items, existing contracts, and the interfaces to this supplier.
- Request for Supply Capability Information  
Request for information from any process within IT about the IT Service Provider's arrangements and capability to obtain supply items.

### Outputs

- Supplier Product and Service Information (To: A662 A664 A735 A736 A824)  
Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items, including:
  - Prices
  - Service levels
  - Supply options, (suppliers can supply these supply items)Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.

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- Supplier Management Activity Data (To: A827)  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.
- Unavailable Product and Service Exceptions (To: A822 A824)  
Information about exceptions (unavailability, permanent or temporary) of supply items that can influence procurement or require that the portfolio of suppliers is adapted.

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## [A827] Evaluate Supplier Management Performance

### Description

The evaluation of the performance of the Supplier Management process aims at identifying areas of the overall process that require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. Target for evaluations are also the portfolio of suppliers and supply items.

The basis for the improvements is the insights and lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Supplier Management Framework (From: A821)  
The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.

### Inputs

- Supplier Management Activity Data (From: A822 A823 A824 A825 A826)  
Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.

### Outputs

- Supplier Management Performance Evaluation (To: A821)  
The result of the evaluation of the Supplier Management process, including identification of potential process improvement items.

# [A83] Service Pricing and Contract Administration

## Purpose

The purpose of the Service Pricing and Contract Administration process is to establish a pricing mechanism for the IT entity to sell its services to internal or external customers, and to administer the contracts associated with selling those services.

## Outcomes

As a result of successful implementation of this process:

- Prices are set that reflect the charging policies of the IT organization
- Pricing is aligned to achieve business objectives
- Requests for pricing are satisfied in a responsive manner
- Customer contracts and agreements are administered effectively and efficiently

## Scope

This process applies if the decision is made to charge for IT services. It encompasses defining a pricing method, establishing prices, managing the resulting contracts, tracking the effect of pricing on how well the service or solution is being accepted by the customer, and examining proposals and contract continuation.

### Includes

- ◆ Defining the charging pricing algorithm
- ◆ Providing standard prices for IT services
- ◆ Providing pricing alternatives (such as fixed, time and materials, and flexible terms and conditions)
- ◆ Monitoring impact on user and customer behavior and making appropriate adjustments

### Excludes

- ◆ Metering (Service Execution, Data Management)
- ◆ Billing (Financial Management)
- ◆ Initiating pricing negotiations (Service Marketing and Sales)

## Controls

- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the

domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>28</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>29</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>30</sup>

These agreements can be in a draft or finalized status.

■ Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>31</sup>

## Inputs

■ Cost Data (From: A81 A815)

Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.

■ Service Level Package (From: A2 A25 A255)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for

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a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>32</sup>

- Service Metric Data and Reports (From: A6)

Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.

## Outputs

- Service Pricing and Contract Information (To: A22 A226 A227 A24 A243 A365 A81 A813 A814 A815)

Ranges from generic to specific:

- Services and price list (the complete service price model)
- Standard terms and conditions
- Individual actual and proposed terms and conditions for a specific customer

## Activities

This process is composed of these activities:

- A831 Establish Service Pricing and Contract Administration Framework
- A832 Collect Pricing Data
- A833 Provide Price Alternatives
- A834 Administer Customer Contract/ Agreement
- A835 Monitor Pricing Effects
- A836 Evaluate Service Pricing and Contract Administration Performance

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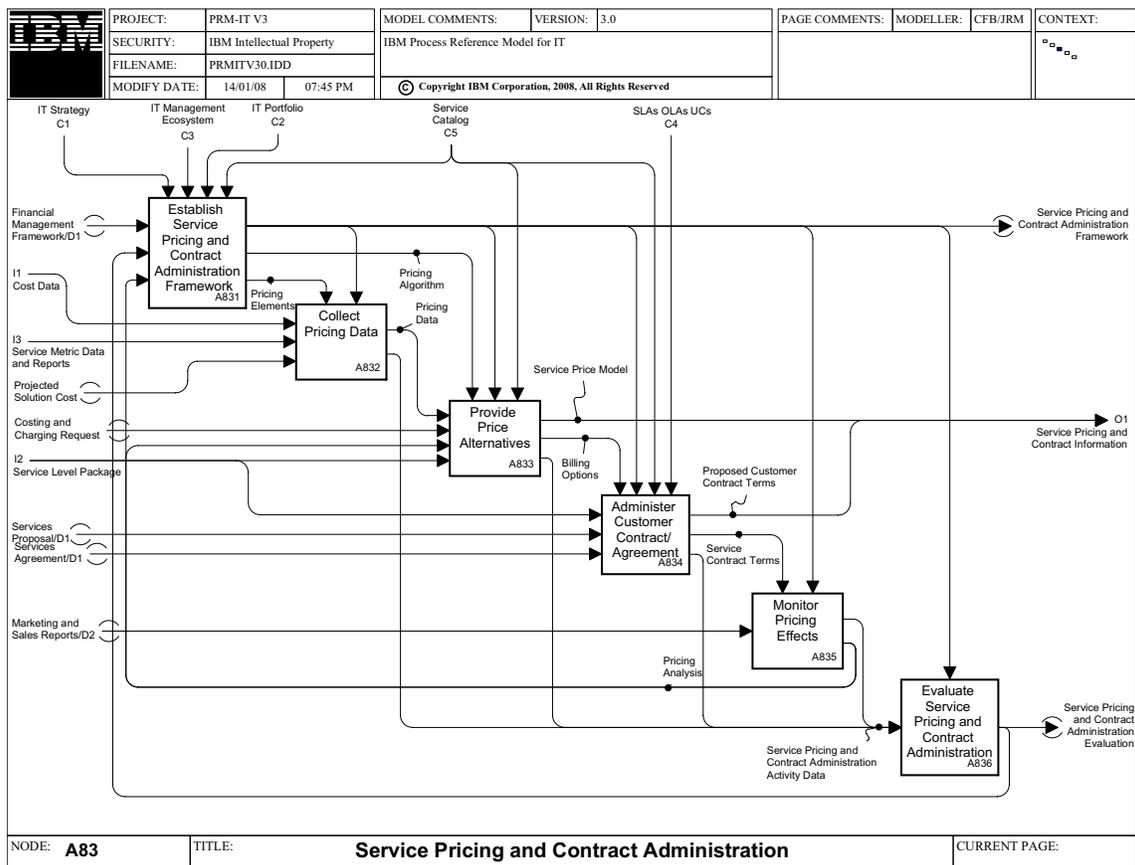


Figure 4. A83 Service Pricing and Contract Administration

## [A831] Establish Service Pricing and Contract Administration Framework

### Description

To establish the framework necessary to perform Service Pricing and Contract Administration, the following activities must be addressed:

- A service pricing and contract administration strategy has to be defined and be based on IT strategy, the business, and IT models. It should reflect whether (and how) user behavior and IT consumption should be influenced, and whether chargeback should be used as a tool to communicate the value of IT. The pricing strategy should also integrate how benchmarks with the market should be integrated.
- It has to be determined whether prices are set by forecasting, simulation, or other methods.
- Measurements have to be defined, to understand whether Service Pricing and Contract Administration help to improve the overall performance of IT.
- There must be documented and published review procedures for all service pricing and contract administration documentation.
- The appointments of a process owner and other defined roles have to be addressed.
- An organizational entity has to be established to regularly revisit the negotiated contracts.

Finally, the structure and process of Service Pricing and Contract Administration have to be communicated.

The establishment of the Service Pricing and Contract Administration Framework also includes the continuous improvement of Service Pricing and Contract Administration. This means consideration of the Service Pricing and Contract Administration process evaluation, and the implementation of recommended improvement actions.

As billing is described in Administer Charging from Financial Management, it is very strongly related to Service Pricing and Contract Administration. Service Pricing and Contract Administration have to be carried out in order that the chargeback framework can be established in Financial Management.

## Controls

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

- IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Portfolio (From: A3 A36 A365)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

- Service Catalog (From: A2 A23 A235)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>33</sup>

## Inputs

- Financial Management Framework (From: A811)

The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for the management of IT finances
- Policies and orientation that apply to operating the various aspects of IT finances
- Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

- Service Pricing and Contract Administration Evaluation (From: A836)

Is a report combining how the process performance can be improved and how especially the pricing model can optimize the overall IT usage.

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- Pricing Analysis (From: A835)

A summary of the effects and implications of current and proposed algorithms, price points and service contract terms, used to provide feedback on pricing practices.

## Outputs

- Service Pricing and Contract Administration Framework (To: A832 A833 A834 A835 A836)

Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:

- Strategic (vision, mission, value proposition)
- Organizational (organizational mechanisms, roles, accountabilities)
- Process (activities, workflows, inputs, outputs)
- Technology (software, hardware) practices for managing customer transformation

- Pricing Algorithm (To: A833)

The formulas used to work with service pricing data to derive pricing alternatives for further evaluation.

- Pricing Elements (To: A832)

The objects, factors and practices to be considered in developing service prices and contract terms.

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## [A832] Collect Pricing Data

### Description

Based on chargeback strategy and the Service Catalog, the data sources to establish the pricing have to be identified and assessed for completeness. Once the services with service classes and levels are defined, all services measures have to be defined to measure the usage. This activity includes gathering resource usage data from system logs and automatically or manually inputting occasional charges for education or recurring charges for workstation rentals.

### Controls

- Pricing Elements (From: A831)

The objects, factors and practices to be considered in developing service prices and contract terms.

- Service Pricing and Contract Administration Framework (From: A831)

Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:

- Strategic (vision, mission, value proposition)
- Organizational (organizational mechanisms, roles, accountabilities)
- Process (activities, workflows, inputs, outputs)
- Technology (software, hardware) practices for managing customer transformation

### Inputs

- Cost Data (From: A81 A815)

Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.

- Service Metric Data and Reports (From: A6)

Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as

requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.

- **Projected Solution Cost**

Part of Solution Plans and Commitments, it provides anticipated costs of solutions before any actual cost data is available.

## Outputs

- **Pricing Data (To: A833)**

The pricing data consist of all measures needed to measure the service usage. This is input to the price model.

- **Service Pricing and Contract Administration Activity Data (To: A836)**

Focuses on data needed to analyze how to improve the process performance.

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## [A833] Provide Price Alternatives

### Description

This activity creates one or more service price models for the service proposition under consideration. One important input is the chargeback strategy as defined in the framework. From the goals you can derive how price and cost are related in the service price model. A main activity here is to define the rule set by which the prices shall be calculated, and then apply this rule set to perform the pricing.

Because the price model is an important regulator of the usage of IT, the IT strategy should have an influence on setting the price. IT can be run as a cost center, distributing budgeted costs equitably among customers, or as a profit center, focusing on prices, revenue, and profit. One price list can be used for all customers or different price lists can be used for different customers, for different levels of usage, or usage at different times. The prices can represent the cost for a service, the value of a service, or can be strategic regulators. The costs per service are input from the Perform IT Accounting activity in the Financial Management process.

### Controls

- **Pricing Algorithm (From: A831)**

The formulas used to work with service pricing data to derive pricing alternatives for further evaluation.

- **Service Pricing and Contract Administration Framework (From: A831)**

Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:

- Strategic (vision, mission, value proposition)
- Organizational (organizational mechanisms, roles, accountabilities)
- Process (activities, workflows, inputs, outputs)
- Technology (software, hardware) practices for managing customer transformation

- **Service Catalog (From: A2 A23 A235)**

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: "A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the

sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>34</sup>

## Inputs

- Pricing Data (From: A832)  
The pricing data consist of all measures needed to measure the service usage. This is input to the price model.
- Costing and Charging Request (From: A744)  
An inquiry about (or an estimate of) the cost or charge related to a particular IT service or cluster of services.
- Pricing Analysis (From: A835)  
A summary of the effects and implications of current and proposed algorithms, price points and service contract terms, used to provide feedback on pricing practices.
- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>35</sup>

## Outputs

- Service Price Model (To: A255)  
The service price model describes all inputs needed (for example, service model, measures, service levels, customer) to derive a price for a delivered service. It is often presented as a multidimensional matrix, with one dimension for each input. It describes as output one price for each combination.
- Billing Options (To: A834)  
Describes different Service Price Models and how to choose between them.
- Service Pricing and Contract Administration Activity Data (To: A836)  
Focuses on data needed to analyze how to improve the process performance.

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## [A834] Administer Customer Contract/ Agreement

### Description

To administer contracts and agreements ensures that terms and conditions are respected by both parties. Monitors ensure that data is current and accurate.

Initially, contracts and agreements are negotiated on the service level agreements that were negotiated in the Create and Maintain Service Level Agreements activity of the process Service Level Management. The SLAs are completed by adding a price per service and defining how the price related service usage indicators are defined. For each indicator, process and tools to measure the indicator have to be agreed to.

After these contracts and agreements have been established, they are revisited periodically to ensure both parties still agree on the goals that led to these contracts (and the underlying pricing model), or adapt the contracts to a new situation.

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## Controls

- **Billing Options (From: A833)**  
Describes different Service Price Models and how to choose between them.
- **Service Pricing and Contract Administration Framework (From: A831)**  
Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:
  - Strategic (vision, mission, value proposition)
  - Organizational (organizational mechanisms, roles, accountabilities)
  - Process (activities, workflows, inputs, outputs)
  - Technology (software, hardware) practices for managing customer transformation
- **Service Catalog (From: A2 A23 A235)**  
Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.  
  
ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>36</sup>
- **SLAs, OLAs, UCs (From: A2 A24 A243)**  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).
  - ITIL definition of these terms:
  - SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>37</sup>
  - OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>38</sup>
  - UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>39</sup>

These agreements can be in a draft or finalized status.

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## Inputs

- Service Level Package (From: A2 A25 A255)  
Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>40</sup>
- Services Proposal (From: A22 A226)  
A document outlining a potential services solution to meet a specific set of customer needs.
- Services Agreement (From: A22 A227)  
A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.

## Outputs

- Proposed Customer Contract Terms  
Includes the agreed service level objectives, the corresponding service price model for one customer, the customer specific additional terms and conditions (contract period) and, often, planned usage data.
- Service Contract Terms (To: A835)  
Include the agreed service price model for one customer, and the specific additional terms and conditions (contract period).
- Service Pricing and Contract Administration Activity Data (To: A836)  
Focuses on data needed to analyze how to improve the process performance.

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## [A835] Monitor Pricing Effects

### Description

This activity applies to revenue-flow and profit-and-loss analysis simulations, and to detailed reports on service use by customers based on the various pricing alternatives offered. Here you analyze whether a certain price model really changes the behavior of the users. This kind of an analysis helps you to understand whether you match the goals set in the chargeback strategy, and if the selected pricing model has the desired influence on the users' behavior. To understand whether the pricing leads to optimal IT costs, benchmarking with market data can be an additional input.

### Controls

- Service Contract Terms (From: A834)  
Include the agreed service price model for one customer, and the specific additional terms and conditions (contract period).
- Service Pricing and Contract Administration Framework (From: A831)  
Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:
  - Strategic (vision, mission, value proposition)
  - Organizational (organizational mechanisms, roles, accountabilities)
  - Process (activities, workflows, inputs, outputs)
  - Technology (software, hardware) practices for managing customer transformation

### Inputs

- Marketing and Sales Reports (From: A22 A228)  
Reports which indicate the outcomes of marketing and sales efforts and which compare the current sales and marketing execution to the market plan.

### Outputs

- Service Pricing and Contract Administration Activity Data (To: A836)  
Focuses on data needed to analyze how to improve the process performance.
- Pricing Analysis (To: A831 A833)  
A summary of the effects and implications of current and proposed algorithms, price points and service contract terms, used to provide feedback on pricing practices.

## [A836] Evaluate Service Pricing and Contract Administration Performance

### Description

This governance activity includes the evaluation of the performance of the Service Pricing and Contract Administration process, and aims at identifying the improvement areas of the overall process. For example, the foundation and interfaces of the process, all activities and their accomplishment, the adaptability of the process, as well as the roles and responsibilities including the respective skills.

In addition, the Service Pricing and Contract Administration process is to be evaluated against the goals and measures to understand its influence on user behavior and on overall IT improvements.

The basis for the improvements is the insights and lessons learned from the observations and analysis of activity accomplishments and results.

### Controls

- Service Pricing and Contract Administration Framework (From: A831)  
Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:
  - Strategic (vision, mission, value proposition)
  - Organizational (organizational mechanisms, roles, accountabilities)
  - Process (activities, workflows, inputs, outputs)
  - Technology (software, hardware) practices for managing customer transformation

### Inputs

- Service Pricing and Contract Administration Activity Data (From: A832 A833 A834 A835)  
Focuses on data needed to analyze how to improve the process performance.

### Outputs

- Service Pricing and Contract Administration Evaluation (To: A831)  
Is a report combining how the process performance can be improved and how especially the pricing model can optimize the overall IT usage.

## [A84] Workforce Management

### Purpose

The purpose of the Workforce Management process is to provide the optimal mix of staffing (resources and skills) in order to deliver the agreed IT services at the negotiated service levels and commitments.

### Outcomes

As a result of successful implementation of this process:

- An appropriately skilled and motivated workforce is attracted and retained
- Staffing and skills meet needs of the business, including required technical and business skills, both on a day-to-day basis and over time
- Compliance with all workforce-related legal and regulatory requirements and with corporate practices is ensured
- A succession strategy for leadership and critical skills is enabled
- Workforce management information is provided to support informed decision making on sourcing strategy

### Scope

Any aspect of managing the human resources available and necessary for the IT endeavor to fulfill its obligations, including workload, skills, and personnel.

#### Includes

- ◆ Acquiring, hiring, retaining, developing, firing, retiring
- ◆ Introducing and orienting new resources to the workplace
- ◆ Skills management
- ◆ Workforce management, including capacity planning and forecasts
- ◆ Work and job design, including roles and responsibilities
- ◆ Skills development and training
- ◆ Performance evaluation
- ◆ Employee communications
- ◆ Workforce task management
- ◆ The execution of corporate human resources (HR) activities in relation to the IT workforce
- ◆ Representing human resource issues relating to the IT workforce to corporate HR

## Excludes

- ◆ Establishing corporate HR policies and their deployment beyond IT
- ◆ Setting overall budgets for workforce
- ◆ Payroll and benefits administration
- ◆ HR systems (part of Portfolio Management and Solution Development and Deployment, in support of the business' HR processes)
- ◆ Managing the workforce of service providers
- ◆ Setting sourcing strategy

## Controls

### ■ IT Budget (From: A8 A81 A813)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### ■ IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

### ■ IT Management Ecosystem (From: A1)

To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

### ■ SLAs, OLAs, UCs (From: A2 A24 A243)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>41</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>42</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The

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Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>43</sup>

These agreements can be in a draft or finalized status.

- **Business Strategy**

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

- **Architecture Baselines and Roadmaps (From: A3 A33 A334)**

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

- **Regulations and Standards**

External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:

- Generally accepted accounting principles
- Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

## Inputs

- **IT Plan (From: A3 A36 A365)**

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

- **Solution Design (From: A4 A42 A425)**

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

- **IT Research Guidance (From: A3 A32 A325)**

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

- **Knowledge Assets (From: A85 A855)**

Any information from knowledge management that fulfills a knowledge request.

## Outputs

- **Skills Plan (To: A371 A843 A85 A852)**

Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.

- **Advanced Practices (To: A85 A853)**

The knowledge and behaviors of leading practitioners that sets a benchmark for others to reach and emulate. The practices will contain subject-matter content, but will also cover techniques for content application and for mentoring.

- **Workforce Management Information (To: A365 A373 A374 A81 A813 A814 A815)**

Profiles of current managed workforce including performance reviews, skills, training and compensation.

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## Activities

This process is composed of these activities:

- A841 Establish Workforce Management Framework
- A842 Forecast and Plan Workforce
- A843 Administer Human Resources
- A844 Manage Skills
- A845 Evaluate Workforce Management Performance

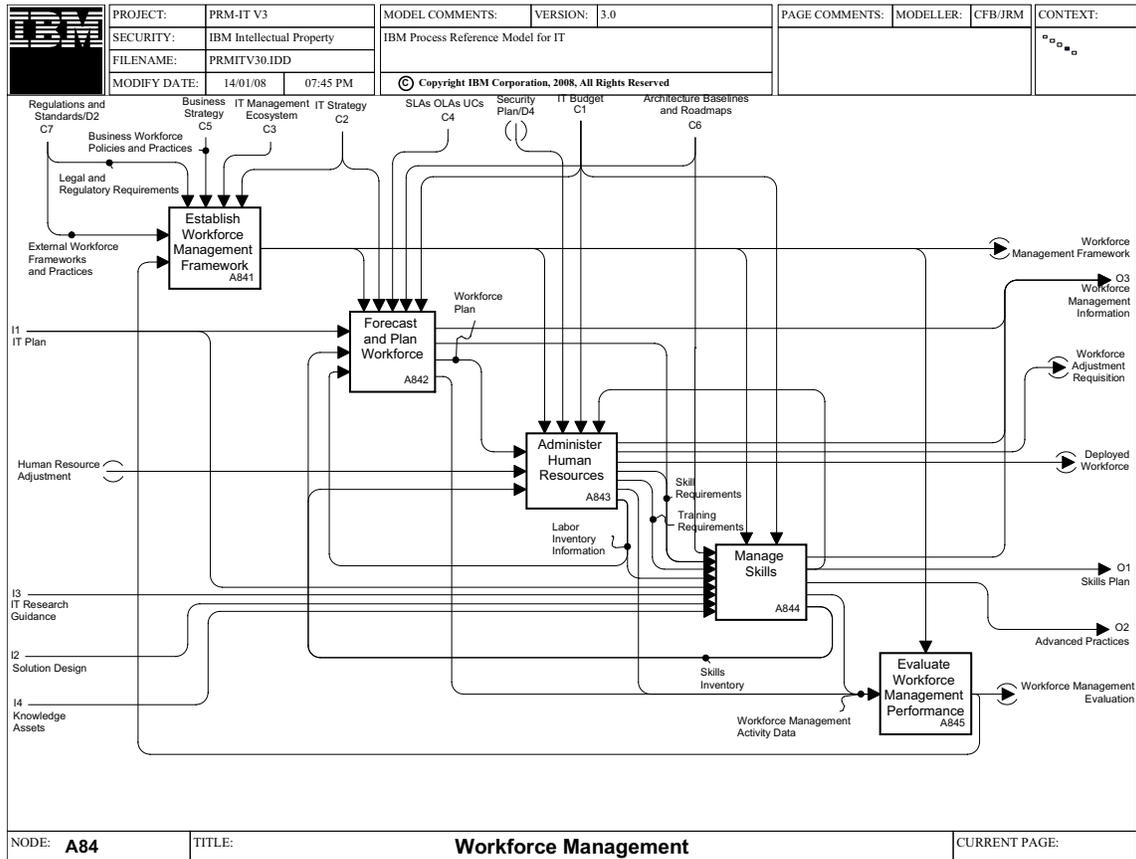


Figure 5. A84 Workforce Management

## [A841] Establish Workforce Management Framework

### Description

Based on the business, IT strategy, and the architectural models, guidelines and a framework for capacity management have to be developed. The tasks in this activity include:

- Understanding the requirements and specifications for workforce management
- Defining the strategy for workforce management tools and capabilities, and how they should be sourced. For instance, should they be developed in-house or rely more on vendor capabilities
- Defining evaluation criteria for workforce management solutions and services
- Establishing the framework for workforce management by defining and implementing practices and systems that support process activities
- Determining skill requirements for the staff and assigning staff based on these systems

Finally, the structure and process of Workforce Management, including escalation responsibilities, have to be communicated to the process users.

The establishment of the process framework also includes the continuous improvement of Workflows Management; that is, the consideration of the Workforce Management process evaluation and the implementation of recommended improvement actions.

### Controls

- Legal and Regulatory Requirements  
Requirements from governmental and other regulatory bodies to be applied to the employment aspects of any business. An example would be Health and Safety legislation.
- Business Workforce Policies and Practices  
The workforce management policies and practices of the parent business.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- External Workforce Frameworks and Practices  
Relevant models, designs and operational characteristics of workforce management approaches in peer businesses which could provide a basis for this IT Service Provider's Workforce Management Framework.
- Workforce Management Evaluation (From: A845)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## Outputs

- Workforce Management Framework (To: A842 A843 A844 A845)

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## [A842] Forecast and Plan Workforce

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Description

Create a workforce forecast plan based on the IT portfolio requirements of the business and the current resource pool. Translate the workload associated with business requirements into skills and time. Map the skills and time requirements to the available resource pool, and reconcile gaps in the workforce plan.

### Controls

- Workforce Management Framework (From: A841)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- SLAs, OLAs, UCs (From: A2 A24 A243)  
The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).  
ITIL definition of these terms:
  - SLA: "An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers."<sup>44</sup>

- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider's delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>45</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.”<sup>46</sup>

These agreements can be in a draft or finalized status.

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

## Inputs

- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- Skills Inventory (From: A844)  
Repository for current and planned skills.
- Labor Inventory Information (From: A843)  
Repository for human resource allocations.

## Outputs

- Workforce Management Information (To: A365 A373 A374 A81 A813 A814 A815)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Skill Requirements (To: A844)  
Forecast of human skills required to meet the demand for services in the IT Portfolio.
- Workforce Plan (To: A843)  
Forecast of human workload associated with business requirements or changes, and the subsequent plan for IT resources in support of the demand.
- Workforce Management Activity Data (To: A845)  
The metrics defined in the Workforce Management Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

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## [A843] Administer Human Resources

### Description

Maintain staffing levels based on workforce plan (for example, hiring, promoting, demoting, dismissing, assigning) to ensure a pool of personnel with the required skills. Perform performance planning, evaluation, and compensation activities. Manage morale by assessing, understanding, and improving the factors that influence morale and increase productivity.

### Controls

- Workforce Management Framework (From: A841)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.
- Security Plan (From: A72 A725)  
A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.
- Skills Plan (From: A84 A844)  
Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.

### Inputs

- Workforce Plan (From: A842)  
Forecast of human workload associated with business requirements or changes, and the subsequent plan for IT resources in support of the demand.
- Human Resource Adjustment  
The flow of acquired, realigned, and released human resources which represents the workforce available for deployment.
- Skills Inventory (From: A844)  
Repository for current and planned skills.

### Outputs

- Workforce Management Information (To: A365 A373 A374 A81 A813 A814 A815)  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- Workforce Adjustment Requisition  
The plans and requirements for adjustments (increase and decrease) in workforce numbers and job profiles. Might be relevant to either or both of the business' workforce management process and to the procurement process.
- Deployed Workforce  
Current IT human resource allocations.

- Skill Requirements (To: A844)  
Forecast of human skills required to meet the demand for services in the IT Portfolio.
- Training Requirements (To: A844)  
Statement of the purpose, timing and quantities of training needed to properly equip the workforce for their current and future work assignments.
- Workforce Management Activity Data (To: A845)  
The metrics defined in the Workforce Management Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- Labor Inventory Information (To: A842 A844)  
Repository for human resource allocations.

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## [A844] Manage Skills

### Description

Assess the type, level and quantity of skills necessary for the IT service provider to meet its commitments. Identify skill increase (and decrease) actions so that the skills inventory will meet the requirements. Define employee development and training needs in support of the workforce plan and each employee's career aspirations. Oversee the fulfillment of skill programs.

### Controls

- Workforce Management Framework (From: A841)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.
- IT Budget (From: A8 A81 A813)  
The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

### Inputs

- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Skill Requirements (From: A842 A843)  
Forecast of human skills required to meet the demand for services in the IT Portfolio.
- Training Requirements (From: A843)  
Statement of the purpose, timing and quantities of training needed to properly equip the workforce for their current and future work assignments.
- Labor Inventory Information (From: A843)  
Repository for human resource allocations.
- IT Plan (From: A3 A36 A365)  
The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.
- IT Research Guidance (From: A3 A32 A325)  
Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

- **Solution Design (From: A4 A42 A425)**  
Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.
- **Knowledge Assets (From: A85 A855)**  
Any information from knowledge management that fulfills a knowledge request.

## Outputs

- **Workforce Management Information (To: A365 A373 A374 A81 A813 A814 A815)**  
Profiles of current managed workforce including performance reviews, skills, training and compensation.
- **Skills Plan (To: A371 A843 A85 A852)**  
Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.
- **Advanced Practices (To: A85 A853)**  
The knowledge and behaviors of leading practitioners that sets a benchmark for others to reach and emulate. The practices will contain subject-matter content, but will also cover techniques for content application and for mentoring.
- **Workforce Management Activity Data (To: A845)**  
The metrics defined in the Workforce Management Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.
- **Skills Inventory (To: A621 A622 A842 A843)**  
Repository for current and planned skills.

## [A845] Evaluate Workforce Management Performance

### Description

Performance evaluation of Workforce Management process aims at identifying areas of the overall process that require improvement. For example, the foundation and interfaces of the process, all activities, their accomplishment, their degree of automation, as well as the roles and responsibilities including the respective skills. The bases for the improvements are the insights and the lessons learned from the observations, and analysis of activity accomplishments and results.

### Controls

- Workforce Management Framework (From: A841)  
The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

### Inputs

- Workforce Management Activity Data (From: A842 A843 A844)  
The metrics defined in the Workforce Management Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

### Outputs

- Workforce Management Evaluation (To: A841)  
An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

## [A85] Knowledge Management

### Purpose

The purpose of the Knowledge Management process is to focus on capturing and exploiting the information and knowledge needed by personnel to work effectively.

Definition of Knowledge Management: "The Process responsible for gathering, analysing, storing and sharing knowledge and information within an Organisation. The primary purpose of Knowledge Management is to improve Efficiency by reducing the need to rediscover knowledge".<sup>47</sup>

### Outcomes

As a result of the successful implementation of this process:

- Organizational and individual knowledge and skills are improved
- All areas of IT are assisted in providing optimized IT end-to-end business services
- Technologies are leveraged for capture, location, and dissemination of knowledge and expertise
- Communities of practice are able to optimize the use of organizational knowledge
- Innovation is promoted and enabled

### Scope

The process emphasizes controlled but efficient access to assets across the organization, ensuring consistency and reuse as appropriate to take advantage of best practices and enable innovation.

#### Includes

- ◆ Management of IT knowledge and directly related business knowledge, including:
  - The full range of knowledge from technical to services
  - Knowledge gained from external sources as well as from internal activities
  - Interfaces to support any other IT process such as Incident Management
  - Life cycle management of knowledge, from development through retirement
  - Content management for knowledge data across all media and access mechanisms in which it resides
- ◆ Working with other IT processes so that the relevant knowledge in their data and information repositories is made available and is actively managed
- ◆ Linkage to business-side Knowledge Management (if a program exists)
- ◆ Coordination with skills building and learning activities
- ◆ Knowledge linkage with service providers and suppliers
- ◆ Knowledge linkage with customers
- ◆ Intellectual property management, such as patents and external publications

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## Excludes

- ◆ Understanding and acting on the knowledge (outcome management is the responsibility of all other IT processes)
- ◆ Establishing and operating the data and information repositories associated with individual IT processes; for example, the Configuration Management database
- ◆ General Knowledge Management for the business
- ◆ Content management for business Web-based data (responsibility of the business, with support from Data Management)

## Controls

- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.
- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

## Inputs

- Skills Plan (From: A84 A844)  
Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.
- Advanced Practices (From: A84 A844)  
The knowledge and behaviors of leading practitioners that sets a benchmark for others to reach and emulate. The practices will contain subject-matter content, but will also cover techniques for content application and for mentoring.

- Knowledge\_ Internal and External  
 All available internal and external formal or informal knowledge that might be relevant for the business.
- Knowledge Request  
 A request by a user for a knowledge asset to be available to them.

## Outputs

- Knowledge Assets (To: A265 A613 A652 A653 A654 A84 A844)  
 Any information from knowledge management that fulfills a knowledge request.

## Activities

This process is composed of these activities:

- A851 Establish Knowledge Management Framework
- A852 Create and Maintain Knowledge Plan
- A853 Acquire Knowledge
- A854 Evaluate and Structure Knowledge
- A855 Disseminate Knowledge
- A856 Monitor, Assess and Report Knowledge Status
- A857 Evaluate Knowledge Management Performance

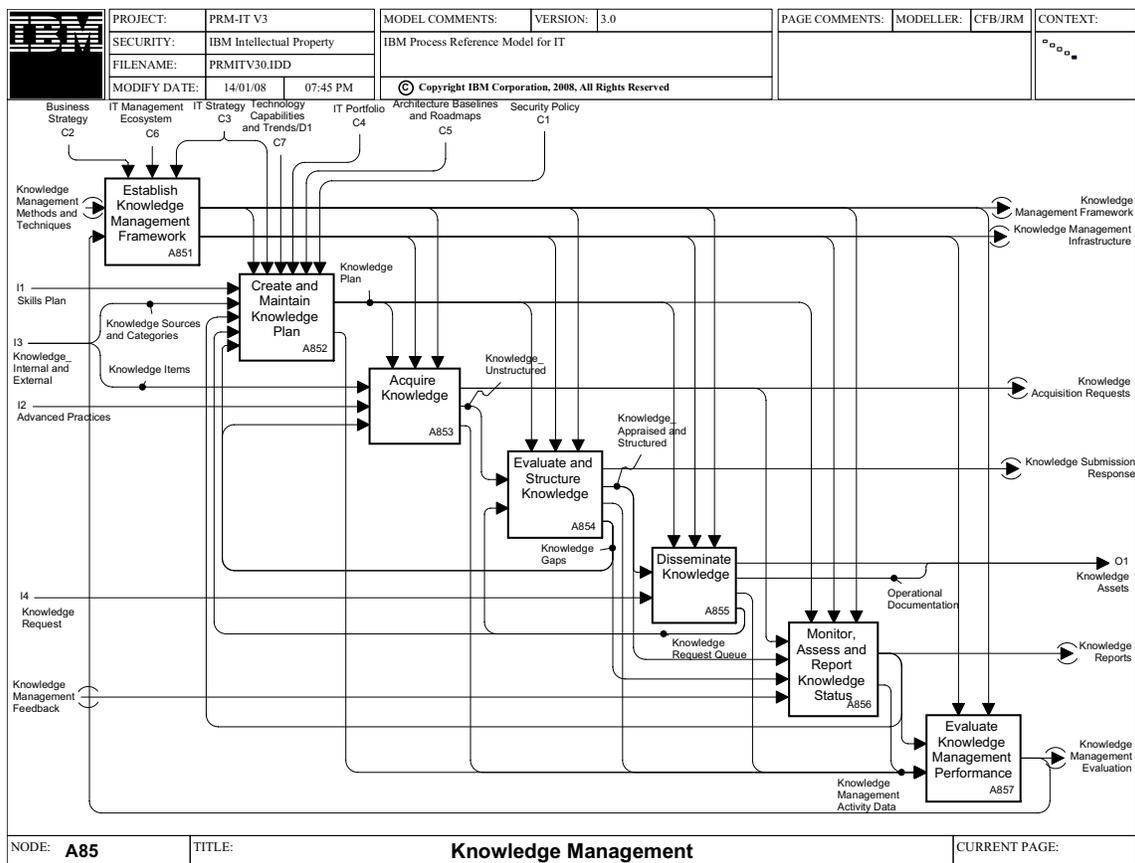


Figure 6. A85 Knowledge Management

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## [A851] Establish Knowledge Management Framework

### Description

This activity consists of three main tasks that establish the base for Knowledge Management in the business:

1. Definition of Knowledge Management strategy has to be determined:
  - What the strategic goals are for Knowledge Management
  - What the strategic value of Knowledge Management is to the business
  - How the value can be measured
  - What knowledge is relevant for the business and necessary to stay competitive and ahead of competition
  - What knowledge sources are relevant (suppliers, partners, customers, internal processes, among others)
  - How to handle formal and informal knowledge
  - How to maintain a vital Knowledge Management in the business (motivation to participate, avoidance of bureaucracy, avoidance of low value knowledge)
2. Planning and implementation of Knowledge Management:
  - Based on the Knowledge Management strategy a Knowledge Management Framework has to be planned, designed and implemented, meaning the supporting technology has to be defined and installed. This includes that rules and policies are implemented to protect the knowledge of the business through management of access and security
3. Creation and maintenance of Knowledge Management capabilities. This includes:
  - Continuous research and evaluation of Knowledge Management technology
  - Ongoing access control for Knowledge Management system
  - Establishment of knowledge domains and supporting organizational or informal structures
  - Provision of an effective and efficient structure to capture and store knowledge
  - Definition of evaluation criteria for knowledge
  - Establishment of knowledge sharing culture
  - Management of intellectual property

Based on the outcome of these tasks, skill requirements for the staff have to be defined and, if necessary, training requirements have to be determined.

Finally, the structure, process, and technology for Knowledge Management have to be communicated to the process users.

The planning and implementation of the Knowledge Management Framework also includes the continuous improvement of Knowledge Management. For example, the consideration of the Knowledge Management process evaluation and the implementation of recommended improvement actions.

### Controls

- Business Strategy  
The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.
- IT Management Ecosystem (From: A1)  
To paraphrase a dictionary definition: the complex of management system elements, their physical implementation, and all their interrelationships in the unit of space that is the

domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

- IT Strategy (From: A3 A31 A315)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

## Inputs

- Knowledge Management Methods and Techniques

Available (best practice) methods and techniques for knowledge management (processes, structures) as an input when creating the Knowledge Management Framework.

- Knowledge Management Evaluation (From: A857)

The result of the evaluation of the Knowledge Management process.

## Outputs

- Knowledge Management Framework (To: A852 A853 A854 A855 A856 A857)

The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

- Knowledge Management Infrastructure (To: A853 A854 A855 A856 A857)

Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:

- Technology specifications and implementations for knowledge management
- Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).

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## [A852] Create and Maintain Knowledge Plan

### Description

This activity is responsible for determining the knowledge content needed to support the undertaking of IT, and creating a plan to ensure that the right knowledge can be available when needed by any aspect of the IT undertaking.

It will create the plan by understanding:

- The direction that IT is taking – in both a technical and a customer positioning sense
- General trends in knowledge aspects of the IT industry and of the industry of the parent business
- The specific skill areas that are being developed, and for which suitable knowledge will be needed
- The current strengths and weaknesses (gaps) in the available knowledge

The outcome of this will be used by the operational activities within the Knowledge Management process to guide the acquisition and dissemination of knowledge.

## Controls

- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)
- IT Strategy (From: A3 A31 A315)  
A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.
- Technology Capabilities and Trends  
Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.
- IT Portfolio (From: A3 A36 A365)  
A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.
- Architecture Baselines and Roadmaps (From: A3 A33 A334)  
Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.
- Security Policy (From: A7 A72 A722)  
The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered *secure*. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

## Inputs

- Skills Plan (From: A84 A844)  
Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.
- Knowledge Sources and Categories  
The meta-data aspects of the internal and external knowledge, such as:
  - Potential knowledge sources
  - Potential structure for knowledge
- Knowledge Reports (From: A856)  
Reports indicating the status and key performance indicators for the knowledge being managed. They include identification of:
  - Patterns and trends of usage
  - Corresponding topics or items that could require additional or reduced focus in the Knowledge Management Plan
- Knowledge Request Queue (From: A855)  
The entirety of knowledge requests that are as yet unsatisfied (because of time or knowledge gaps).
- Knowledge Gaps (From: A854)  
Any gaps in relevant knowledge that have been identified.

## Outputs

- Knowledge Plan (To: A853 A854 A855 A856)  
Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.
- Knowledge Management Activity Data (To: A857)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.

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## [A853] Acquire Knowledge

### Description

The acquisition of knowledge contains the development, capturing, and harvesting of (unstructured) knowledge. This includes both formal and documented, informal and tacit knowledge, and the acquisition of knowledge from all sources determined in the Knowledge Management strategy.

Important for this activity are the identified gaps in knowledge and the analysis of queued knowledge requests so that knowledge can systematically be captured according to the gaps and requests.

### Controls

- Knowledge Plan (From: A852)  
Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.
- Knowledge Management Infrastructure (From: A851)  
Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:
  - Technology specifications and implementations for knowledge management
  - Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).
- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

### Inputs

- Knowledge Items  
Any item or unit of information that feeds into knowledge management, that is included in any knowledge management repository and which belongs to one of the pre-defined relevant knowledge areas.
- Advanced Practices (From: A84 A844)  
The knowledge and behaviors of leading practitioners that sets a benchmark for others to reach and emulate. The practices will contain subject-matter content, but will also cover techniques for content application and for mentoring.
- Knowledge Gaps (From: A854)  
Any gaps in relevant knowledge that have been identified.

## Outputs

- Knowledge Acquisition Requests (To: A856)  
An identification of a specific requirement to obtain a body of knowledge so that it is available for any IT process activity.
- Knowledge\_ Unstructured (To: A854)  
Knowledge that has been acquired but not yet has been evaluated and structured. Can be documented or tacit knowledge.
- Knowledge Management Activity Data (To: A857)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.

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## [A854] Evaluate and Structure Knowledge

### Description

This activity contains tasks to convert the unstructured knowledge into structured knowledge:

- Valuing knowledge with regard to predefined evaluation and quality criteria (for example, to indicate the degree of conformance with established standards)
- Where the valuation indicates a knowledge item which has intrinsic value, activities relating to intellectual capital protection (such as patent submission) will be triggered
- Verifying and testing knowledge
- Structuring knowledge to aid subsequent matching knowledge to search requests
- Approving or rejecting knowledge for inclusion in knowledge assets
- Making the knowledge available in the selected level of knowledge assets, and updating any relevant search indexes
- Confirming the knowledge submission outcome to the submitter

Additionally to maintain and enhance the knowledge base of the business, this activity also addresses requirements to keep it current:

- Regularly reviewing the knowledge base
- Updating, archiving, or deleting knowledge
- Identifying and communicating gaps and new knowledge areas

### Controls

- Knowledge Plan (From: A852)  
Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.
- Knowledge Management Infrastructure (From: A851)  
Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:
  - Technology specifications and implementations for knowledge management
  - Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).
- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

## Inputs

- Knowledge\_ Unstructured (From: A853)  
Knowledge that has been acquired but not yet has been evaluated and structured. Can be documented or tacit knowledge.
- Knowledge Request Queue (From: A855)  
The entirety of knowledge requests that are as yet unsatisfied (because of time or knowledge gaps).

## Outputs

- Knowledge Submission Response  
Response to the evaluation of knowledge, such as approval, rejection, rework, and others.
- Knowledge\_ Appraised and Structured (To: A855 A856)  
Knowledge that has been assessed according to predefined evaluation and quality criteria (checking for relevance, testing, scrutinizing)  
Knowledge that has been structured so that it can be published in any knowledge management repository or otherwise made available to satisfy knowledge requests.
- Knowledge Management Activity Data (To: A857)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.
- Knowledge Gaps (To: A852 A853 A856)  
Any gaps in relevant knowledge that have been identified.

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## [A855] Disseminate Knowledge

### Description

Covers the delivery of knowledge to users. It can include both proactively and reactively supplying knowledge, for example:

- Delivery of knowledge by publishing knowledge based on a certain schedule (proactive mode)
- Delivery of knowledge based on individual or group requests (reactive mode)

### Controls

- Knowledge Plan (From: A852)  
Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.
- Knowledge Management Infrastructure (From: A851)  
Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:
  - Technology specifications and implementations for knowledge management
  - Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).
- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

## Inputs

- Knowledge\_ Appraised and Structured (From: A854)  
Knowledge that has been assessed according to predefined evaluation and quality criteria (checking for relevance, testing, scrutinizing)  
Knowledge that has been structured so that it can be published in any knowledge management repository or otherwise made available to satisfy knowledge requests.
- Knowledge Request  
A request by a user for a knowledge asset to be available to them.

## Outputs

- Knowledge Assets (To: A265 A613 A652 A653 A654 A84 A844)  
Any information from knowledge management that fulfills a knowledge request.
- Operational Documentation (To: A45 A454 A523 A613 A621 A651 A654 A655 A664 A723 A736 A764 A765 A766)  
The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.
  - ITIL uses the term Operational Document Library to refer to an implementation of this output.
- Knowledge Management Activity Data (To: A857)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.
- Knowledge Request Queue (To: A852 A854)  
The entirety of knowledge requests that are as yet unsatisfied (because of time or knowledge gaps).

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## [A856] Monitor, Assess and Report Knowledge Status

### Description

This activity monitors the usage, currency, completeness, and user satisfaction with the knowledge managed by this process. It assesses the status of these characteristics against the Knowledge Management Plan, and identifies patterns and trends of knowledge usage and requests, including topics for which requests are satisfied only partially or not at all. It makes these assessments available using reports, both regular and ad hoc.

### Controls

- Knowledge Plan (From: A852)  
Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.
- Knowledge Management Infrastructure (From: A851)  
Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:
  - Technology specifications and implementations for knowledge management
  - Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).

- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

## Inputs

- Knowledge Acquisition Requests (From: A853)  
An identification of a specific requirement to obtain a body of knowledge so that it is available for any IT process activity.
- Knowledge\_ Appraised and Structured (From: A854)  
Knowledge that has been assessed according to predefined evaluation and quality criteria (checking for relevance, testing, scrutinizing)  
Knowledge that has been structured so that it can be published in any knowledge management repository or otherwise made available to satisfy knowledge requests.
- Knowledge Gaps (From: A854)  
Any gaps in relevant knowledge that have been identified.
- Knowledge Management Feedback  
Feedback from any user of knowledge (the processes and the content) as to the usefulness, completeness, accuracy or any other relevant aspect.

## Outputs

- Knowledge Reports (To: A852 A857)  
Reports indicating the status and key performance indicators for the knowledge being managed. They include identification of:
  - Patterns and trends of usage
  - Corresponding topics or items that could require additional or reduced focus in the Knowledge Management Plan
- Knowledge Management Activity Data (To: A857)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.

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## [A857] Evaluate Knowledge Management Performance

### Description

In order to control both the Knowledge Management process as well as the sharing and reuse of knowledge in the business, this activity evaluates according to the measurements defined in the Establish Knowledge Management Framework activity:

- Review the effectiveness of the Knowledge Management process activities (acquiring, evaluating, supplying knowledge)
- Assess the effectiveness of Knowledge Management in the business by analyzing knowledge sharing and submission, knowledge delivery, and knowledge usage by establishing tracking and reporting mechanisms

The review and assessment results will be used to document the overall knowledge management performance and to suggest improvement actions for the Knowledge Management processes, and for the Knowledge Management Framework itself.

## Controls

- Knowledge Management Infrastructure (From: A851)  
Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:
  - Technology specifications and implementations for knowledge management
  - Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).
- Knowledge Management Framework (From: A851)  
The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources)

## Inputs

- Knowledge Reports (From: A856)  
Reports indicating the status and key performance indicators for the knowledge being managed. They include identification of:
  - Patterns and trends of usage
  - Corresponding topics or items that could require additional or reduced focus in the Knowledge Management Plan
- Knowledge Management Activity Data (From: A852 A853 A854 A855 A856)  
Any data about the accomplishment of process activities that support the evaluation of the overall Knowledge Management process.

## Outputs

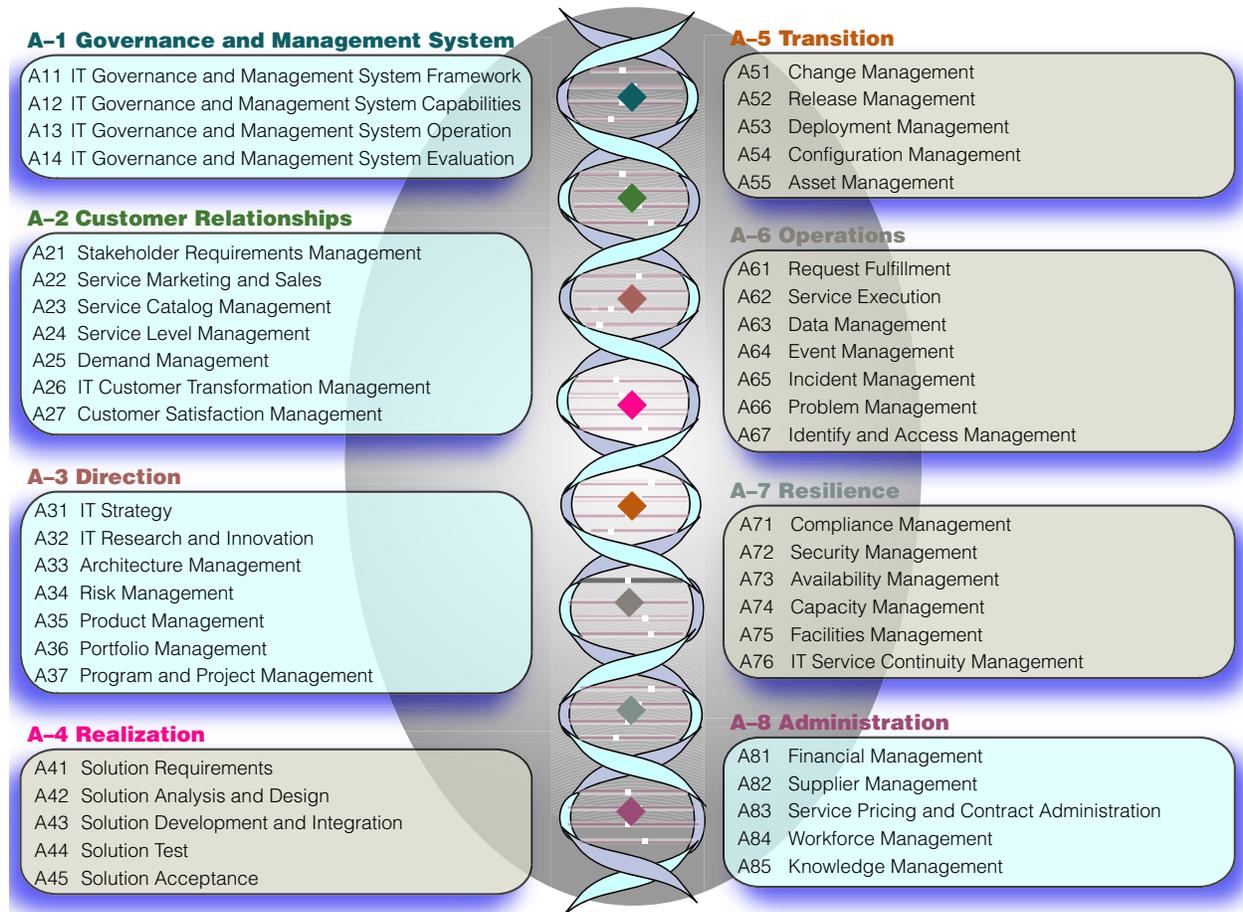
- Knowledge Management Evaluation (To: A851)  
The result of the evaluation of the Knowledge Management process.

## PRM-IT A8 Node Tree

<b>A8 – ADMINISTRATION</b>	
<b>A81</b>	<b>Financial Management</b>
A811	Establish Financial Management Framework
A812	Perform Financial Modeling
A813	Plan and Control Budgets
A814	Perform Financial Accounting
A815	Administer Charging
A816	Audit Financials
A817	Evaluate Financial Management Performance
<b>A82</b>	<b>Supplier Management</b>
A821	Establish Supplier Management Framework
A822	Manage Portfolio of Suppliers
A23	Manage Supplier Contracts
A824	Manage Procurement
A825	Evaluate Supplier Performance
A826	Provide Supplier Product and Service Information
A827	Evaluate Supplier Management Performance
<b>A83</b>	<b>Service Pricing and Contract Administration</b>
A831	Establish Service Pricing and Contract Administration Framework
A832	Collect Pricing Data
A833	Provide Price Alternatives
A834	Administer Customer Contract Agreement
A835	Monitor Pricing Effects
A836	Evaluate Service Pricing and Contract Administration Performance
<b>A84</b>	<b>Workforce Management</b>
A841	Establish Workforce Management Framework
A842	Forecast and Plan Workforce
A843	Administer Human Resources
A844	Manage Skills
A845	Evaluate Workforce Management Performance
<b>A85</b>	<b>Knowledge Management</b>
A851	Establish Knowledge Management Framework
A852	Create and Maintain Knowledge Plan
A853	Acquire Knowledge
A854	Evaluate and Structure Knowledge
A855	Disseminate Knowledge
A856	Monitor, Assess and Report Knowledge Status
A857	Evaluate Knowledge Management Performance

Figure 7. A8 Administration Node Tree

# IDEFØ Node Tree



## A0 – Manage IT

<b>A1</b>	<b>Governance and Management System</b>
<b>A2</b>	<b>Customer Relationships</b>
<b>A3</b>	<b>Direction</b>
<b>A4</b>	<b>Realization</b>
<b>A5</b>	<b>Transition</b>
<b>A6</b>	<b>Operations</b>
<b>A7</b>	<b>Resilience</b>
<b>A8</b>	<b>Administration</b>

## A1 – Governance and Management System

<b>A1 – GOVERNANCE AND MANAGEMENT SYSTEM</b>	
<b>A11</b>	<b>IT Governance and Management System Framework</b>
A111	Define IT Governance Framework
A112	Define IT Management Goals
A113	Establish IT Management Policies
A114	Establish IT Management Practices
<b>A12</b>	<b>IT Governance and Management System Capabilities</b>
A121	Establish IT Governance Capabilities
A122	Establish IT Process Capabilities
A123	Establish IT Organizational Capabilities
A124	Establish IT Management Information Capabilities
A125	Establish IT Operational Environment Capabilities
A126	Establish IT Measurement and Control Capabilities
<b>A13</b>	<b>IT Governance and Management System Operations</b>
A131	Produce IT Measurements
A132	Operate IT Governance and Management System Controls
A133	Monitor, Analyze and Report IT Outcomes
<b>A14</b>	<b>IT Governance and Management System Evaluation</b>
A141	Collate IT Management System Outcomes
A142	Analyze IT Governance and Management System Performance
A143	Audit IT Governance and Management
A144	Communicate IT Governance and Management System Performance

## A2 – Customer Relationships

<b>A2 – CUSTOMER RELATIONSHIPS</b>	
<b>A21</b>	<b>Stakeholder Requirements Management</b>
A211	Establish Stakeholder Requirements Management Framework
A212	Capture Stakeholder Needs
A213	Transform Needs Into Stakeholder Requirements
A214	Monitor and Report Stakeholder Needs and Requirements
A215	Evaluate Stakeholder Requirements Management Performance
<b>A22</b>	<b>Service Marketing and Sales</b>
A221	Establish Service Marketing and Sales Framework
A222	Analyze Market Wants and Needs
A223	Create Marketing Plan
A224	Execute Marketing Plan
A225	Manage Opportunities and Forecast Sales
A226	Consult and Propose Services Solutions
A227	Negotiate and Close Services Opportunity
A228	Analyze and Report Marketing and Sales Results
A229	Evaluate Service Marketing and Sales Performance
<b>A23</b>	<b>Service Catalog Management</b>
A231	Establish Service Catalog Management Framework
A232	Define Service Package Catalog Requirements
A233	Build and Maintain Service Catalog Content
A234	Create and Maintain Service Catalog Views
A235	Publish Service Catalog
A236	Monitor, Analyze and Report Service Catalog
A237	Evaluate Service Catalog Management Performance
<b>A24</b>	<b>Service Level Management</b>
A241	Establish Service Level Management Framework
A242	Develop Service Level Relationships
A243	Create and Maintain Service Level Agreements
A244	Monitor and Report Service Level Achievements

<b>A2 – CUSTOMER RELATIONSHIPS</b>	
A245	Conduct Service Review
A246	Formulate Service Improvement Plan
A247	Evaluate Service Level Management Performance
<b>A25</b>	<b>Demand Management</b>
A251	Establish Demand Management Framework
A252	Value and Classify Business Demands
A253	Consolidate Business Demand Patterns and Forecasts
A254	Forecast Service Demand
A255	Identify and Plan Demand Management Initiatives
A256	Assess and Report Demand Management Outcomes
<b>A26</b>	<b>IT Customer Transformation Management</b>
A261	Establish IT Customer Transformation Management Framework
A262	Understand IT Customer Context
A263	Identify IT Customer Transformation Opportunities
A264	Develop IT Customer Transformation Proposal
A265	Enable and Promote IT Customer Capability Adoption
A266	Optimize IT Customer Benefit Realization
A267	Evaluate IT Customer Transformation Management Performance
<b>A27</b>	<b>Customer Satisfaction Management</b>
A271	Establish Customer Satisfaction Management Framework
A272	Capture Customer Satisfaction Data
A273	Analyze Customer Satisfaction
A274	Manage Customer Satisfaction Issue Resolution
A275	Assess Customer Satisfaction Patterns
A276	Communicate Customer Satisfaction Management Results
A277	Evaluate Customer Satisfaction Management Performance

## A3 – IT Direction

<b>A3 – IT DIRECTION</b>	
<b>A31</b>	<b>IT Strategy</b>
A311	Establish IT Strategy Process Framework
A312	Understand Business Strategy
A313	Determine IT Strategic Potential
A314	Develop IT Strategy Initiatives
A315	Consolidate and Communicate IT Strategy
A316	Monitor and Assess IT Strategy Effectiveness
A317	Evaluate IT Strategy Process Performance
<b>A32</b>	<b>IT Research and Innovation</b>
A321	Establish IT Research and Innovating Framework
A322	Identify IT Research and Innovation Candidates
A323	Qualify Candidates and Define IT Research and Innovation Projects
A324	Perform IT Research and Innovation Project
A325	Promote IT Research and Innovation Results
A326	Evaluate IT Research and Innovation Performance
<b>A33</b>	<b>Architecture Management</b>
A331	Establish Architecture Management Framework
A332	Review Overall Environment and Architecture
A333	Create and Maintain Architecture Models
A334	Define and Maintain Architecture Baselines and Roadmaps
A335	Promote Architecture Transition Initiatives
A336	Govern Architecture Usage
A337	Evaluate Architecture Management Performance

<b>A3 – IT DIRECTION</b>	
<b>A34</b>	<b>Risk Management</b>
A341	Establish Risk Management Framework
A342	Identify Threats, Vulnerabilities and Risks
A343	Assess Risk
A344	Define Risk Mitigation Plans and Countermeasures
A345	Enact and Operate Risk Countermeasures
A346	Assess Risk Mitigation Results
A347	Evaluate Risk Management Performance
<b>A35</b>	<b>Product Management</b>
A351	Establish Product Management Framework
A352	Formulate Product Concept
A353	Plan and Control Product Lifecycle
A354	Initiate and Oversee Product Realization
A355	Guide Product Transition and Operation
A356	Monitor and Assess Product Performance
A357	Evaluate Product Management Performance
<b>A36</b>	<b>IT Portfolio Management</b>
A361	Establish IT Portfolio Management Framework
A362	Inventory IT Projects and Services
A363	Create and Maintain IT Portfolio Categories
A364	Assess and Prioritize IT Portfolio
A365	Make IT Portfolio Decisions and Commitments
A366	Conduct IT Portfolio Review
A367	Communicate IT Business Value and IT Portfolio Performance
A368	Evaluate Portfolio Management Performance
<b>A37</b>	<b>Program and Project Management</b>
A371	Establish Program and Project Management Framework
A372	Manage Program
A373	Define and Initiate Project
A374	Plan Project
A375	Track and Report Project

<b>A3 – IT DIRECTION</b>	
A376	Control Project
A377	Close Project
A378	Evaluate Program and Project Management Performance

## A4 – Realization

<b>A4 – REALIZATION</b>	
<b>A41</b>	<b>Solution Requirements</b>
A411	Establish Solution Requirements Framework
A412	Refine and Verify Business Context
A413	Document and Analyze Solution Requirements
A414	Validate Solution Requirements with Stakeholders
A415	Manage Solution Requirements Baseline
A416	Evaluate Solution Requirements Performance
<b>A42</b>	<b>Solution Analysis and Design</b>
A421	Establish Solution Analysis and Design Framework
A422	Create Conceptual Solution Design
A423	Identify and Select Solution Components
A424	Create Detailed Solution Design
A425	Validate Solution Design with Stakeholders
A426	Evaluate Solution Analysis and Design Performance
<b>A43</b>	<b>Solution Development and Integration</b>
A431	Establish Solution Development and Integration Framework
A432	Define Solution Development and Integration Plan
A433	Prepare Solution Development and Integration Environment
A434	Acquire or Create Solution Components
A435	Integrate Solution Components
A436	Refine and Tune Integrated Solution
A437	Verify Integrated Solution
A438	Evaluate Solution Development and Integration Performance

<b>A4 – REALIZATION</b>	
<b>A44</b>	<b>Solution Test</b>
A441	Establish Solution Test Framework
A442	Develop Solution Test Strategy and Plans
A443	Prepare and Mange Solution Test Environment
A444	Perform Solution Test
A445	Analyze and Report Solution Test Results
A446	Evaluate Solution Test Performance
<b>A45</b>	<b>Solution Acceptance</b>
A451	Establish Solution Acceptance Framework
A452	Create Solution Acceptance Plan
A453	Define Solution Acceptance Criteria
A454	Perform Solution Acceptance Review
A455	Certify Solution Acceptance
A456	Package Certified Solution
A457	Evaluate Solution Acceptance Performance

## A5 – Transition

<b>A5 – TRANSITION</b>	
<b>A51</b>	<b>Change Management</b>
A511	Establish Change Management Framework
A512	Create and Record Change Request
A513	Accept and Categorize Change
A514	Assess Change
A515	Authorize and Schedule Change
A516	Coordinate Change Implementation
A517	Review and Close Change
A518	Monitor and Report Change Management
A519	Evaluate Change Management Performance
<b>A52</b>	<b>Release Management</b>
A521	Establish Release Management Framework
A522	Plan Release Strategy
A523	Design and Build Release
A524	Test and Verify Release
A525	Monitor and Report Release
A526	Review and Close Release
A527	Evaluate Release Management Performance
<b>A53</b>	<b>Deployment Management</b>
A531	Establish Deployment Management Framework
A532	Plan Deployment Program
A533	Prepare Deployment Capabilities
A534	Perform Deployment
A535	Perform Deployment
A536	Verify Deployment and Activate Service
A537	Review and Close Deployment
A538	Monitor and Report Deployment Program
A539	Evaluate Deployment Management Performance

<b>A5 – TRANSITION</b>	
<b>A54</b>	<b>Configuration Management</b>
A541	Establish Configuration Management Framework
A542	Identify Configuration Items
A543	Control Configuration Items
A544	Report Configuration Status
A545	Verify and Audit Configuration Items
A546	Evaluate Configuration Management Performance
<b>A55</b>	<b>Asset Management</b>
A551	Establish Asset Management Framework
A552	Ready and Control Asset
A553	Control Asset Information
A554	Monitor, Audit and Reconcile Asset Records
A555	Oversee Asset Contracts and Financials
A556	Retire and Dispose of Asset
A557	Report Asset Information
A558	Evaluate Asset Management Performance

## A6 – Operations

<b>A6 – OPERATIONS</b>	
<b>A61</b>	<b>Request Fulfillment</b>
A611	Establish Request Fulfillment Framework
A612	Receive and Approve Service Request
A613	Fulfill or Route Service Request
A614	Close Service Request
A615	Own, Monitor, Track and Communicate Service Requests
A616	Evaluate Request Fulfillment Performance
<b>A62</b>	<b>Service Execution</b>
A621	Establish Service Execution Framework
A622	Schedule and Adjust Workload
A623	Assign and Control Delivery Resources
A624	Deliver Service
A625	Monitor and Report Service Execution Operations
A626	Evaluate Service Execution Performance
<b>A63</b>	<b>Data Management</b>
A631	Establish Data Management Framework
A632	Plan Data Portfolio Lifecycle
A633	Acquire and Prepare Data
A634	Control, Deploy and Maintain Data
A635	Backup and Restore Data
A636	Dispose of Data
A637	Monitor and Report Data Management Operations
A638	Evaluate Data Management Performance
<b>A64</b>	<b>Event Management</b>
A641	Establish Event Management Framework
A642	Detect and Log Event
A643	Filter Event
A644	Correlate Events and Select Response
A645	Resolve Event

<b>A6 – OPERATIONS</b>	
A646	Close Event
A647	Evaluate Event Management Performance
<b>A65</b>	<b>Incident Management</b>
A651	Establish Incident Management Framework
A652	Identify and Log Incident
A653	Classify Incident and Provide Initial Support
A654	Investigate and Diagnose Incident
A655	Resolve Incident and Recover Service
A656	Close Incident
A657	Own, Monitor, Track and Communicate Incidents
A658	Evaluate Incident Management Performance
<b>A66</b>	<b>Problem Management</b>
A661	Establish Problem Management Framework
A662	Detect and Log Problem
A663	Categorize and Prioritize Problem
A664	Investigate and Diagnose Problem
A665	Resolve Problem
A666	Close and Review Problem
A667	Monitor, Track and Report Problems
A668	Evaluate Problem Management Performance
<b>A67</b>	<b>Identity and Access Management</b>
A671	Establish Identity and Access Management Framework
A672	Evaluate and Verify Identity and Access Request
A673	Creae and Maintain Identity
A674	Provide and Maintain Access Rights
A675	Monitor and Report Identity and Access
A676	Evaluate Identity and Access Management Performance

## A7 – Resilience

<b>A7 – RESILIENCE</b>	
<b>A71</b>	<b>Compliance Management</b>
A711	Establish Compliance Management Framework
A712	Identify Compliance Requirements
A713	Assess Compliance Requirements
A714	Define Compliance Controls Plan
A715	Implement Compliance Controls
A716	Audit and Report Compliance
A717	Evaluate Compliance Management Performance
<b>A72</b>	<b>Security Management</b>
A721	Establish Security Management Framework
A722	Produce and Maintain Security Policy
A723	Analyze Security Threats, Vulnerabilities and Risks
A724	Classify Information Asset Security
A725	Plan and Implement Security Practices
A726	Operate Security Protection Mechanisms
A727	Monitor, Assess, Audit and Report Security
A728	Evaluate Security Management Performance
<b>A73</b>	<b>Availability Management</b>
A731	Establish Availability Management Framework
A732	Determine Availability Requirements
A733	Formulate Availability and Recovery Design Criteria
A734	Define and Implement Availability Targets and Related Measures
A735	Monitor, Analyze and Report Availability
A736	Investigate Unavailability
A737	Produce Availability Plan
A738	Evaluate Availability Management Performance

<b>A7 – RESILIENCE</b>	
<b>A74</b>	<b>Capacity Management</b>
A741	Establish Capacity Management Framework
A742	Model and Size Capacity Requirements
A743	Monitor, Analyze and Report Capacity Usage
A744	Supervise Tuning and Capacity Delivery
A745	Produce and Maintain Capacity Plan
A746	Evaluate Capacity Management Performance
<b>A75</b>	<b>Facility Management</b>
A751	Establish Facility Management Framework
A752	Plan Facilities
A753	Manage Facility Request
A754	Operate and Maintain Facilities
A755	Evaluate Facilities Management Performance
<b>A76</b>	<b>IT Service Continuity Management</b>
A761	Establish IT Service Continuity Management Framework
A762	Identify Business Service Continuity Requirements
A763	Create and Maintain IT Service Continuity Strategy
A764	Create and Maintain IT Service Continuity Plan
A765	Prepare IT Service Continuity Capability
A766	Execute IT Service Continuity Plan
A767	Evaluate IT Service Continuity Management Performance

## A8 – Administration

<b>A8 – ADMINISTRATION</b>	
<b>A81</b>	<b>Financial Management</b>
A811	Establish Financial Management Framework
A812	Perform Financial Modeling
A813	Plan and Control Budgets
A814	Perform Financial Accounting
A815	Administer Charging
A816	Audit Financials
A817	Evaluate Financial Management Performance
<b>A82</b>	<b>Supplier Management</b>
A821	Establish Supplier Management Framework
A822	Manage Portfolio of Suppliers
A23	Manage Supplier Contracts
A824	Manage Procurement
A825	Evaluate Supplier Performance
A826	Provide Supplier Product and Service Information
A827	Evaluate Supplier Management Performance
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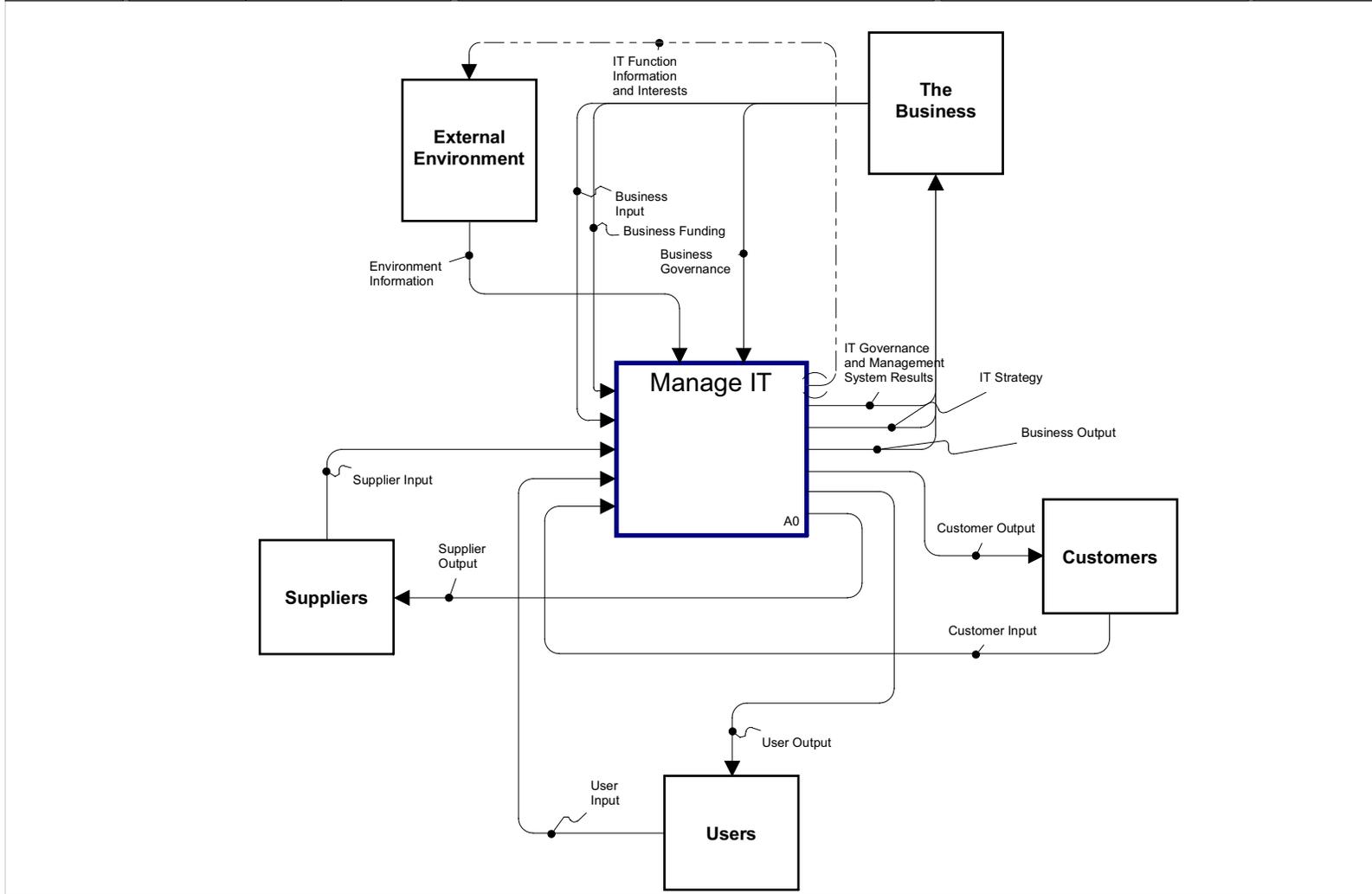
[A83 Service Pricing and Contract Administration](#)

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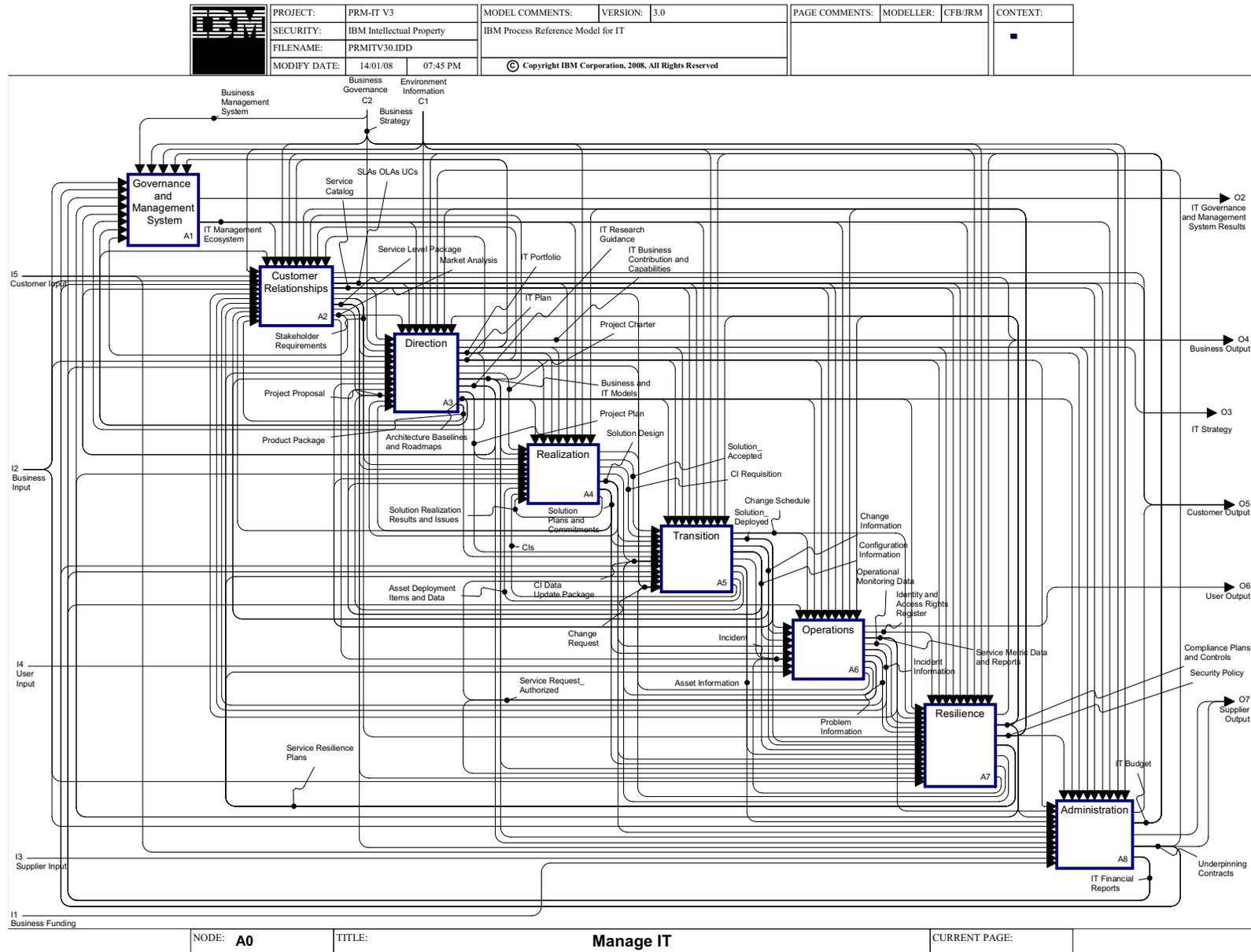
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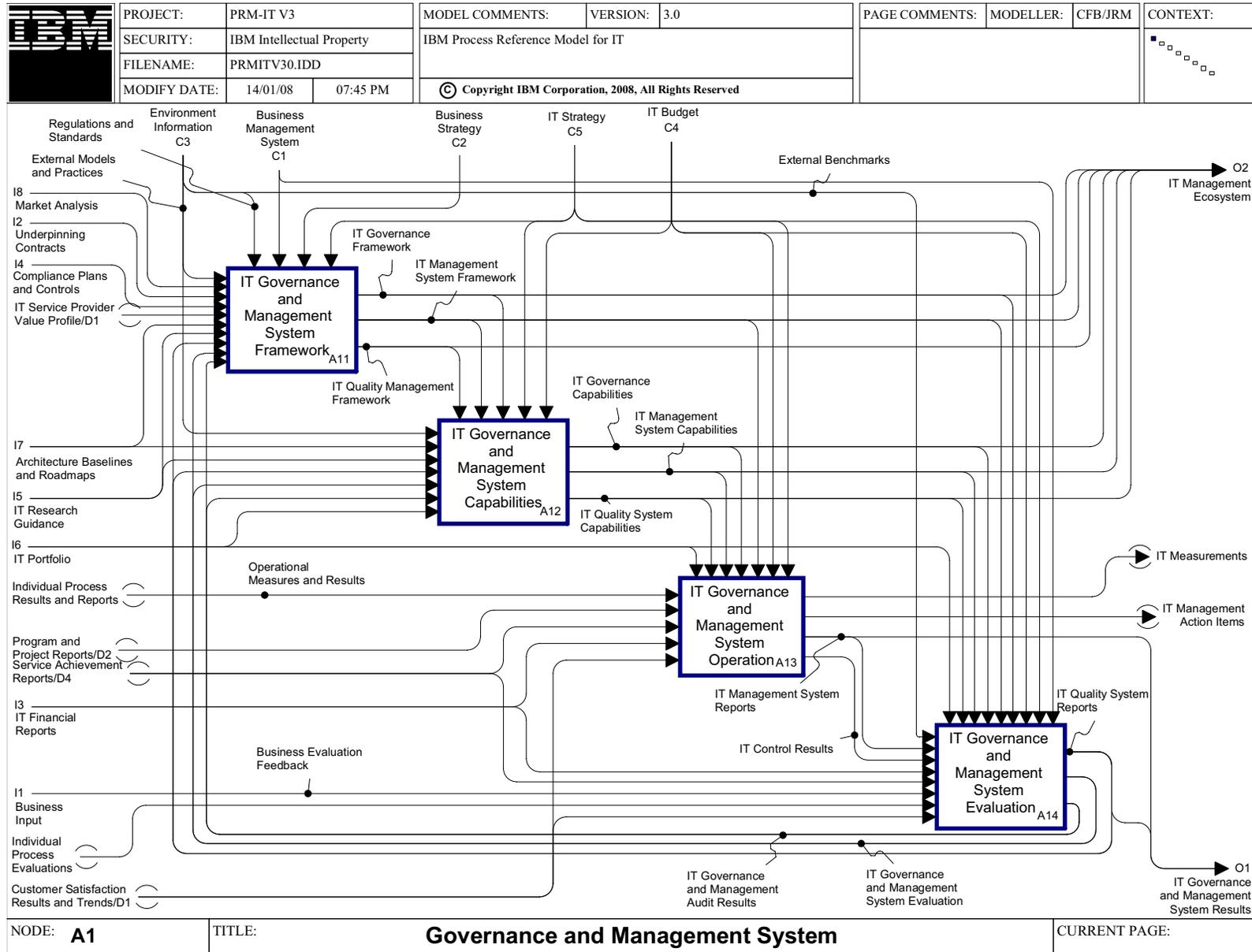


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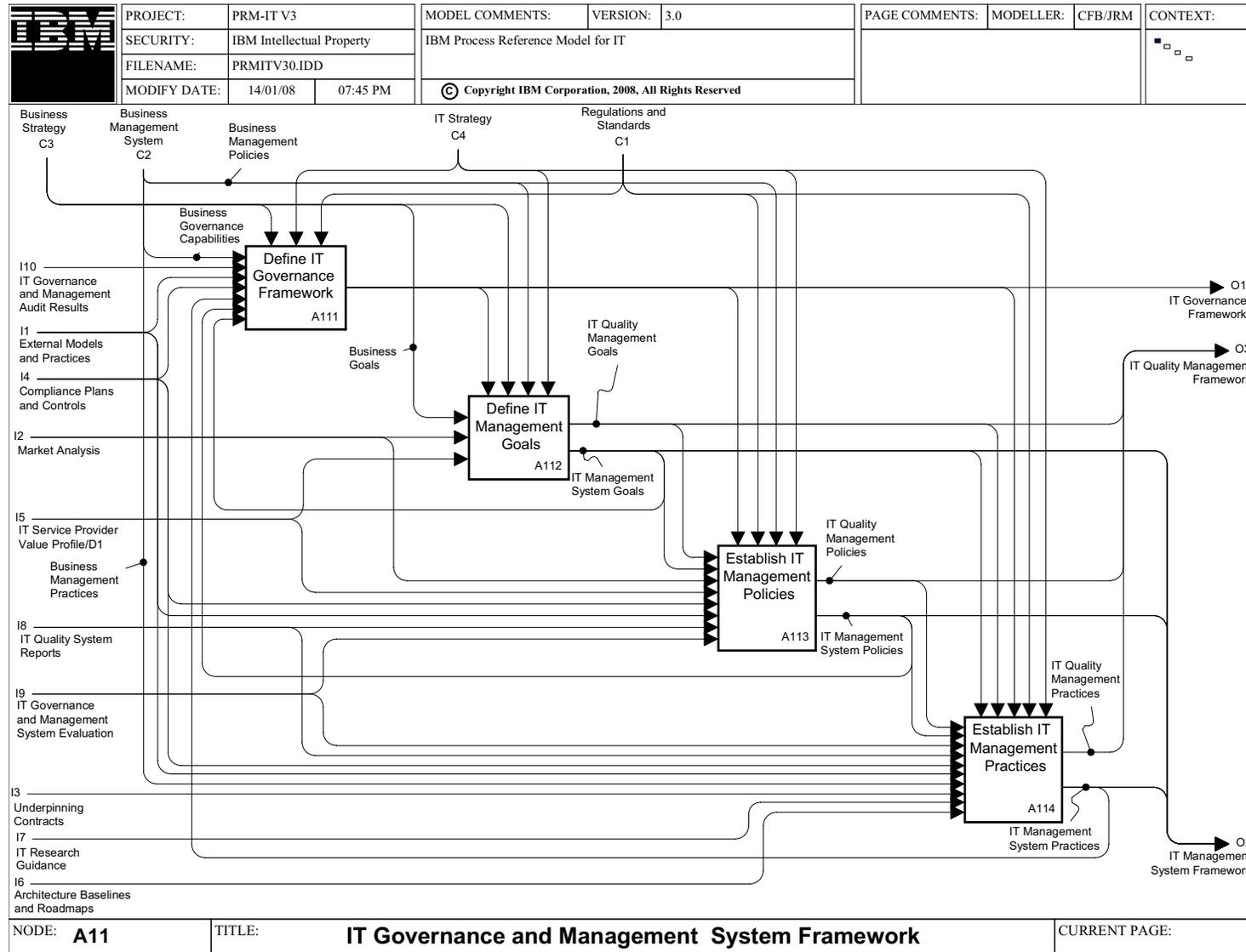
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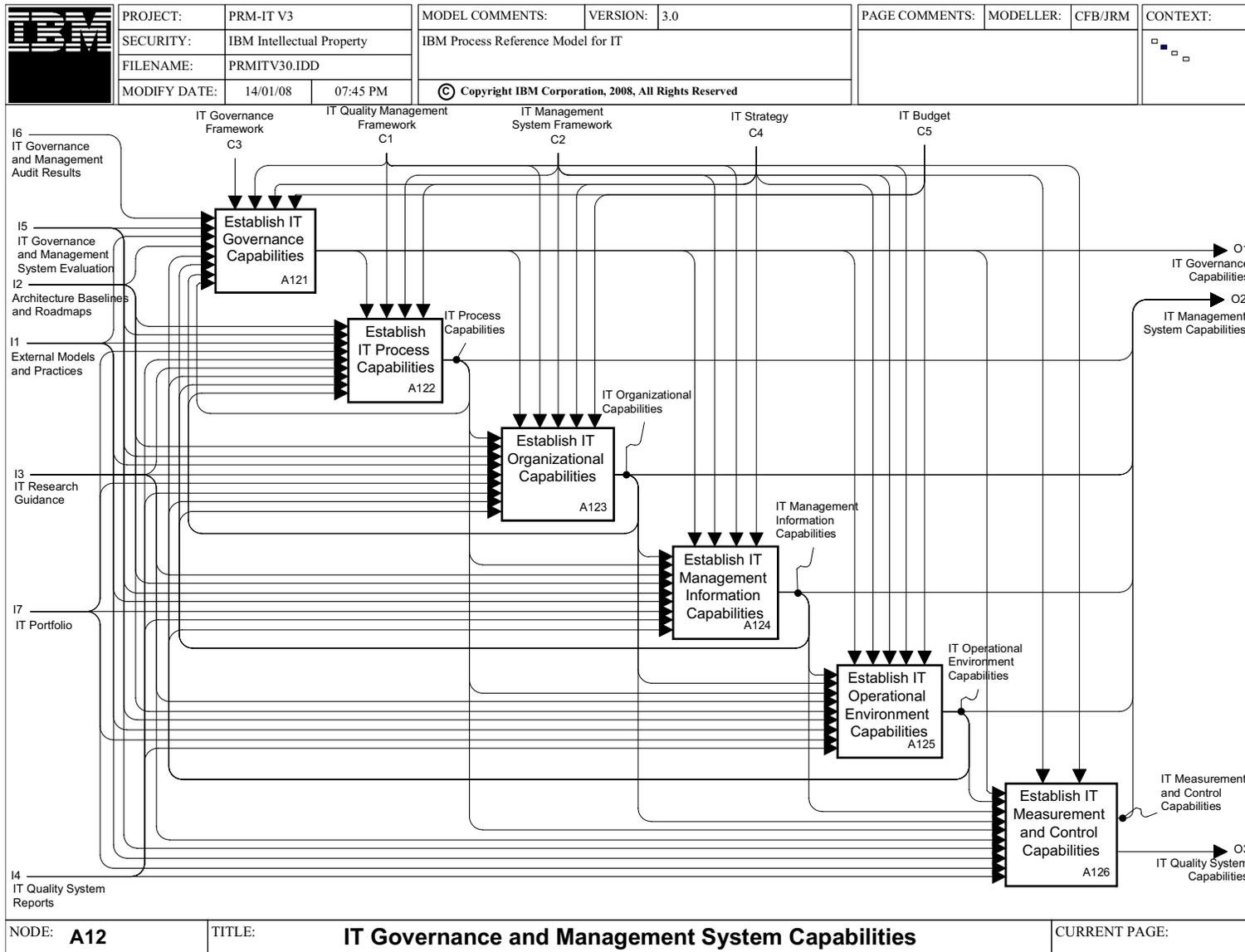
**A1 Governance and Management System**



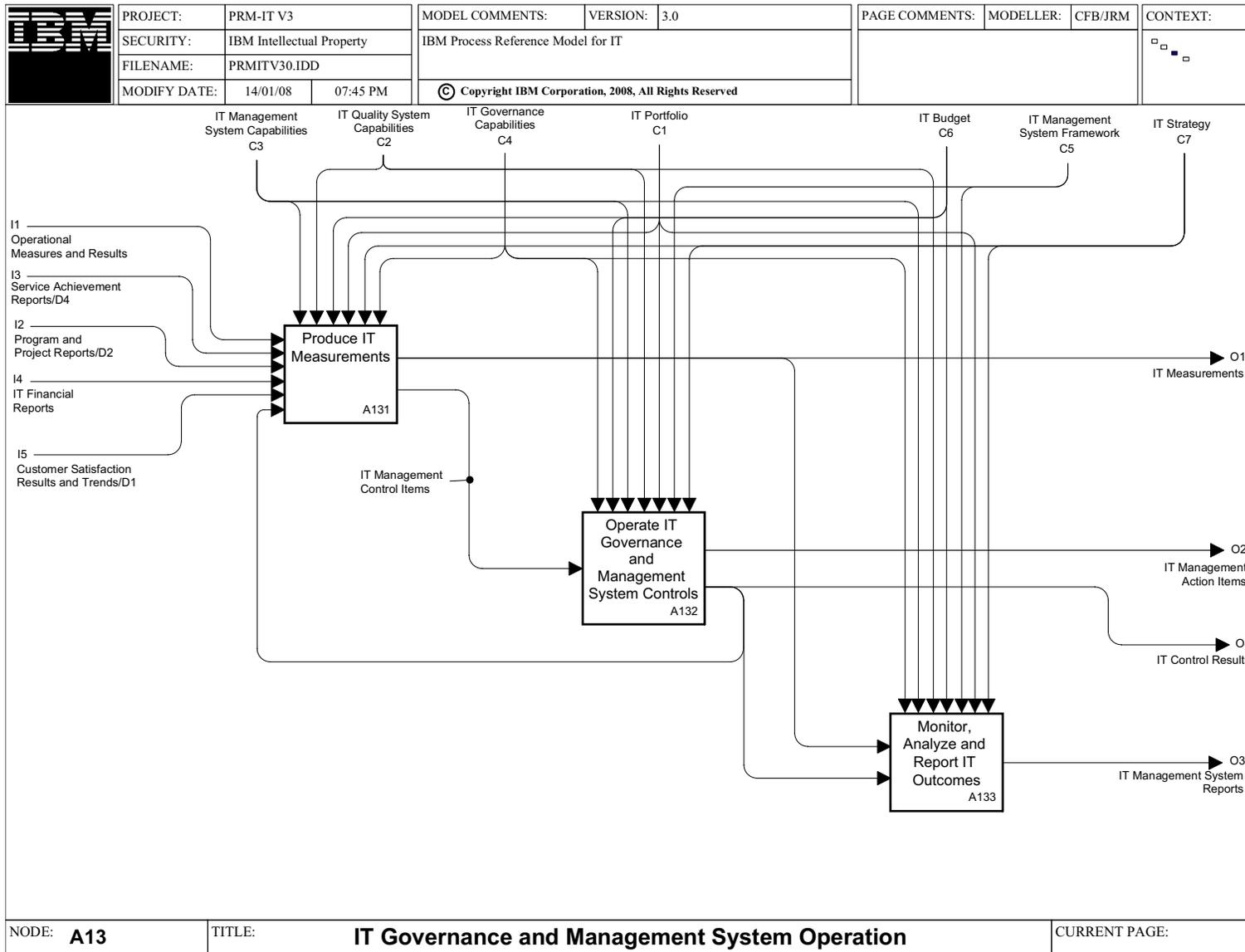
A11 IT Governance and Management System Framework



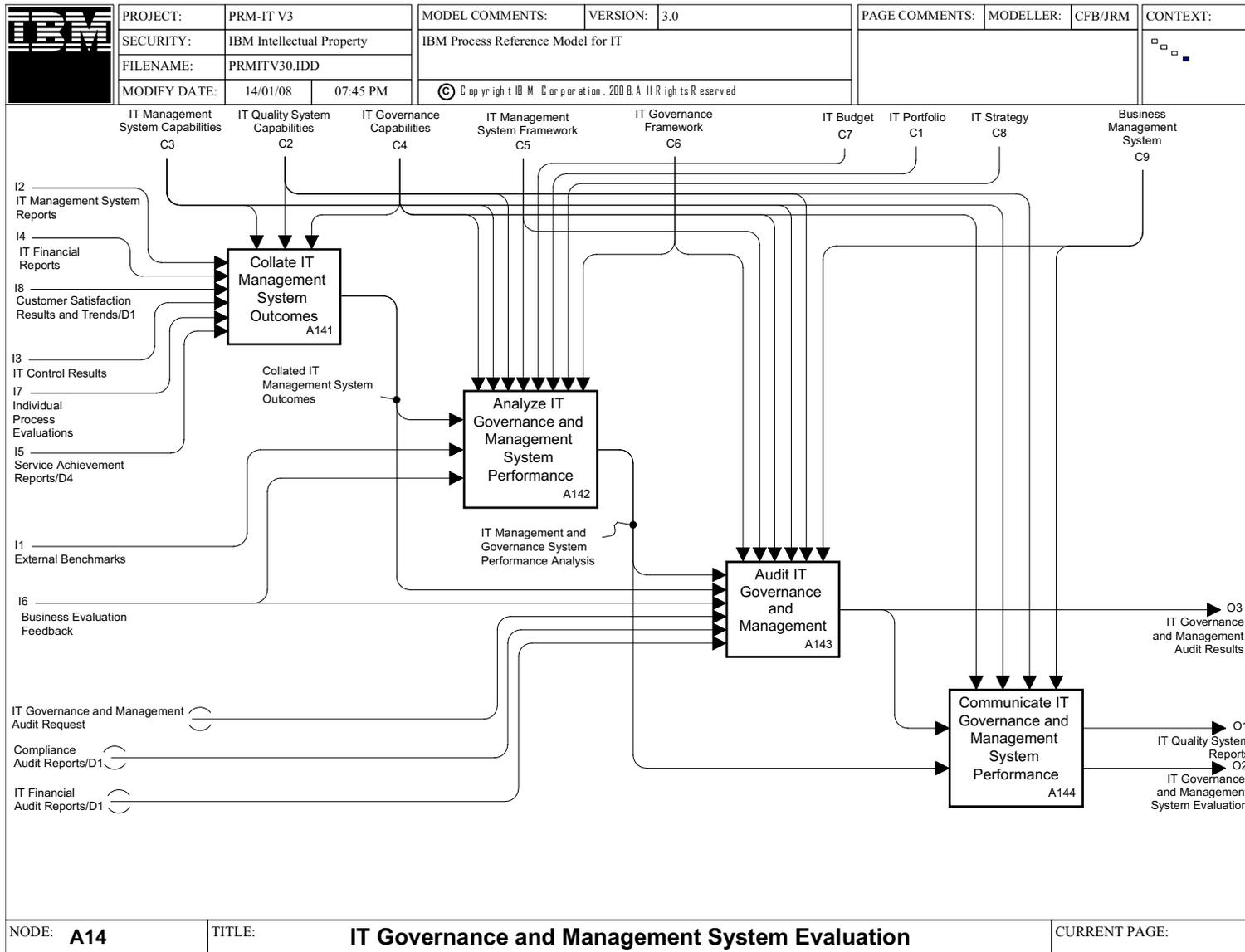
**A12 IT Governance and Management System Capabilities**



**A13 IT Governance and Management System Operation**



**A14 IT Governance and Management System Evaluation**



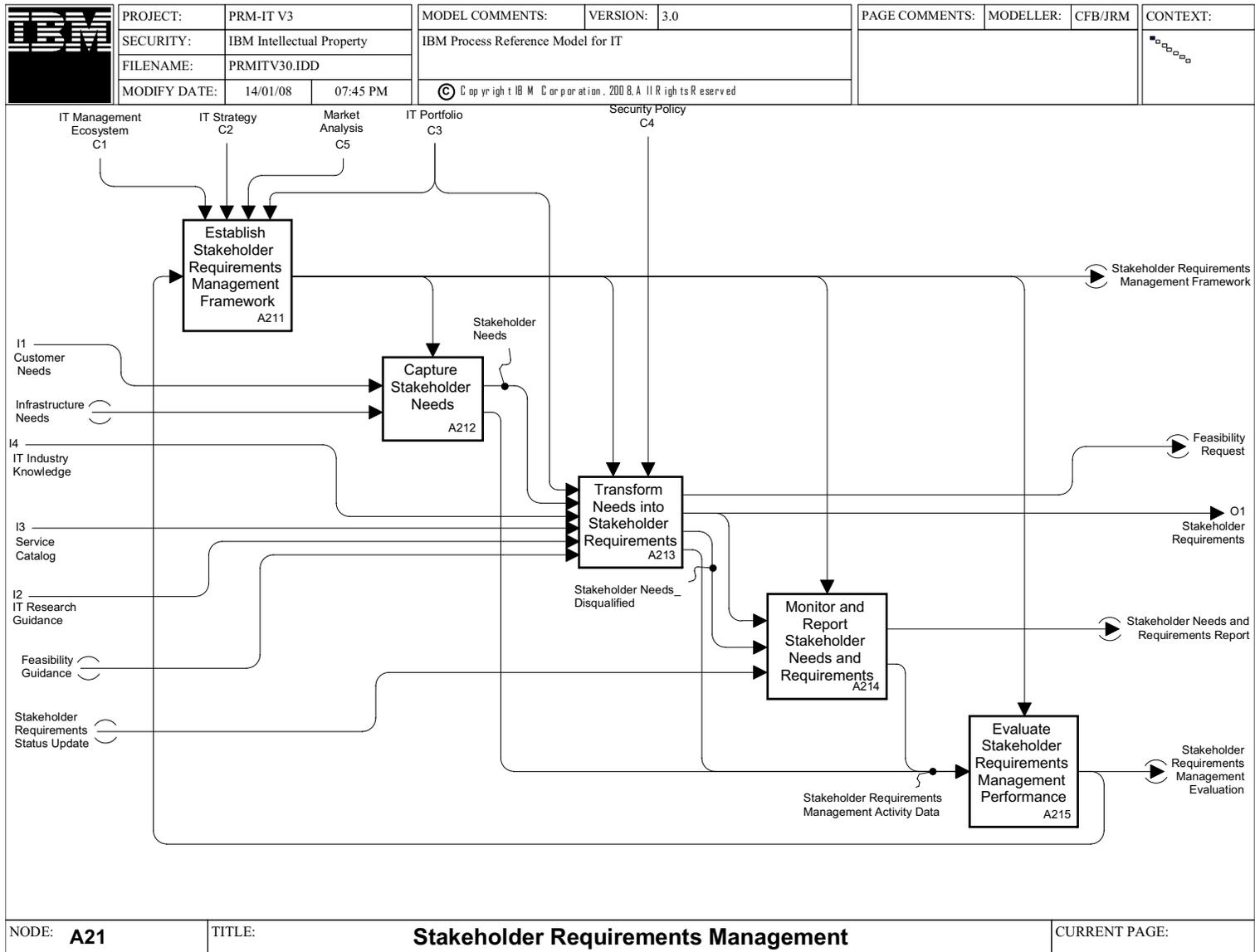
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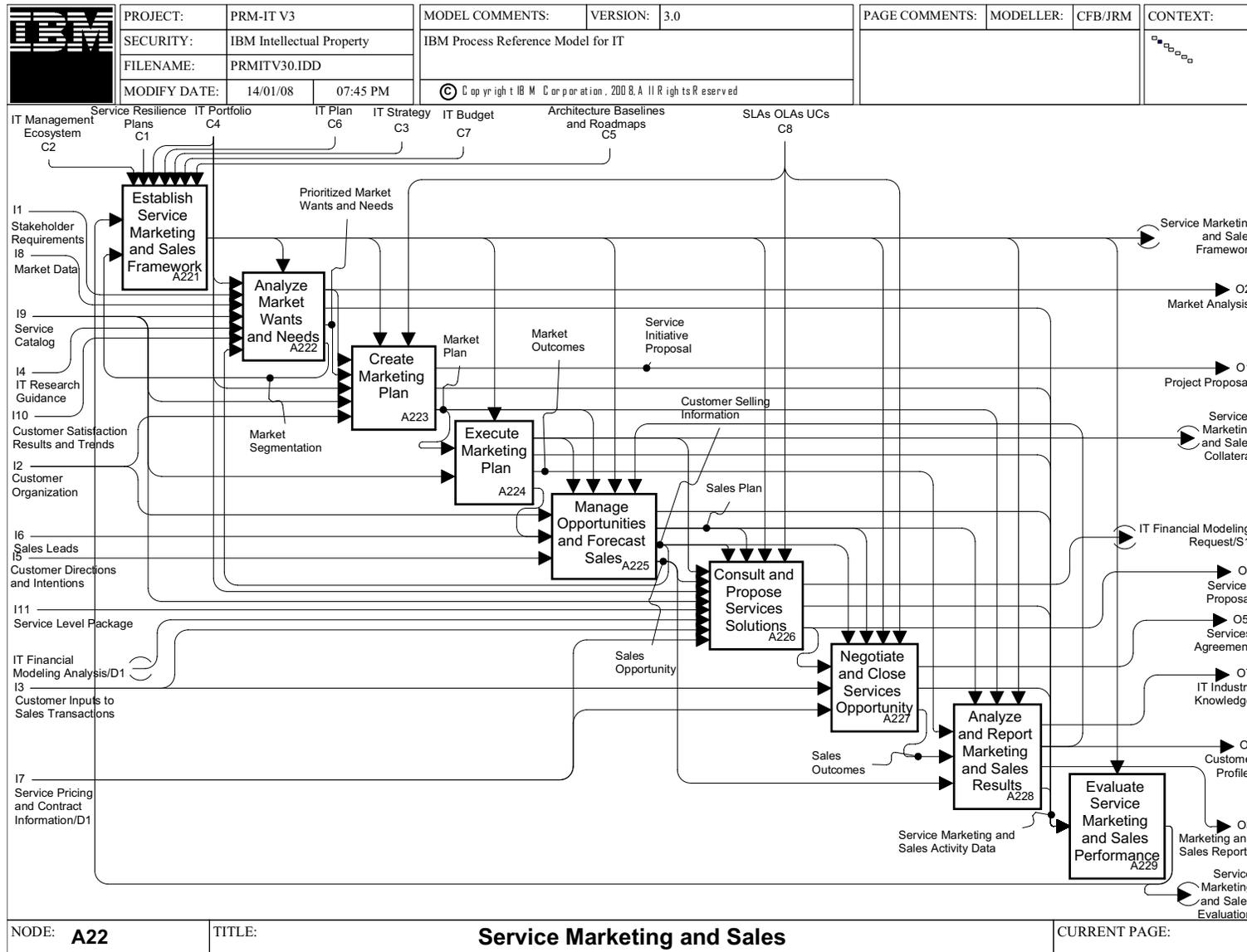
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**A21 Stakeholder Requirements Management**



**A22 Service Marketing and Sales**

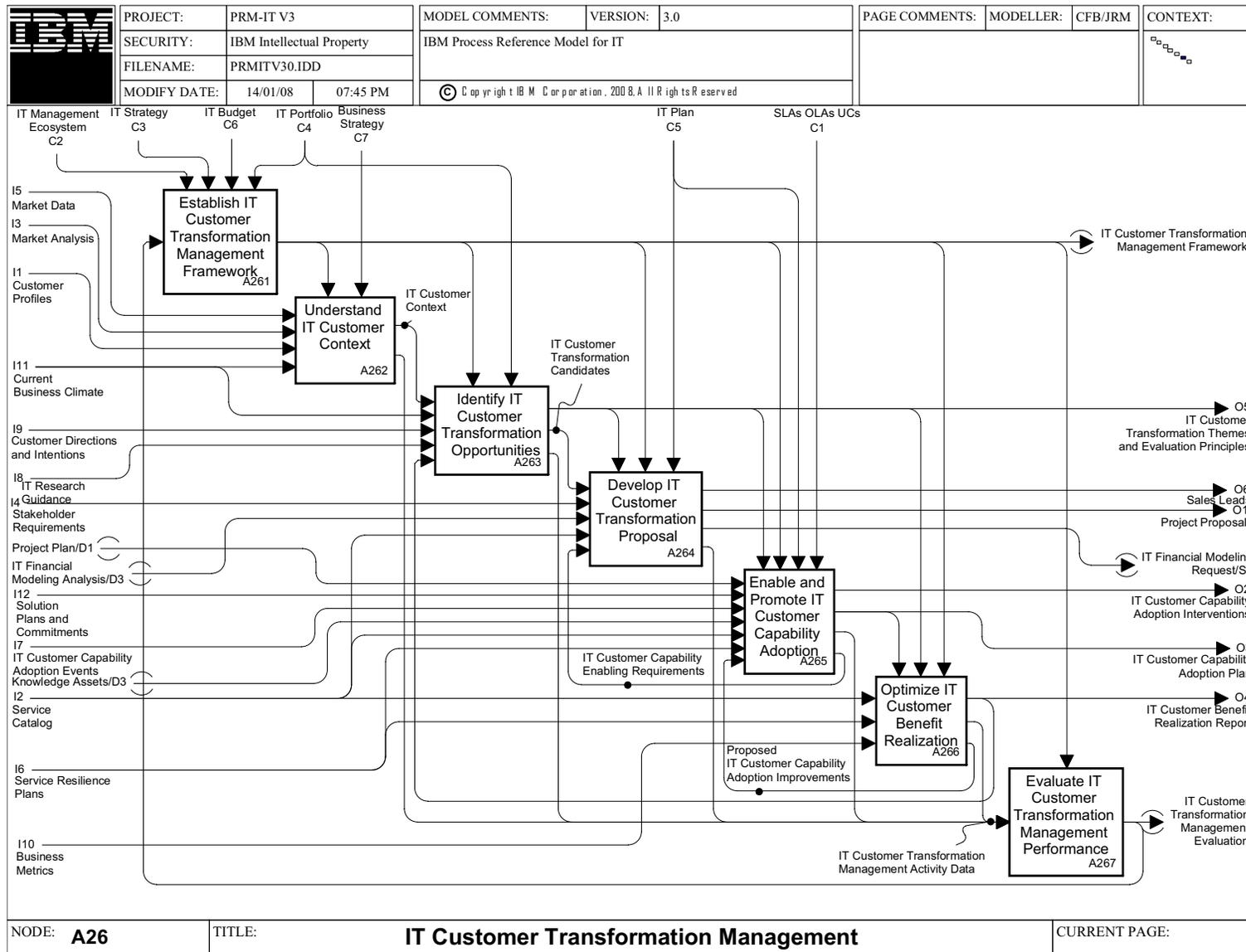






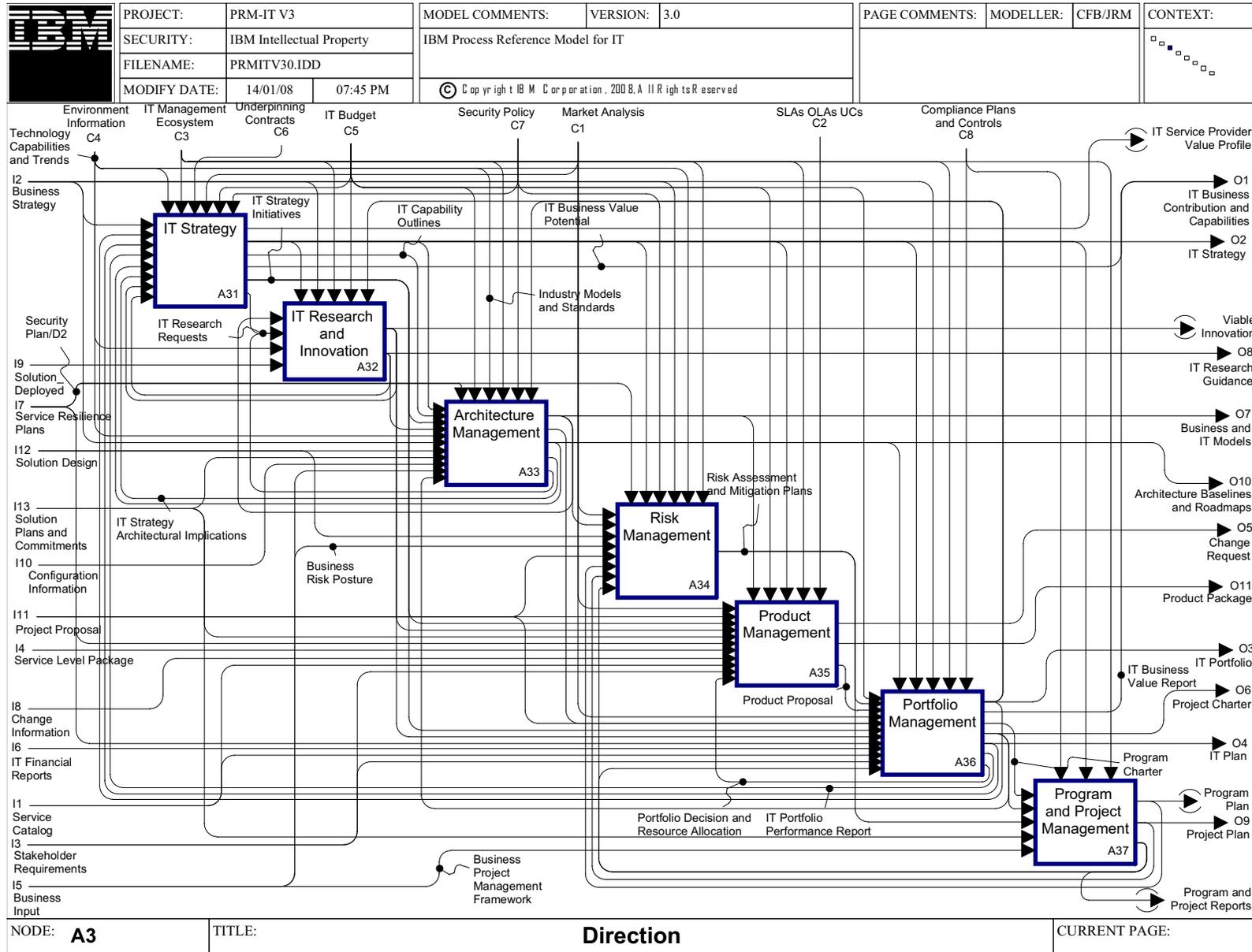


**A26 IT Customer Transformation Management**



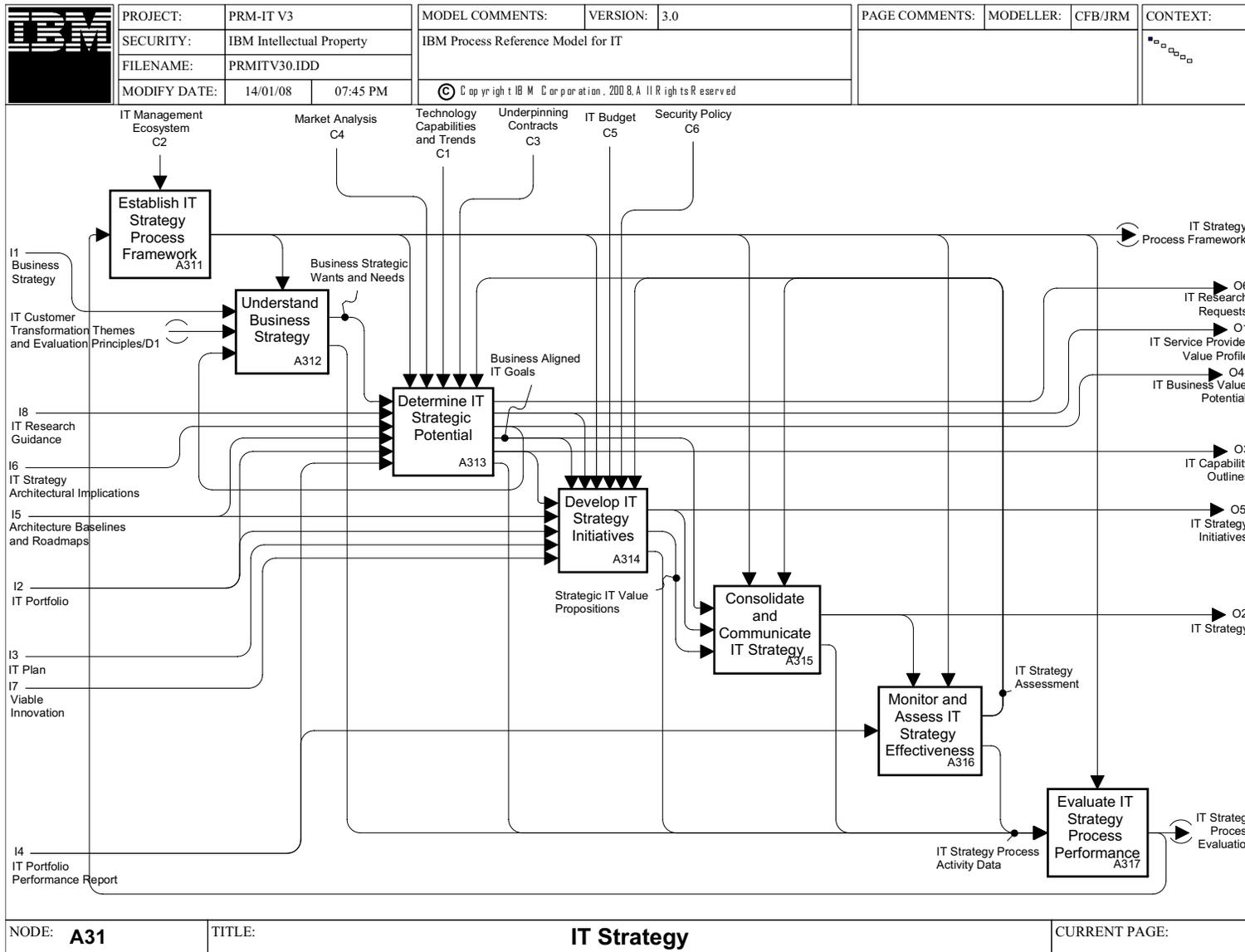


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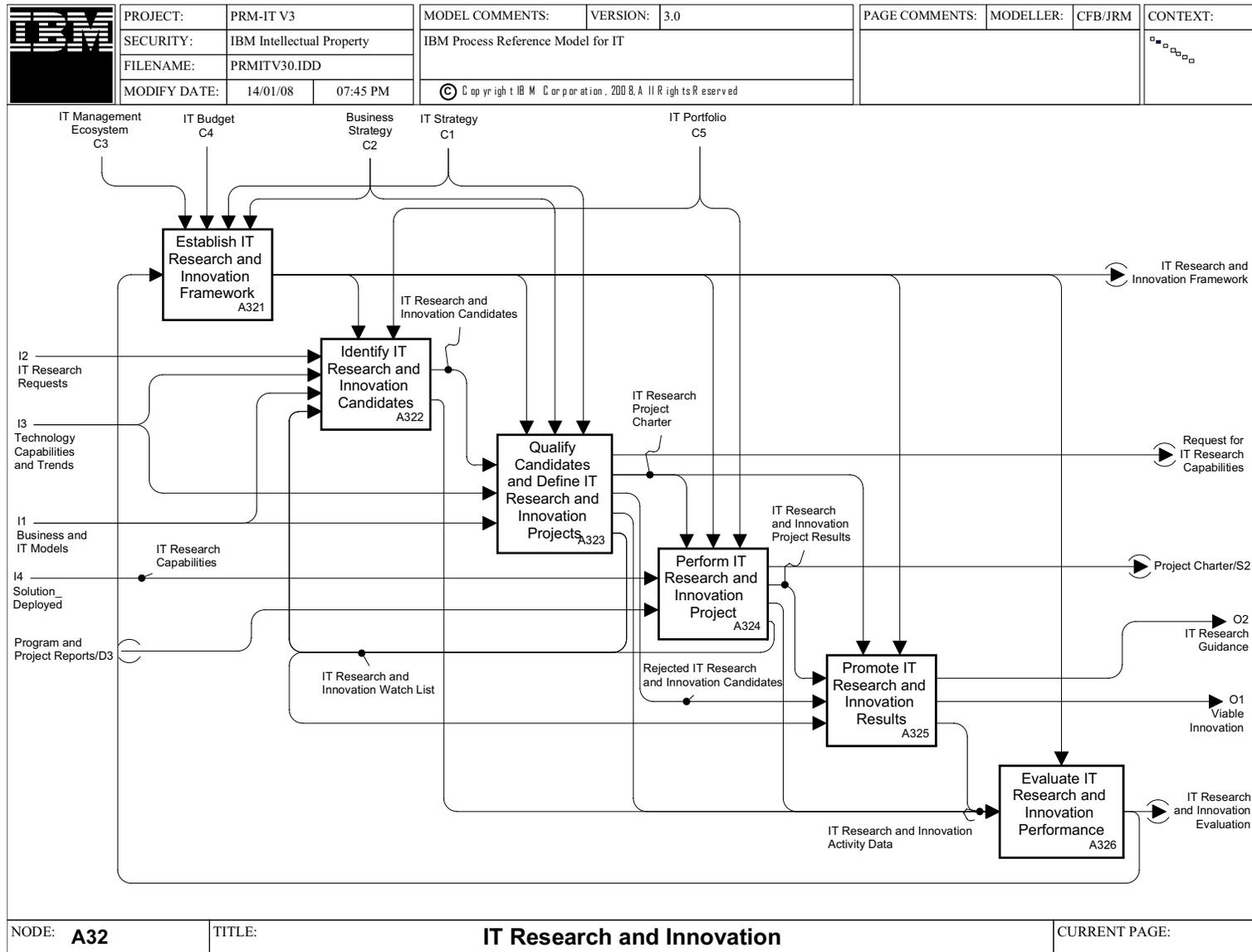


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A31 IT Strategy

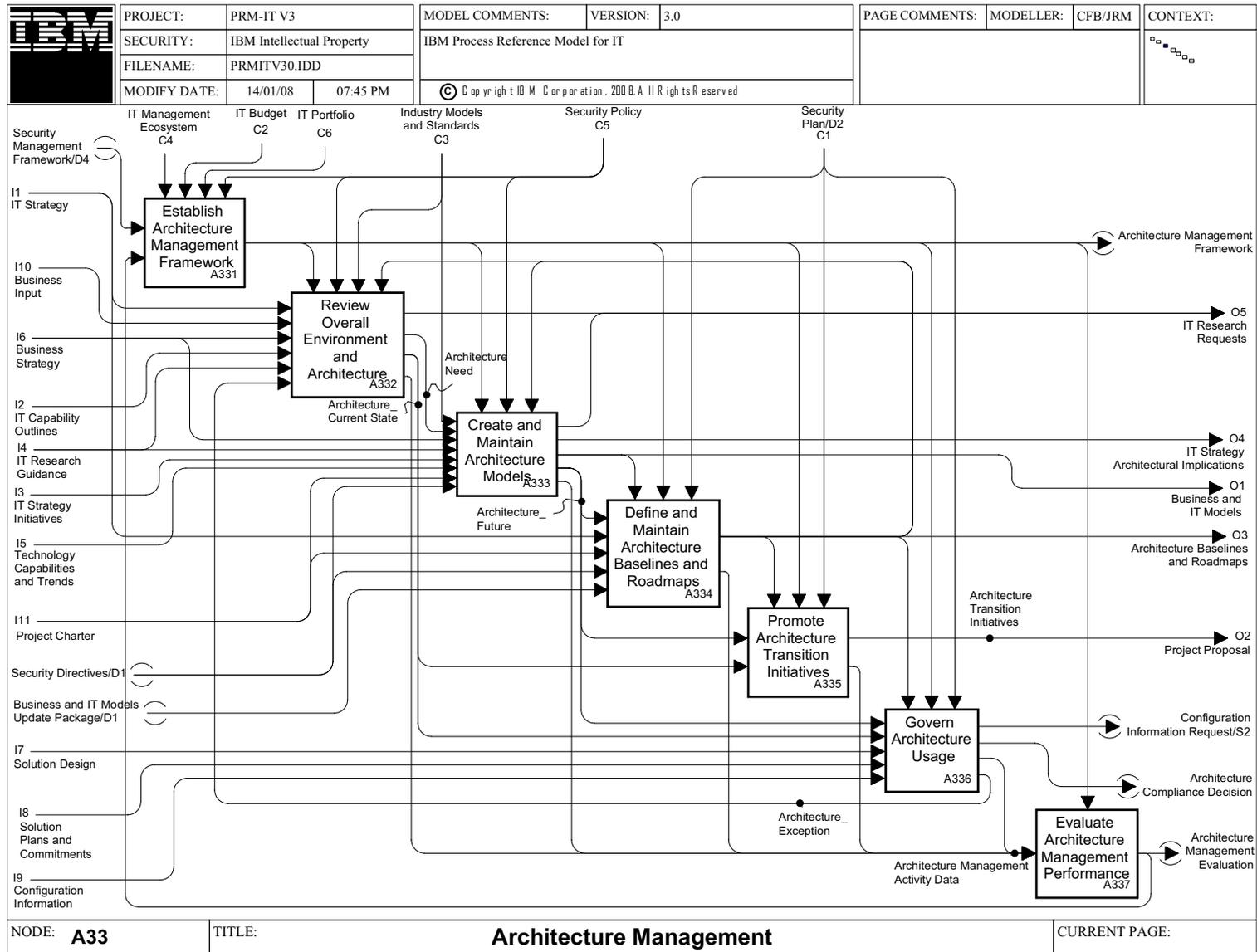


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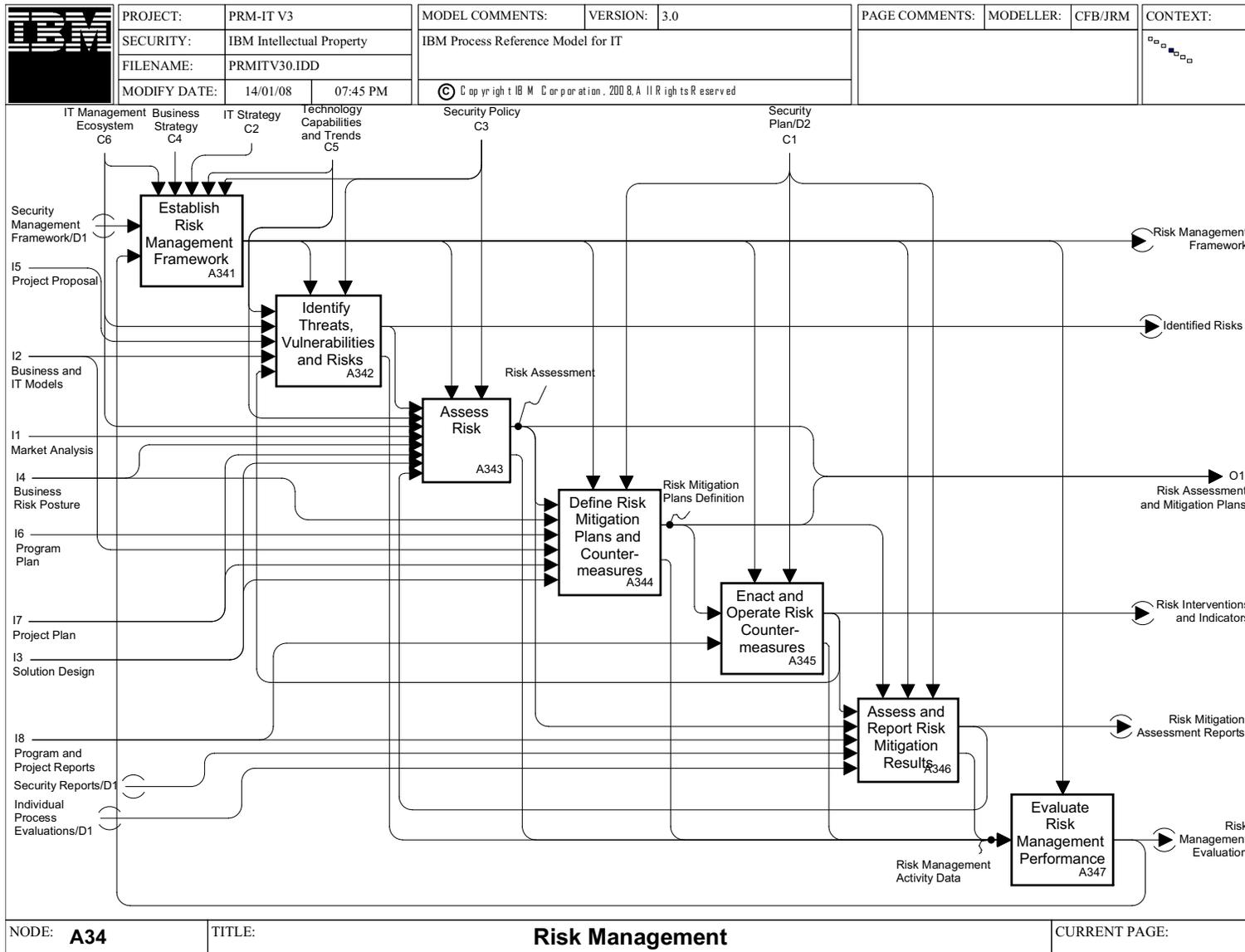


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**A33 Architecture Management**

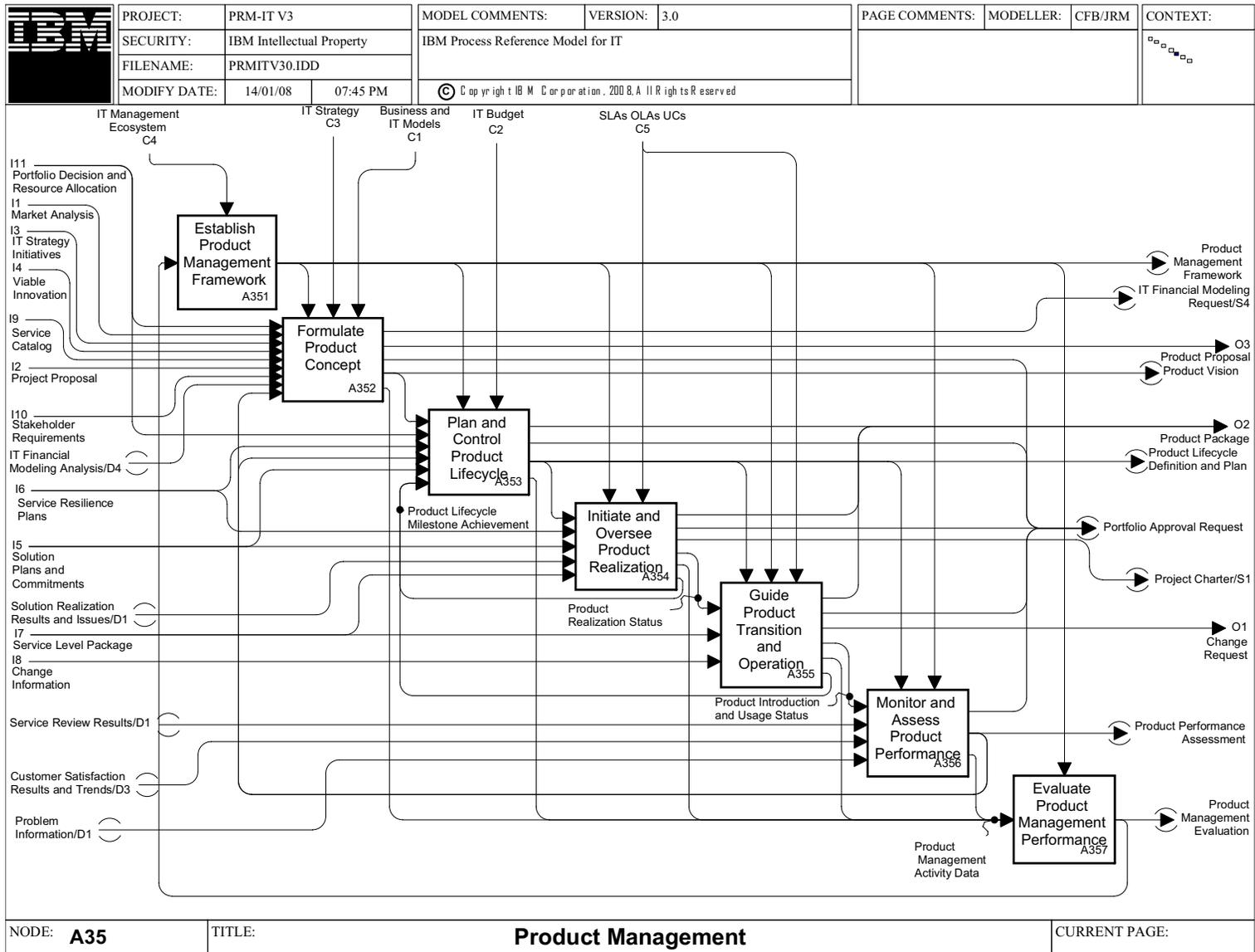


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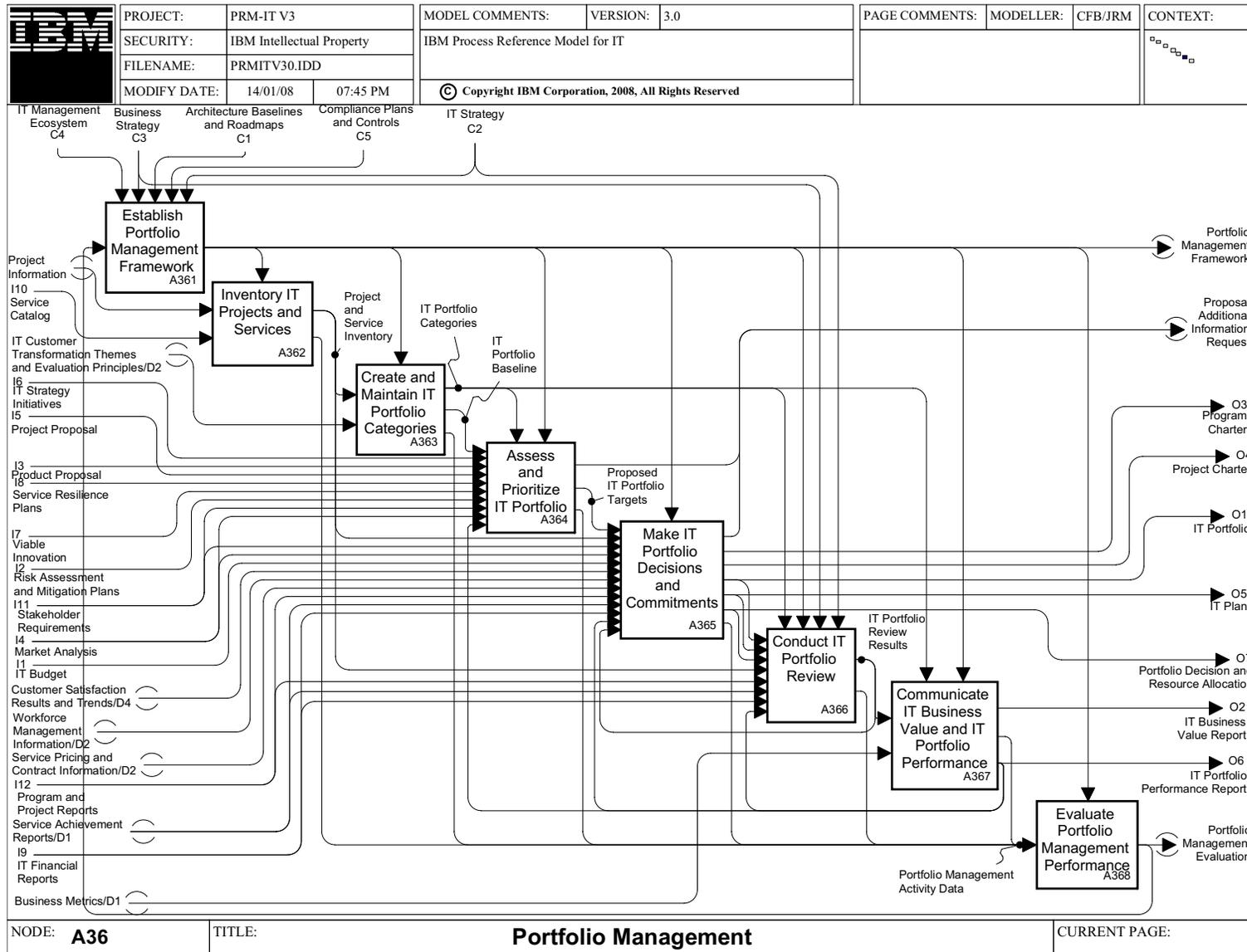


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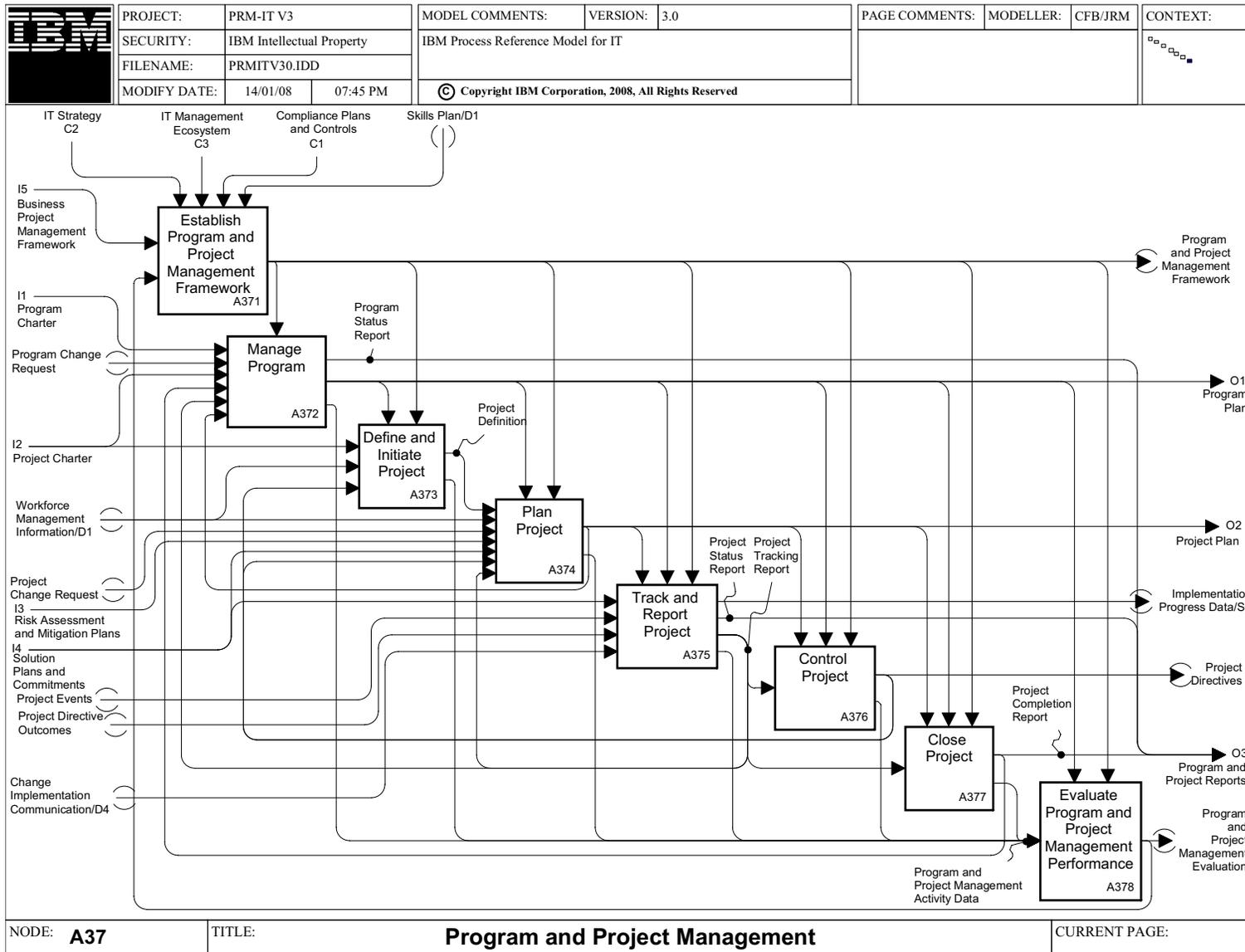
A35 Product Management



**A36 Portfolio Management**

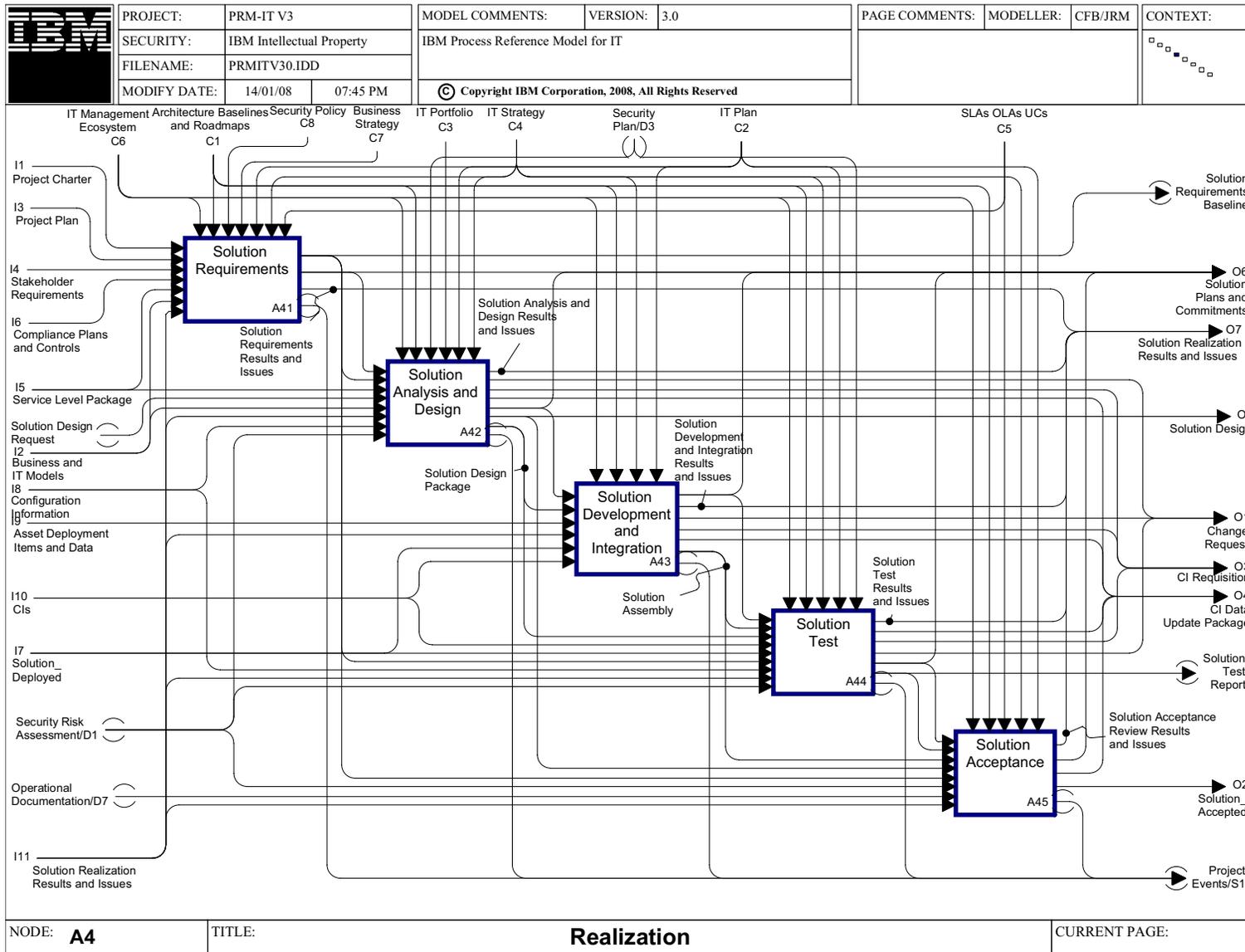


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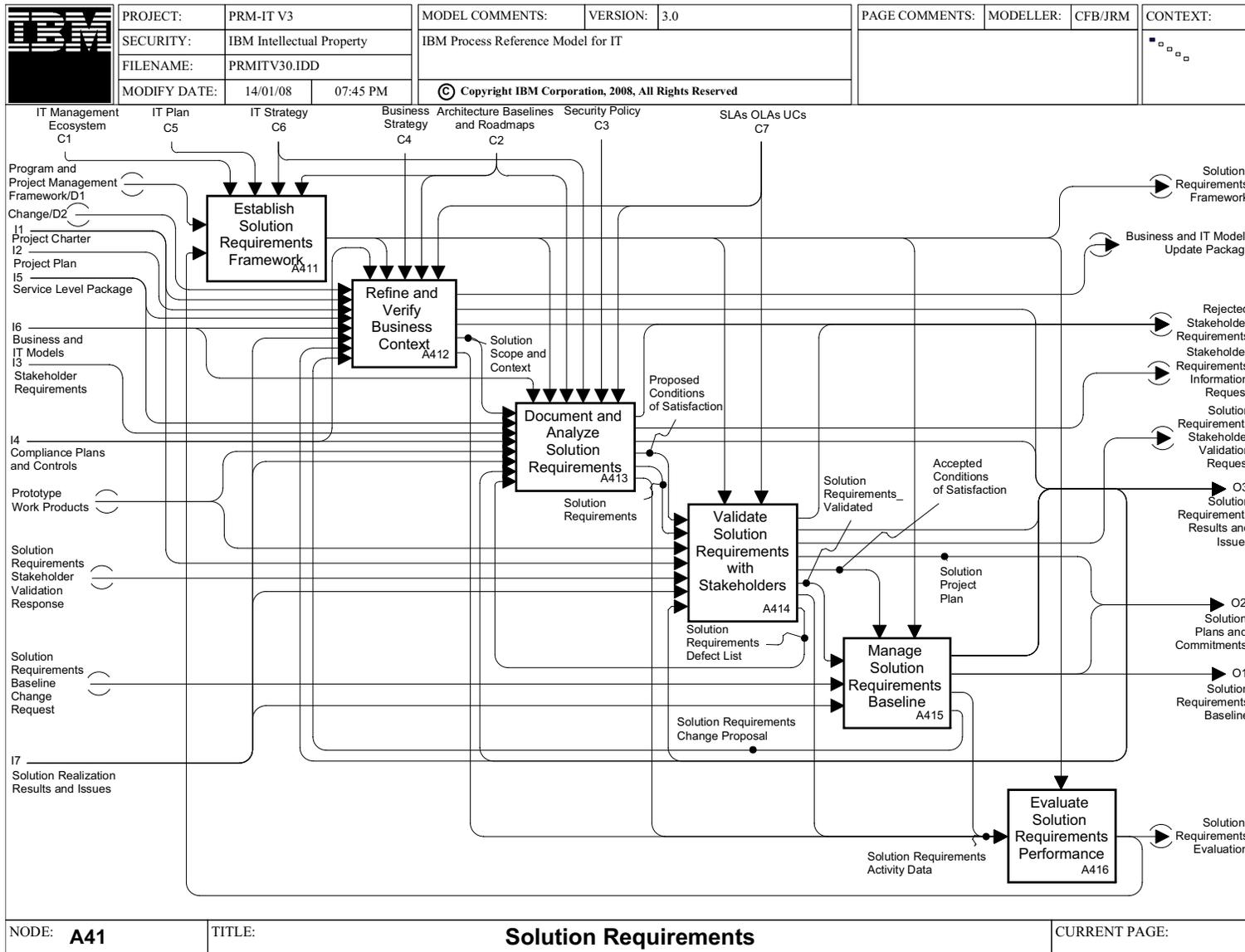


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A4 Realization

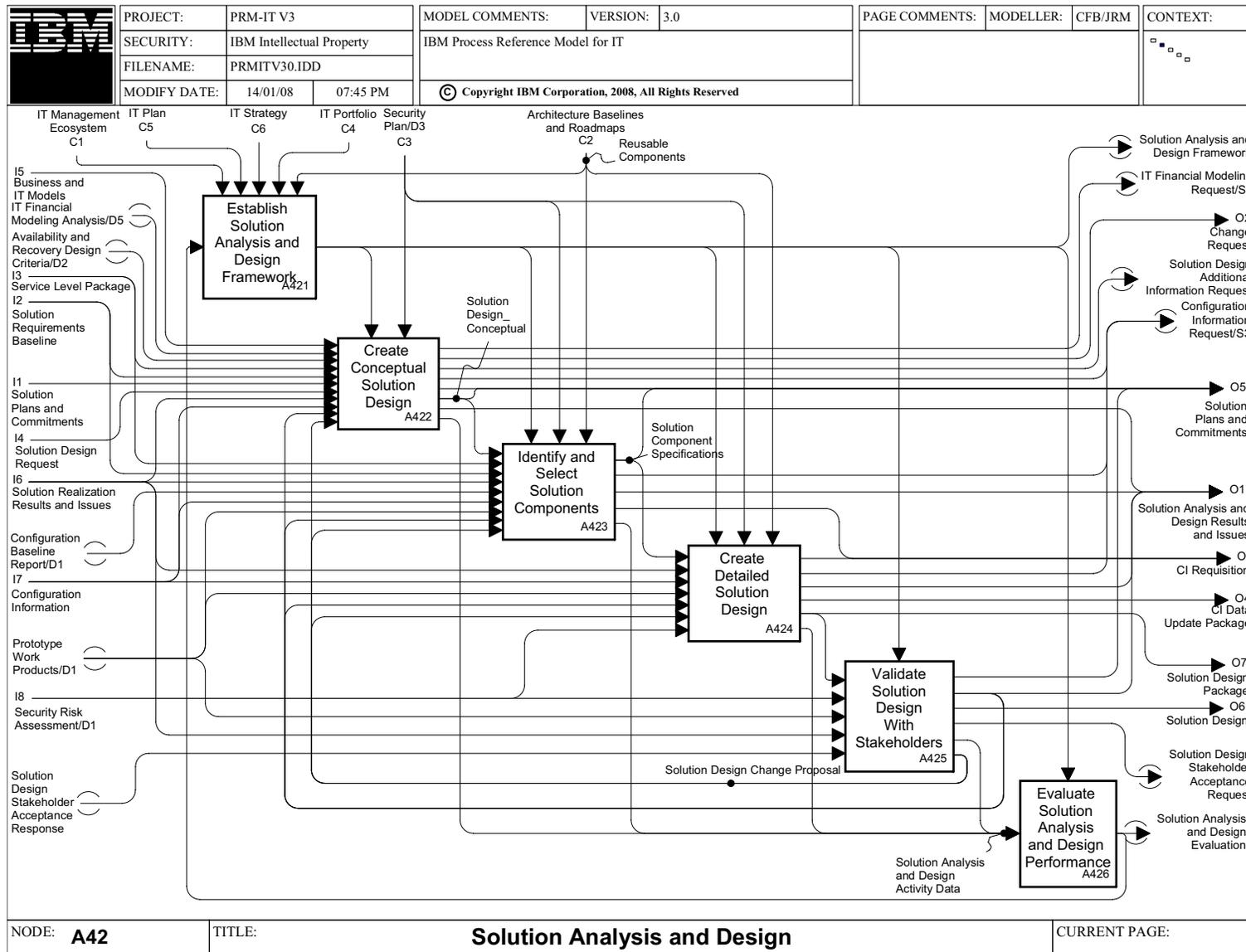


**A41 Solution Requirements**



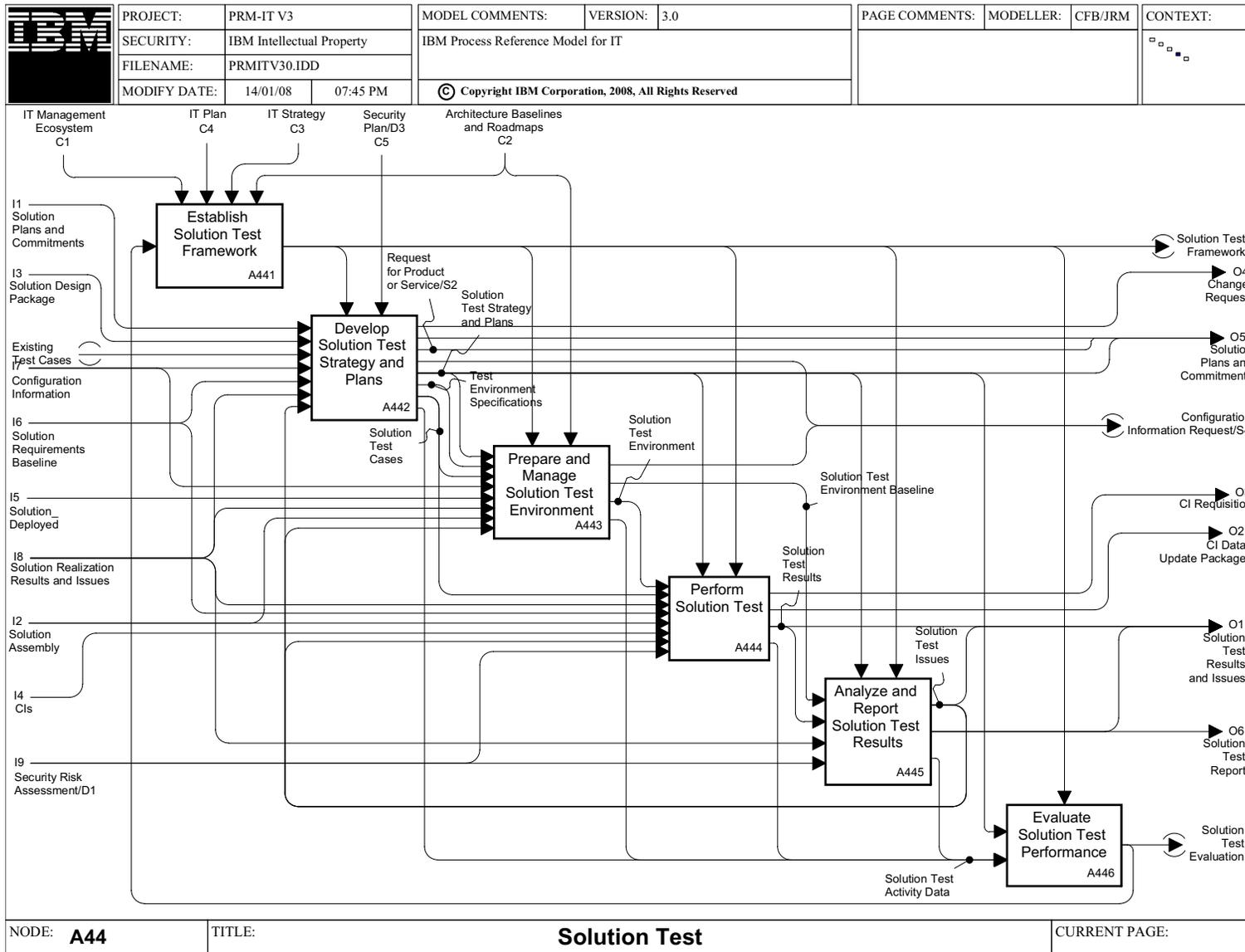
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A42 Solution Analysis and Design

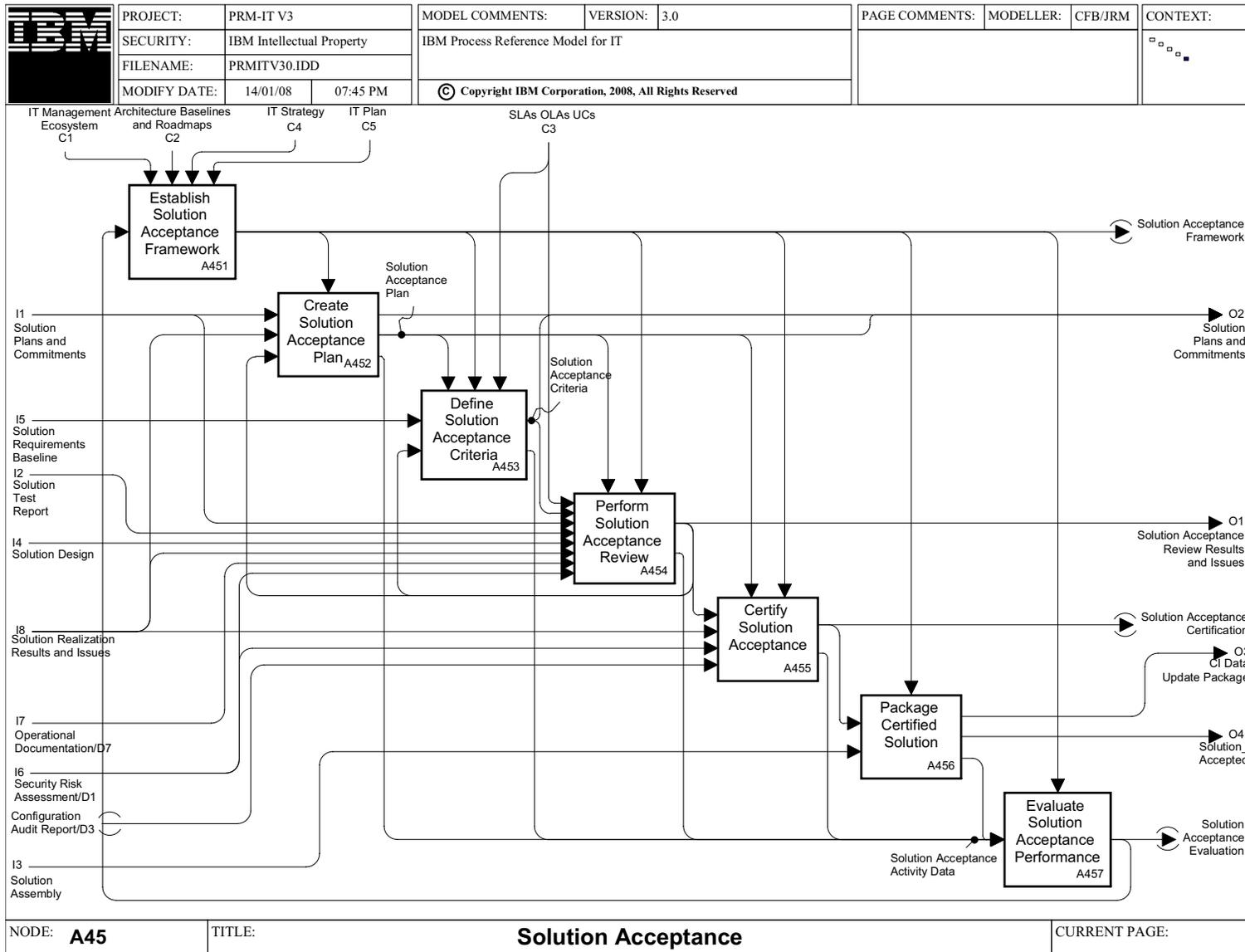




A44 Solution Test

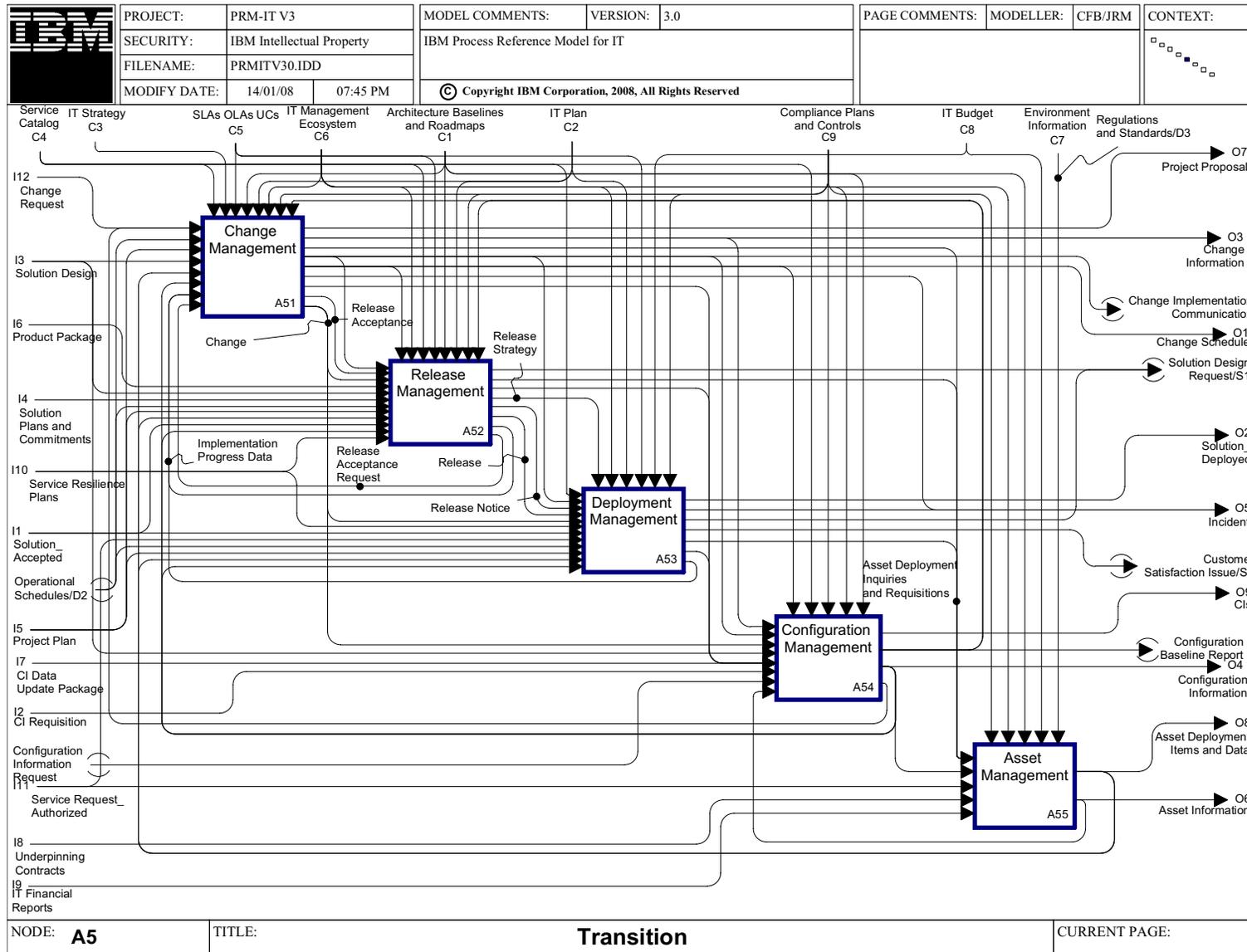


**A45 Solution Acceptance**



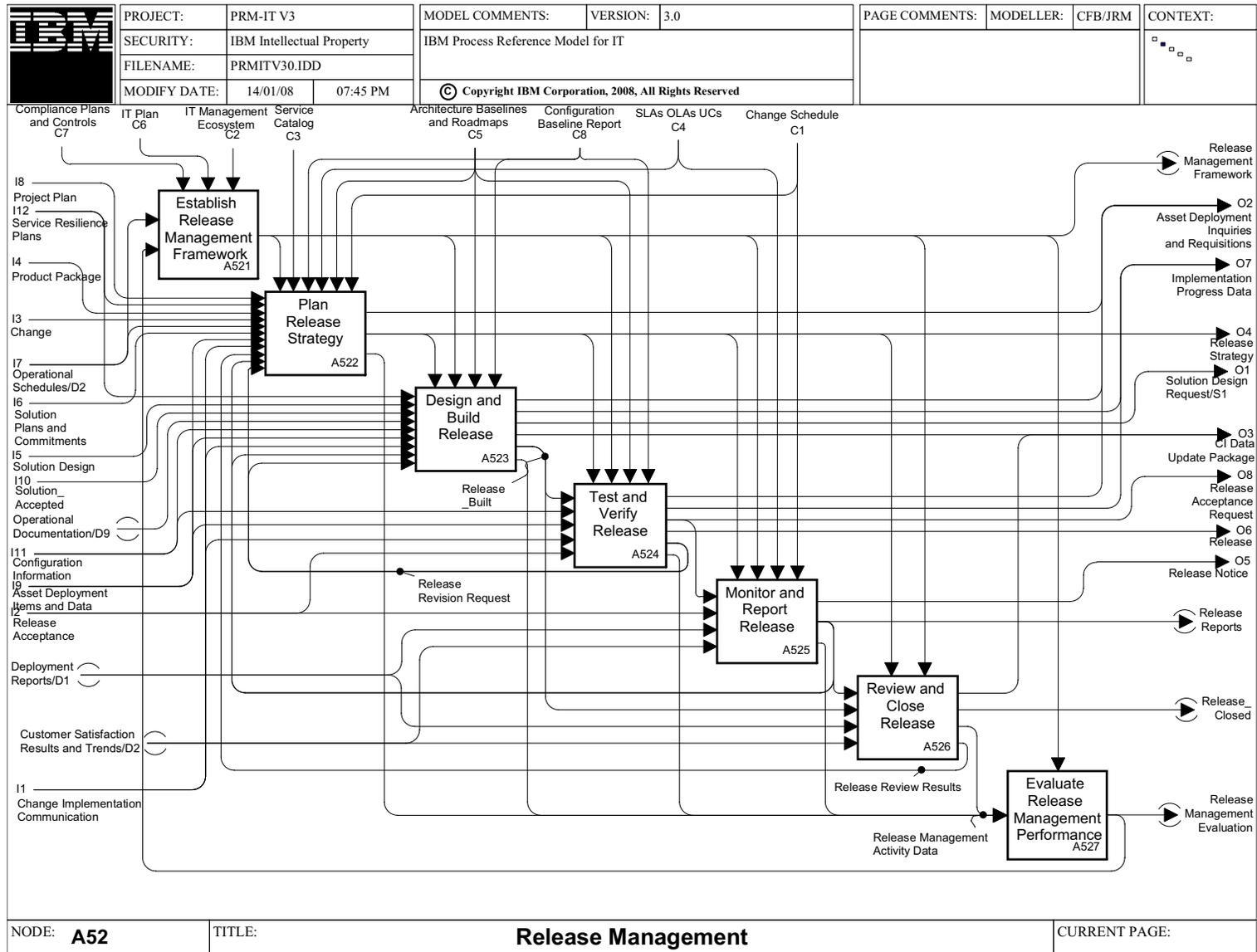
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A5 Transition



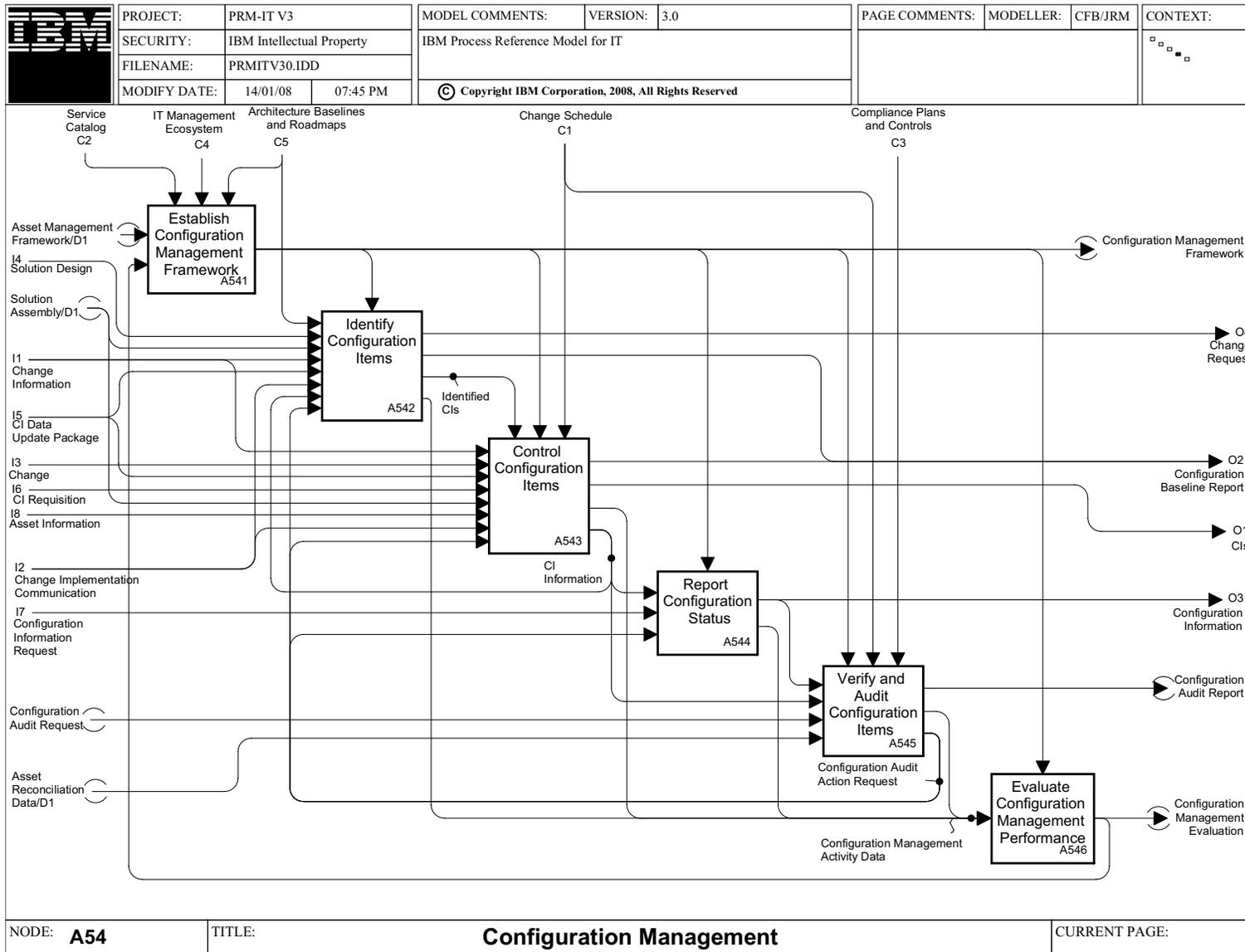


A52 Release Management

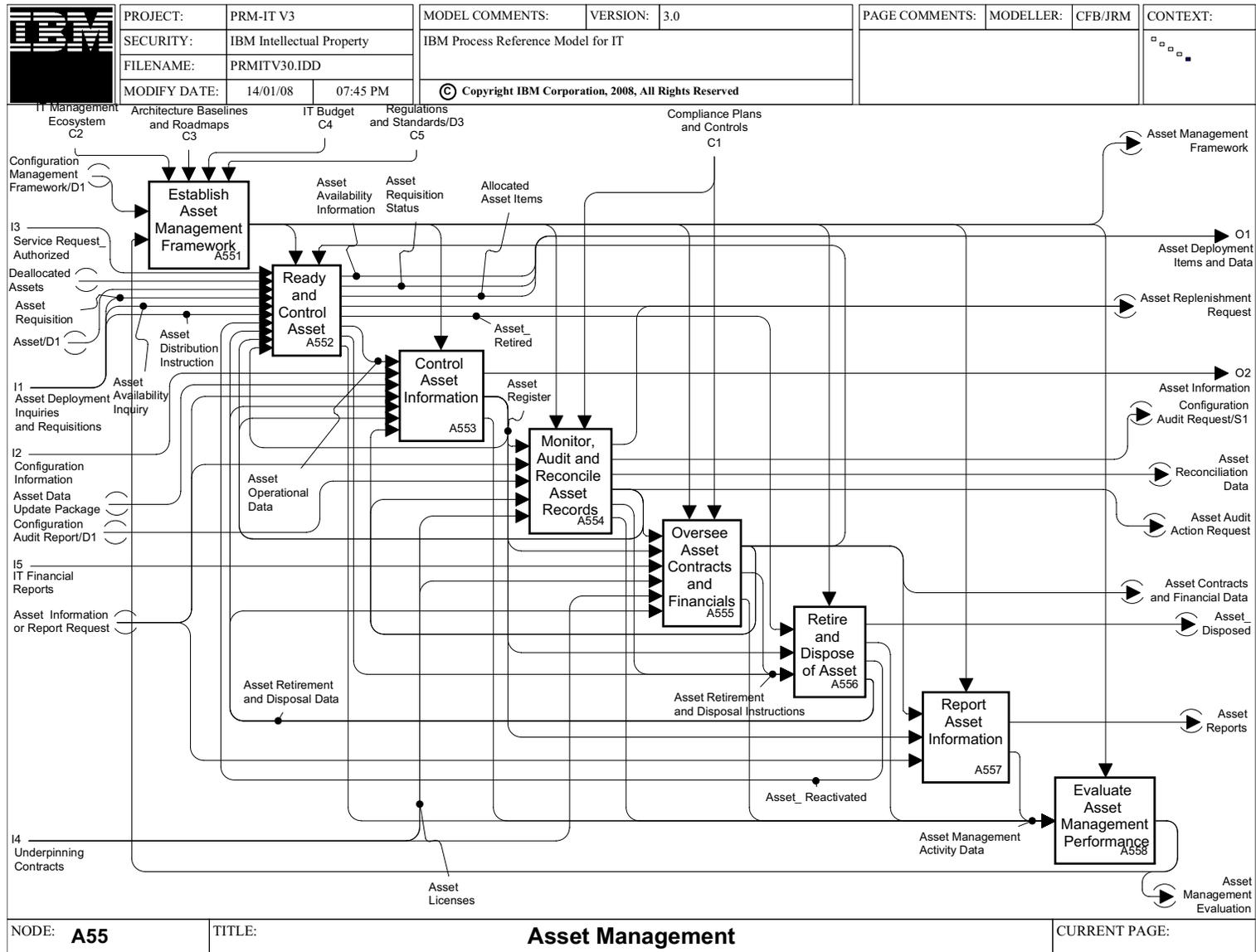




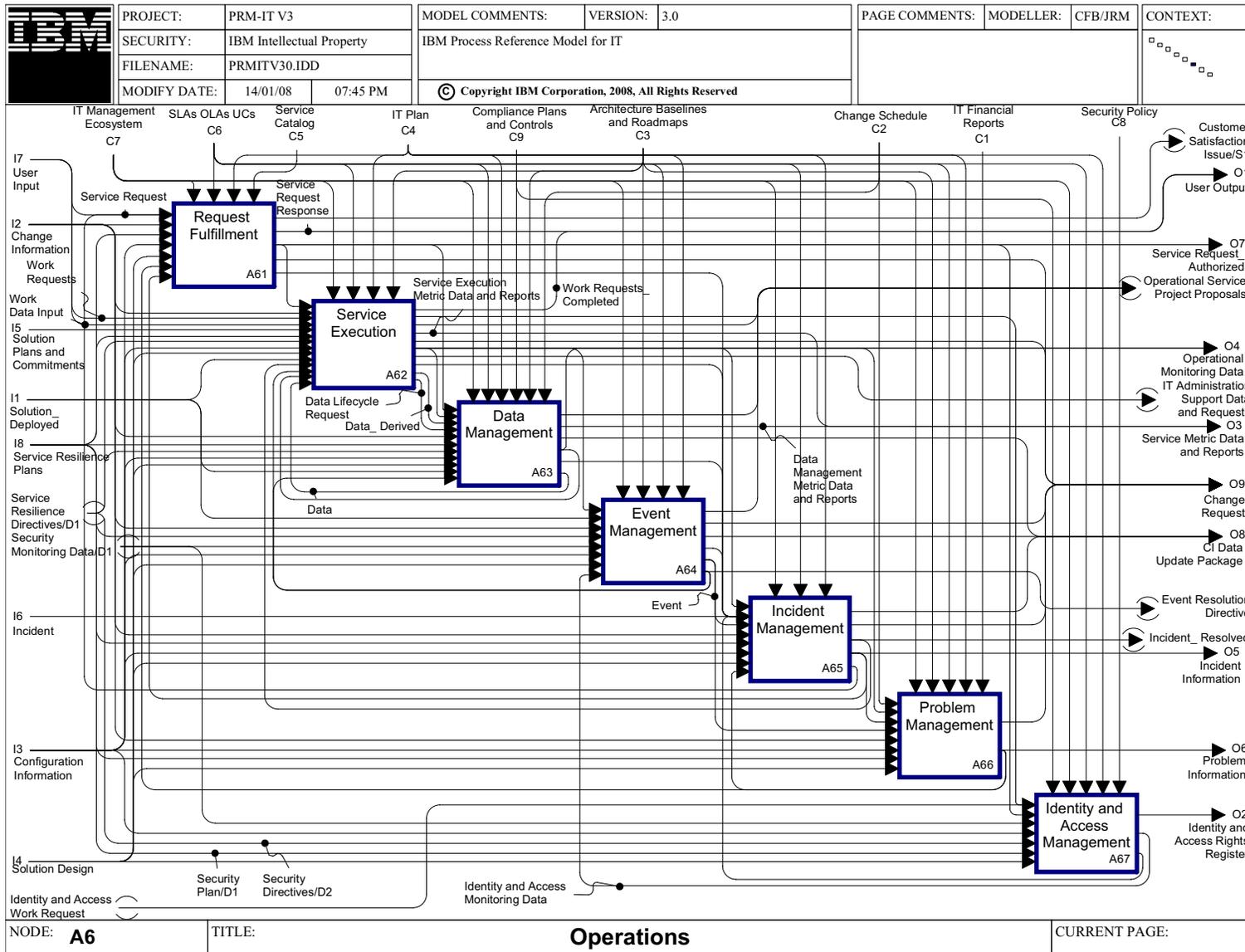
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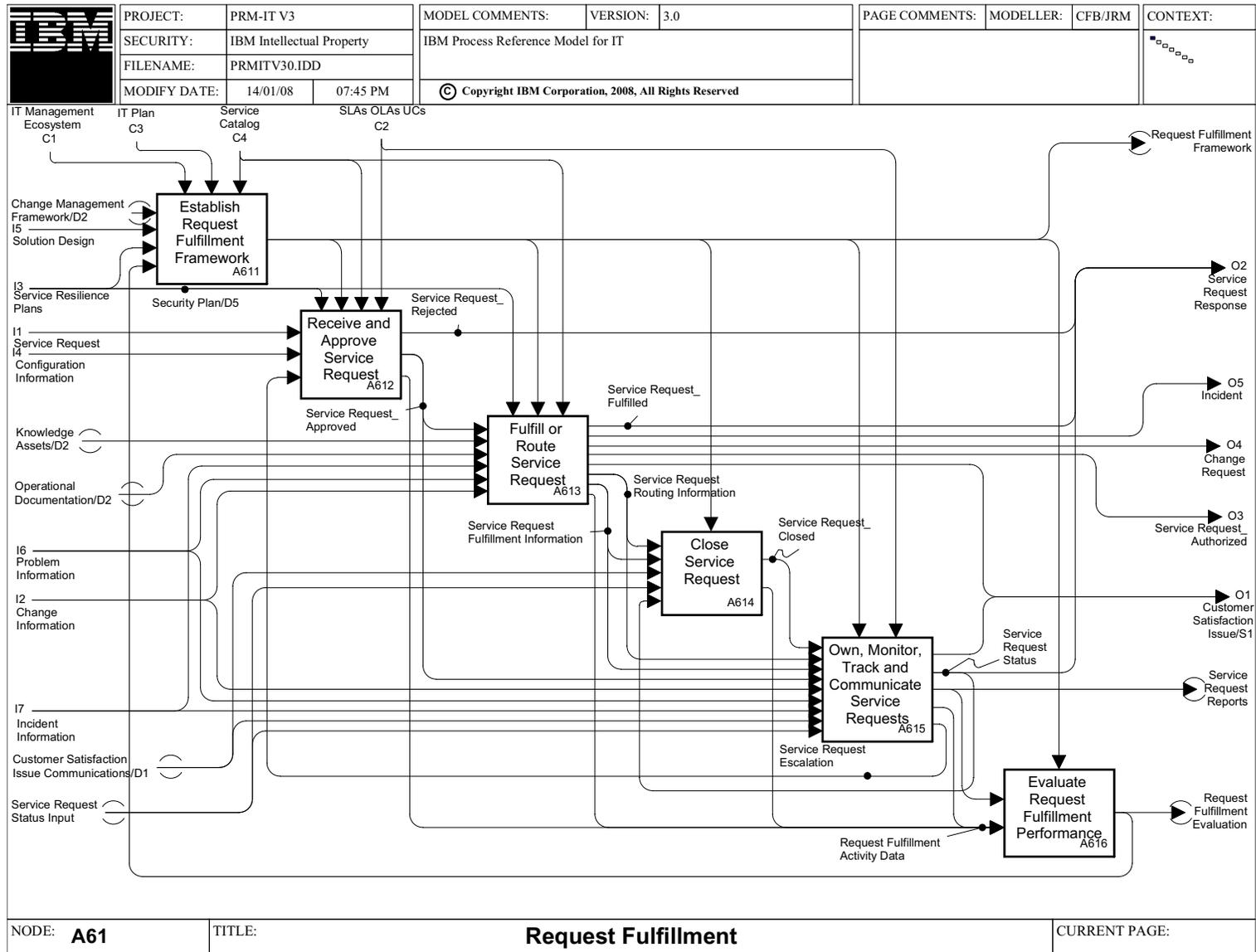
A55 Asset Management



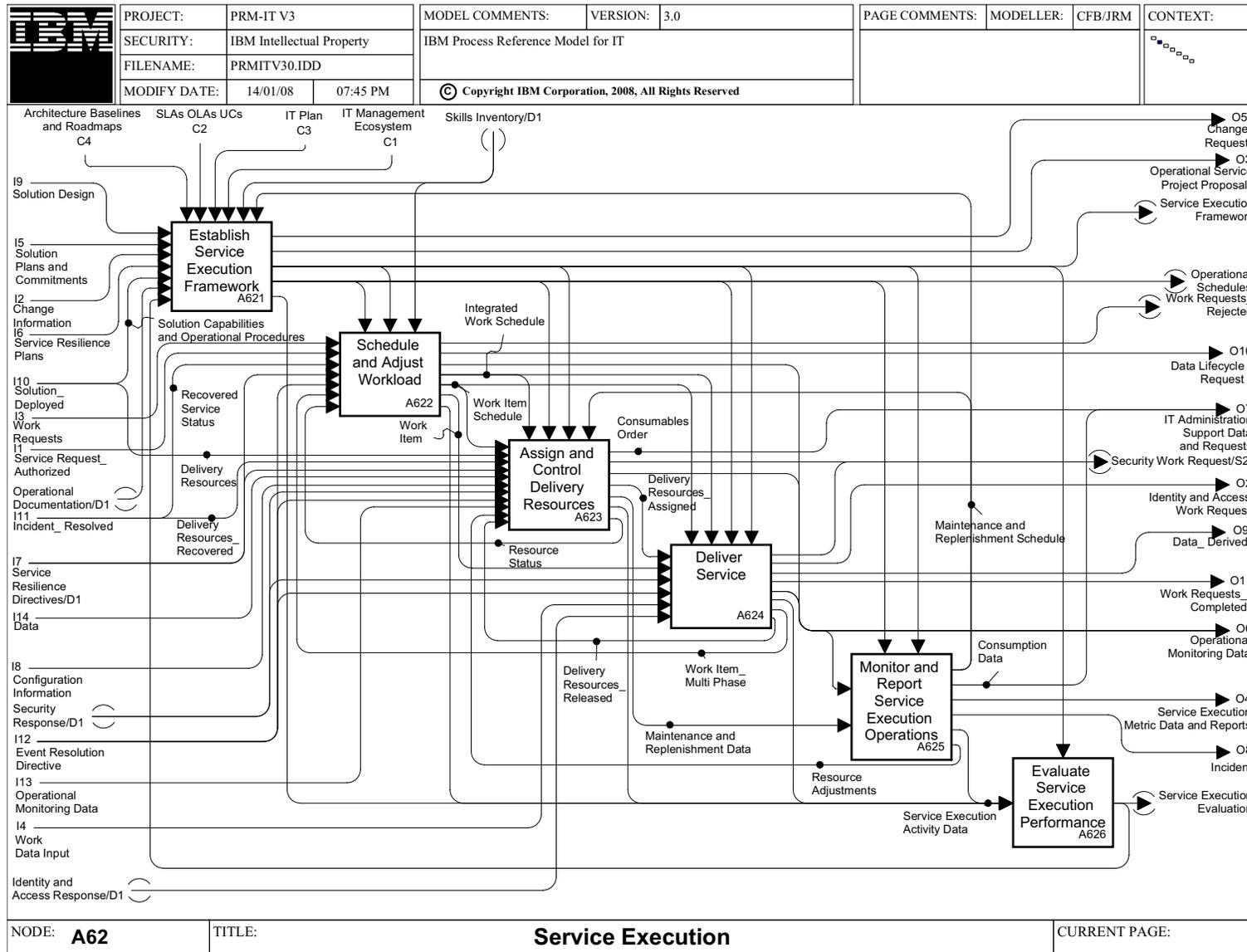
A6 Operations



**A61 Request Fulfillment**

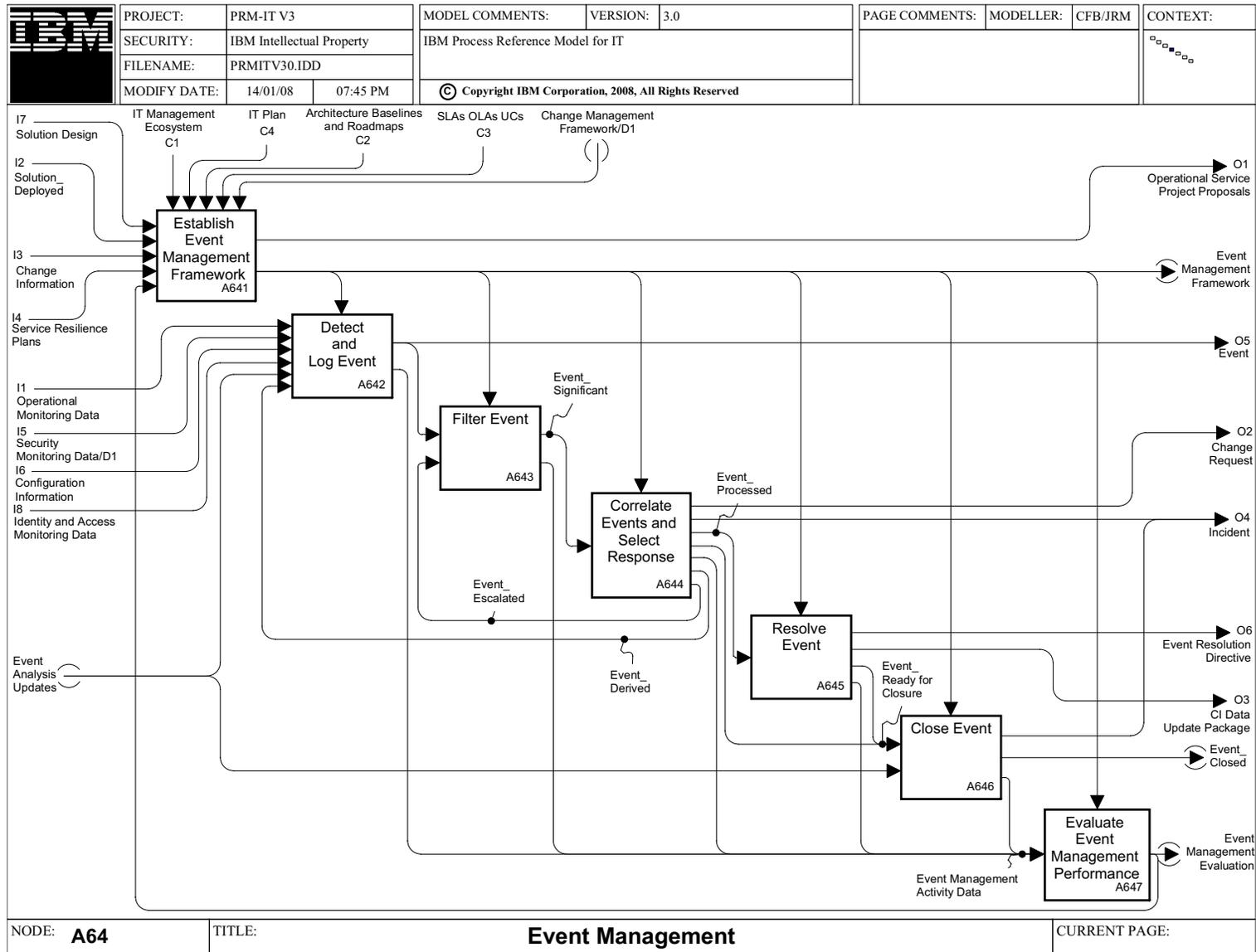


A62 Service Execution

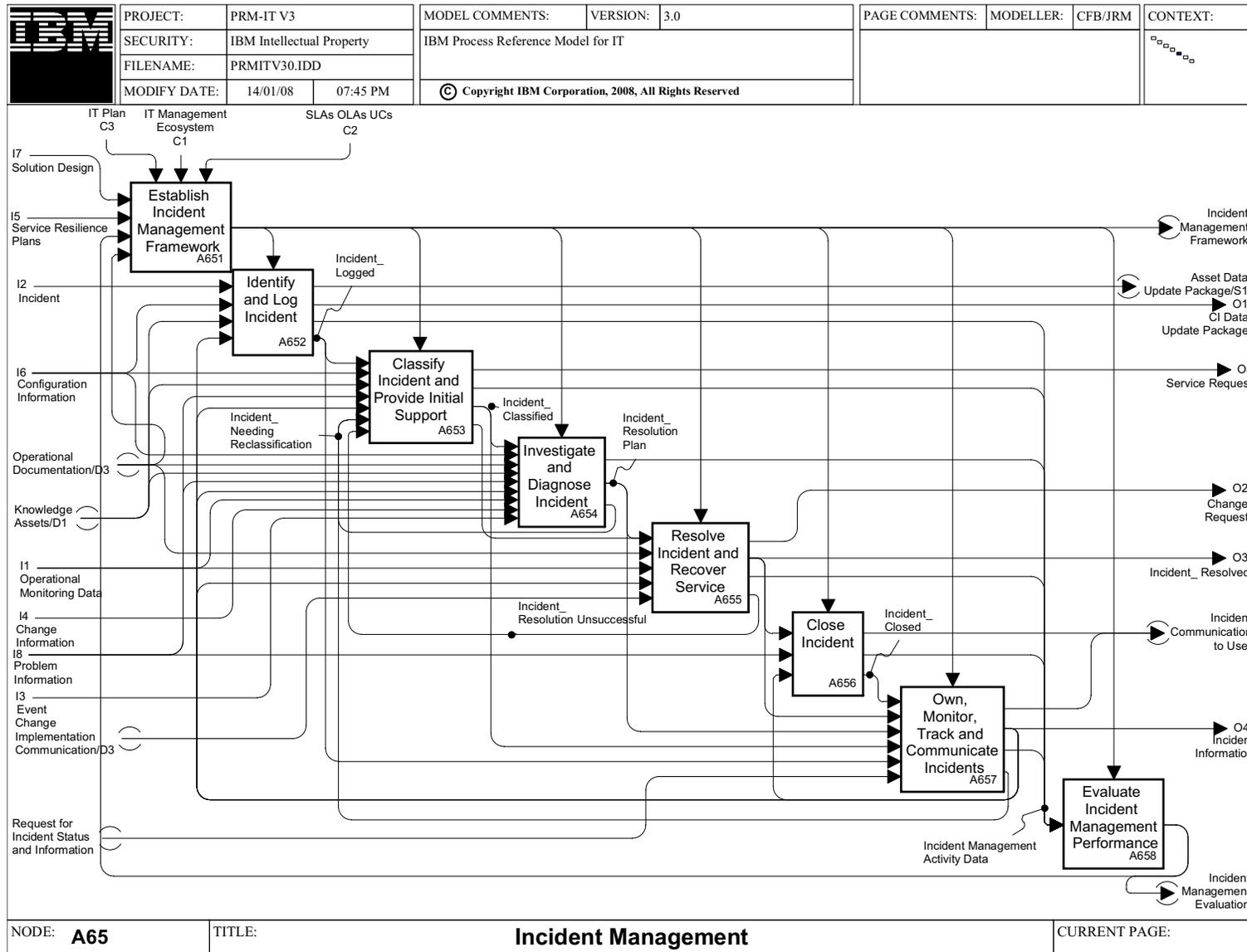




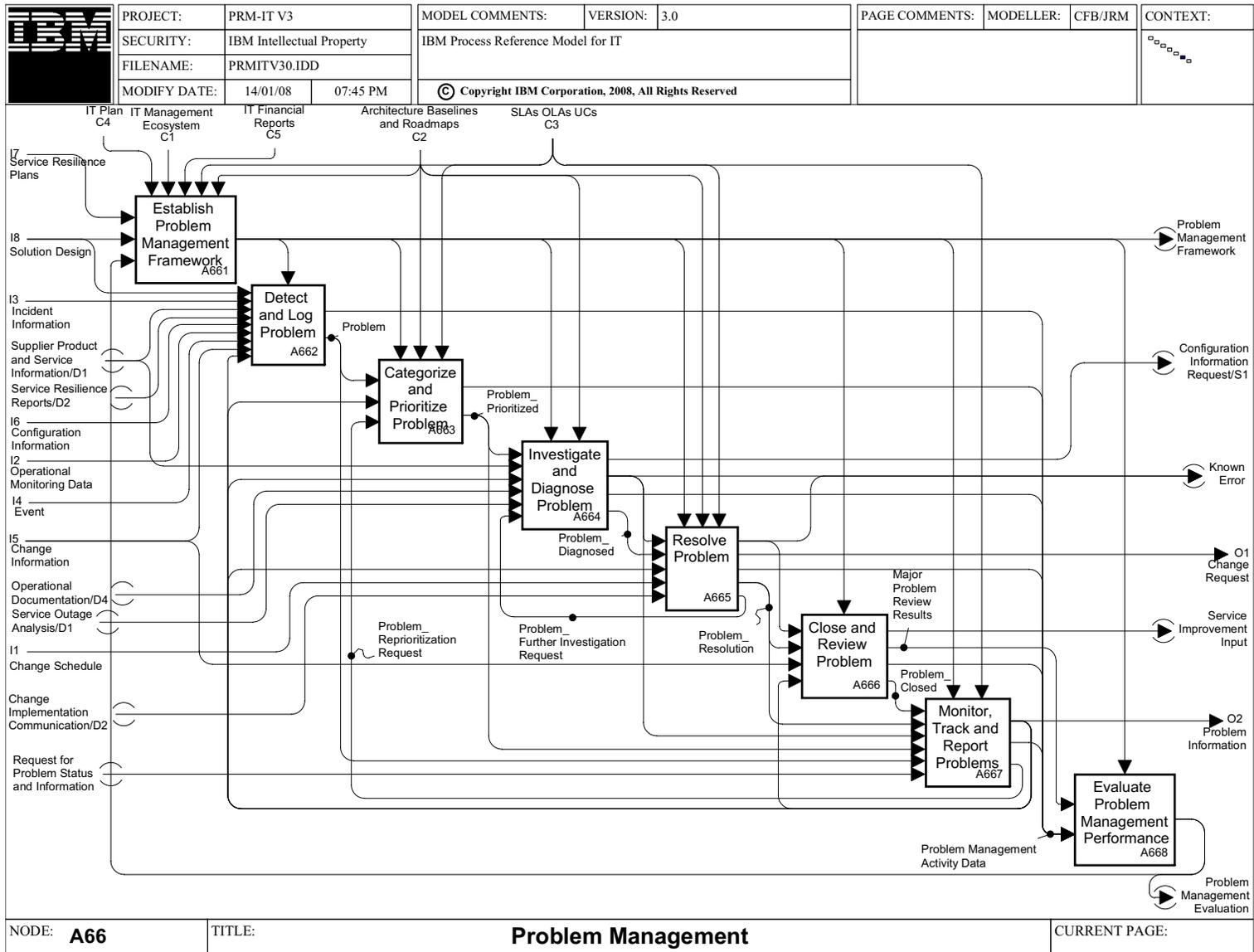
A64 Event Management



**A65 Incident Management**



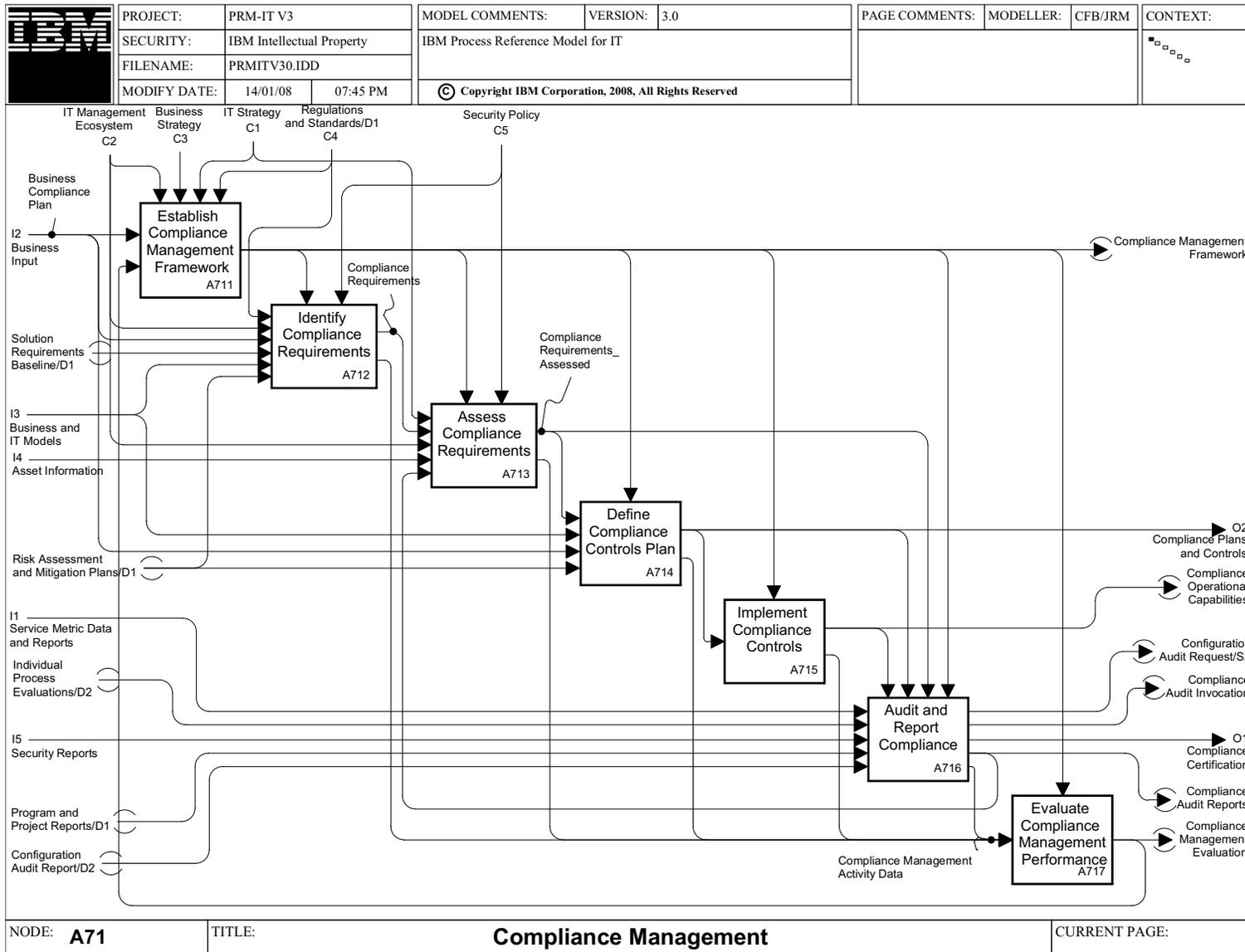
A66 Problem Management





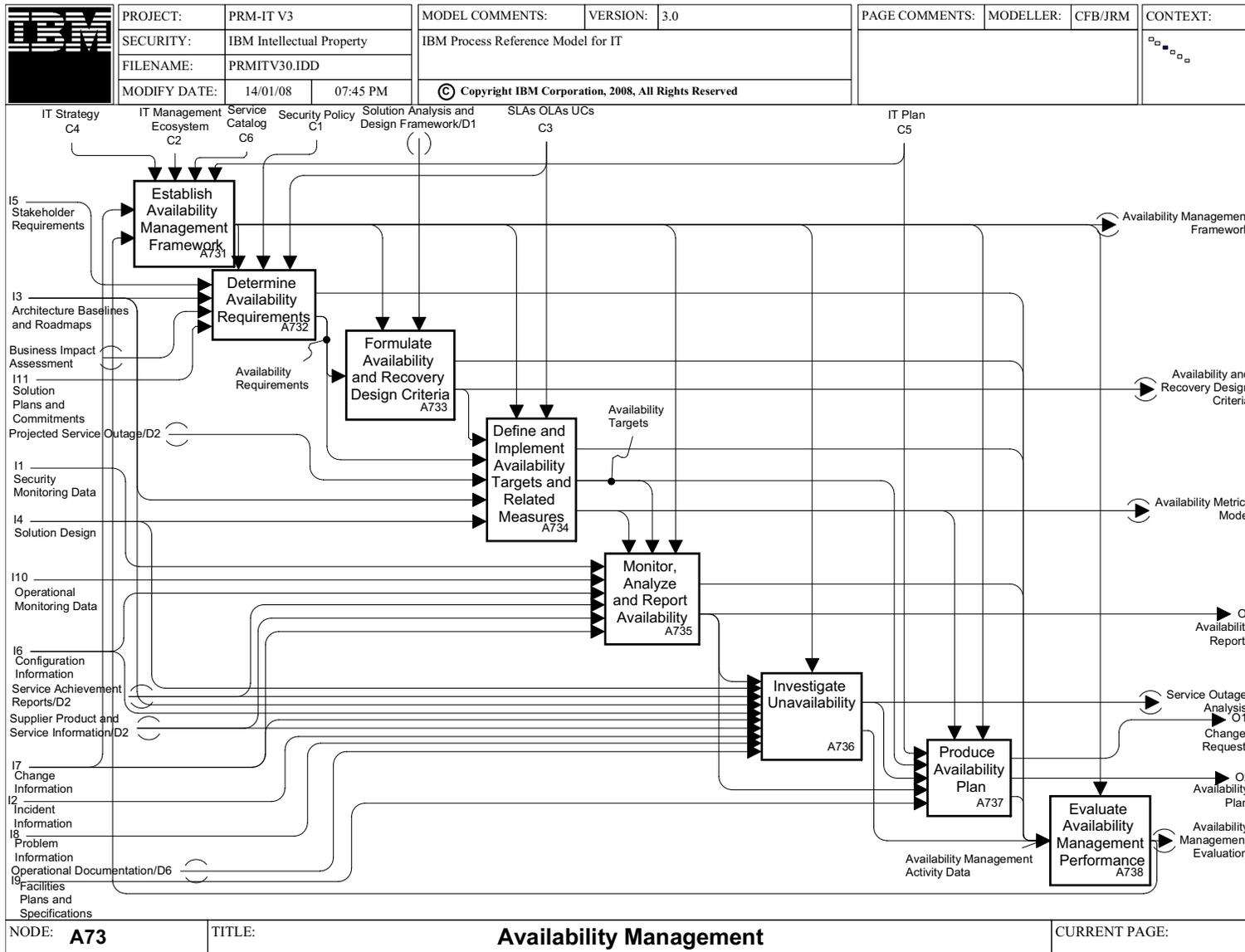


**A71 Compliance Management**

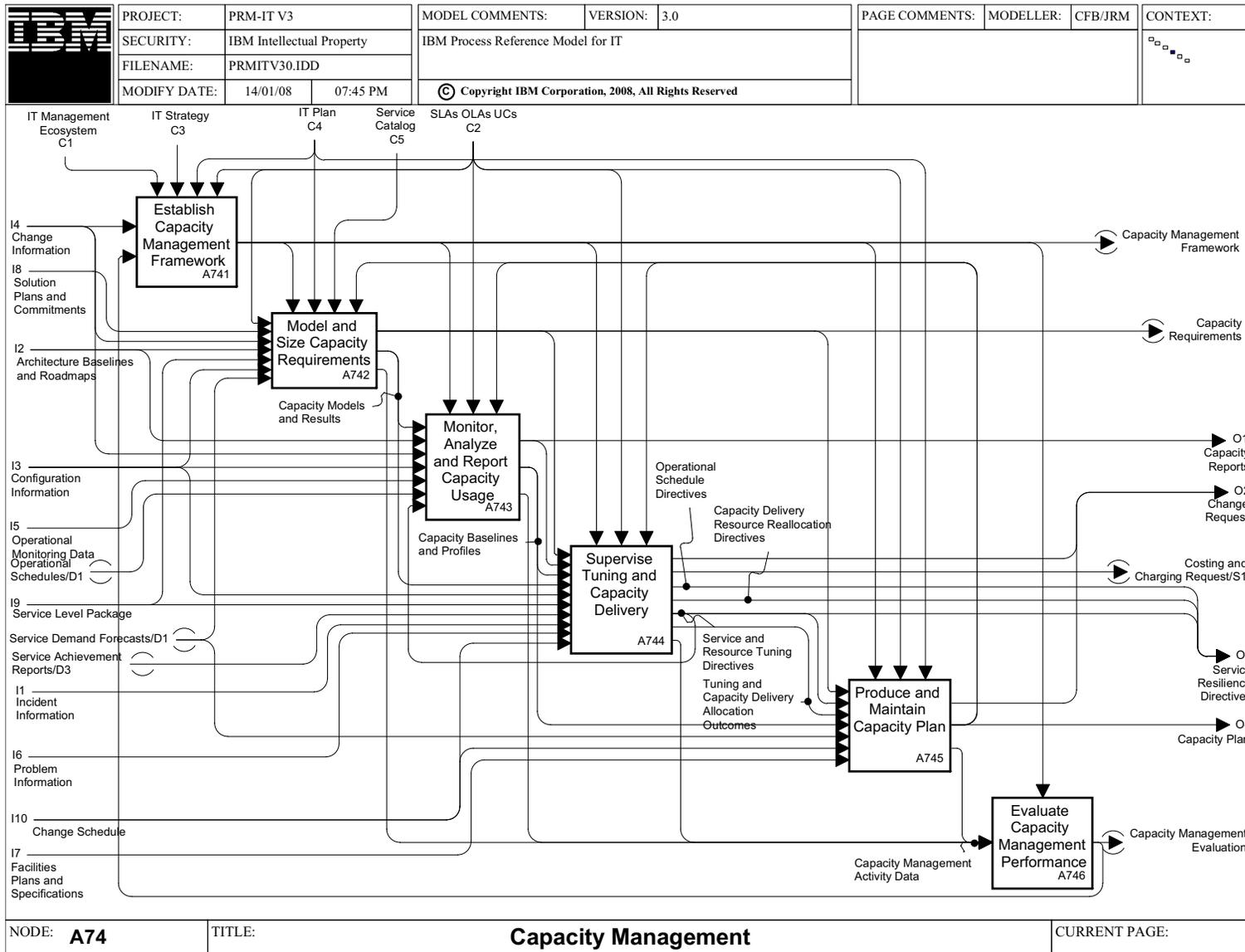




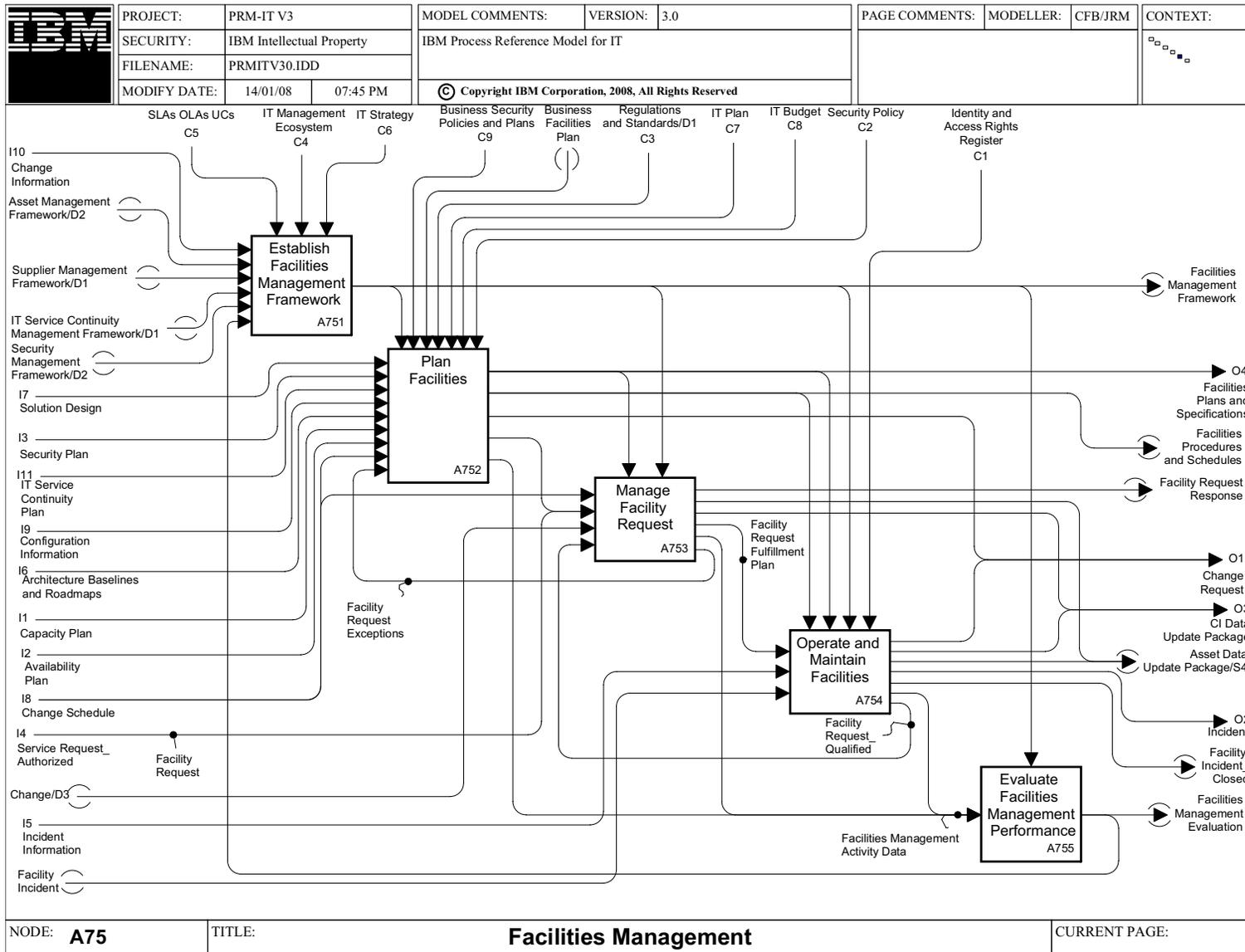
**A73 Availability Management**



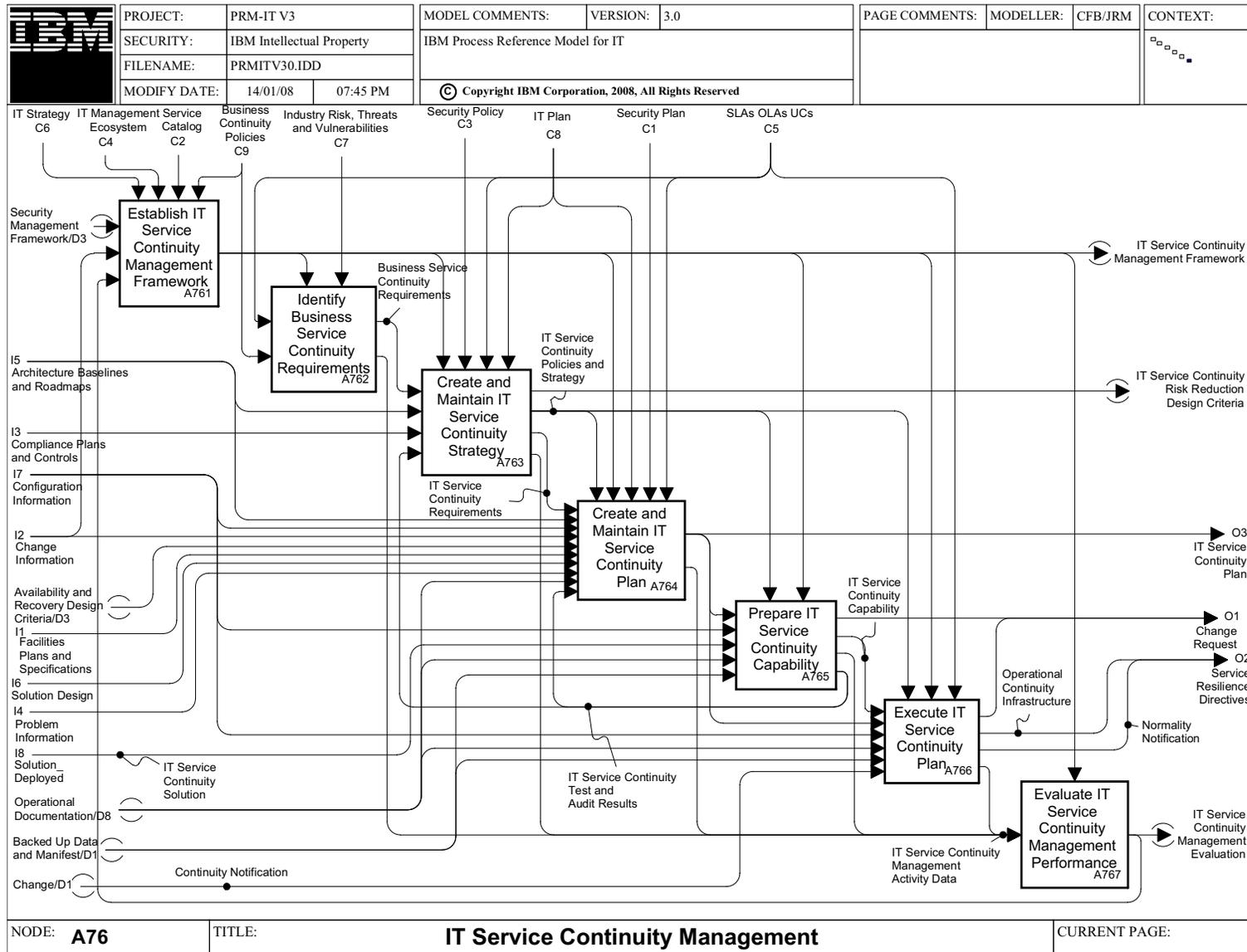
A74 Capacity Management



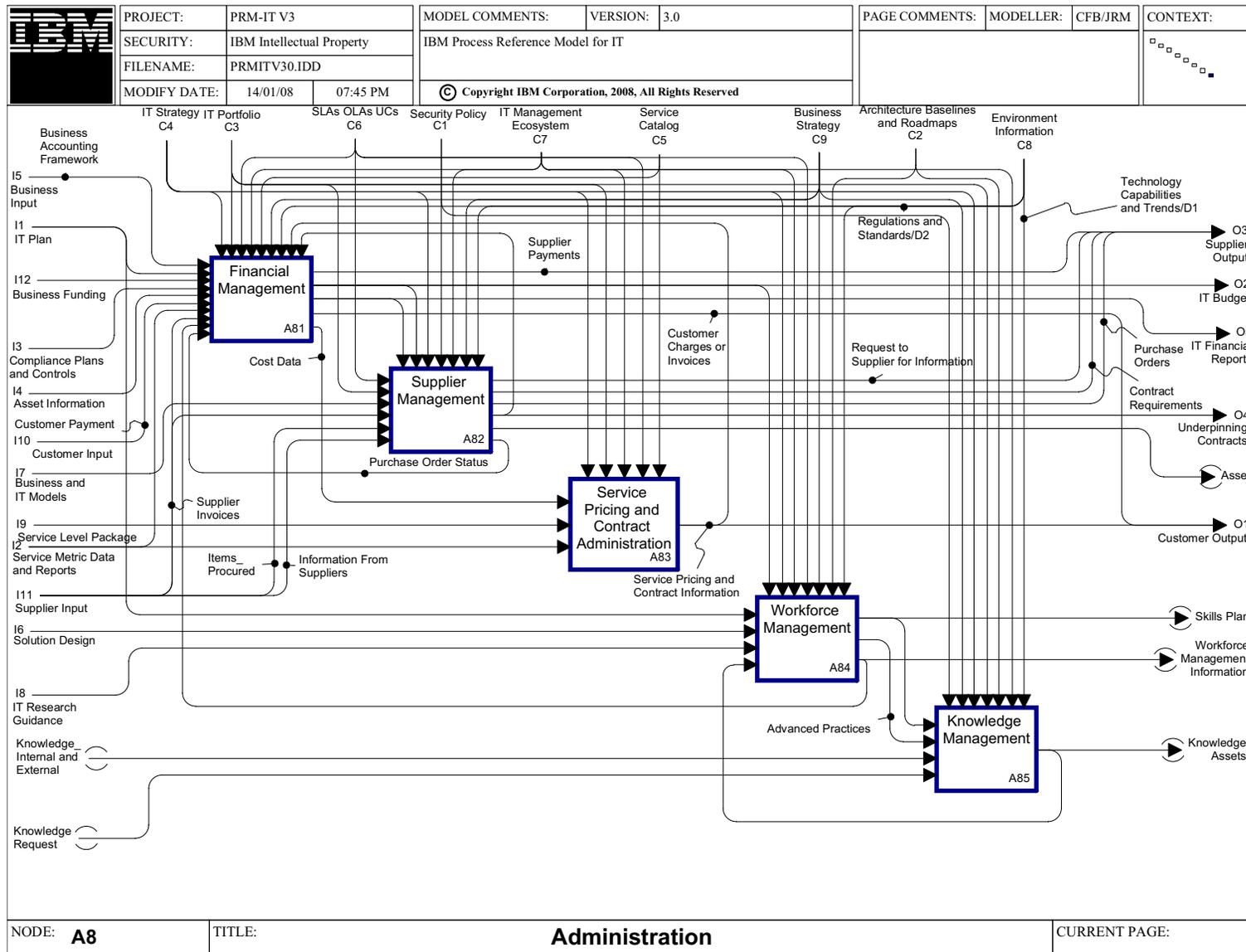
**A75 Facilities Management**



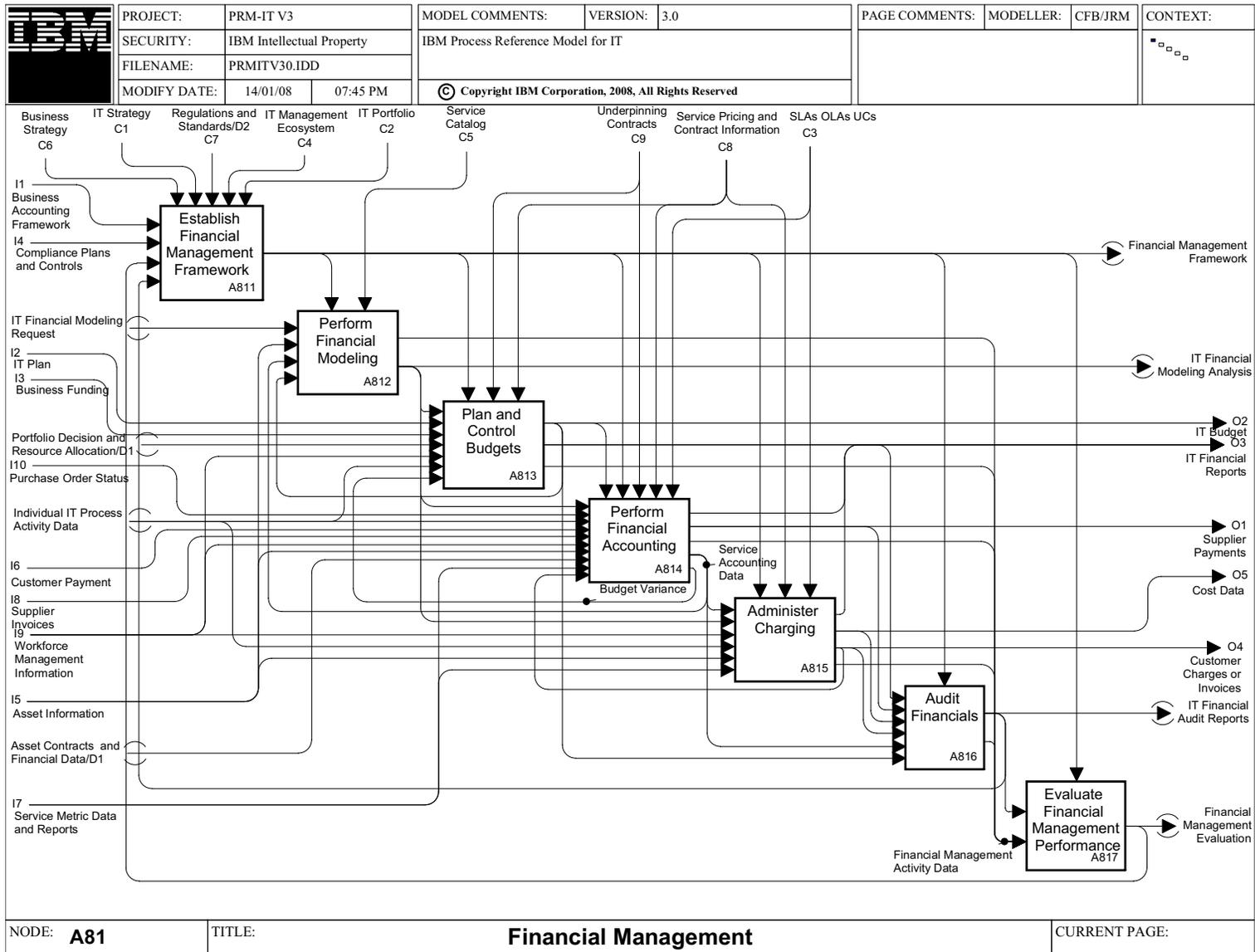
**A76 IT Service Continuity Management**



A8 Administration

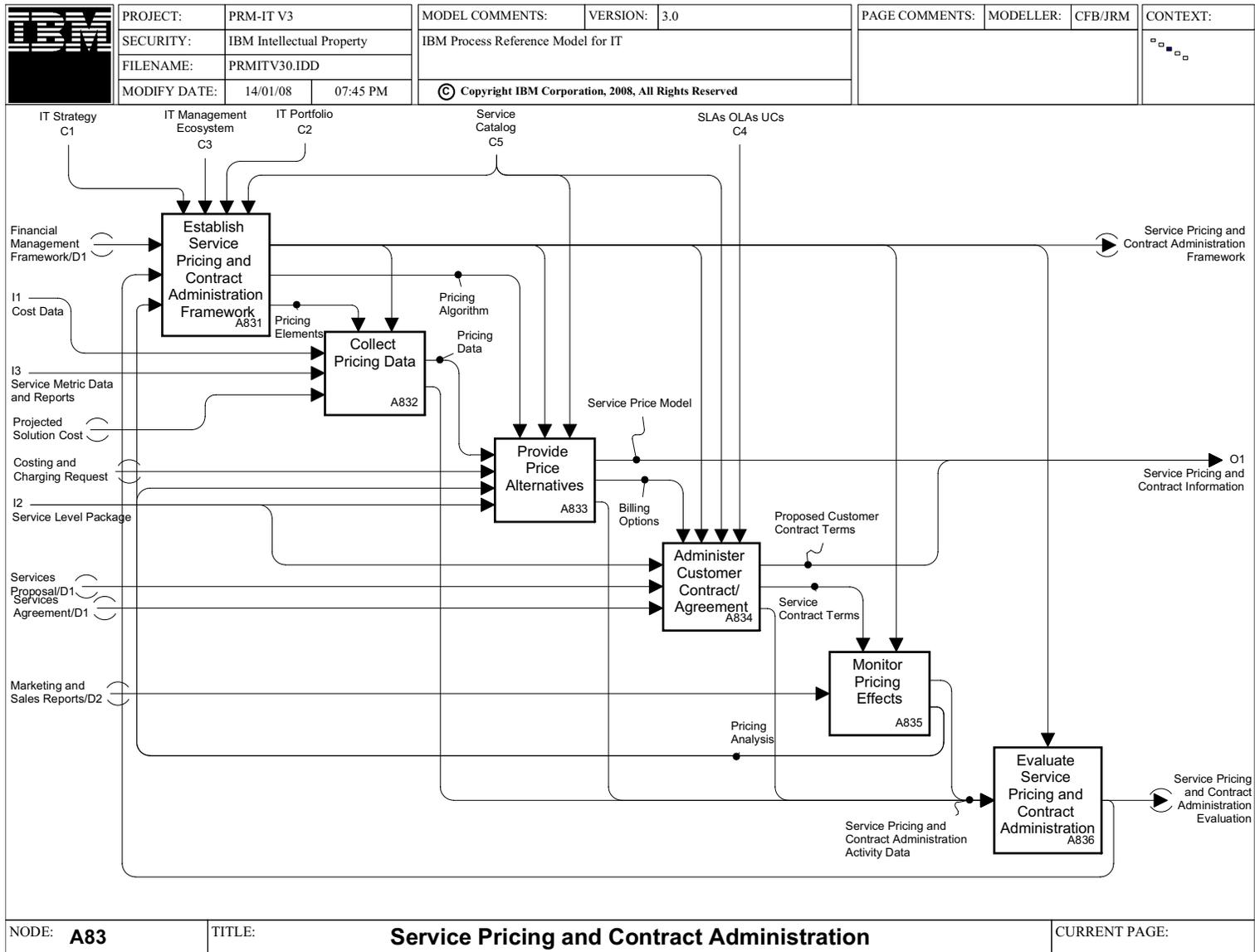


**A81 Financial Management**

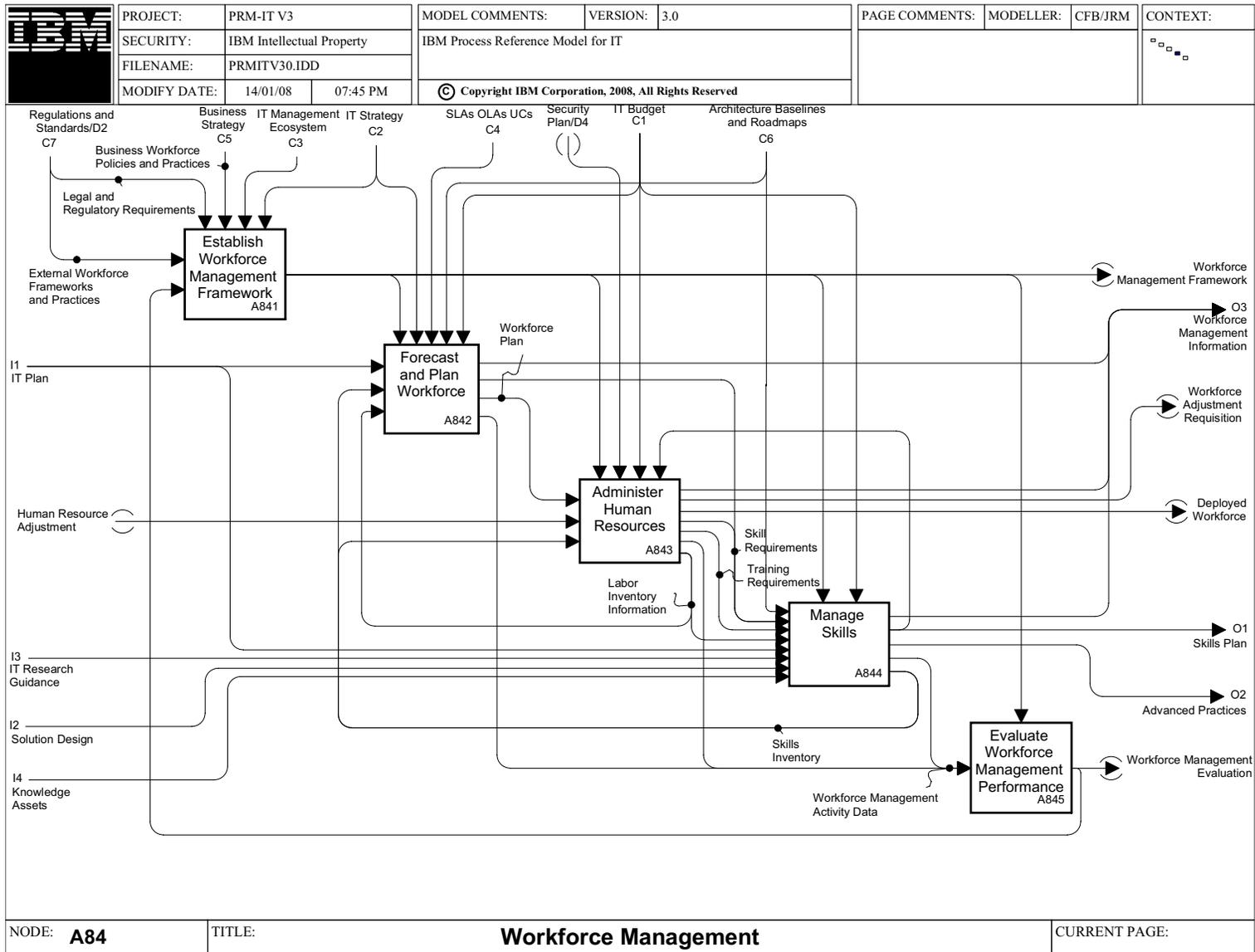




**A83 Service Pricing and Contract Administration**



**A84 Workforce Management**





# Glossary

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## A

### Accepted Conditions of Satisfaction

(From: A414, To: A415)

Established earlier Conditions of Satisfaction formally accepted and signed off by the key stakeholders (especially the customer).

### Access Request

(From: A672 A673, To: A674)

An access request that has been evaluated and verified. Each access request is associated with a verified user identity.

### Advanced Practices

(From: A84 A844, To: A85 A853)

The knowledge and behaviors of leading practitioners that sets a benchmark for others to reach and emulate. The practices will contain subject-matter content, but will also cover techniques for content application and for mentoring.

### Allocated Asset Items

(From: A552, To: A433 A434 A435 A436)

The assignment and delivery (if appropriate) of identified IT assets to fulfill asset requisitions.

### Architecture Baselines and Roadmaps

(From: A3 A33 A334, To: A1 A11 A114 A12 A121 A122 A123 A124 A125 A2 A22 A221 A31 A313 A314 A332 A333 A335 A336 A36 A361 A4 A41 A411 A412 A413 A42 A43 A431 A44 A441 A443 A45 A451 A5 A51 A513 A514 A52 A522 A523 A524 A54 A541 A542 A55 A551 A6 A62 A621 A63 A631 A64 A641 A66 A661 A663 A664 A665 A7 A72 A723 A73 A732 A734 A736 A74 A742 A743 A75 A752 A76 A763 A764 A8 A84 A842 A844 A85 A852)

Provides an agreed, published statement of the required architecture at a moment in time. Includes statements to assist in selection and evaluation of appropriate implementations of specified architecture building blocks.

### Architecture Compliance Decision

(From: A336)

A statement or report recording the architectural compliance (including permitted exceptions) of a solution design.

### Architecture Management Activity Data

(From: A332 A333 A334 A335 A336, To: A337)

Metrics on the performance of the architecture management processes, such as the frequency or

magnitude of allowed exceptions, enabling the effectiveness of the process to be determined.

### Architecture Management Evaluation

(From: A337, To: A331)

Assessment of the effectiveness and efficiency of the architecture management process. Includes identification of areas for process improvement.

### Architecture Management Framework

(From: A331, To: A332 A333 A334 A335 A336 A337)

The organizational structure and processes deployed to ensure the architecture is effectively and efficiently established, maintained and used.

### Architecture Need

(From: A332, To: A333)

An identified shortfall in the existing (or envisioned) IT environment that can be addressed by some architectural instrument.

### Architecture Transition Initiatives

(From: A335)

A brief proposal, recommending the implementation of one (or more) aspects of the envisioned architecture. Typically defined in outline, with broad statements on scope, benefits and business case, costs, dependencies, and project time line.

### Architecture\_ Current State

(From: A332, To: A335 A336)

A description of the business' overall approach to the structuring and implementation of its IT systems and solutions.

### Architecture\_ Exception

(From: A336, To: A332)

An allowed deviation within a solution design from the architecture, providing input to the collection of architecture processes which ensure vitality.

### Architecture\_ Future

(From: A333, To: A334 A335 A336)

A structured description of the preferred business approaches to the design and implementation of its IT systems and solutions. Generally published as a specification of architecture building blocks, together with recommended standard constructions of those building blocks.

### Asset

(From: A82 A824, To: A552)

Each asset that has completed the procurement process (business now holds the title) and is available for

### **Asset Audit Action Request**

(From: A554, To: A552 A553 A555)

A request to perform some action based on the findings of an asset audit. This can include instructions such as to locate a known asset or to reassign it.

### **Asset Availability Information**

(From: A552, To: A514)

Details of the ability of the subject IT asset or assets to be made available for deployment or development use. The details will include:

- Quantities
- Specifications
- Dates
- Locations.

### **Asset Availability Inquiry**

(To: A552)

A planning inquiry to establish the outlook for the availability of specified IT assets for productive use.

### **Asset Contracts and Financial Data**

(From: A555, To: A552 A553 A554 A557 A814 A825)

Business records about an asset and related financial information. This includes data such as asset records, vendor information, asset costs and current value, tax data.

### **Asset Data Update Package**

(From: A516 A534 A535 A652 A753 A754, To: A553)

All status and detail changes to an asset after the initial creation. Includes lease, license, maintenance changes and, at end of life, disposal notification. An additional example is a change in standard currency exchange rates from the IT Financial Management process.

### **Asset Deployment Inquiries and Requisitions**

(From: A433 A434 A51 A514 A515 A516 A52 A522 A523 A524 A53 A534, To: A55)

Requests for information about assets needed as part of deploying solutions, requisitions for allocation of assets, and notifications to trigger the delivery or distribution of these resources.

### **Asset Deployment Items and Data**

(From: A5 A55, To: A4 A43 A51 A52 A522 A523 A524 A53 A534)

Information about specific asset availability and requisition status, and also the actual asset items being offered up for deployment.

### **Asset Distribution Instruction**

(To: A552)

The formal trigger for IT assets, probably already reserved for this purpose, to be distributed. The instruction would include details such as:

- Date
- Location
- Quantity
- Specification
- Personnel involved and contact details.

### **Asset Information**

(From: A5 A55 A553, To: A54 A543 A7 A71 A713 A72 A724 A8 A81 A812 A814 A815)

Could be reports, covering multiple asset items, or just the specific information on an individual asset.

### **Asset Information or Report Request**

(To: A553 A554 A557)

A request to obtain information about a deployed asset. This request specifies whether the information should be in a formal report or simply provided asset data. It covers a range of request types, such as:

- Need for information on an individual asset
- A scheduled report
- A request for an asset analysis report.

### **Asset Licenses**

(To: A554 A555)

A documented permission to use an asset or set of assets. The license may contain specific terms and conditions, including details such as the number of users, any rights to copy and distribute, and the license period.

### **Asset Management Activity Data**

(From: A552 A553 A554 A555 A556 A557, To: A558)

Data resulting from all work carried out by each process activity, used to support the evaluation of the overall Asset Management process.

### **Asset Management Evaluation**

(From: A558, To: A551)

Assessment results for the Asset Management process and its activities, including process performance metrics and the identification of potential process improvement items.

### **Asset Management Framework**

(From: A551, To: A541 A552 A553 A554 A555 A556 A557 A558 A751)

The policies, procedures, organizational roles and responsibilities and other information under which the Asset Management process will operate to meet its mission and goals.

### **Asset Operational Data**

(From: A552, To: A553)

Relevant individual data values describing the specifics of the current state of an asset. Examples include:

- Location
- Owner
- Maintenance contract end date
- Original purchase price.

### **Asset Reconciliation Data**

(From: A554, To: A545)

Data collected during auditing and inspection of assets. Typically includes location, condition and verification results.

### **Asset Register**

(From: A553, To: A552 A554 A555 A556 A557)

The complete set of records in asset information repositories.

**Asset Replenishment Request**

(From: A552 A554, To: A824)

A trigger to indicate that additional quantities of an asset are required in order to meet existing or anticipated requisitions.

**Asset Reports**

(From: A557)

Ad hoc or standard reports describing assets. These reports may describe one or more selected assets or may summarize data about a set of assets, or possibly all assets.

**Asset Requisition**

(To: A552)

The placement of an 'order' for one or more specified assets (or asset types) to be 'delivered' or otherwise made available for productive use.

**Asset Requisition Status**

(From: A552, To: A515)

The acknowledgement, including status information such as expected dates, that a requisition for one or more assets has been received and processed.

**Asset Retirement and Disposal Data**

(From: A556, To: A552 A553 A555)

Data that describes the disposition and status of assets slated for retirement and disposal.

**Asset Retirement and Disposal Instructions**

(From: A552 A554 A555, To: A556)

Directives concerning assets slated for retirement and disposal.

**Asset\_Disposed**

(From: A556)

Assets that have reached the end of their useful life cycle and have been removed from service and inventory. Disposal can involve selling, scrapping or recycling.

**Asset\_ Reactivated**

(From: A556, To: A552)

An asset that was previously retired, but has been brought back into active service.

**Asset\_Retired**

(From: A552, To: A556)

An asset that is to be removed from service. Such an asset will be in a storage location (such as the Definitive Hardware Store or DHS) until it is either restored (recovered) for active use or disposed.

**Availability and Recovery Design Criteria**

(From: A733, To: A243 A422 A734 A764)

General solution design principles that enhance service availability and recovery. This information is used to create or update solutions so that they are more resilient.

**Availability Management Activity Data**

(From: A732 A733 A734 A735 A736 A737, To: A738)

Results and metrics that describe the results of performing the Availability Management process.

**Availability Management Evaluation**

(From: A738, To: A731)

An analysis of how well the Availability Management process was performed. This can also include proposed modifications to the Availability Management Framework.

**Availability Management Framework**

(From: A731, To: A732 A733 A734 A735 A736 A737 A738)

The set of policies, procedures and mechanisms for performing the Availability Management process.

**Availability Metrics Model**

(From: A734, To: A735 A737)

The range of availability metrics and areas of reporting that are used to describe service availability.

**Availability Plan**

(From: A73 A737, To: A75 A752)

A forward-looking plan aimed at improving the overall availability of the IT infrastructure within cost constraints.

**Availability Reports**

(From: A73 A735, To: A736 A737)

Statistics expressed on how well the IT Infrastructure has met the needs of the business in availability terms. Might be included in Service achievement reports.

**Availability Requirements**

(From: A732, To: A733 A734)

An examination of the requirements for availability as expressed by the various stakeholders. As there might be some contention between these, this process must establish the definitive set of availability requirements which will influence solution and service development and operation.

**Availability Targets**

(From: A734, To: A735 A737)

Objectives for service availability, typically focusing on service unavailability and business impact.

**B****Backed Up Data and Manifest**

(From: A635, To: A765 A766)

The data which is the result of taking a backup, in whatever format (for example, compressed, incremental) which has been selected as the basis for any subsequent restore action, plus the indexes and inventories (the manifest) of the content with regard to specific file placement on backup media.

**Backup Request**

(To: A635)

Service Requests from any user or other process that a backup be taken.

**Billing Options**

(From: A833, To: A834)

Describes different Service Price Models and how to choose between them.

### **Budget Variance**

(From: A814, To: A813)

Budget Variance defines the delta between the planned budget and planned results, and the actual spent effort and achieved results.

### **Business Accounting Framework**

(To: A81 A811)

Details of the business-wide financial framework, including the required interfaces with the IT Financial Framework.

### **Business Activity Patterns and User Profiles**

(To: A25 A253 A255)

Business activity patterns reflect the typical workload profile from one or more business activities. User profiles are collations of business activity patterns to reflect that most users are actors within several business processes, and these combinations vary depending on organization design. Refer to the ITIL *Glossary* and to the *Service Strategy* book for further reading.

### **Business Aligned IT Goals**

(From: A313, To: A314 A315)

Statement of IT goals and objectives. Includes coverage of guiding principles, policies, strategic assumptions, and technology principles.

### **Business and IT Models**

(From: A3 A33 A333, To: A2 A25 A253 A254 A32 A322 A323 A334 A34 A342 A344 A35 A352 A4 A41 A412 A413 A42 A422 A7 A71 A712 A714 A8 A82 A821 A822)

Representations of relevant aspects of the business' activities, in model formats, and with or without the inclusion of related IT factors.

### **Business and IT Models Update Package**

(From: A412, To: A334)

Additional information about business and IT models obtained as a by-product of detailed investigation under the Solutions Requirements process.

### **Business Compliance Plan**

(To: A711 A712 A714)

The compliance requirements determined by the business, derived by examination across the span of its activities and details of the specifications and implementations of corresponding compliance plans.

### **Business Continuity Policies**

(To: A76 A761 A762)

Rules and guidelines used to assist in the determination of critical business services, and in the determination of potential risks, threats, and vulnerabilities.

### **Business Demand Baselines**

(From: A253, To: A254 A256)

An agreed statement of the expected business demand for the normal (typical) pattern of business. A baseline is "A Benchmark used as a reference point."<sup>1</sup>

### **Business Demand Characteristics**

(To: A25 A252)

Data from business units and customers describing the characteristics of business demand. The characteristics focus on information about the demand in the context of business strategy (to support evaluation and classification).

### **Business Demand Forecasts**

(From: A253, To: A254 A256)

Agreed predictions of business demand for IT service, usually arranged by periods against a standard calendar.

### **Business Demand Optimization Recommendations**

(From: A25 A255, To: A256)

Data from business units and customers describing the characteristics of business demand. The characteristics focus on information about the demand in the context of business strategy (to support evaluation and classification).

### **Business Demand Value Classification**

(From: A25 A252, To: A253)

A scheme for classifying each business demand stream as a basis for making decisions in the event of demand exceeding supply and the results of performing the classification, particularly to include the business value characteristic.

### **Business Evaluation Feedback**

(To: A14 A142 A143)

Any feedback, formal or informal, from non-IT parts of the overall business which is relevant to evaluating the performance of the IT management system.

### **Business Facilities Plan**

(To: A752)

The plan, established by the Business, describing the quantity, locations, and other Facility items that enable it to operate.

### **Business Funding**

(From: Outside-the-Model, To: A8 A81 A813)

Defines the overall planned budget effort (people, money) for all planned services and activities in IT.

### **Business Goals**

(To: A112)

Goals of the Business.

### **Business Governance**

(From: Outside-the-Model)

Includes Business Drivers

### **Business Governance Capabilities**

(To: A111)

The charters, structures, roles and responsibilities, decision making mechanisms and measurement capabilities, which are used for governance across the overall business within IT.

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**Business Identity Rules**

(To: A671)

Set of rules that will be used to determine if identity requests and access requests will be approved. Part of 'Business Security Policies and Plans'.

**Business Impact Assessment**

(To: A732)

An appraisal of the impact of service unavailability on the business.

**Business Input**

(From: Outside-the-Model, To: A1 A2 A3 A33 A332 A7 A71 A8)

The various input items from the business to the IT provider that shape or direct the IT service. Examples of such inputs include:

- Guidance
- Instructions
- General commentary and information about business operating conditions

**Business Management Policies**

(To: A112 A113)

Policies of the Business that have a bearing on the IT function. They include fundamentals such as statements of the core values of the business through explicit policies, which must be followed (for example, in external relations).

**Business Management Practices**

(To: A114)

Practices dictated by the Business that have a bearing on the equivalent items framed for the IT function.

**Business Management System**

(To: A1 A11 A14 A143 A144)

The management system in place to govern the workings of the overall business.

**Business Metrics**

(To: A25 A253 A26 A266 A367)

Metrics (measurements, key performance indicators) on business performance. They are provided by the business whether or not the underlying data is managed by IT solutions.

**Business Output**

(From: A2 A7, To: Outside-the-Model)

The interactions from the collective IT endeavor to the businesses which relate to the any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Assessment of actual and potential value from IT
- Business demand classifications, forecast consolidations and proposed demand interventions
- Compliance certifications

**Business Project Management Framework**

(To: A37 A371)

The implementation within the parent business of a project management framework. This will usually provide

most, if not all, of the framework for managing IT projects.

**Business Risk Posture**

(To: A34 A343 A344)

The capability of the business to tolerate varying levels of risk. It includes business guidance on how to choose which risks to accept and which need mitigation.

**Business Security Policies and Plans**

(To: A72 A721 A722 A723 A725 A75 A752)

This is the overall set of security directives from the business, establishing the context for protection of business assets and information. It is often known as an *Enterprise Security Program*.

**Business Service Continuity Requirements**

(From: A762, To: A763)

The results of a business impact analysis, with identified risks, threats, and vulnerabilities.

**Business Strategic Wants and Needs**

(From: A312, To: A313)

Statement of strategic ambition, objectives, priorities and intent of the business.

**Business Strategy**

(To: A1 A11 A111 A112 A2 A24 A242 A243 A25 A252 A26 A262 A3 A31 A312 A32 A321 A323 A33 A332 A333 A34 A341 A36 A361 A366 A4 A41 A412 A7 A71 A711 A8 A81 A811 A82 A821 A84 A85 A851)

The business strategy stated in terms of strategic intent, roadmap, drivers, objectives and policies.

**Business Workforce Policies and Practices**

(To: A841)

The workforce management policies and practices of the parent business.

**C****Capacity Baselines and Profiles**

(From: A743, To: A254 A255 A744 A745)

Collective representations of current (and projected) capacity for selected groups of assets and resources, as well as patterns of consumption by various consumers.

**Capacity Delivery Resource Reallocation Directives**

(From: A744)

Desired changes and adjustments to resource allocations for the purpose of optimizing available capacity against demand. Sometimes a part of a general Service Resilience Directive.

**Capacity Management Activity Data**

(From: A742 A743 A744 A745, To: A746)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Capacity Management Evaluation**

(From: A746, To: A741)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### **Capacity Management Framework**

(From: A741, To: A742 A743 A744 A745 A746)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), information (entities, attributes, relationships) and technology (software, hardware) practices for managing capacity.

### **Capacity Models and Results**

(From: A742, To: A743 A744)

Qualitative and quantitative algorithms and projections used to track and predict IT resource capacity and usage patterns.

### **Capacity Plan**

(From: A74 A745, To: A742 A743 A744 A75 A752)

The approach that will be taken to satisfy resource requirements. The plan is configurable, meets performance expectations and has the required commitment to implement. It includes:

- SLA recommendations
- Threshold and alarm definitions.

### **Capacity Reports**

(From: A74 A743, To: A256 A744)

Information about the results and outcomes observed and achieved relating to all aspects of capacity. Reports include:

- Performance and capacity results
- Workload analysis
- Forecasts and predictions

### **Capacity Requirements**

(From: A742, To: A744 A745)

Detailed forecasts of the IT resource capacity needed to satisfy projected workloads and service level commitments while maintaining acceptable utilization and load factors.

For example, they can include: CPU processing power, storage space, and network bandwidth.

### **Catalog Presentation Requirements**

(To: A232)

Requirements for the style, content and usability of the service catalog. They include expectations, service level commitments, efficient searching, and ordering organized for each user community.

### **Change**

(From: A51 A515, To: A412 A516 A517 A518 A52 A522 A53 A532 A54 A543 A753)

A change, triggered by a change request, which has successfully completed assessment and has subsequently been authorized for implementation. The authorization includes details of schedule options and any implementation conditions, such as the decision to include the change within the scope of a planned release.

### **Change Assessment Information**

(To: A514)

Any information about the potential impact or risks relating to a change, including input from the business and from any other relevant process within IT.

### **Change Assessment Information Request**

(From: A514)

A request to any relevant party to provide information that will contribute to the assessment of a change.

### **Change Implementation Communication**

(From: A51 A516, To: A375 A52 A522 A523 A524 A53 A535 A536 A54 A542 A543 A635 A655 A665)

Information used to coordinate and implement a change. It can reflect either or both the:

- Status of the overall change as a result of carrying out previous instructions
- Instructions for the next stages of implementation

This dual nature is required to reflect incremental progress towards completion of a multi-stage implementation, especially when the outcome of one or more steps did not meet expectations in all respects.

### **Change Information**

(From: A5 A51 A518, To: A2 A23 A233 A235 A3 A35 A355 A513 A514 A515 A516 A517 A54 A542 A543 A6 A61 A613 A615 A62 A621 A63 A632 A64 A641 A65 A654 A66 A662 A666 A7 A72 A721 A725 A73 A731 A735 A736 A74 A741 A742 A743 A75 A751 A76 A761 A764)

The full scope of information is covered. This could be about an individual detail within a particular change through ad hoc or pre-determined reporting on a set of changes.

### **Change Management Activity Data**

(From: A512 A513 A514 A515 A516 A517 A518, To: A519)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### **Change Management Evaluation**

(From: A519, To: A511)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### **Change Management Framework**

(From: A511, To: A233 A234 A512 A513 A514 A515 A516 A517 A518 A519 A611 A641)

The policies, procedures, organizational roles and responsibilities, and other information under which the Change Management process will operate to meet its mission and goals.

### **Change Request**

(From: A2 A23 A232 A3 A35 A355 A4 A42 A422 A43 A432 A44 A442 A54 A542 A6 A61 A613 A62 A621 A64 A644 A65 A655 A66 A665 A7 A72 A725 A73 A737 A74 A744 A745 A75 A752 A754 A76 A765 A766, To: A5 A51 A512)

Change requests (also known as RFCs) are the means for submitting proposed change and actual change activity in the environment. Change requests can be triggered for a wide variety of reasons, from a broad spectrum of sources. They can be concerned with any part of the environment or with any service or activity.

#### **Change Request\_ Recorded**

(From: A512, To: A513 A518)

The details of a change request, captured in a document or other format defined by the Change Management Framework.

#### **Change Request\_ Rejected**

(From: A513 A515)

Any change request which has been rejected, and sent back to the requestor. Reasons for rejection include:

- Lack of authorization or funding
- The change requested is beyond the scope of Change Management (for example, it is a new requirement)
- The change request is incomplete or in error
- The change request has been assessed as having too high a risk and needs rework

#### **Change Schedule**

(From: A5 A51 A515 A516, To: A514 A516 A517 A52 A522 A525 A54 A543 A545 A6 A63 A632 A66 A665 A7 A74 A744 A745 A75 A752 A753)

As defined in ITIL: “A Document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.”<sup>2</sup>

#### **Change Status and Information Request**

(To: A518)

A request for the current status of a change within the control of Change Management.

#### **Change\_ Assessed**

(From: A514, To: A515 A518)

The change, including the collection of assessment recommendations.

#### **Change\_ Categorized**

(From: A513, To: A514 A518)

The change request, which has completed acceptance, is now recognized as a change. The categorization indicates the types and levels of assessment needed.

#### **Change\_ Closed**

(From: A517, To: A518)

The change having completed all parts of the change life cycle, and reached closed status.

#### **Change\_ Implemented**

(From: A516, To: A517 A518)

The history and record of the change implementation activity which has culminated in the completion of the change related to the change request. It also includes the case of a failed implementation, with any back out results.

#### **CI Data Update Package**

(From: A4 A42 A424 A43 A433 A434 A435 A436 A437 A44 A444 A45 A456 A51 A516 A52 A523 A526 A53 A535 A536 A6 A63 A634 A64 A645 A65 A652 A7 A75 A753 A754, To: A5 A54 A542 A543)

The details of modifications to any existing CIs that must be validated and captured in the CI master data. The modifications can include:

- Attributes
- Relationships.

#### **CI Information**

(From: A543, To: A542 A544 A545)

The definitive configuration information about each and every managed configuration item. The collection of this information is represented by the concept of a CMDB.

#### **CI Requisition**

(From: A4 A42 A423 A424 A43 A433 A434 A44 A444, To: A5 A54 A543)

A request for one or more CIs to be made available so that they can be worked upon. In a development environment, this might be a request to check-out solution components from a version-controlled configuration library.

#### **CIs**

(From: A5 A54 A543, To: A4 A43 A434 A44 A444)

CIs are the technical (in its broadest sense) components, including assemblies of more granular components, upon which IT service is based. The relevant extract from the ITIL definition of Configuration Item is: “Any Component that needs to be managed in order to deliver an IT Service. ... CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs.”<sup>3</sup>

#### **Collated IT Management System Outcomes**

(From: A141, To: A142 A143)

Collection of all the Management System Assessments into an easy to use format for further analysis.

#### **Compliance Audit Invocation**

(From: A716)

A directive to all processes that are required to operate under the risk and compliance controls for evidence which will be examined to identify whether and how well those controls are being operated.

#### **Compliance Audit Reports**

(From: A716, To: A143 A713)

Documents communicating the results of individual process compliance and mitigation audits.

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**Compliance Certification**

(From: A71 A716)

Formal declaration by the accountable executive of adherence to regulatory requirements.

**Compliance Management Activity Data**

(From: A712 A713 A714 A715 A716, To: A717)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Compliance Management Evaluation**

(From: A717, To: A711)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Compliance Management Framework**

(From: A711, To: A712 A713 A714 A715 A716 A717)

The policies, procedures, organizational roles and responsibilities and other information under which the Compliance Management process will operate to meet its mission and goals.

**Compliance Operational Capabilities**

(From: A715, To: A716)

The set of capabilities which implement the various controls required to adhere to specific regulatory or more informally generated requirements.

**Compliance Plans and Controls**

(From: A7 A71 A714, To: A1 A11 A111 A113 A114 A3 A36 A361 A37 A371 A4 A41 A412 A413 A5 A51 A511 A52 A521 A53 A531 A54 A545 A55 A554 A555 A6 A63 A632 A67 A671 A715 A716 A72 A725 A76 A763 A8 A81 A811)

The authoritative and comprehensive statement of:

- The items for which compliance is required
- The means (policies, data specifications, procedures, techniques, tools) to achieve compliance
- The definition of required compliance metrics and reports by which conformance will be able to be demonstrated for required scrutiny

It will be the major vehicle for communications and guidance on compliance efforts.

**Compliance Requirements**

(From: A712, To: A713)

The necessary conditions and actions needed to adhere to external regulations or standard practices and also to requirements established by the business through activities such as audit and oversight.

**Compliance Requirements Assessed**

(From: A713, To: A714 A716)

Sets of categorized, quantified, and prioritized compliance items that the IT endeavor must address. Also includes any compliance requirements for which noncompliance has been assessed, with decision reasons and analysis of likely consequences.

**Configuration Audit Action Request**

(From: A545, To: A542 A543 A544)

A request for some corrective action to be taken to reflect the outcomes of configuration audit.

**Configuration Audit Report**

(From: A545, To: A455 A554 A716)

The outcomes of a configuration audit. The outcomes cover both status of configuration items and audit trails of changes to configuration items, such as logs of identities of the person(s) making such changes.

**Configuration Audit Request**

(From: A554 A716, To: A545)

A request for any aspect of the collected configuration information to be audited against the actual, real managed object.

**Configuration Baseline Report**

(From: A54 A542 A543, To: A423 A51 A514 A516 A52 A522 A523 A524)

A point-in-time snapshot of a portion of a CMDB that is relevant to one or more purposes from other IT management processes. This can include past, current, and future projected instances.

**Configuration Information**

(From: A5 A54 A544, To: A3 A33 A336 A4 A42 A422 A423 A424 A44 A442 A443 A51 A513 A514 A516 A52 A523 A524 A53 A533 A534 A535 A545 A55 A553 A6 A61 A612 A62 A623 A63 A634 A635 A64 A642 A65 A652 A653 A654 A66 A662 A67 A674 A7 A72 A724 A726 A727 A73 A735 A736 A74 A742 A743 A744 A75 A752 A76 A764 A765 A766)

The information on any individual configuration item (CI) or collection of CIs, which is made available using standard reports or to meet individual requests.

**Configuration Information Request**

(From: A336 A422 A423 A424 A442 A443 A664, To: A54 A544)

Any request for information about one or more configuration items. Many IT processes will make such requests.

**Configuration Management Activity Data**

(From: A542 A543 A544 A545, To: A546)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Configuration Management Evaluation**

(From: A546, To: A541)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Configuration Management Framework**

(From: A541, To: A542 A543 A544 A545 A546 A551)

The information and artifacts which represent the purposes of the process and the means by which the process will operate to satisfy them.

**Consolidated Business Demand Baselines and Forecasts**

(From: A25)

Agreed statement of the combination of the expected business demand for the normal (typical) pattern of business, and of the future predictions of business demand for IT service, usually arranged by periods against a standard calendar.

**Consumables Order**

(From: A623)

An order for materials used up in the process of providing agreed-to services. Materials like paper, magnetic tape, printer toner or ribbons, and others are included.

**Consumption Data**

(From: A625)

Usage statistics for consumable supplies reported with each use and intended to be the basic information that would lead the IT organization to know when consumables are nearing depletion so the material can be re-supplied without disruption to processing.

**Continuity Notification**

(To: A766)

An urgent, formal command to invoke the IT Service Continuity Plan.

**Contract Exceptions**

(From: A823, To: A822)

Exceptions or non-compliance of contracts that are recognized during Manage Supplier Contracts, and that are needed as input for Manage Portfolio of Suppliers, so that the supplier portfolio can be adapted if necessary.

**Contract Requirements**

(From: A82 A823)

Contract requirements for communication to, and negotiation with, suppliers. The requirements cover items such as specifications, quantities, delivery dates, desired terms and conditions, maximum price.

**Cost Data**

(From: A81 A815, To: A816 A83 A832)

Describes the cost aligned with defined criteria. Typical criteria: by service, by customer, and by cost unit.

**Costing and Charging Request**

(From: A744, To: A833)

An inquiry about (or an estimate of) the cost or charge related to a particular IT service or cluster of services.

**Current Business Climate**

(To: A26 A262 A263)

Information about the state of the customer's business. Includes business metrics and projections directly relating to the customer as well as directional statements such as press releases, annual reports, and other articles.

**Customer Charges or Invoices**

(From: A81 A815, To: A814 A816)

Customer charges or invoices describe how much a customer is being charged or billed for the usage of IT in a certain period of time.

**Customer Directions and Intentions**

(To: A22 A225 A26 A263)

Information from customers, whether expressly or implicitly stated within other communications, which indicates the customers' strategies, plans, wish lists, or other intentions on the subject of IT service.

**Customer Input**

(From: Outside-the-Model, To: A2 A8)

Interactions from any customer of IT to any IT process related to any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Needs and requirements
- Contracting for IT services
- Establishing service level targets, and reviewing achievement against those targets
- Participation in testing and other acceptance activities
- Payments
- Satisfaction input

**Customer Inputs to Sales Transactions**

(To: A22 A226 A227)

Customer wants, needs, or general requests around a specific sales opportunity.

**Customer Issue Feedback**

(To: A27 A274)

The responses and other feedback from the customer providing more information into the issue they have expressed and into their perception on the success or otherwise of attempts to address open issues.

**Customer Needs**

(To: A21 A212)

An expression in the customer's terms of their wants, needs, and aspirations for IT service, in both functional and non-functional ways.

**Customer Organization**

(To: A22 A223 A225 A23 A232 A24 A242 A27 A271)

Information about the organization of each customer. This will include organizational structure details and, in particular, identify the positions and individuals who are stakeholders in each service.

**Customer Output**

(From: A2 A8, To: Outside-the-Model)

The interactions from the collective IT undertaking to any IT customer, in connection with any aspect of the life cycle related to the establishment and performance of the IT product; that is, the services and solutions. The interactions include:

- Validation of requirements
- Marketing and sales materials, such as proposals
- Service level agreement life cycle
- Invoices for services rendered
- Any aspect of customer satisfaction

**Customer Payment**

(To: A81 A814)

Customer payment describes the incoming cash flow (real or virtual) from a customer. It is either the information about a customer payment (from the business' accounts receivable process) or could be the actual payment.

**Customer Profiles**

(From: A22 A228, To: A225 A26 A262 A27 A271)

The body of knowledge about each customer as a result from marketing and sales activities.

**Customer Review Input**

(To: A24 A245 A246)

Any feedback from the customer with regard to service levels and their attainment, including their prioritization of improvement suggestions.

**Customer Satisfaction Analysis**

(From: A273, To: A274 A275 A276)

The results of analyzing customer satisfaction data, and including trends and implicit issues.

**Customer Satisfaction Data\_Solicited**

(From: A272, To: A273 A275)

Data obtained from service provider initiated collection of satisfaction data. Examples would include forms put in front of users after system interactions, regular review meetings between customer and provider.

**Customer Satisfaction Data\_Unsolicited**

(From: A272, To: A273 A275)

Any feedback, typically ad hoc and unprompted, from a customer that expresses their level of satisfaction with any aspect of the IT service provision.

**Customer Satisfaction Framework**

(From: A271, To: A272 A273 A274 A275 A276 A277)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer satisfaction.

**Customer Satisfaction Input**

(To: A27 A272)

Feedback (solicited or unsolicited) from customers regarding IT performance. This is used to measure and manage customer satisfaction issues and trends.

**Customer Satisfaction Issue**

(From: A24 A245 A53 A537 A61 A613 A615, To: A27 A274)

Any determination of a customer satisfaction issue. Can be either direct form a customer, or prompted by any IT staff member in carrying out other processes.

**Customer Satisfaction Issue Communications**

(From: A27 A274, To: A276 A614 A615)

Information provided to customers about any aspect of a satisfaction issue, covering analysis of causes, committed plans to address, and progress to issue resolution.

**Customer Satisfaction Issue Resolution Directives**

(From: A274, To: A276)

Instructions or requests to any IT process for the resolution of a customer satisfaction issue, under the coordination of an overall issue resolution plan.

**Customer Satisfaction Issue Resolution Response**

(To: A274)

Responses from any IT process to directives for the resolution of a customer satisfaction issue. Examples of responses would be action plans, and action outcomes.

**Customer Satisfaction Management Activity Data**

(From: A272 A273 A274 A275 A276, To: A277)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Customer Satisfaction Management Evaluation**

(From: A277, To: A271)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Customer Satisfaction Patterns**

(From: A275, To: A276)

Identification of patterns of satisfaction which might require attention from the IT service provider before the dissatisfaction occurs.

**Customer Satisfaction Results and Trends**

(From: A27 A276, To: A13 A131 A14 A141 A22 A222 A23 A236 A24 A244 A25 A253 A356 A365 A525 A526)

A report summarizing current customer satisfaction results and historical data. Can be used to identify trends.

**Customer Satisfaction Targets**

(From: A271, To: A273 A276 A277)

The targets (goals) for customer satisfaction against which the actual customer results will be measured.

**Customer Selling Information**

(From: A225, To: A222 A226 A227)

General data on the customer such as contact name, address, position title, organization name, customer number, and more.

**D**

**Data**

(From: A63 A634, To: A62 A623 A635 A636)

All the data items which are being managed within the IT endeavor, and which are made available for processing or other purposes in line with service commitments.

**Data Lifecycle Management Plan**

(From: A632, To: A633 A634 A635 A636 A637)

The specification of the life cycle management plan for each class or type of data, allowing for the possibility that an individual collection of data could have unique life

cycle management requirements. The life cycle plan will cover aspects such as:

- Media types to be used, for each activity level of data (such as currency)
- Archive parameters
- Backup plan
- Selection of data sensitivity classification

#### **Data Lifecycle Request**

(From: A62 A622, To: A63 A632 A634 A636)

The identification of any need for a life cycle management action of any data item as part of productive usage of that data.

#### **Data Management Activity Data**

(From: A632 A633 A634 A635 A636 A637, To: A638)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

#### **Data Management Evaluation**

(From: A638, To: A631)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

#### **Data Management Framework**

(From: A631, To: A633 A634 A635 A636 A637 A638)

The Data Management Framework guides the operation of the process, and includes the following information:

- Classes of data (relevant for data management, to indicate factors such as backup scope and frequency)
- Data life cycle models
- General approach to what storage media types will be used for which classes of data
- Instructions for data retention that implement Corporate policies and controls (which themselves include the impact of regulatory requirements)
- Capacity Management plans that affect Data Management
- Data Management requirements based on existing SLAs
- High-level plans for improvement

#### **Data Management Metric Data and Reports**

(From: A63 A637, To: A632 A634)

Significant event logs, volume and other measurement data relating to how effectively and efficiently data and storage work has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is a basis for service level reporting.

#### **Data Resource Catalog**

(From: A634, To: A635 A636)

The master record of the location and disposition of every data collection under data management. Depending on the policy choices as specified within the framework, it can include usage records such as space employed and lists of users (people, programs) by time and date.

#### **Data\_Derived**

(From: A62 A624, To: A63 A634)

Any informational item created or modified as part of the workings of any business process and which is to be managed within an IT service. Data could be specific information like order numbers, invoice numbers, receipts, inventory change data, and could be received in batches or in individual transactions. It can relate to business processes, or be relevant to the management of the IT endeavor.

#### **Data\_Disposed**

(From: A636)

The data that has been taken out of active management. Depending on how it has been stored, it can include the associated media; for example, paper or microfiche records.

#### **Data\_External**

(To: A633)

Data sourced and obtained from outside the current service coverage. Examples of this would include:

- Reference data, from external providers, such as postal coding schemes
- Transaction data from external partners, such as banks.

#### **Data\_Prepared**

(From: A633, To: A634)

Data that has been collected (acquired) and prepared (filtered, grouped, reordered, rearranged) to match the planned usage. Prepared data is ready to be placed (deployed) onto its target media and managed throughout its life cycle.

#### **Data\_Restored**

(From: A635, To: A634)

Availability of data for productive or other use as a result of restoring it.

#### **Deallocated Assets**

(From: A535, To: A552)

Assets that are no longer deployed to specific owners. These assets are free to be allocated to new owners.

#### **Delivery Resources**

(To: A623)

Technological and people resources which can be utilized in the process of delivering IT services to the organization.

#### **Delivery Resources\_Assigned**

(From: A623, To: A624)

All IT resources required and available to perform the required service.

#### **Delivery Resources\_Recovered**

(To: A623)

Any IT delivery resources which have been restored to normal (or acceptable) operational capability as a result of incident resolution.

#### **Delivery Resources\_Released**

(From: A624, To: A623)

Resources (tapes, storage devices, networks, LANS, programs, data stores, processors, memory) that have been used in the process of performing operational services but are now available for re-assignment to other work.

#### **Demand Management Activity Data**

(From: A252 A253 A254 A255 A256, To: A257)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

#### **Demand Management Evaluation**

(From: A257, To: A251)

An analysis of activity data for Demand Management, providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

#### **Demand Management Framework**

(From: A251, To: A252 A253 A255 A256 A257)

The set of structures describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing demand.

#### **Demand Management Outcomes Report**

(From: A256, To: A252 A253 A255)

Information about the success (or otherwise) of the Demand Management activities across several aspects:

- Representing business demand in IT service consumption units
- Identifying supply and demand gaps
- Recommending interventions to realign demand to match supply

#### **Deployed Workforce**

(From: A843)

Current IT human resource allocations.

#### **Deployment Capabilities**

(From: A533, To: A534 A535 A536)

Combination of knowledge, skills, experience, processes, systems and technologies required to deploy new or changed deployment objects into the target environment.

#### **Deployment Items**

(From: A534, To: A535)

The collection of items that are ready for deployment and for which all title and ownership information reflects the imminent deployment into the target environment. These items are instances of what ITIL calls Service Assets, defined as “Any Capability or Resource of a Service Provider.”<sup>4</sup>

#### **Deployment Management Activity Data**

(From: A532 A533 A534 A535 A536 A537 A538, To:

A539)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

#### **Deployment Management Evaluation**

(From: A539, To: A531)

An analysis of deployment management activity data providing an understanding of the current success or failure of the deployment management process, and an identification of potential process improvements.

#### **Deployment Management Framework**

(From: A531, To: A532 A533 A534 A535 A536 A537 A538 A539)

This framework describes the policies, procedures, organizational roles and responsibilities, and other information under which the Deployment Management process will operate to meet its mission and goals. This framework provides governance information for the other activities in Deployment Management. This framework provides governance information for the other activities in Deployment Management.

#### **Deployment Program Plan**

(From: A532, To: A533 A534 A535 A536 A537 A538)

The set of plans for achieving the deployment of an identified set of information technology capabilities.

Items covered include:

- Specification of coordinated deployment tasks and procedures to move new or changed hardware, software, documentation, process, etc. to the target environment
- Rollout timetables for deployments that are repeated, and associated logistical plans
- Identifying personnel resources necessary to achieve each deployment event, and obtaining commitments for their availability

The deployment program will cover aspects such as locations, target systems, dates, persons affected (both users and IT service provider staff), required communications, and training plan.

#### **Deployment Records**

(From: A532 A533 A534 A535 A536 A537, To: A538)

A set of records containing the details of each deployment program and each deployment instance within that program.

#### **Deployment Reports**

(From: A538, To: A518 A525 A526 A532)

Report about how well deployments are progressing or have been completed.

#### **Deployment Rework Need**

(From: A536, To: A534 A535)

The identification that any parts of the deployment plan need to be reworked prior to the capability reaching full service status. Everyday changes in business operations within the organization that is the target of deployment can be the cause of such a need. For example, changes in staff since plan creation.

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4. ITIL V3 Glossary

**Disposal Notification**

(From: A636, To: A634)

Notification that one or more collections of data have been disposed of and are no longer accessible.

**E****Environment Information**

(From: Outside-the-Model, To: A1 A2 A3 A5 A7 A8)

General knowledge that exists relative to the business' primary overall industry segments and the IT industry, such as:

- Business information
- Technical information
- Government information

**Event**

(From: A64 A642, To: A643 A65 A654 A66 A662)

Details of individual and collective events. They are available to any Service Management process for investigation, diagnosis and other analytical purposes on a real-time or historical basis.

ITIL defines Alert as: “A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.”<sup>5</sup>

**Event Analysis Updates**

(To: A642 A646)

Any additional data added to (but not modifying) the primary data of a logged event as a result of other IT processes carrying out their investigations. Examples of such processes would be Incident, Capacity and Availability Management.

**Event Management Activity Data**

(From: A642 A643 A644 A645 A646, To: A647)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer (of this process) feedback, priorities.

**Event Management Evaluation**

(From: A647, To: A641)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Event Management Framework**

(From: A641, To: A642 A643 A644 A645 A646 A647)

Includes the following:

- Specification of what makes an event
- Specification of what makes a significant event
- Identification of significant events that can be processed (responded to), and what those procedures are

– Practices for logging and filtering events

– Definition of the event life cycle

**Event Resolution Directive**

(From: A64 A645, To: A62 A622 A623 A624 A63 A634 A635)

The set of commands or instructions to resource controlling activities which have been selected so that the event causing conditions will be resolved.

**Event\_Closed**

(From: A646)

The event audit trail and life cycle with the addition of any information from the event closure activity.

**Event\_Derived**

(From: A644, To: A642)

A new event created as a result of correlation across multiple events, usually signifying some new out-of-tolerance conditions requiring action.

**Event\_Escalated**

(From: A644, To: A643)

An event, or set of events, that requires re-examination and filtering as a result of event processing or correlation. This is typically indicated by increasing the priority classification.

**Event\_Processed**

(From: A644, To: A645)

An event which has been analyzed for cause of out-of-tolerance conditions and led to its creation for which a plan, within the scope of Event Management, has been formulated to resolve those conditions.

**Event\_Ready for Closure**

(From: A644 A645, To: A646)

The complete audit trail of an event and all states of processing through its life cycle.

**Event\_Significant**

(From: A643, To: A644)

Unsolicited, (formatted), significant information which must be communicated from a managed object for the purpose of meeting a management objective.

An Alert is an example of a significant event. It is defined by ITIL as: “A warning that a threshold has been reached, something has changed, or a Failure has occurred. Alerts are often created and managed by System Management tools and are managed by the Event Management Process.”<sup>6</sup>

**Existing Test Cases**

(To: A442)

Any relevant, previously-defined and exercised test case that is identified as relevant to the particular solution for which testing is being planned. These test cases are managed under the Knowledge Management process.

**External Benchmarks**

(To: A14 A142)

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5. ITIL V3 Glossary

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6. ITIL V3 Glossary

A representation of the effectiveness, efficiency or other metric of the workings of a survey or other sample group of businesses or functions within them.

**External Models and Practices**

(To: A11 A111 A113 A114 A12 A121 A122 A123 A124 A125 A126)

External information from the industry (from individual enterprises, from academia and from industry watchers) describing models, practices and trends in IT management system topics.

**External Workforce Frameworks and Practices**

(To: A841)

Relevant models, designs and operational characteristics of workforce management approaches in peer businesses which could provide a basis for this IT Service Provider's Workforce Management Framework.

**F**

**Facilities Management Activity Data**

(From: A752 A753 A754, To: A755)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Facilities Management Evaluation**

(From: A755, To: A751)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Facilities Management Framework**

(From: A751, To: A752 A753 A754 A755)

The policies, guidelines, plans, procedures and targets for the workings of the Facilities Management process.

**Facilities Plans and Specifications**

(From: A75 A752, To: A72 A723 A726 A73 A737 A74 A745 A753 A754 A76 A764)

Specifications, designs and plans for the IT facilities to support the provision of IT service.

**Facilities Procedures and Schedules**

(From: A752, To: A754)

Documentation on facilities procedures, facilities availability, and use of facility infrastructure for IT and the user community. This information is available to Knowledge Management, for it to determine which parts (if any) are needed to be available to the IT processes.

**Facility Incident**

(To: A754)

An external event resulting in a real or suspected failure of one or many components of the facility, and the related notification and information about the incident.

- Facility incidents might be handled separately (for example, by the business) from the IT Incident Management process.

**Facility Incident\_ Closed**

(From: A754)

Information about the facility incident life cycle and outcome, including:

- Notification to the requestor that the request was addressed
- Feedback to any relevant IT processes, such as supplier management, workforce management, financial management

**Facility Request**

(From: A752, To: A753)

A request for Facility changes that conform to the framework or the plans for the facility.

**Facility Request Exceptions**

(From: A753, To: A752)

This is an ad hoc request that does not conform to the current plans, but is within the overall remit of the facility framework. It can potentially be addressed by some additional facility planning.

**Facility Request Fulfillment Plan**

(From: A753, To: A754)

The plan (instructions, specifications) for the fulfillment of the facility request using normal facility operation or maintenance.

**Facility Request Response**

(From: A753)

The fulfillment of the Facility Request and information about it, including:

- Description of the request
- Notification to the requestor as to how the request was addressed
- Updates to CI information and asset information.

**Facility Request\_ Qualified**

(From: A754, To: A753)

A need for a facility request to be re-planned as a result of an operation or maintenance activity producing a result out of line with the plan.

**Feasibility Guidance**

(To: A213)

Could be either or both of:

- A mechanism to evaluate and qualify customer needs
- A feasibility report on a specific set of expressed potential requirements

**Feasibility Request**

(From: A213)

A request which expresses the desire to qualify a customer need using a structured needs evaluation framework. This request could be handled by many processes, including IT Portfolio Management, IT Research and Innovation, Solution Requirements, Solution Analysis and Design.

**Financial Management Activity Data**

(From: A812 A813 A814 A815 A816, To: A817)

Any data about the correct accomplishment and of process activities that support the evaluation of the overall Financial Management process (includes data gathered for legal reasons or for fraud detection).



**Financial Management Evaluation**

(From: A817, To: A811)

A report describing the performance against the process quality measures, legal requirements, and fraud detection.

**Financial Management Framework**

(From: A811, To: A812 A813 A814 A815 A816 A817 A831)

The overall strategy and definition for financial management, such as the procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for the management of IT finances
- Policies and orientation that apply to operating the various aspects of IT finances
- Collection of evaluation criteria for qualifying and assessing the financial aspects of any investment under consideration

**H****Human Resource Adjustment**

(To: A843)

The flow of acquired, realigned, and released human resources which represents the workforce available for deployment.

**I****Identified CIs**

(From: A542, To: A543)

The set of CI types, with details of their:

- Attributes
- Relationships
- Structures in which they are expected to participate

**Identified Risks**

(From: A342, To: A343 A722)

Areas in the business where there is a potential for realization of unwanted, adverse consequences if an event or a given set of events occurs.

**Identity and Access Directives**

(From: A675, To: A673 A674)

Individual or collective commands, instructions or other requests to modify or adjust identities or the access rights register. Such directives are usually the result of monitoring patterns of identity and access behavior as well as from security monitoring data.

**Identity and Access Management Activity Data**

(From: A672 A673 A674 A675, To: A676)

Data resulting from all work carried out by each process activity. Examples would be resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Identity and Access Management Evaluation**

(From: A676, To: A671)

An assessment of the overall performance of the process and of its activities against the targets set in the Identity

and Access Management process framework. It includes identification of potential process improvement items. This may also include proposed modifications to the Identity and Access Management Framework.

**Identity and Access Management Framework**

(From: A671, To: A672 A673 A674 A675 A676)

The policies, guidelines, plans, procedures, organizational roles and responsibilities and other information under which the Identity and Access Management process will operate to meet its mission and goals.

**Identity and Access Monitoring Data**

(From: A67 A673 A674, To: A64 A642 A675 A727)

Data produced during or about the processing performed against identities and access right records. In addition to item-by-item outcomes, the data can include measurements of resource utilization, transaction volumes, processing status, among others.

**Identity and Access Reports**

(From: A675)

These reports contain a summary of identity and access records, and the amount and type of identity and access transaction completed (additions, changes, deletions) in a given time frame.

**Identity and Access Request**

(To: A672)

Service Request to create or modify an identity record for a user and to provide access to systems, data and applications.

**Identity and Access Response**

(From: A673 A674, To: A535 A624)

The result of processing an identity and access request. The result will reflect a range of possibilities, depending on the nature of the request:

- For an identity request – actions taken to create, maintain, or delete the identity
- For an access (rights) request – the success or failure of the request, with relevant information describing the status of access rights

**Identity and Access Rights Register**

(From: A6 A67 A673 A674, To: A674 A675 A7 A72 A726 A727 A75 A754)

The records that provide the current (and perhaps historical) values for identities and for access rights. This collective register is generated by actions related to identity life cycle management (enrollment, provisioning and user self-care), identity controls (access and privacy controls, single sign-on), identity federation (sharing user authentication and attribute information between trusted Web services applications), and identity foundation services (directory and workflow).

**Identity and Access Work Request**

(From: A535 A62 A624, To: A67)

An identity and access request originating from another process.

**Identity Request**

(From: A672, To: A673)

A form of Service Request to enroll, provision or change a given user's identity characteristics and which evaluated, verified and accepted for processing.

**Implementation Progress Data**

(From: A375 A52 A523 A524 A53 A535 A536 A635, To: A51 A516 A537)

The record of each incremental activity performed as part of the implementation of a change or release.

**Incident**

(From: A2 A27 A273 A5 A51 A516 A53 A536 A61 A613 A62 A625 A63 A637 A64 A644 A646 A67 A675 A7 A72 A75 A754, To: A537 A6 A65 A652)

A fault in IT service and infrastructure that has been reported, or an event that could cause an interruption to one or more services. Incidents can be created using either manual or automated mechanisms. An incident reported by a user begins as a service request and becomes an incident once it is determined that a fault is being reported.

**Incident Communication to User**

(From: A656 A657)

Communications to a user about the status or progress of an incident. Could be to provide status information or to solicit additional data or request some user action as part of diagnosis.

**Incident Information**

(From: A6 A65 A657, To: A2 A24 A244 A61 A613 A615 A652 A653 A654 A655 A656 A66 A662 A7 A72 A726 A73 A736 A74 A744 A75 A754)

Information about one or more incidents. Can range from full details of an individual incident through collated and summarized information about sets of incidents.

**Incident Management Activity Data**

(From: A652 A653 A654 A655 A656 A657, To: A658)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Incident Management Evaluation**

(From: A658, To: A651)

An analysis of how well the Incident Management process was performed. This can also include suggested areas for modifications to the Incident Management Framework.

**Incident Management Framework**

(From: A651, To: A652 A653 A654 A655 A656 A657 A658)

The set of policies and procedures for performing the Incident Management process, including data items such as:

- Priority and severity classification schemes
- Resolution targets
- Tables identifying teams to be assigned, by system or service

**Incident\_ Classified**

(From: A653, To: A654 A657)

An incident that has been assigned a classification. The classification helps narrow the realm of possibilities for resolving the incident. For instance, the classification can be based on platform, type of problem, component, or other information.

**Incident\_ Closed**

(From: A656, To: A657)

The finalization of all data related to an incident, including structured data which supports analysis of incident causes, patterns, costs and resolution effectiveness.

**Incident\_ Logged**

(From: A652, To: A653 A657)

An identified incident that has been saved in a database.

**Incident\_ Needing Reclassification**

(From: A654 A657, To: A653)

An incident that requires to be moved to a different classification, perhaps to a different team.

**Incident\_ Resolution Plan**

(From: A653 A654, To: A655 A657)

An incident for which a resolution plan has been created or obtained. Subsequently (and beyond this activity), the resolution plan has to be applied and the outcome verified with the user.

**Incident\_ Resolution Unsuccessful**

(From: A655, To: A653)

An incident for which a workaround or fix was not provided or was unsuccessful. Normally, an incident should eventually yield a workaround or a fix for that incident. However, in some situations, no workaround or fix works to resolve the incident.

**Incident\_ Resolved**

(From: A65 A655, To: A62 A656 A657)

An incident for which a workaround or fix has been successfully applied.

**Individual IT Process Activity Data**

(To: A813 A814 A815)

(From every process) All defined process based measures (usage data) aligned with services and activities from which relevant financial values can be extracted or derived.

**Individual Process Evaluations**

(To: A14 A141 A346 A716)

A collection of metrics which describe the effectiveness and efficiency of an individual process.

**Industry Models and Standards**

(To: A33 A332 A333)

From the industry segment of the business and from the IT industry itself:

- Models of ways of operating and design
- Formal and informal standards that must be considered in any architectural work

**Industry Risk Threats and Vulnerabilities**

(To: A76 A762)



Known risks, threats and vulnerabilities which exist from other organizations in the same business sector, and environmental risk.

**Information About Suppliers**

(To: A822 A825)

Any information about potential suppliers that supports the selection and evaluation process for suppliers, including:

- Analyst reports and opinions
- Benchmark data
- Customer references
- Financial information
- Current relationship information
- Other publicly available information.

**Information Asset Security Classification**

(From: A724, To: A725)

The level of protection to be established and operated against each category of information assets. It includes:

- Identification of ownership requirements
- Handling and labeling procedures

**Information From Suppliers**

(To: A82 A822 A823 A825)

Any information that the suppliers can provide about themselves that supports the selection and evaluation process for suppliers, including:

- Responses to RFIs, RFPs
- Vendor briefings
- Financial information
- Portfolio information.

**Infrastructure Needs**

(To: A212)

Conditions where a gap in the current infrastructure exists and requires assistance to be filled.

(Includes input such as security requirements from Security Management.)

**Integrated Work Schedule**

(From: A622, To: A623 A624)

A consolidation of all individual work item schedules (planned out sequence of work) based on resources, commitments, skills and available services.

**IT Administration Support Data and Requests**

(From: A62)

Covers requests for supply of new or additional consumable materials and relevant data reporting on consumption and usage of the consumables (tapes, paper, toner, forms, and others), which might be required for charging.

**IT Budget**

(From: A8 A81 A813, To: A1 A12 A121 A123 A125 A13 A131 A132 A133 A14 A142 A2 A22 A221 A23 A233 A24 A241 A243 A26 A261 A3 A31 A314 A32 A321 A33 A331 A35 A353 A36 A365 A5 A53 A532 A55 A551 A7 A75 A752 A812 A814 A816 A82 A821 A84 A842 A843 A844)

The planned IT funding broken down in relevant ways, such as activities and milestones per period, to reflect the contents of the IT plan.

**IT Business Contribution and Capabilities**

(From: A3)

Information to the business on the products of IT (the services and solutions), on the status of the IT assets and infrastructure employed in the delivery of the IT products, and on the contribution (value) to the business which the IT product makes.

**IT Business Value Potential**

(From: A31 A313, To: A312)

Statement of potential technology impact on the business strategy, stated in terms of added value, time scales, potential investment costs and business change assessment.

**IT Business Value Report**

(From: A36 A367)

The contribution to the business from an information technology investment, usually expressed in economic terms.

**IT Capability Outlines**

(From: A31 A313, To: A314 A33 A332)

A specification of the desired capabilities of the IT entity, stated in a way that is independent to specific implementations of its services, processes, people, tools, organization, and technology. Capabilities should be stated in a consistent form, as in “the ability to perform service X within the specified service level Y.”

**IT Control Results**

(From: A13 A132, To: A131 A133 A14 A141)

An indication of the direct outcomes, and any associated consequences that result from the application of any IT management controls.

**IT Customer Benefit Realization Report**

(From: A26 A266, To: A263)

A report describing the benefits realized by the customer from the adoption of transformational capabilities.

Different types of reports are possible, including:

- Timetable for changes in realized benefit (typically as penetration advances)
- Comparison of actual against plan
- Indication and analysis of missed or additional benefit exploitation opportunities

**IT Customer Capability Adoption Events**

(To: A26 A265)

Notable milestones (both successes and failures) in the customer’s adoption of transformational capability.

**IT Customer Capability Adoption Interventions**

(From: A26 A265)

Any actions or efforts designed to promote the adoption of transformational capabilities. Examples of such interventions include:

- Communications
- Training programs

– General consultancy and assistance into better, deeper or broader usage of the capability

### **IT Customer Capability Adoption Plan**

(From: A26 A265, To: A266)

The overall plan for enabling and promoting capability adoption. This ranges from customer-wide items such as general awareness and communications through training programs customized to local needs and possibly the provision of individual guidance and consultancy.

### **IT Customer Capability Enabling Requirements**

(From: A265, To: A264)

Statement of requirements for additional or modified materials, training, and communication programs, and other enablers that enhance the rate and degree of adoption of transformational capabilities.

### **IT Customer Context**

(From: A262, To: A263)

A digest summarizing and analyzing the customer's business activities and the key business drivers and imperatives which influence the direction of that business. Includes consideration of the main uses of information technology within that business and in comparison with industry competitors and leaders.

### **IT Customer Transformation Candidates**

(From: A263, To: A264)

A list of possible transformational opportunity areas for the customer. It will usually be categorized against key business drivers.

### **IT Customer Transformation Management Activity Data**

(From: A262 A263 A264 A265 A266, To: A267)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### **IT Customer Transformation Management Evaluation**

(From: A267, To: A261)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### **IT Customer Transformation Management Framework**

(From: A261, To: A262 A263 A264 A265 A266 A267)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing customer transformation.

### **IT Customer Transformation Themes and Evaluation Principles**

(From: A26 A263, To: A264 A265 A266 A312 A363)

A statement of the general headings under a customer's business operations that might be transformed together with a set of evaluation principles which can be used to prioritize alternative transformation candidates.

### **IT Financial Audit Reports**

(From: A816, To: A143 A811 A817)

Financial audits include validation that accounting rules are being accurately followed and that costs are aligned with the engagement and client objectives.

### **IT Financial Modeling Analysis**

(From: A812, To: A226 A255 A264 A352 A422 A813 A814 A815 A823 A824)

The outcome of the request for modeling the financial implications of any aspect of the IT undertakings.

### **IT Financial Modeling Request**

(From: A226 A255 A264 A352 A422 A823 A824, To: A812)

A request for financial modeling to be performed so that the financial implications of a potential proposal relating to IT resources and capabilities can be understood. Any process can originate this type of request.

### **IT Financial Reports**

(From: A8 A81 A813 A814 A815, To: A1 A13 A131 A14 A141 A3 A36 A365 A366 A5 A55 A555 A6 A66 A661 A816 A82 A822 A824 A825)

All reports on financial data of IT for different stakeholders. Covers a wide range of reports from outlining projected costs through after-the-fact financial analyses.

### **IT Function Information and Interests**

(To: Outside-the-Model)

Any information about the workings - such as current capabilities and future directions - which the IT endeavor makes available to the industry at large.

### **IT Governance and Management Audit Request**

(To: A143)

Invocation of an audit of all or part of the IT Governance and Management System by a suitably authorized person or body. Also contains the terms of reference for the audit.

### **IT Governance and Management Audit Results**

(From: A14 A143, To: A11 A111 A12 A121 A144)

The findings, conclusions and recommendations of any audit (formal or informal, internal or external) carried out into any or all of the IT Governance and Management System.

### **IT Governance and Management System Evaluation**

(From: A14 A144, To: A11 A113 A114 A12 A121 A122 A123 A124 A125 A126)

An assessment of the overall performance of the IT Management and Governance System against the targets set in the IT Management System Framework and in the IT Governance Model, and an identification of possible process improvement areas.

### **IT Governance and Management System Results**

(From: A1, To: Outside-the-Model)

A stakeholder report of the IT Management System's outcomes, effectiveness and efficiency, and other key performance indicators, such as the quality results.

**IT Governance Capabilities**

(From: A12 A121, To: A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A141 A142 A143 A144)

The set of instruments that contribute the required governance characteristics to the overall IT Management Ecosystem. These will include:

- Governance structures and charters
- Decision rights and their assignment to roles
- Decision-making processes and procedures for a specified list of decisions
- Metrics and indicators for the aspects of IT management under governance

**IT Governance Framework**

(From: A11 A111, To: A112 A113 A114 A12 A121 A14 A142 A143)

The guiding principles, the statements of intent, and the objectives that together shape and set the direction for the implementation of IT governance.

**IT Industry Knowledge**

(From: A22 A228, To: A21 A213)

Information about the IT industry (in general) and competitive IT service providers (in particular) which has been created as a by-product of marketing and sales activities.

**IT Management Action Items**

(From: A13 A132)

The invoked actions designed to keep the operation of the overall IT management system within established tolerances, or in exceptional circumstances, to return it to being within those tolerances. Action items can include anything from directives and instructions through general guidance and suggestions.

**IT Management and Governance System Performance Analysis**

(From: A142, To: A143 A144)

Conclusions on the effectiveness (strengths, improvement areas) of the IT Management and Governance System.

**IT Management Control Items**

(From: A131, To: A132)

The identification of IT management system measurements that are approaching or exceeding established limits which indicate a potential need for overall management system intervention.

**IT Management Ecosystem**

(From: A1, To: A2 A21 A211 A22 A221 A23 A231 A24 A241 A25 A251 A26 A261 A27 A271 A3 A31 A311 A32 A321 A33 A331 A34 A341 A342 A343 A35 A351 A36 A361 A37 A371 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A54 A541 A55 A551 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A71 A711 A712 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A821 A83 A831 A84 A841 A85 A851)

To paraphrase a dictionary definition: the complex of management system elements, their physical

implementation, and all their interrelationships in the unit of space that is the domain of the IT function. Its fundamental purpose is to provide an environment that is supportive of the carrying out of all of the IT activities defined elsewhere in this model.

**IT Management Information Capabilities**

(From: A124, To: A121 A122 A123 A125 A126)

The informational aspects of the capabilities the IT function will be managed. These include the specification of the entities, attributes, and relationships of IT management information, both for the fundamental resources (such as hardware) and for the control information, like process measurements.

**IT Management System Capabilities**

(From: A12, To: A13 A131 A132 A133 A14 A141 A142 A143 A144)

The foundational constituents of the IT Management Ecosystem. The elements explicitly identified are:

- Process
- Organization
- Management information
- Tools and systems
- Measurement and control instruments

**IT Management System Framework**

(From: A11, To: A12 A122 A123 A124 A125 A126 A13 A132 A133 A14 A142 A143)

The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for managing the overall IT function.

**IT Management System Goals**

(From: A112, To: A111 A113 A114)

Statements of purpose to direct the management system of the IT endeavor, and which reflect and support the overall goals of the Business.

**IT Management System Policies**

(From: A113, To: A111 A114)

High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its goals.

**IT Management System Practices**

(From: A114, To: A111)

High-level practices that have been defined in detail for the management system of the IT endeavor. Once these have been put in place (that is, made operational), they represent an implementation of the policies.

**IT Management System Reports**

(From: A13 A133, To: A14 A141)

The results and interpretations of the IT Management System outcomes, including key performance indicators.

**IT Measurement and Control Capabilities**

(From: A126)

Capabilities to provide the appropriate measurements and controls to the IT function's undertakings. Examples include:

- A decision right (manager approval step in a process)
- A business event log
- A monitor on configuration parameter
- A record of employee training

### IT Measurements

(From: A13 A131, To: A133)

The measurements and key indicators produced by combining measures and results from individual sources to create an IT-wide view of IT activities. Individual processes can access relevant measurements as part of their normal operation.

### IT Operational Environment Capabilities

(From: A125, To: A121 A122 A123 A124 A126)

The mechanisms (for example: methods, systems, procedures) which, when implemented in the context provided by the management system process, organization and information, provide the operational capabilities for the IT Management System.

### IT Organizational Capabilities

(From: A123, To: A121 A122 A124 A125 A126)

The structure, behaviors, and enablers for the organization dimension of the IT management system. Includes:

- IT Roles and Responsibilities
- IT Organization Unit Structures and Relationships
- Motivational schemes, such as incentives
- Implementation of enablers (such as Communities of Practice)

### IT Plan

(From: A3 A36 A365, To: A2 A22 A221 A25 A254 A255 A26 A264 A265 A31 A314 A366 A4 A41 A411 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A52 A521 A53 A531 A6 A61 A611 A62 A621 A63 A631 A64 A641 A65 A651 A66 A661 A67 A671 A7 A72 A723 A725 A73 A731 A737 A74 A741 A742 A745 A75 A752 A76 A763 A764 A8 A81 A813 A84 A842 A844)

The set of approved projects and associated schedule, operating plan, service level management commitments, and resource allocation commitments and adjustments for a defined fiscal or planning cycle.

### IT Portfolio

(From: A3 A36 A365, To: A1 A12 A122 A123 A124 A125 A126 A13 A131 A132 A133 A14 A142 A2 A21 A211 A213 A22 A221 A222 A223 A226 A23 A231 A232 A233 A24 A241 A243 A25 A251 A254 A255 A26 A261 A263 A27 A271 A31 A313 A314 A32 A322 A324 A33 A331 A366 A4 A42 A421 A8 A81 A811 A82 A822 A83 A831 A85 A852)

A central repository containing all the IT resources and assets, projects, and services controlled and managed by the IT organization, departments, and functions.

### IT Portfolio Baseline

(From: A363, To: A364)

The initial or starting point of the IT portfolio.

### IT Portfolio Categories

(From: A363, To: A364 A366 A367)

Key project and asset characteristics and parameters that are used to ensure strategic alignment with business priorities and to manage risk through diversity of investments.

### IT Portfolio Performance Report

(From: A36 A367, To: A31 A313 A316 A364 A365 A366)

A management report describing the actual results of IT portfolio management activities in terms of value realized, balance achieved, and degree of strategic alignment.

### IT Portfolio Review Results

(From: A366, To: A365 A367)

The level of performance achieved to-date of the IT portfolio against target and planned adjustments necessary to close any performance shortfalls or to exploit performance opportunities.

### IT Process Capabilities

(From: A122, To: A121 A123 A124 A125 A126)

The models and further elaborations of the processes within IT and of their interactions with processes operated by stakeholders. The development of the capabilities progresses through several levels of elaboration, from specification and reference to operational and finally to implemented. They include:

- Activities
- Workflows, including
  - Decision points
  - Policy impacts
  - Sequencing
  - Parallelization
- Role mapping (to activities)

### IT Quality Management Framework

(From: A11, To: A12 A121 A122 A123 A124 A125 A126)

The logical structure describing the strategic (vision, mission, value proposition, guiding principles), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) goals, policies and practices for quality management across the overall IT function.

### IT Quality Management Goals

(From: A112, To: A113 A114)

The goals, specifically related to quality management, which will drive the implementation and operation of quality management approaches for the IT function.

### IT Quality Management Policies

(From: A113, To: A114)

High-level courses of action and guiding principles for the IT function that are required in order for it to achieve its quality management goals.

### IT Quality Management Practices

(From: A114)

High-level practices for quality management that have been defined in detail for the IT function so as to implement its quality policies.

#### **IT Quality System Capabilities**

(From: A12 A126, To: A13 A131 A132 A133 A14 A141 A142 A143 A144)

The foundational components for the operation of the IT quality management system. The elements explicitly identified here are:

- Process
- Organization
- Information
- Tools, mechanisms and systems

#### **IT Quality System Reports**

(From: A14 A144, To: A11 A113 A114 A12 A122 A123 A124 A125 A126)

Reports specifically focused on the quality management system used within IT and indicating its conclusions on the effectiveness of, and any need for improvement in, the overall quality management system.

#### **IT Research and Innovation Activity Data**

(From: A322 A323 A324 A325, To: A326)

Any data about the accomplishment of process activities that supports the evaluation of the overall IT Research and Innovation process. For example, data about how much value the research results bring to the business.

#### **IT Research and Innovation Candidates**

(From: A322, To: A323)

Any topics that have been identified as potential candidates for research projects or the watch list.

#### **IT Research and Innovation Evaluation**

(From: A326, To: A321)

An analysis of IT research and innovation activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

#### **IT Research and Innovation Framework**

(From: A321, To: A322 A323 A324 A325 A326)

The procedural, organizational and other management mechanisms through which the process will operate. Includes:

- Strategic goals for IT research and innovation
- Policies and orientation that apply to IT research and innovation
- Collection of evaluation criteria for qualifying and selecting research projects.

#### **IT Research and Innovation Project Results**

(From: A324, To: A325)

The outcomes of performing research and innovation projects. They will range from the base facts (data) through findings to conclusions about the feasibility and viability of each candidate item.

#### **IT Research and Innovation Watch List**

(From: A323 A324, To: A322 A325)

List of research topics not leading to a research project but are potential candidates; their future development needs to be watched.

#### **IT Research Capabilities**

(To: A324)

Capabilities and resources that are needed to carry out a research project.

#### **IT Research Guidance**

(From: A3 A32 A325, To: A1 A11 A114 A12 A122 A123 A124 A125 A126 A2 A21 A213 A22 A222 A25 A252 A26 A263 A31 A313 A33 A332 A333 A8 A84 A844)

Guidance and recommendations about which trends and innovations should or should not be adopted. In other words, a summary of overall research results.

#### **IT Research Project Charter**

(From: A323, To: A324 A325)

Description for research projects containing the following for each research project:

- Rationale for research project including evaluation results for project according to the evaluation criteria
- Detailed definition of scope
- Project objectives
- Project approach.

#### **IT Research Requests**

(From: A31 A313 A33 A332 A333, To: A32 A322)

Requests from within the business or from any other IT process that trigger the identification and selection of research candidates.

#### **IT Service Continuity Capability**

(From: A765, To: A766)

The combination of infrastructure and human resources (associated process and organization) which IT can invoke the IT Service Continuity Plan.

#### **IT Service Continuity Management Activity Data**

(From: A762 A763 A764 A765 A766, To: A767)

Data resulting from all work carried out by each process activity, used to support the evaluation of the overall IT Service Continuity Management process.

#### **IT Service Continuity Management Evaluation**

(From: A767, To: A761)

Assessment results for the IT Service Continuity Management process and its activities, including process performance metrics and the identification of potential process improvement items.

#### **IT Service Continuity Management Framework**

(From: A761, To: A751 A762 A763 A764 A765 A766 A767)

The conceptual structure describing the strategic (vision, mission, value proposition, policies), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs, procedures), information (data model, management reports) and technology (software, hardware) practices for managing IT service continuity.

#### **IT Service Continuity Plan**

(From: A76 A764, To: A75 A752 A765 A766)

A formal, documented plan describing procedures to be adhered to in order to facilitate the recovery and restoration of critical business services. Includes a possible need for new capabilities to meet service continuity requirements.

**IT Service Continuity Policies and Strategy**

(From: A763, To: A764 A765 A766)

The guiding statements which direct the IT Service Continuity preparations, maintenance of readiness and actual invocation. For example, they include rules that must be adhered to in the event of either a test or an invocation of the IT Service Continuity Plan.

**IT Service Continuity Requirements**

(From: A763, To: A764)

Includes details of prioritization of Capacity, Availability, and other Service Level items that must be satisfied by the IT Service Continuity Capability.

**IT Service Continuity Risk Reduction Design Criteria**

(From: A763)

Identification of approaches which, if adopted in the design of the solution and in its implementation as a service, would reduce overall continuity risk.

**IT Service Continuity Solution**

(To: A765)

The technical solution which will provide the infrastructure for continuity testing and invocation.

**IT Service Continuity Test and Audit Results**

(From: A765, To: A763 A764)

Data (or reports) detailing the success or failure of a planned, or unplanned, test of the IT Service Continuity Plan.

**IT Service Provider Value Profile**

(From: A31 A313, To: A11 A112 A113 A314)

A model of the offerings and services desired by the business, which incorporates the value provided by the IT Business. The model should express, in a form that profiles the IT Business as an IT Service Provider, and in the style (and with the required attributes) desired by the business. An example of suitable styles is provided by the Commodity, Utility, Partner, and Enabler model.

**IT Sourcing Strategy**

(To: A821)

Strategic guidelines about what services or business components are core (insourced or outsourced) as far as this can influence the selection of suppliers for products and services.

**IT Strategy**

(From: A3 A31 A315, To: Outside-the-Model A1 A11 A111 A112 A113 A114 A12 A121 A122 A123 A124 A125 A13 A131 A132 A133 A14 A142 A2 A21 A211 A22 A221 A23 A231 A24 A241 A26 A261 A27 A271 A316 A32 A321 A323 A33 A332 A334 A34 A341 A35 A352 A36 A361 A366 A37 A371 A4 A41 A411 A413 A42 A421 A43 A431 A44 A441 A45 A451 A5 A51 A511 A7 A71 A711 A713 A72 A721 A73 A731 A74 A741 A75 A751 A76 A761 A8 A81 A811 A82 A83 A831 A84 A841 A842 A85 A851 A852)

A consolidated statement of IT initiatives. Includes a summary of changes to IT capabilities and a summary of each strategic IT initiative. Also includes a statement of planned and required changes to the IT Portfolio and IT Plan. The IT Sourcing Strategy would be included.

**IT Strategy Architectural Implications**

(From: A33 A333, To: A31 A313)

An assessment of the implications of architecture changes on the IT Strategy; stated in terms of potential (positive and negative) changes to the value of IT and its alignment to desired business capabilities. For example, it can detail the potential need for compromise on two conflicting aspects of the strategy; only one (or other) of which can be satisfied by the architecture.

**IT Strategy Assessment**

(From: A316, To: A313 A314 A315)

Assessment of the effectiveness of the IT Strategy, stated in terms of completeness and coverage of IT strategy implementation (when compared to the strategic intent). Includes lessons learned about the strategy initiatives and recommendations for change.

**IT Strategy Initiatives**

(From: A31 A314, To: A315 A33 A333 A35 A352 A36 A364)

An outline charter for each strategic IT initiative, stated in terms of scope of change, stakeholders, benefits, time scales and costs. The scope of change is stated in terms of changes to the architecture baseline.

**IT Strategy Process Activity Data**

(From: A312 A313 A314 A315 A316, To: A317)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**IT Strategy Process Evaluation**

(From: A317, To: A311)

Quantitative and qualitative analysis of the performance of the IT Strategy processes against the evaluation framework. Incorporates recommendations for changes to the framework and changes to the metrics.

**IT Strategy Process Framework**

(From: A311, To: A312 A313 A314 A315 A316 A317)

A specification of the framework and metrics for measuring and managing the IT Strategy processes and incorporating any mandated elements required by the overall IT management system. Incorporates governance, reporting, standards, methods and review criteria.

**Items\_ Procured**

(To: A82 A824)

Items received from a supplier in response to a formal purchase order.

**Items\_ Received**

Assets that have completed the procurement process (business now holds the title) and are available for productive deployment. During their useful life, they are managed by the Asset Management process.

## K

### Knowledge Acquisition Requests

(From: A853, To: A856)

An identification of a specific requirement to obtain a body of knowledge so that it is available for any IT process activity.

### Knowledge Assets

(From: A85 A855, To: A265 A613 A652 A653 A654 A84 A844)

Any information from knowledge management that fulfills a knowledge request.

### Knowledge Gaps

(From: A854, To: A852 A853 A856)

Any gaps in relevant knowledge that have been identified.

### Knowledge Items

(To: A853)

Any item or unit of information that feeds into knowledge management, that is included in any knowledge management repository and which belongs to one of the pre-defined relevant knowledge areas.

### Knowledge Management Activity Data

(From: A852 A853 A854 A855 A856, To: A857)

Any data about the accomplishment of process activities that support the evaluation of the overall “Knowledge Management” process.

### Knowledge Management Evaluation

(From: A857, To: A851)

The result of the evaluation of the “Knowledge Management” process.

### Knowledge Management Feedback

(To: A856)

Feedback from any user of knowledge - the processes and the content - as to the usefulness, completeness, accuracy or any other relevant aspect.

### Knowledge Management Framework

(From: A851, To: A852 A853 A854 A855 A856 A857)

The framework that contains all relevant information about the structure of the Knowledge Management process (the strategic goals for knowledge management, the definition of relevant knowledge, and knowledge sources).

### Knowledge Management Infrastructure

(From: A851, To: A853 A854 A855 A856 A857)

Includes technology and organization (communities) to support the operation on this process, and to enable all other processes to exploit this capability, such as:

- Technology specifications and implementations for knowledge management
- Organizational structures necessary for carrying out the knowledge management process (both administrative structures as well as active participants in knowledge management, like communities).

### Knowledge Management Methods and Techniques

(To: A851)

Available (best practice) methods and techniques for knowledge management (processes, structures, etc.) as an input when creating the knowledge management framework.

### Knowledge Plan

(From: A852, To: A853 A854 A855 A856)

Indicates the subject areas in which knowledge is required, and the type of knowledge items in those subjects. This includes guidance on knowledge subjects which are now stabilized, and those which are becoming less important.

### Knowledge Reports

(From: A856, To: A852 A857)

Reports indicating the status and key performance indicators for the knowledge being managed. They include identification of:

- Patterns and trends of usage
- Corresponding topics or items that could require additional or reduced focus in the Knowledge Management Plan

### Knowledge Request

(To: A85 A855)

A request by a user for a knowledge asset to be available to them.

### Knowledge Request Queue

(From: A855, To: A852 A854)

The entirety of knowledge requests that are as yet unsatisfied (because of time or knowledge gaps).

### Knowledge Sources and Categories

(To: A852)

The meta-data aspects of the internal and external knowledge, such as:

- Potential knowledge sources
- Potential structure for knowledge.

### Knowledge Submission Response

(From: A854)

Response to the evaluation of knowledge, such as approval, rejection, rework, and others.

### Knowledge\_ Appraised and Structured

(From: A854, To: A855 A856)

Knowledge that has been assessed according to predefined evaluation and quality criteria (e.g. checking for relevance, testing, scrutinizing, etc.)

Knowledge that has been structured so that it can be published in any knowledge management repository or otherwise made available to satisfy knowledge requests.

### Knowledge\_ Internal and External

(To: A85)

All available internal and external formal or informal knowledge that might be relevant for the business.

### Knowledge\_ Unstructured

(From: A853, To: A854)

Knowledge that has been acquired but not yet has been evaluated and structured. Can be documented or tacit knowledge.

**Known Error**

(From: A664 A665, To: A665 A666 A667)

As defined in ITIL: “A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their life cycle by Problem Management. Known Errors may also be identified by Development or Suppliers.”<sup>7</sup>

**L**

**Labor Inventory Information**

(From: A843, To: A842 A844)

Repository for human resource allocations.

**Legal and Regulatory Requirements**

(To: A841)

Requirements from governmental and other regulatory bodies to be applied to the employment aspects of any business. An example would be Health and Safety legislation.

**M**

**Maintenance and Replenishment Data**

(From: A623, To: A625)

Information pertaining to maintenance activities and to restocking consumable resources. This data could include resource name, amount replenished, location, vendor, and other information.

**Maintenance and Replenishment Schedule**

(From: A625, To: A621 A623)

The time, date, quantity and other related information relating to the maintenance of delivery resources and to the re-supply of consumable materials.

**Major Problem Review Results**

(From: A666, To: A668)

The analysis and outcome of reviewing those problems classified as major. This classification can reflect a variety of reasons, such as:

- Service impact
- Problem duration
- Cost and efficiency to achieve resolution and closure

Review outputs will reflect these topics.

**Market Analysis**

(From: A2 A22 A222, To: A1 A11 A112 A113 A21 A211 A223 A23 A232 A25 A252 A26 A262 A3 A31 A313 A34 A343 A35 A352 A36 A364 A365)

A document that evaluates the current service requirements, market segmentation, current customer profiles, and the current typical IT service provider scope. The purpose is to discern general trends and directions in the current IT service marketplace.

**Market Data**

(To: A22 A222 A26 A262)

A collection of qualitative and quantitative data items which describe the current and potential future state of the IT service provider marketplace.

**Market Outcomes**

(From: A224, To: A228)

The results of efforts to create market awareness and thereby generate demand for the IT service provider's portfolio of solutions. An example would be the number of articles which reference the provider's services.

**Market Plan**

(From: A223, To: A224 A225 A228 A232)

A document that structures the approach to target customers with the current and under development IT service offerings.

**Market Segmentation**

(From: A222, To: A221)

Customer grouping based on common service consumption patterns.

**Marketing and Sales Reports**

(From: A22 A228, To: A23 A234 A25 A255 A273 A275 A835)

Reports indicating the outcomes of marketing and sales efforts, and that compare the current sales and marketing execution to the market plan.

**N**

**Normality Notification**

(From: A766)

A notification that critical business services have been stabilized to a condition that reflects the new normal operation, following a period of operating under continuity status.

**O**

**Operational Continuity Infrastructure**

(From: A766)

The IT Service Continuity Solution in live state, ready for delivering the planned level of operational service, and all relevant details about it so that the regular set of processes can perform their work, within the limitations of that continuity solution.

**Operational Documentation**

(From: A855, To: A45 A454 A523 A613 A621 A651 A654 A655 A664 A723 A736 A764 A765 A766)

The subset of knowledge assets that represent the set of material, both externally provided and internally generated, required to support the development, deployment, operation, and maintenance of solutions and services.

- ITIL uses the term Operational Document Library to refer to an implementation of this output.

**Operational Measures and Results**

(To: A13 A131)

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7. ITIL V3 Glossary

Any measure or result from any IT process that might be relevant to the measurement, and control activities of the overall IT management system.

### Operational Monitoring Data

(From: A6 A62 A622 A623 A624 A63 A633 A634 A635 A636, To: A62 A623 A625 A63 A634 A637 A64 A642 A65 A654 A655 A66 A662 A7 A73 A735 A74 A743)

Information relating to the overall item-by-item outcomes and status of the IT operation service. This can include measurements of resource utilization, transaction volumes, processing status, among others.

### Operational Schedule Directives

(From: A744)

Desired changes and adjustments to operational schedules, used to optimize the workload throughput or other characteristic within a finite capacity. Sometimes a part of a general Service Resilience Directive.

### Operational Schedules

(From: A621, To: A51 A515 A52 A521 A522 A53 A532 A622 A623 A624 A625 A743)

The overall schedule for individual work items and when they are processed. Examples are start and stop times of specific applications, availability of specific services and infrastructure services (file transfer).

### Operational Service Project Proposals

(From: A62 A621 A63 A631 A64 A641)

Proposals, from the Framework activities within the Operations category, for project funding. The proposals will go to the Portfolio Management process for decision. The proposal content will be for purposes such as:

- To establish additional or improved capabilities for performing any activities or tasks within the process
- To satisfy the operational needs of new technical solutions coming on-stream
- To improve any relevant aspect of service performance

## P

### Portfolio Approval Request

(From: A352 A353 A354 A355 A356)

A request directed to the IT Portfolio Management process for a decision or commitment, related to a given product's position or milestone achievements within the stages of its life cycle.

### Portfolio Decision and Resource Allocation

(From: A36 A365, To: A35 A352 A353 A366 A813)

An allotment or apportionment of financial and other resources (possibly from both the business and IT) to develop or refine the product vision and product life cycle definition and plan or for any project proposal not related to a specific product. The financial allotment includes consideration of both capital and expense funds.

### Portfolio Management Activity Data

(From: A362 A363 A364 A365 A366 A367, To: A368)

Performance and quality data regarding activities performed in managing the IT portfolio.

### Portfolio Management Evaluation

(From: A368, To: A361)

The effectiveness and efficiency of the process activities and practices performed in managing the IT portfolio.

### Portfolio Management Framework

(From: A361, To: A362 A363 A364 A365 A366 A367 A368)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing the IT portfolio.

### Pricing Algorithm

(From: A831, To: A833)

The formulas used to work with service pricing data to derive pricing alternatives for further evaluation.

### Pricing Analysis

(From: A835, To: A831 A833)

A summary of the effects and implications of current and proposed algorithms, price points and service contract terms, used to provide feedback on pricing practices.

### Pricing Data

(From: A832, To: A833)

The pricing data consist of all measures needed to measure the service usage. This is input to the price model.

### Pricing Elements

(From: A831, To: A832)

The objects, factors and practices to be considered in developing service prices and contract terms.

### Prioritized Market Wants and Needs

(From: A222, To: A223)

A comprehensive set of capabilities the marketplace is seeking from an IT service provider, prioritized according to business justification.

### Problem

(From: A662, To: A663 A667)

As defined in ITIL: "A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation."<sup>8</sup>

### Problem Information

(From: A6 A66 A667, To: A2 A24 A244 A245 A356 A61 A613 A615 A65 A653 A654 A656 A662 A663 A664 A665 A666 A7 A73 A736 A74 A744 A76 A764)

Information about one or more problems. Can range from full details of an individual problem through to collated and summarized information about sets of problems. Can be provided both as formal reports (such as documents to customers describing root cause, contributing factors and corrective actions) and

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informally as structured data for other processes to analyze for their own purposes.

**Problem Management Activity Data**

(From: A662 A663 A664 A665 A666 A667, To: A668)

Any data about the accomplishment of process activities that supports the evaluation of the overall Problem Management process.

**Problem Management Evaluation**

(From: A668, To: A661)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Problem Management Framework**

(From: A661, To: A662 A663 A664 A665 A666 A667 A668)

The framework that contains all relevant information about the structure of the Problem Management process; that is, the strategic goals and policies for Problem Management, the definition of supporting technology, measurements, among others.

**Problem\_Closed**

(From: A666, To: A667)

The finalization of all data related to a problem. This includes structured data, which supports analysis of problem causes, patterns, costs and resolution effectiveness.

**Problem\_Diagnosed**

(From: A664, To: A665)

A problem for which the root cause is understood.

**Problem\_Further Investigation Request**

(From: A665, To: A664)

In the process of resolving a known error, if additional problems are identified, a request is made for additional root cause analysis.

**Problem\_Prioritized**

(From: A663, To: A664 A667)

A problem for which the category and priority are understood and recorded in the problem record. ITIL has the following definitions for these terms:

- Category is defined as “A named group of things that have something in common.”<sup>9</sup>
- Priority is defined as “A Category used to identify the relative importance of an Incident, Problem or Change. Priority is based on Impact and Urgency, and is used to identify required times for actions to be taken.”<sup>10</sup>

**Problem\_Reprioritization Request**

(From: A667, To: A663)

In the course of monitoring and tracking problems, there could be a need to lower or raise the priority of an individual problem due to a change in the business impact. The problem is referred to reprioritization.

**Problem\_Resolution**

(From: A665, To: A666 A667)

Actions taken to repair permanently a known error or implement a workaround.

**Procurement Exceptions**

(From: A824, To: A823)

Exceptions during procurement (item no longer available from supplier) that can influence the management of supplier contracts.

**Product Introduction and Usage Status**

(From: A355, To: A356)

Detailed information about the progress of projects underway to deploy or retire the product, as well as information about current usage and acceptance.

**Product Lifecycle Definition and Plan**

(From: A353, To: A354 A355 A356)

A plan that guides and controls a given product's evolution and transition through all phases of the product life cycle. The plan addresses milestones related to requirements coverage, realization and integration activities, product version and release schedules, funding and resource assumptions, as well as relationships to IT Strategy and IT Portfolio directions. Also covers retirement and disposal.

**Product Lifecycle Milestone Achievement**

(From: A354 A355, To: A353)

Information and status of the product's progression through declared life cycle milestones for realization, transition and operation.

**Product Management Activity Data**

(From: A352 A353 A354 A355 A356, To: A357)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Product Management Evaluation**

(From: A357, To: A351)

Quantitative and qualitative analysis of the performance of Product Management process and activities as defined in the Product Management Framework. It also incorporates recommendations for changes to the framework, the process, and to the metrics.

**Product Management Framework**

(From: A351, To: A352 A353 A354 A355 A356 A357)

A specification of the framework and metrics for managing and measuring the Product Management process and activities, and incorporating any mandatory elements required by the overall IT Management System. Incorporates process governance, policies, standards, methods, reporting and evaluation criteria.

**Product Package**

(From: A3 A35 A353 A354 A355, To: A2 A23 A24 A243 A5 A52 A522)

A description of the product that details how it is to be iteratively assembled, integrated and deployed, as well as the status of the product itself as it migrates through

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the various stages of realization, deployment and operation.

### **Product Performance Assessment**

(From: A356, To: A273 A352 A353)

A summary of the product's current level of achievement with regard to commitments made in the product plan. Includes assessments of both quantitative and qualitative factors and the overall value of the product.

### **Product Proposal**

(From: A35 A352, To: A36 A364)

A product idea being put forward for consideration. A high-level evaluation and documentation of a product's (or change in a product's characteristics) impact on and fit with the IT Portfolio, addressing elements such as the market opportunity, technical and integration benefits, risks, costs and potential returns, improving service, competitive positioning, value, life span, among others.

### **Product Realization Status**

(From: A354, To: A355)

Detailed information about the progress of projects underway to create or change the product.

### **Product Vision**

(From: A352, To: A353)

A shared perspective on the future possibilities of a product or group of related products. Includes context elements such as markets and market share, customers, technologies and projected technology advances, competitors and product differentiators, cost and return parameters. Provides a touchstone for product plans and life-cycle events

### **Program and Project Management Activity Data**

(From: A372 A373 A374 A375 A376 A377, To: A378)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### **Program and Project Management Evaluation**

(From: A378, To: A371)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### **Program and Project Management Framework**

(From: A371, To: A372 A373 A374 A375 A376 A377 A378 A411)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing projects and programs.

### **Program and Project Reports**

(From: A37, To: A13 A131 A324 A34 A345 A346 A36 A365 A366 A716)

The body of information ranging from formal, regular and summarized, through informal, ad hoc, and detailed about any aspect of program and project status, and plans. It is available to any process with a need to know.

### **Program Change Request**

(To: A372)

A request to modify or adjust any aspect of an established program. Requests are usually processed under a requirements or change control procedure in order to ensure appropriate and auditable responses.

### **Program Charter**

(From: A36 A365, To: A37 A372)

A document issued by or created on behalf of the sponsor to describe the program's objectives. It provides the program manager with the authority to apply organizational resources to set up and run program activities.

### **Program Plan**

(From: A37 A372, To: A34 A344 A373 A374 A375 A376 A377 A378)

The overall plan for the delivery of the program. It will not describe specific details of any individual part of the work, but will focus on aspects such as:

- The structure of the set of projects which constitute the program
- The measurements and reports by which the program will be managed
- The program's governance and communication plans

### **Program Status Report**

(From: A372)

A snapshot of the progress, status, and issues relating to an established program.

### **Project and Service Inventory**

(From: A362, To: A363 A365 A366)

The itemized record of projects and services for which IT resources are being consumed or are being proposed.

### **Project Change Request**

(To: A374)

A request to change some document or aspect of the project that has been placed under change control. An accepted change request may result in one or more change orders.

### **Project Charter**

(From: A3 A324 A354 A36 A365, To: A33 A333 A334 A37 A372 A373 A4 A41 A412 A414)

A document issued by or created on behalf of the sponsor to describe the project's objectives. It provides the project manager with the authority to apply organizational resources to project activities.

### **Project Completion Report**

(From: A377, To: A372)

Communication between the delivery organization and the sponsor indicating that the work committed within the project is completed. Provides evidence that all terms of the agreement have been satisfied and all work has been completed.

### **Project Definition**

(From: A373, To: A374)

The document that describes the shape of the project and includes:

- The objectives and scope
- The stakeholders and proposed organization with responsibilities
- The major risks associated with the project

### **Project Directive Outcomes**

(To: A375)

The outcomes of actions taken in response to instructions or changes from project management made to bring future performance of the project into line with the plans and procedures.

### **Project Directives**

(From: A376, To: A373 A374)

Instructions or changes made to bring future performance of the project into line with the plans and procedures.

### **Project Events**

(From: A41 A42 A43 A44 A45, To: A375)

The notification of events that, in the project manager's opinion, are important to support the management of the project.

### **Project Information**

(To: A362)

Project information includes charter, description, budget and schedule performance and outlook.

### **Project Plan**

(From: A3 A37 A374, To: A265 A34 A343 A344 A372 A375 A376 A377 A4 A41 A412 A5 A51 A514 A52 A522 A53 A532)

The set of work plans. Work plans can include management, human resource, technical environment, project quality, communications management, among others.

### **Project Proposal**

(From: A2 A22 A25 A255 A26 A264 A33 A5 A51 A515, To: A3 A34 A342 A35 A352 A36 A364)

A formal statement of an idea being put forward for consideration that includes the business case for the proposed IT investment.

### **Project Status Report**

(From: A375)

A report, prepared to schedule or request, by the top-level project manager for the line of business management. It documents the status, progress and accomplishments, and forecasts for the end of the project. General categories include:

- Health status summary
- Resources
- Earned value indicators
- Accomplishments
- Quality, issue, risk, change, and compliance incident summaries

### **Project Tracking Report**

(From: A375, To: A372 A374 A376 A377)

Detailed project management information which indicates the status, in terms of schedule, quality, risks and costs, of the project against plan.

### **Projected Service Outage**

(From: A515, To: A244 A734)

As defined in ITIL: "A Document that identifies the effect of planned Changes, maintenance Activities and Test Plans on agreed Service Levels." <sup>11</sup>

### **Projected Solution Cost**

(To: A832)

Part of Solution Plans and Commitments, it provides anticipated costs of solutions before any actual cost data is available.

### **Proposal Additional Information Request**

(From: A364 A365)

A request to provide additional information for a proposed project in order to effectively perform portfolio management activities.

### **Proposed Conditions of Satisfaction**

(From: A413, To: A414)

Documented Conditions of Satisfaction as understood and formally proposed by the solution provider.

### **Proposed Customer Contract Terms**

(From: A834)

Includes the agreed service level objectives, the corresponding service price model for one customer, the customer specific additional terms and conditions (contract period) and, often, planned usage data.

### **Proposed IT Customer Capability Adoption Improvements**

(From: A266, To: A265)

Suggestions for improvements (changes, extensions) to the existing adoption support plan. This is based on lessons learned from existing adoption, and how well the mooted benefits have been realized.

### **Proposed IT Portfolio Targets**

(From: A364, To: A365)

The set of performance targets set for the IT portfolio including economic, strategic alignment, and balance.

### **Prototype Work Products**

(To: A413 A414 A423 A424 A425)

Reduced scale or function deliverables used to explore feasibility or suitability of some aspect of the solution.

### **Purchase Order Status**

(From: A82 A824, To: A81 A814 A824)

Status of orders (necessary to track the orders).

### **Purchase Orders**

(From: A82 A824, To: A825)

Order for products or services to a supplier resulting from procurement requests, including detailed information about the order. Also covers the negative case (if an item has to be returned to the supplier).

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## R

### Recovered Service Status

(To: A622)

Status information on the recovered service.

### Regulations and Standards

(To: A11 A111 A113 A114 A55 A551 A71 A711 A712 A72 A721 A722 A723 A75 A752 A81 A811 A82 A821 A823 A824 A84)

External official rules (typically driven by government) that call for business compliance, as well as established good practice standards from formal and informal bodies. Includes:

- Generally accepted accounting principles
- Legal requirements, such as Sarbanes-Oxley and its COSO (Framework for Financial Management)

### Rejected IT Research and Innovation Candidates

(From: A323, To: A325)

Research candidates that are not chosen to become research projects or part of the watch list.

### Rejected Stakeholder Requirements

(From: A412 A413 A414)

The part of solution requirements formally rejected by the solution provider, with or without prior approval of the stakeholders.

### Release

(From: A52 A524, To: A53 A532 A533 A535 A536)

The packaging of one or more solutions along with all the materials (scripts, documentation, for example) needed for successful deployment.

In ITIL, Release is defined as “A collection of hardware, software, documentation, Processes or other Components required to implement one or more approved Changes to IT Services. The contents of each Release are managed, Tested, and Deployed as a single entity.”<sup>12</sup>

### Release\_Built

(From: A523, To: A524 A526)

The release ready for testing.

### Release Acceptance

(From: A51 A516, To: A52 A524 A525)

The notification of approval that the Release can proceed to its rollout activities.

### Release Acceptance Request

(From: A52 A524, To: A51 A516 A525)

A request for final approval from Change Management for a release to be able to proceed to rollout. The request will be accompanied by evidence of the release having passed its acceptance criteria.

### Release Management Activity Data

(From: A522 A523 A524 A525 A526, To: A527)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

### Release Management Evaluation

(From: A527, To: A521)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

### Release Management Framework

(From: A521, To: A522 A523 A524 A525 A526 A527)

This framework describes:

- Types of releases
- Naming and other release conventions
- Release policies and procedures
- Definitive Media Library (DML) specifications
- Roles and responsibilities
- Scheduling policies
- Process review schedule.

This framework provides governance information for the other activities in Release Management.

### Release Notice

(From: A52 A525, To: A53 A534 A535)

The notices and other communications material, about a release, that is made available to both users and IT staff impacted by the release. Contents will range from general awareness announcements through specific details, such as training schedules and plans, to actual release documentation and training material. They are updated as experience is gained about the release.

### Release Reports

(From: A525, To: A522 A523 A526)

Reports showing the outcome of the release implementations.

### Release Review Results

(From: A526, To: A522)

Analysis of release usage, with identification of successes and areas for release improvement.

### Release Revision Request

(From: A524, To: A522 A523)

Identification of a need to re-plan a release following the outcomes of test and acceptance work.

### Release Strategy

(From: A52 A522, To: A523 A524 A525 A526 A53 A532 A533 A534 A535 A536 A537 A538)

The overall approach that will guide the release through its complete life cycle, and into deployment. It includes the plan for creating a release, including the definition of the set of changes which are collected within it, and also the release test plan.

### Release\_Closed

(From: A526)

Information and technical content related to the closure of a release.

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### **Request for Identity and Access Information**

(To: A675)

A request from another process or from a customer or user for information on some aspect of one or more identities and their registered access rights, including historical data.

### **Request for Incident Status and Information**

(To: A657)

Notification of the need for information about incidents.

### **Request for IT Research Capabilities**

(From: A323)

Request for capabilities and resources needed to carry out a research project. Examples include request for human resources, request to procure items, request to develop solutions as support for the research project, and more.

### **Request for Problem Status and Information**

(To: A667)

Request for information with regard to overall problem status and service level attainment with regard to problem management.

### **Request for Product or Service**

(From: A432 A442, To: A822 A823 A824)

Information about required products and services that are needed by any IT process - but especially Solution Build and Solution Test. It will be used within the activities of selecting and managing the right portfolio of suppliers and respective supplier contracts, or to initiate actual procurement.

### **Request for Supply Capability Information**

(To: A826)

Request for information from any process within IT about the IT Service Provider's arrangements and capability to obtain supply items.

### **Request Fulfillment Activity Data**

(From: A612 A613 A614 A615, To: A616)

Any data about the accomplishment of process activities that support the evaluation of the overall Request Fulfillment process.

### **Request Fulfillment Evaluation**

(From: A616, To: A611)

The result of the evaluation of the Request Fulfillment process, including any identification of potential process improvement areas.

### **Request Fulfillment Framework**

(From: A611, To: A612 A613 A614 A615 A616)

The framework that contains all relevant information about the structure of the Request Fulfillment process, for example:

- Structure of the request fulfillment center (often known as or linked to a 'service desk')
- Technology support
- Request routing tables and completion details of request completion targets and commitments
- Format of information transfer

- Categorization and prioritization aspects for service requests.

It defines the records which should be kept for each service request containing all relevant details across the life cycle of the request. Information in a record includes data relevant to service provider analysis as well as the details directly relevant to the requestor.

### **Request to Supplier for Information**

(From: A82 A822)

Any request for information from suppliers that directly goes to the suppliers, including:

- Financial information
- Portfolio information (which items can be supplied)
- Standard terms and conditions
- RFIs
- RFPs
- Vendor briefings

### **Resource Adjustments**

(From: A625, To: A623)

Adjustments to IT technical resources that might be required to optimize service execution as a result of analysis of the service execution data, workload, and so forth.

### **Resource Status**

(From: A623, To: A622)

Information pertaining to the status of any IT resource that is used in the provision of service. The status could be available, not available, failing, over-utilized, approaching peak usage, and would include actual status and predictive information for ensuring adequate availability of resources at all times. This also includes Resource Commit Failure.

### **Restore Request**

(To: A635)

Service Requests from any user or other process for a data restore to be performed.

### **Reusable Components**

(To: A421 A423 A424)

Parts (Engineering parts) the set of components identified for future reuse by the Architecture Management process.

### **Risk Assessment**

(From: A343, To: A344 A346)

Sets of categorized, quantified, and prioritized risks for which the IT endeavor will need to consider putting in place risk avoidance and mitigation plans.

### **Risk Assessment and Mitigation Plans**

(From: A34, To: A36 A364 A37 A374 A712 A714)

The recommendations as to the acceptability or otherwise of the risk factors of any undertaking (such as project, external development) and the risk limitation measures selected to reduce the impact of unacceptable risk occurrence.

### **Risk Interventions and Indicators**

(From: A345, To: A342 A346)

The actions taken, either directly or implicitly through the controls previously put in place, which aim to modify or determine the events or their outcome so that risk exposures are minimized. In some cases these will be 'Key Risk Indicators' which should be monitored against thresholds rather than directly requiring risk intervention.

#### **Risk Management Activity Data**

(From: A342 A343 A344 A345 A346, To: A347)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

#### **Risk Management Evaluation**

(From: A347, To: A341)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

#### **Risk Management Framework**

(From: A341, To: A342 A343 A344 A345 A346 A347)

A risk management model that allows identification, definition, and assessment of risks, and the implementation and operation of risk mitigation and avoidance activities.

#### **Risk Mitigation Assessment Reports**

(From: A346, To: A343)

Information about the outcomes of risk mitigation activities, indicating both successes and risk items which require improved treatment.

#### **Risk Mitigation Plans Definition**

(From: A344, To: A345 A346)

Definition of the Risk Mitigation plans required to be implemented to minimize exposures and vulnerabilities.

## **S**

#### **Sales Leads**

(From: A224 A26 A264, To: A22 A225)

A notice that there might be a potential customer for one or more IT provider services.

#### **Sales Opportunity**

(From: A225, To: A226 A228)

A qualified sales lead, in which a customer has expressed interest for one or more IT services and would like an understanding of how the services might specifically apply to its environment and for what price.

#### **Sales Outcomes**

(From: A227, To: A228)

The final determination of the sales process, whether the sale closed or was rejected by the customer.

#### **Sales Plan**

(From: A225, To: A226 A227 A228)

The plan put in place to manage customer sales interaction with an intention of growing and streamlining the sales pipeline.

#### **Security Directives**

(From: A725, To: A333 A334 A67 A673 A674)

The directive to take action, or the action to be taken, so that the protections which implement the desired security practices are properly operated.

#### **Security Management Activity Data**

(From: A722 A723 A724 A725 A726 A727, To: A728)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

#### **Security Management Evaluation**

(From: A728, To: A721)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

#### **Security Management Framework**

(From: A721, To: A331 A341 A722 A723 A724 A725 A726 A727 A728 A751 A761)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for managing security.

#### **Security Monitoring Data**

(From: A72 A726, To: A64 A642 A67 A675 A727 A73 A735)

Information relating to the overall item-by-item outcomes from, and status of, security. This can include details of access requests, authentications processed, attacks received and warning thresholds triggered.

#### **Security Plan**

(From: A72 A725, To: A33 A334 A335 A336 A34 A344 A345 A346 A42 A422 A423 A424 A44 A442 A612 A613 A67 A671 A75 A752 A76 A764 A843)

A consolidated view and documentation of the resources, approach, procedures and assets to be protected together with a definition of the security practices and controls which will be enacted in order to fulfill the security policy. It covers both technical capabilities (for example, firewalls, encryption) and non-technical considerations (such as segregation of duties, training needs, user responsibilities).

#### **Security Policy**

(From: A7 A72 A722, To: A2 A21 A213 A24 A243 A3 A31 A314 A33 A331 A332 A333 A34 A341 A342 A343 A4 A41 A413 A6 A67 A671 A672 A673 A674 A675 A71 A712 A713 A723 A724 A725 A726 A727 A73 A732 A75 A752 A76 A763 A8 A82 A822 A85 A852)

The statement of the types and levels of security over information technology resources and capabilities that must be established and operated in order for those items to be considered secure. It provides management direction into the allowable behaviors of the actors working with the resources and exercising the capabilities. It defines the scope of management and specifies the requirements for the security controls.

### Security Procedures and Infrastructure

(From: A725, To: A726 A727)

The collected design, components, policies and direction which together establish an infrastructure to be put into place for security management.

### Security Reports

(From: A72 A727, To: A346 A71 A716 A723 A725)

The reports from auditing and other analyses of IT security monitoring data.

### Security Request

(From: A634, To: A726)

System or external request to secure IT resources or validate authority for access.

- Secure IT resources: identifies one or more specific resources which need to be included in the security protection scheme, or need to have their level and means of protection adjusted
- Request to access: a communication soliciting access to a particular resource or class of resources.

### Security Response

(From: A726, To: A535 A623 A624 A634)

The result of processing a security request. The result will reflect a range of possibilities, depending on the nature of the service request:

- For a protection request – the protections put in place
- For an access authorization request – success or failure of the request

### Security Risk Analysis

(From: A723, To: A724 A725)

The results and recommendations of an in-depth study of the threats, vulnerabilities and risk factors to be mitigated by security practices and protection mechanisms.

### Security Risk Assessment

(From: A723, To: A42 A424 A425 A44 A444 A445 A45 A454 A455)

A detailed analysis of the current and projected security risk factors facing the enterprise.

### Security Violation

(From: A726, To: A727)

An event (an activity or state) that is inconsistent with defined security practices and requires further inspection and evaluation.

### Security Work Request

(From: A535 A623 A624, To: A72)

A Security Request originating from another process.

### Service Accounting Data

(From: A814, To: A812 A815 A816)

Information about the cost, ROI and value of IT services provided (or to be provided), used in financial reporting and for the allocation of costs and charges.

### Service Achievement Reports

(From: A24 A244, To: A13 A131 A14 A141 A245 A246 A25 A255 A256 A27 A273 A275 A365 A366 A735 A736 A744)

One or more reports about how well the service levels have been achieved and which compare IT's actual service level results achieved against the service level standards and any specific service level targets negotiated with customers. The reports can include details of service impacts — both directly measured and an assessment of business impact. Some sections will be for customer distribution and others can be for service provider receipt only.

### Service and Resource Tuning Directives

(From: A744, To: A256 A743 A745)

Ranges from traditional performance tuning through capacity and workload allocation adjustments.

### Service Catalog

(From: A2 A23 A235, To: A21 A213 A22 A222 A223 A224 A226 A236 A24 A242 A243 A25 A254 A26 A264 A265 A266 A27 A271 A273 A3 A35 A352 A36 A362 A5 A51 A513 A52 A522 A53 A532 A54 A541 A6 A61 A611 A612 A613 A7 A73 A731 A74 A742 A76 A761 A8 A81 A812 A83 A831 A833 A834)

Catalog of all services offered for delivery by the IT service provider. Portions of it can be used as a means of communication to the customers, but there are also sections that describe details (usually not published outside the delivery organization) of how each service is provided.

ITIL defines Service Catalog as: “A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes.”<sup>13</sup>

### Service Catalog Content

(From: A233, To: A234 A235)

The Service Catalog contains at least the following information:

- Descriptions written in terms familiar to the requestor
- Interactive forms with pricing and categorization
- Components, prerequisites, recommended accessories
- Authorization, escalation, and notification policies
- Delivery processes for optimal quality, speed, efficiency
- Internal and external cost structures and pricing
- Service level and operating level standards
- Reporting on demand, usage, and customizations

### Service Catalog Management Activity Data

(From: A232 A233 A234 A235 A236, To: A237)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

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**Service Catalog Management Evaluation**

(From: A237, To: A231)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Service Catalog Management Framework**

(From: A231, To: A232 A233 A234 A235 A236 A237)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for the Service Catalog Management process.

**Service Catalog Reports**

(From: A236, To: A233)

Service Catalog Reports contain information about:

- Usage patterns, volumes, and trends for the overall Service Catalog and each defined view
- Each service, such as update history, client activations and customizations, defect reports, user questions, or other relevant data about the service sent by the user communities

**Service Catalog Usage Data**

(To: A23 A236)

Data relating to the access and usage of the service catalog. Examples would be:

- Numbers of read accesses, by user
- Number of enquiries by customers for new or extended services
- Service requests submitted through the catalog mechanism

The data can be used directly for service catalog content and delivery analysis; indirectly to contribute to understanding which services customers are using, the environmental conditions under which the services operate, and the quality of the service. This data can be used for service improvement and in customer relationship management.

**Service Catalog Views**

(From: A234, To: A235)

The Service Catalog provides relevant views for all user communities. It should include at a minimum, however, perspectives from the business manager (customer), administrator, and the final user.

**Service Contract Terms**

(From: A834, To: A835)

Include the agreed service price model for one customer, and the specific additional terms and conditions (contract period).

**Service Demand Baselines**

(From: A254, To: A255)

An agreed statement of the IT Service demand that will be driven by the expected business demand for the normal (typical) pattern of business. A baseline is “A Benchmark used as a reference point.”<sup>14</sup>

**Service Demand Forecasts**

(From: A25 A254, To: A24 A243 A246 A255 A256

A742 A745)

Agreed predictions of the IT service demand that will be driven if the expected level of business activity occurs. They are usually arranged by periods against a standard calendar.

**Service Demand Models**

(From: A254, To: A255)

Analysis of the relationships between typical business activity patterns and the consequential demand for IT service.

**Service Description**

(To: A233)

A service description includes both the capabilities (utility) and the non-functional properties (warranty). Non-functional properties include performance, payment, price, availability (both temporal and locative), obligations, rights, security, trust, quality, discounts, and penalties.

**Service Execution Activity Data**

(From: A621 A622 A623 A624 A625, To: A626)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Service Execution Evaluation**

(From: A626, To: A621)

A report or data providing measurements, trending and metrics on the health and performance of Service Execution. Includes identification of potential process improvement areas.

**Service Execution Framework**

(From: A621, To: A622 A623 A624 A625 A626)

The overall scheme of documents, plans, processes, and procedures designed to govern and optimize all activities for Service Execution. The framework includes:

- Operational Procedures
- Service Execution Plan.

**Service Execution Metric Data and Reports**

(From: A62 A625)

Significant service execution event logs, volume and other measurement data relating to how effectively and efficiently service execution has been performed. This data, which is available as requested both in raw format and as structured reports, is a component of all Operations Information and is the basis for service level reporting.

**Service Improvement Input**

(From: A666)

Any information from problem resolution (proactively or reactively) that can help to improve the overall service delivery. For example, there could be a finding that a specific service part or component frequently generates problems and a determination that a modification to the

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procedures used to operate the service would remove the incident-inducing circumstances.

**Service Improvement Plan**

(From: A246, To: A243)

A plan and roadmap for improving service levels. For example, if service levels are not attained or if service levels have to be changed. It is based on service level reviews, and customer and service provider improvement suggestions.

**Service Initiative Proposal**

(From: A223)

A document describing a potential new service, the gap it will fill in the current IT service portfolio, and the initiative that will be required to put the service in place. This document includes a business case.

**Service Level Communication**

(From: A24 A242)

Information which helps each stakeholder (particularly customers) in service level management activities to understand the scope, context and specific roles and responsibilities for carrying them out. It helps promote general awareness of services.

**Service Level Feasibility Request**

(From: A243)

A request to specific IT processes (often those in the Resilience category) to assess the feasibility of successful delivery of service against a postulated service level target or commitment.

**Service Level Feasibility Response**

(To: A243)

The assessment by specific IT processes (often those in Service Management) on the feasibility of achieving successful delivery of service against a postulated service level target or commitment.

**Service Level Management Activity Data**

(From: A242 A243 A244 A245 A246, To: A247)

Any data about the accomplishment of process activities relevant to the evaluation of the overall service level management process.

**Service Level Management Evaluation**

(From: A247, To: A241)

An assessment of the overall performance of the process against the targets set in the process framework, and an identification of possible process improvement areas.

**Service Level Management Framework**

(From: A241, To: A242 A243 A244 A245 A246 A247)

The framework that contains all relevant information about the structure of the Service Level Management process. It guides the operation of the process, and includes the following information:

- Classes of agreements under which SLAs can be established, indicating attributes to be included and the desired range of values for each
- Norms for working relationships with SLA stakeholders
- General approach for working with other processes

to:

- Establish SLA feasibility
- Set targets
- Ensure supply of measurements
- Procedures to be followed to investigate and correct any breach of committed targets
- High-level plans for improvement

**Service Level Package**

(From: A2 A25 A255, To: A22 A226 A23 A233 A234 A24 A243 A246 A256 A3 A35 A354 A355 A4 A41 A412 A413 A42 A422 A423 A7 A74 A742 A744 A8 A83 A833 A834)

Details of the expected implications to the service utility and warranty which will result from agreement with the relevant business units on the demand management approaches under which the service will be provided. ITIL definition: “A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity.”<sup>15</sup>

**Service Level Requirements**

(To: A24 A243)

Requirements with regard to service levels that are requested by the customer and which, if agreed, will have to be attained by the service provider.

**Service Level Stakeholder Register**

(From: A242, To: A243 A244 A245 A246)

A record (of the customer contacts) with a role to play in one or more of the activities that comprise the Service Level Management life cycle. This information can also be useful for other customer relationship purposes.

**Service Marketing and Sales Activity Data**

(From: A222 A223 A224 A225 A226 A227 A228, To: A229)

The metrics defined in the Service Marketing and Sales Framework and populated by all work performed within the process, as the basis to evaluate performance of the process.

**Service Marketing and Sales Evaluation**

(From: A229, To: A221)

An analysis of service marketing and sales activity data providing an understanding of the current success or failure of the process, and an identification of potential process improvements.

**Service Marketing and Sales Framework**

(From: A221, To: A222 A223 A224 A225 A226 A227 A228 A229)

The overall scheme of policies, practices, plans, processes, and procedures designed to govern and optimize all activities for Service Marketing and Sales.

**Service Metric Data and Reports**

(From: A6, To: A2 A24 A244 A7 A71 A716 A8 A81 A814 A815 A83 A832)

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Significant service delivery event logs, volume, and other measurement data relating to how effectively and efficiently services are provided by IT. This data, which is available as requested both in raw format and as structured reports, is a component of all operations information and is the basis for service level reporting.

### Service Outage Analysis

(From: A736, To: A664 A737)

The results from identifying root causes of service outage, assessing the effectiveness of service availability, and identifying key recommendations for improving availability. There is a corresponding technique described in the ITIL Service Delivery, Availability Management book.

### Service Package Specific Catalog Requirements

(From: A232, To: A233 A234)

Each service package can have customizations for different environments, industries, or integration with technologies. These requirements must be captured and incorporated into the solution.

### Service Price Model

(From: A833, To: A255)

The service price model describes all inputs needed (for example, service model, measures, service levels, customer) to derive a price for a delivered service. It is often presented as a multidimensional matrix, with one dimension for each input. It describes as output one price for each combination.

### Service Pricing and Contract Administration Activity Data

(From: A832 A833 A834 A835, To: A836)

Focuses on data needed to analyze how to improve the process performance.

### Service Pricing and Contract Administration Evaluation

(From: A836, To: A831)

Is a report combining how the process performance can be improved and how especially the pricing model can optimize the overall IT usage.

### Service Pricing and Contract Administration Framework

(From: A831, To: A832 A833 A834 A835 A836)

Describes the foundational framework for Service Pricing and Contract Administration, including descriptions of the following aspects of the process:

- Strategic (vision, mission, value proposition)
- Organizational (organizational mechanisms, roles, accountabilities)
- Process (activities, workflows, inputs, outputs)
- Technology (software, hardware) practices for managing customer transformation

### Service Pricing and Contract Information

(From: A83, To: A22 A226 A227 A24 A243 A365 A81 A813 A814 A815)

Ranges from generic to specific:

- Services and price list (the complete service price model)

- Standard terms and conditions
- Individual actual and proposed terms and conditions for a specific customer

### Service Provider Review Input

(To: A245 A246)

Prioritized improvement suggestions for service level attainment by the service provider, i.e. the service delivery units, and responses as to the feasibility of adopting customer or service level manager suggestions.

### Service Request

(From: A65 A653, To: A61 A612)

A request to perform a standard and straightforward IT task for a user. Service requests are tasks that are within the scope of existing IT services.

ITIL definition: “A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do not require an RFC to be submitted.”<sup>16</sup>

### Service Request Escalation

(From: A615, To: A612)

Information about a service request that has not been fulfilled in ways that meet satisfaction criteria and which requires escalation.

### Service Request Fulfillment Information

(From: A613, To: A614 A615)

Information about a service request that has been successfully fulfilled.

### Service Request Reports

(From: A615, To: A244 A518 A616)

Any reports that reflect the status of service requests with the purpose to control the quality of service fulfillment, the compliance with existing SLAs, for planning purposes and as a basis for improvements.

### Service Request Response

(From: A61)

The interim and final outcomes of the service request, which can be many aspects, including:

- The information requested by the user
- A request for more information or an acknowledgement of a milestone within the request processing
- Status of the work effort triggered by the request, including plans to address the work items contained in the request

### Service Request Routing Information

(From: A613, To: A614 A615)

Details of how the work represented by the service request has been assessed and planned for fulfillment by or to be passed to one or more other processes. The details include:

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- The request classification, including the cases where the request has been re-classified as an incident or a change request
- The process and specific team or individual where the work has been assigned

### **Service Request Status**

(From: A615, To: A614)

The status of a service request (received, work in progress, resolved, or closed). Used to communicate the information to the user (originator of the request).

### **Service Request Status Input**

(To: A614 A615)

Details, from any process involved in processing the service request, on status and plan to complete the work involved. It can include a request to obtain more information or some form of acknowledgement from the user.

### **Service Request\_ Approved**

(From: A612, To: A613 A615)

A service request which has met the classification and entitlement rules and which includes all the information needed for fulfillment. It is ready to be fulfilled or routed.

### **Service Request\_ Authorized**

(From: A6 A61 A613, To: A5 A53 A535 A55 A552 A62 A622 A63 A67 A7 A72 A75)

The communication of a service request which has completed screening and is being passed to one or more other processes for actual fulfillment. It includes control information from the screening (assessment) such as priority assigned and committed completion target.

### **Service Request\_ Closed**

(From: A614, To: A615)

A service request for which all fulfillment activities have been completed and information about the fulfillment has been captured.

### **Service Request\_ Fulfilled**

(From: A613)

A service request that has been fulfilled within the Request Fulfillment process or in the processes to which it had been routed. Is either the actual fulfillment itself (for example, service usage guidance), or just information about the work carried out elsewhere (such as notification of incident resolution or confirmation of software download and installation).

### **Service Request\_ Rejected**

(From: A612)

A service request that is not accepted as falling into one of the pre-defined categories for requests or which fails the entitlement tests. An example of this would be a new requirement for functionality (for which the user should be guided to invoke the Stakeholder Requirements process).

### **Service Resilience Directives**

(From: A72 A74 A76, To: A62 A622 A623 A63 A632)

The collection of commands, instructions or other requests from Resilience processes to the Operations

processes which will lead to an improvement in, or correction of, any aspect of service.

### **Service Resilience Plans**

(From: A7, To: A2 A22 A221 A24 A243 A246 A25 A255 A26 A265 A266 A3 A35 A353 A354 A36 A364 A5 A52 A522 A523 A53 A532 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661)

The collection of plans produced by the individual processes involved in ensuring the resilience within service management. Processes contributing are:

- Compliance Management
- Security Management
- Availability Management
- Capacity Management
- Facilities Management
- IT Service Continuity Management

(See the definition of the *plan* output from each individual process for more details.)

### **Service Resilience Reports**

(To: A24 A244 A662)

The collection of reports produced by the individual processes which are involved in ensuring the resilience within service management. Processes contributing are:

- Security Management
- Availability Management
- Capacity Management

(See the definition of the 'report' output from each individual process for more details.)

These reports detail the volumes, attainments, issues outstanding and other characteristics detailing the performance and contribution to the overall delivery of service. They include efficiency reviews and audit reports.

### **Service Review Results**

(From: A24 A245, To: A242 A243 A246 A25 A256 A27 A273 A356)

This outcome from a review of service level attainment. This might include:

- Exceptions and violations with regard to target and actual service delivery
- Determination of responsibility for non-attainment
- Identification of penalties incurred

### **Services Agreement**

(From: A22 A227, To: A23 A233 A234 A834)

A contractual agreement between IT provider and customer with the intent to exchange a set of committed deliverables from the provider for a price to be paid by the customer, under a set of agreed terms and conditions.

### **Services Marketing and Sales Collateral**

(From: A224, To: A225 A226)

Items used to promote the proposed solution to a customer.

### **Services Proposal**

(From: A22 A226, To: A227 A834)

A document outlining a potential services solution to meet a specific set of customer needs.

**Skill Requirements**

(From: A842 A843, To: A844)

Forecast of human skills required to meet the demand for services in the IT Portfolio.

**Skills Inventory**

(From: A844, To: A621 A622 A842 A843)

Repository for current and planned skills.

**Skills Plan**

(From: A84 A844, To: A371 A843 A85 A852)

Projection of skills needed, including indicating where training is required. For skills identified to be developed through external means, this represents a requisition to procurement.

**SLAs OLAs UCs**

(From: A2 A24 A243, To: A22 A223 A226 A227 A244 A245 A246 A25 A254 A26 A265 A27 A271 A273 A3 A35 A354 A355 A4 A41 A412 A413 A414 A45 A453 A454 A5 A51 A511 A514 A515 A52 A522 A525 A53 A532 A534 A536 A538 A6 A61 A612 A615 A62 A621 A63 A632 A64 A641 A65 A651 A66 A661 A663 A665 A667 A67 A671 A7 A72 A723 A726 A727 A73 A732 A734 A74 A741 A742 A743 A744 A745 A75 A751 A76 A762 A763 A764 A766 A8 A81 A814 A815 A82 A823 A83 A834 A84 A842)

The agreements that represent the interlinked set of commitments for the service utility and warranty that is to be provided to one or more customers. The agreement between the customer and the organizational unit that directly provides the service is known as a service level agreement (SLA) and is visible to the customer. The agreements that represent the commitments of the collective set of internal organizational units and external entities to provide identified sub-components of the overall service are known as operational level agreements (OLAs). OLAs are not usually visible to the customer. Contractual statements of the commitments by external entities are known as underpinning contracts (UCs).

ITIL definition of these terms:

- SLA: “An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers.”<sup>17</sup>
- OLA: “An Agreement between an IT Service Provider and another part of the same Organisation. An OLA supports the IT Service Provider’s delivery of IT Services to Customers. The OLA defines the goods or Services to be provided and the responsibilities of both parties.”<sup>18</sup>
- UC: “A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet

agreed Service Level Targets in an SLA.”<sup>19</sup>

These agreements can be in a draft or finalized status.

**Solution Acceptance Activity Data**

(From: A452 A453 A454 A455 A456, To: A457)

Performance and quality data regarding activities performed in executing the Solution Acceptance Process.

**Solution Acceptance Certification**

(From: A455, To: A456)

The record (document) containing the formal certification by authorized, designated stakeholders that the solution meets acceptance criteria.

**Solution Acceptance Criteria**

(From: A453, To: A454)

The complete set of criteria that the stakeholder community will use to certify their acceptance of the solution produced.

For the special case of *solution* that is a *service*, ITIL defines Service Acceptance Criteria as: “A set of criteria used to ensure that an IT Service meets its functionality and Quality Requirements and that the IT Service Provider is ready to Operate the new IT Service when it has been Deployed.”<sup>20</sup>

**Solution Acceptance Evaluation**

(From: A457, To: A451)

The effectiveness and efficiency of the practices performed in executing the Solution Acceptance process.

**Solution Acceptance Framework**

(From: A451, To: A452 A453 A454 A455 A456 A457)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving acceptance of the proposed solution.

**Solution Acceptance Plan**

(From: A452, To: A453 A454 A455)

The (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for presenting the proposed solution to the stakeholder community for evaluation and acceptance. Includes identification of stakeholders.

**Solution Acceptance Review Results and Issues**

(From: A45 A454, To: A452 A453 A455)

The collected set of documentation which describes the “fit-for-purpose” characteristics of the Solution Acceptance work products and any issues identified as a result of executing solution acceptance reviews.

**Solution Analysis and Design Activity Data**

(From: A422 A423 A424 A425, To: A426)

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The collection of summary level history and status of Solution Analysis and Design activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

**Solution Analysis and Design Evaluation**

(From: A426, To: A421)

The collection of summary level history and status of the Solution Analysis and Design Framework. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Development processes.

**Solution Analysis and Design Framework**

(From: A421, To: A422 A423 A424 A425 A426 A733)

The logical structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices for solution analysis and design.

**Solution Analysis and Design Results and Issues**

(From: A42 A422 A423 A424 A425, To: A422 A423 A424)

The collected set of documentation describing the fit-for-purpose characteristics of the Solution Acceptance work products, and any issues identified as a result of executing solution acceptance reviews.

**Solution Assembly**

(From: A43, To: A44 A443 A444 A45 A456 A542 A543)

The collection of all the work products created during solution development and integration, including prototypes or implementation of parts of a solution for evaluation and analysis purposes.

**Solution Capabilities and Operational Procedures**

(To: A621)

The capabilities and operational procedures deployed as part of current solutions. These might require further development and tuning in order to reach optimal effectiveness as part of Service Execution.

(Subset of Deployed\_ Solution.)

**Solution Component Specifications**

(From: A423, To: A424)

Formal specification for all the solution components prepared in a prescribed way in agreement with organization-wide procedures and standards.

**Solution Components**

(From: A434, To: A435)

All the work products, acquired or built in-house, required to complete the solution build, which will remain as integrated parts of the solution (opposite to supporting parts).

**Solution Design**

(From: A4 A42 A425, To: A3 A33 A336 A34 A343 A344 A45 A454 A5 A51 A514 A52 A523 A54 A542 A6 A61 A611 A62 A621 A63 A632 A64 A641 A65 A651 A66

A661 A662 A67 A671 A7 A72 A723 A73 A734 A736 A75 A752 A76 A764 A8 A84 A844)

Solution design, including conceptual, macro, and micro designs, together with identified issues and risks, and formally validated and approved (signed off) by the key stakeholders. It not only covers all the functional and non-functional requirements of the solution, but also the design for meeting the compliance reporting requirements applicable to the solution.

**Solution Design Additional Information Request**

(From: A422)

Solicitation to the stakeholders for additional information required to complete the solution design (further clarification of requirements).

**Solution Design Change Proposal**

(From: A425, To: A422 A423 A424)

Proposed changes to the solution design resulting from review of solution design work products with stakeholders against the solution requirements.

**Solution Design Package**

(From: A42 A424, To: A425 A43 A432 A434 A435 A436 A437 A44 A442)

The collection of all the work products created during solution design.

**Solution Design Request**

(From: A52 A523 A53 A533, To: A42 A422)

A formal communication that authorizes and triggers the Solution Analysis and Design process (usually beginning at the conceptual design level).

**Solution Design Stakeholder Acceptance Request**

(From: A425)

A request to stakeholders for review, confirmation and formal sign-off of solution design.

**Solution Design Stakeholder Acceptance Response**

(To: A425)

A formal acceptance and sign off or rejection by stakeholders of solution design.

**Solution Design\_ Conceptual**

(From: A422, To: A423)

High level view (architectural view) of the solution, including initial versions of component model, operational model, high-level architectural overview, and architectural decisions.

**Solution Development and Integration Activity Data**

(From: A432 A433 A434 A435 A436 A437, To: A438)

The collection of detailed history and status of Solution Development and Integration activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

**Solution Development and Integration Environment**

(From: A433, To: A434 A435 A436)

The entire infrastructure required to complete the solution build process, including the tools, supporting

work products (scaffolding), and physical configuration control repository for the solution work products.

**Solution Development and Integration Evaluation**

(From: A438, To: A431)

Formal evaluation of the performance of the project specific activities against the defined performance criteria and measurements within the Solution Build Framework.

**Solution Development and Integration Framework**

(From: A431, To: A432 A433 A434 A435 A436 A437 A438)

Common, organization wide Solution Development and Integration policies, standards, procedures and templates.

**Solution Development and Integration Plan**

(From: A432, To: A433 A434 A435 A436 A437)

Formally defined following a prescribed, organization wide procedure, set of tasks and activities together with a time frame required to perform solution development and integration. Usually a part of a larger project plan.

**Solution Development and Integration Results and Issues**

(From: A43 A433 A434 A435 A436 A437, To: A432 A433 A434 A435 A436)

The collection of summary level history and status of Solution Development and Integration activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Realization processes.

**Solution Plans and Commitments**

(From: A4 A41 A42 A422 A425 A43 A432 A44 A442 A45 A452, To: A2 A25 A255 A256 A26 A265 A3 A33 A336 A35 A353 A354 A37 A374 A375 A42 A422 A43 A432 A44 A442 A45 A452 A454 A5 A52 A522 A6 A62 A621 A7 A73 A732 A74 A742)

The collective overall information on both the development plan for the solution and the content of the solution as it progresses from concept to reality.

- Plans: Sets of committed solution phases, activities, tasks and milestones together with time frame.
- Commitments: Sets of requirements, designs and other deliverables, such as test cases.

**Solution Project Plan**

(From: A414)

The overall project plan augmented by solution-specific content as a result of completion of requirements validation.

**Solution Realization Results and Issues**

(From: A4, To: A354 A4 A41 A412 A413 A414 A415 A42 A422 A423 A424 A425 A43 A432 A433 A434 A435 A436 A437 A44 A442 A443 A444 A445 A45 A452 A454 A455)

The collection of summary level history and status of Solution Realization activities and work products throughout their life cycle. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information,

and other heuristics related to Solution Realization processes.

**Solution Requirements**

(From: A413, To: A414)

Documented, analyzed and expanded (formalized) solution requirements.

**Solution Requirements Activity Data**

(From: A412 A413 A414 A415, To: A416)

The collection of detailed and summary level history and status of Solution Requirements activities. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to the Solution Requirement process.

**Solution Requirements Baseline**

(From: A41 A415, To: A42 A422 A423 A44 A442 A444 A45 A453 A712)

Established according to prescribed organizational standards, it is a baseline of all the Solution Requirements work products currently under Configuration Management.

**Solution Requirements Baseline Change Request**

(To: A415)

Formal request following prescribed organizational procedure to change a baseline of the Solution Requirements work products currently under Configuration Management.

**Solution Requirements Change Proposal**

(From: A415, To: A412)

Proposed changes to the business context resulting from changes in solution requirements baseline.

**Solution Requirements Defect List**

(From: A414, To: A413)

Formal list of discrepancies between documented and formalized solution requirements and solution intentions as perceived by the key stakeholders (customer).

**Solution Requirements Evaluation**

(From: A416, To: A411)

The collection of summary level history and status of Solution Requirements Framework. Typically used to establish and update organizational performance benchmarks (estimates versus actual), transmit quality information, and other heuristics related to Solution Realization processes.

**Solution Requirements Framework**

(From: A411, To: A412 A413 A414 A415 A416)

Common, organization wide Solution Requirements set of standards, procedures and templates.

**Solution Requirements Results and Issues**

(From: A41 A412 A413 A414 A415, To: A412 A413 A414)

The collection of summary level history and status of Solution Requirements activities and work products. Typically used to establish and update organizational performance benchmarks (estimates versus actual),

transmit quality information, and other heuristics related to Solution Realization processes.

**Solution Requirements Stakeholder Validation Request**

(From: A414)

A request to stakeholders for review, confirmation and formal sign-off of solution requirements.

**Solution Requirements Stakeholder Validation Response**

(To: A414)

Solution validation responses as communicated by the stakeholders. Cover both the positive and negative cases, with the latter being considered a 'defect'.

**Solution Requirements\_ Validated**

(From: A414, To: A415)

Solution scope, context and entire taxonomy of requirements formally validated and approved (signed off) by the key stakeholders.

**Solution Scope and Context**

(From: A412, To: A413)

Solution framing and surroundings defined by the business and system environments.

**Solution Test Activity Data**

(From: A442 A443 A444 A445, To: A446)

Performance and quality data regarding activities performed in executing the Solution Test process.

**Solution Test Cases**

(From: A442, To: A443 A444)

The collection of test cases, that is, the description of what is to be tested, why, how (including sample data) and expected outcomes of the testing.

**Solution Test Environment**

(From: A443, To: A444)

The functional environment constructed and allocated to support testing of a specific solution.

**Solution Test Environment Baseline**

(From: A443, To: A445)

A reference point specification of the functional environment used to support testing of a specific solution.

**Solution Test Evaluation**

(From: A446, To: A441)

The effectiveness and efficiency of the practices performed in executing the Solution Test process.

**Solution Test Framework**

(From: A441, To: A442 A443 A444 A445 A446)

The conceptual structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and technology (software, hardware) practices to be used in achieving the objectives of the Solution Test process.

**Solution Test Issues**

(From: A445, To: A442 A443 A444)

Any additional issues identified during test results analysis that need to be recognized and perhaps addressed.

**Solution Test Report**

(From: A44 A445, To: A45 A454)

The collected test data, results and analysis of the Solution and environment under consideration. Includes test cases, defective test cases.

**Solution Test Results**

(From: A444, To: A445)

The outcomes (results) of applying the selected test cases to the Solution Build Package.

**Solution Test Results and Issues**

(From: A44)

The collected set of documentation which describes the "fit-for-purpose" characteristics of all of the Solution Test activity work products and any issues identified as a result of executing the Solution Test process.

**Solution Test Strategy and Plans**

(From: A442, To: A443 A444 A445 A446)

A description of the strategies to be employed and the (sub) project plan which identifies the approach, activities and tasks, responsibilities, and schedule for testing various aspects of the solution as it is designed, built and integrated.

**Solution Verification Request**

(From: A437)

Formal request to verify (verification ensures that "you built it right") the integrated solution by all the relevant stakeholders.

**Solution Verification Results**

(To: A437)

Formal list of the entire positive (successful) and negative (deviations) from the standards and procedures identified during the verification process.

**Solution\_ Accepted**

(From: A4 A45 A456, To: A5 A52 A523 A53 A533)

The Solution which has been approved by the stakeholder community, and is now ready to be deployed.

**Solution\_ Deployed**

(From: A5 A53 A536, To: A3 A32 A4 A43 A433 A44 A443 A6 A62 A63 A634 A64 A641 A7 A76)

The new or adjusted solution in 'live' status, ready for useful work within its target environment, and reflecting the outcome of the deployment activities.

The deployed solution includes documentation, procedures, training materials, support guidance as well as the primary solution contents.

**Solution\_ Installed**

(From: A535, To: A536)

A solution under deployment for which all tasks required to achieve deployment status have been completed other than final activation.

**Solution\_ Integrated**

(From: A435, To: A436)

Completely assembled solution ready to be moved from the development and integration environment and into the test environment. Usually includes work products and features required to support solution testing and acceptance.

**Solution\_ Tuned**

(From: A436, To: A437)

Integrated solution after refining and fine tuning the overall solution as well as solution components and connections between them. Performed according to a prescribed, organization wide procedure.

**Solution\_ Verified**

(From: A437)

Integrated solution after verification by all the relevant stakeholders with all the verification issues (deviations from standards and procedures) formally resolved.

**Stakeholder Needs**

(From: A212, To: A213)

Conditions describing any stakeholder need for services.

**Stakeholder Needs and Requirements Report**

(From: A214)

Document outlining the IT service provider's interpretation of the customers' and other stakeholders' service needs and requirements. It also provides information about the status and progress of individual or sets of needs or requirements.

**Stakeholder Needs\_ Disqualified**

(From: A213, To: A214)

Needs that do not have the proper business justification or are assessed as beyond technical feasibility.

**Stakeholder Requirements**

(From: A2 A21 A213, To: A214 A22 A222 A26 A264 A3 A35 A352 A36 A364 A365 A4 A41 A413 A7 A73 A732)

The qualified needs for IT services that are to be progressed through the Portfolio process for decision making.

These needs might be in a form suitable for direct translation into solution requirements and should include stakeholders' acceptance criteria.

**Stakeholder Requirements Information Request**

(From: A413)

Solicitation of requirements information from the stakeholders, usually for clarification or expansion of stakeholder requirements already registered.

**Stakeholder Requirements Management Activity Data**

(From: A212 A213 A214, To: A215)

Data resulting from all work carried out by each process activity. Examples would be volumes, timings, resources used, success and error rates, interfaces invoked, rework, customer feedback, priorities.

**Stakeholder Requirements Management Evaluation**

(From: A215, To: A211)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Stakeholder Requirements Management Framework**

(From: A211, To: A212 A213 A214 A215)

The framework that governs how the process operates to capture, track, and communicate stakeholder needs and requirements.

**Stakeholder Requirements Status Update**

(To: A214)

Notifications from any process which addresses these requirements as to their status, especially when there it changes in some way.

**Standard Change**

(From: A513, To: A516)

Those changes which have been pre-approved for deployment. They include well known and proven tasks, and have no or limited (and well understood) impact on the integrity of the target context, such as the infrastructure. These changes will also have all entitlement issues, like financial approvals, and licensing already resolved.

Implementation can be either user-driven or managed by the IT function. Examples include:

- Installation of printer drivers from a preinstalled library on a PC
- Download and installation of software or fixes from vendor sites
- Upgrade of a laptop with a larger hard drive

**Strategic IT Value Propositions**

(From: A314, To: A315)

A statement of value, scope and time scale for each strategic IT initiative.

**Supplier Input**

(From: Outside-the-Model, To: A8)

The complete set of items from suppliers to the IT endeavor. The set includes:

- Bids
- Procured items
- Invoices
- Product and support information.

**Supplier Invoices**

(To: A81 A814 A82 A824)

Invoices from the suppliers for products and services delivered to IT.

**Supplier Management Activity Data**

(From: A822 A823 A824 A825 A826, To: A827)

Any data about the accomplishment of process activities that support the evaluation of the overall Supplier Management process.

**Supplier Management Framework**

(From: A821, To: A751 A822 A823 A824 A825 A826 A827)

The framework that contains all relevant information about the structure of the Supplier Management process, meaning the practices for supplier management

and procurement. This includes evaluation criteria for selection and evaluation of suppliers, and relevant systems.

**Supplier Management Performance Evaluation**

(From: A827, To: A821)

The result of the evaluation of the Supplier Management process, including identification of potential process improvement items.

**Supplier Output**

(From: A8, To: Outside-the-Model)

Represents all interactions from the IT endeavor to any supplier. Constituents include:

- Bid requests
- Purchase orders
- Payments
- Other communications

**Supplier Payments**

(From: A81 A814, To: A816)

Payments to suppliers, triggered by supplier invoices, for services delivered to IT.

**Supplier Performance Data**

(To: A825)

Data from any IT process that relates to the performance of any supplied product or service that contributes to that process

**Supplier Performance Evaluation**

(From: A825, To: A822 A824)

Evaluation of suppliers with regard to the relationship, compliance with agreed contract conditions including costs. Input for management of portfolio of suppliers.

**Supplier Performance Issue**

(From: A825, To: A822 A823)

Exceptions or non-compliance of suppliers with regard to the agreed contracts that are recognized during Evaluate Supplier Performance, and that are needed as input for Manage Portfolio of Suppliers so that the supplier portfolio can be adapted if necessary.

**Supplier Portfolio**

(From: A822, To: A823 A824 A826)

List of potential suppliers. Includes information about each supplier (relationship) with regard to supply items, existing contracts, and the interfaces to this supplier.

**Supplier Product and Service Information**

(From: A826, To: A662 A664 A735 A736 A824)

Information about the items (products, services) that can be supplied by the suppliers in the portfolio, like the catalog of orderable supply items including

- Prices
- Service levels
- Supply options, (suppliers can supply these supply items)

Covers both external and internal suppliers. An example of an internal supplier: Facility supplier indicates lead-time and costs for equipping a new workspace.

**T**

**Target Market Segment Requirements**

(To: A234)

Requirements for specific industries, user communities, or executive sponsors are used to tailor or customize the description of the services.

**Technology Capabilities and Trends**

(To: A31 A313 A32 A322 A323 A33 A333 A34 A341 A342 A343 A85 A852)

Available external data, both uncoordinated and already analyzed, of world class IT technologies available, declining, and emerging.

**Test Environment Specifications**

(From: A442, To: A443)

Based on the requirements and design of each solution and on the selected, customized test strategy and plans, this is a specification of the test environment that will support the required testing.

**Training Requirements**

(From: A843, To: A844)

Statement of the purpose, timing and quantities of training needed to properly equip the workforce for their current and future work assignments.

**Tuning and Capacity Delivery Allocation Outcomes**

(From: A744, To: A745)

The results of tuning and capacity delivery allocation activities upon balancing resource supply with workload demand. Some actions will be considered sufficiently permanent to influence the overall capacity plan.

**U**

**Unavailable Product and Service Exceptions**

(From: A826, To: A822 A824)

Information about exceptions (unavailability, permanent or temporary) of supply items that can influence procurement or require that the portfolio of suppliers is adapted.

**Underpinning Contracts**

(From: A8 A82 A823, To: A1 A11 A114 A2 A24 A241 A243 A3 A31 A313 A5 A55 A555 A81 A813 A814 A824 A825 A826)

Content of contracts with suppliers, including terms and conditions, service level agreements (SLAs), among others. Covers both the actual contract itself, and information about it that is available as input for supplier evaluation and to other internal processes, such as financial management.

Information Technology Infrastructure Library (ITIL) defines underpinning contract as “a contract between an IT service provider and a third party. The third party provides goods or services that support delivery of an IT service to a customer. The underpinning contract defines targets and responsibilities that are required to meet agreed service level targets in an SLA.”<sup>21</sup>



**User Input**

(From: Outside-the-Model, To: A6)

The collection of all information and items a user generates and sends to the IT undertaking in furtherance of their need to receive the committed service. Examples include:

- Sequences that invoke transactions or other kinds of services (typically from an application). They might be accompanied by user data.
- Contact, through human or electronic channels, which represent:
  - Requests for information
  - Expressions of any apparent fault (which might become an incident)
  - Service requests

**User Output**

(From: A6, To: Outside-the-Model)

The collection of all service deliverables which the IT endeavor generates and delivers to the user to meet the committed service. Examples include:

- Processing of business transactions (in whole or in part) through IT system-provided means.
- The delivery of relevant outputs, such as:
- Transaction completion status
- Data resulting (for example, delivery of an e-mail message)
- Contact through human or electronic channels, which satisfy or resolve:
  - Requests for information
  - Expressions of any apparent fault (which might become an incident)
  - Service requests

**V****Viable Innovation**

(From: A32 A325, To: A31 A314 A35 A352 A36 A364)

Any innovations that seem viable to be adopted by the IT service provider in order to enhance the service to the business (IT Architecture, the IT Portfolio, IT Strategy). The information provided will include analysis and assessment of the potential impact to the business, and to the parameters of the IT service provision, stated in terms of ideas, value and viability.

**W****Work Data Input**

(To: A62 A624)

The data that is submitted along with a work request and which has not yet been processed (so that it becomes managed data). It could have been captured in many ways of which keyboard, magnetic card reader, barcode reader, RFID tag are just some examples.

**Work Item**

(From: A622, To: A624)

The basic unit of work of an IT service or work request, ready to be processed.

**Work Item Schedule**

(From: A622, To: A623 A624)

Control information on the combination of the work item, the required IT resources, and the timing parameters and instructions which enable matching of work demands with resource supply.

**Work Item\_Multi Phase**

(From: A624, To: A622)

A partially-completed output created by Deliver Services that flows internally within the process. The output would signify that other service execution activities would need to be started. An example of this complex work item is a payroll application: a new employee is added, the new employee can create a new work item to add a new person to an enterprise employee directory. The directory update service is triggered by the payroll addition service.

**Work Requests**

(To: A62 A622)

An unqualified request for processing services involving IT resources. To be accepted for processing, it must contain sufficient detail in order to match it against the list of existing services and to determine the characteristics (parameters) of this specific request. Work requests can range from highly granular individual interactions (pressing a function key on a PC) to a large clump of work (a long running batch job, perhaps with many dependent steps and subsequent, dependent jobs).

**Work Requests\_ Completed**

(From: A62 A624)

The results, in terms of data and any confirmation responses, returned to the work requestor upon completion of the triggering request for work to be performed by the IT operational service. This output represents the fundamental item for which the customer is paying; that is, the processing of transactions whether real time or batched.

Can include negative outcomes, such as unsuccessful processing, resource authorization failure, and resource insufficiency.

**Work Requests\_ Rejected**

(From: A622)

Notification that the request does not comply with work request acceptance criteria, and therefore was rejected.

**Workforce Adjustment Requisition**

(From: A843)

The plans and requirements for adjustments (increase and decrease) in workforce numbers and job profiles. Might be relevant to either or both of the business' workforce management process and to the procurement process.

**Workforce Management Activity Data**

(From: A842 A843 A844, To: A845)

The metrics defined in the Workforce Management Framework and populated by all work performed within

the process, as the basis to evaluate performance of the process.

**Workforce Management Evaluation**

(From: A845, To: A841)

An assessment of the overall performance of the process against the targets set in the process framework and an identification of possible process improvement areas.

**Workforce Management Framework**

(From: A841, To: A842 A843 A844 A845)

The conceptional structure describing the strategic (vision, mission, value proposition), organizational (organizational mechanisms, roles, accountabilities), process (activities, work flows, inputs, outputs), and

technology (software, hardware) practices for managing customer satisfaction.

**Workforce Management Information**

(From: A84 A842 A843 A844, To: A365 A373 A374 A81 A813 A814 A815)

Profiles of current managed workforce including performance reviews, skills, training and compensation.

**Workforce Plan**

(From: A842, To: A843)

Forecast of human workload associated with business requirements or changes, and the subsequent plan for IT resources in support of the demand.