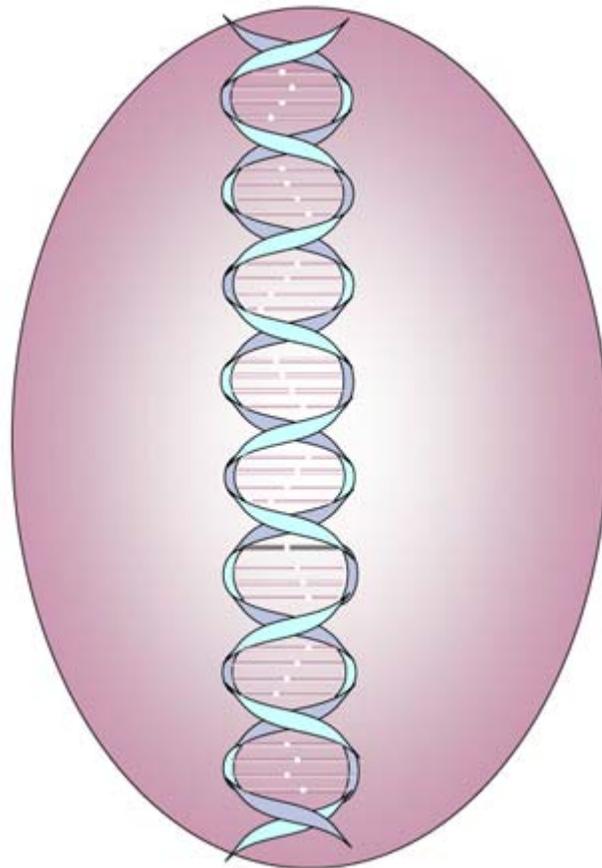




# **PRM - IT**

## **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

This is the second book in the PRM-IT Reference Library. As a reference manual, this book examines the context of the processes for IT, exploring the key external agents and their interactions with IT.

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.

## The PRM-IT Reference Library books

The PRM-IT Reference Library consists of thirteen books. The first book is the *General Information Manual*, it is a brief examination of the subject of IT processes, and provides a tour of the model.

The nine reference manuals are A0 through A8. The *A0 Manage IT* book examines the context of the processes for IT, exploring the key external agents — stakeholders and their interactions with IT. The reference manuals A1 through A8 provide the complete description of all aspects of the process categories.

The reference manual *IDEF0 Diagrams* presents the full model in IDEF0 notation, and *IDEF0 Node Tree* shows the ordered list of process categories, processes, and activities.

The final book, the *Glossary*, contains the definition of every process interface object for the model and provides references to where the objects are used.

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## PRM-IT Reference Library

- |                                       |                     |
|---------------------------------------|---------------------|
| ■ General Information                 | ■ A6 Operations     |
| ■ A0 Manage IT                        | ■ A7 Resilience     |
| ■ A1 Governance and Management System | ■ A8 Administration |
| ■ A2 Customer Relationships           | ■ IDEFØ Node Tree   |
| ■ A3 Direction                        | ■ IDEFØ Diagrams    |
| ■ A4 Realization                      | ■ PRM-IT Glossary   |
| ■ A5 Transition                       |                     |

### 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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# [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.

---

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

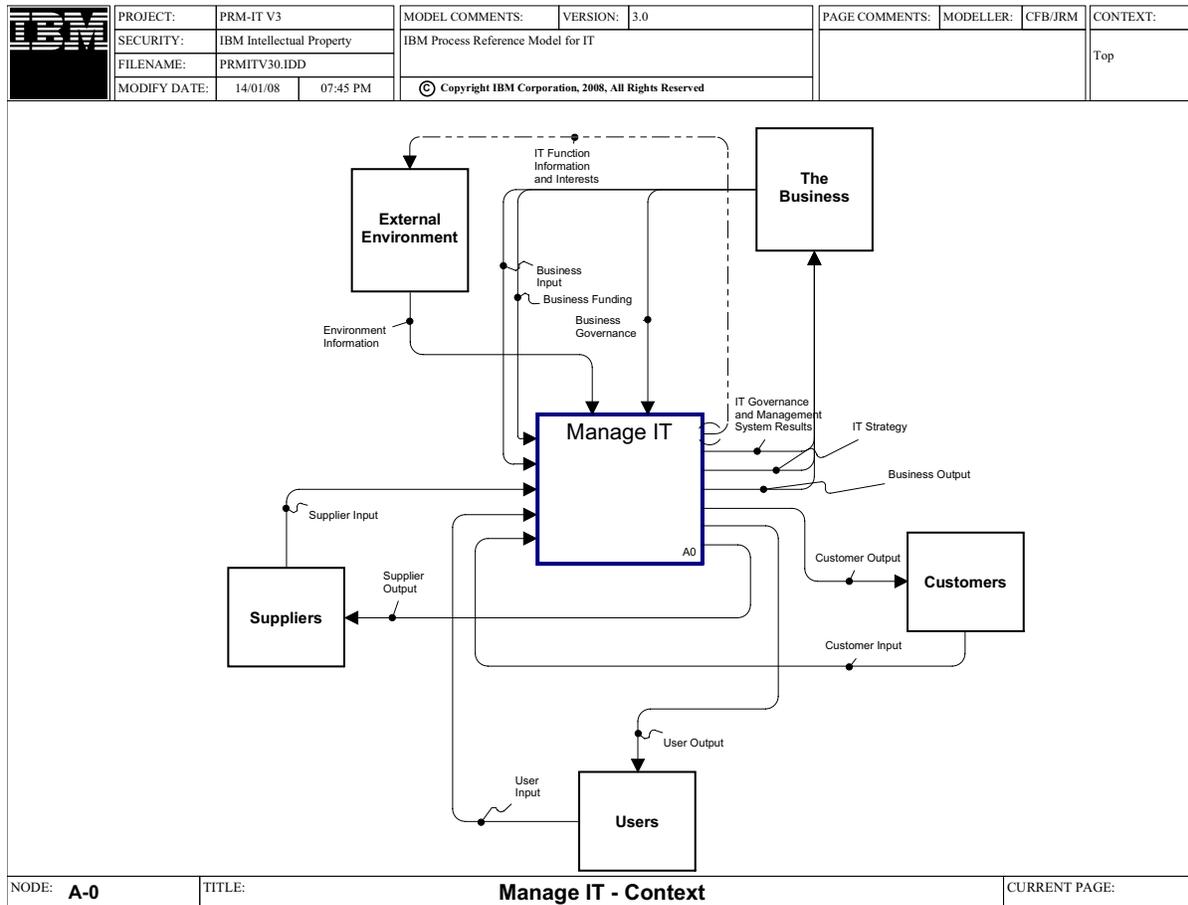


Figure 1. PRM-IT A-0 (Context) Diagram

## 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

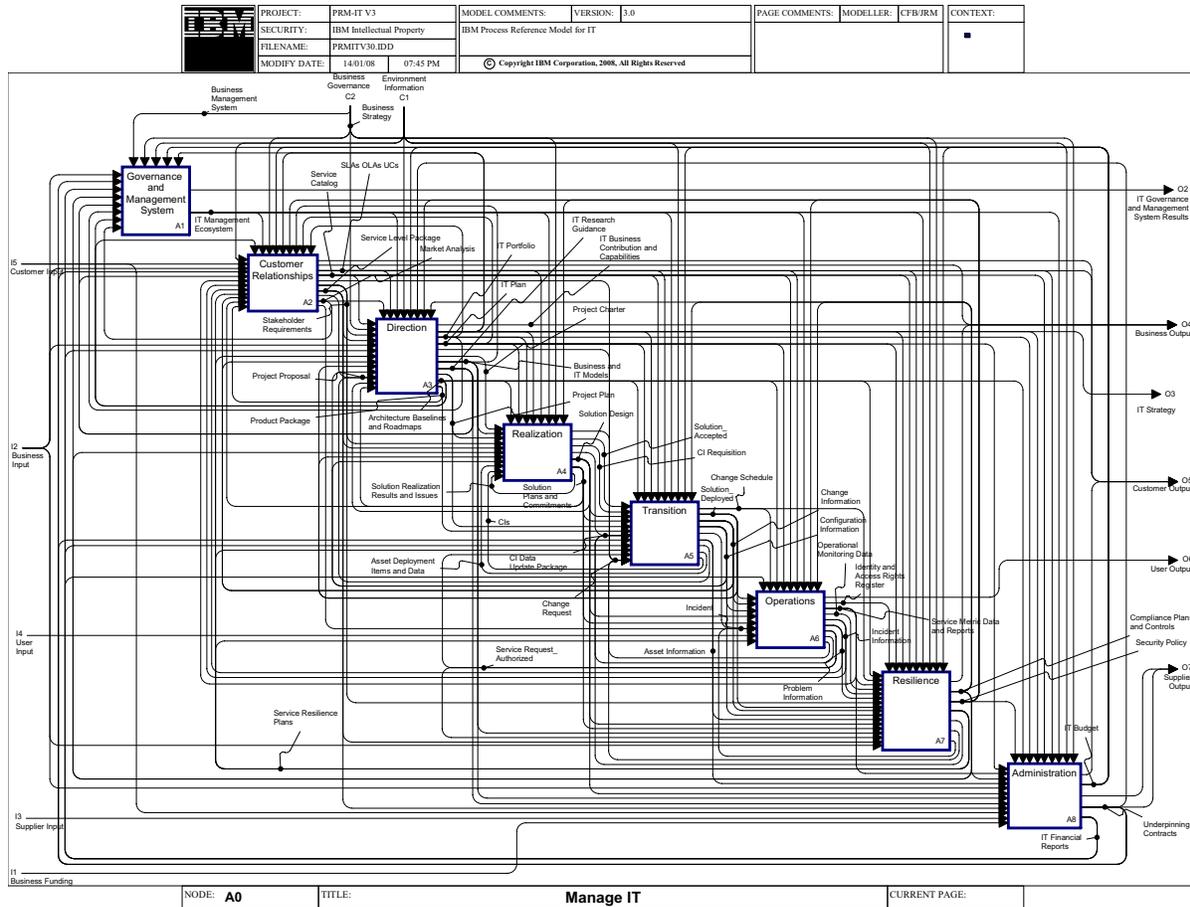


Figure 2. PRM-IT A0 Diagram

# [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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2. 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

## 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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17. ITIL V3 Glossary

■ 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

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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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20. ITIL V3 Glossary

21. ITIL V3 Glossary

22. ITIL V3 Glossary

23. ITIL V3 Glossary

- 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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24. ITIL V3 Glossary

25. ITIL V3 Glossary

- **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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27. ITIL V3 Glossary  
28. ITIL V3 Glossary  
29. ITIL V3 Glossary  
30. ITIL V3 Glossary  
31. ITIL V3 Glossary

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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32. ITIL V3 Glossary

33. ITIL V3 Glossary

34. ITIL V3 Glossary

35. ITIL V3 Glossary

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.

■ 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

<b>A0 – MANAGEMENT OF THE BUSINESS OF IT</b>	
A64	Event Management
A65	Incident Management
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