

**A technical discussion  
of enterprise transformation**  
June 2004

**Rational** software



## **Facing the Challenges of Enterprise Transformation**

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## **Introduction**

A strong and successful enterprise requires a solid IT system and application infrastructure that provides a clear linkage between IT and corporate goals and strategies. This infrastructure should support the intricacies of your business while providing an integrated and flexible architecture to support the endless business challenges of tomorrow. With an integrated and aligned IT system, you can be more confident that your enterprise will run at top efficiency, enabling you to take advantage of opportunities to strengthen the business and remain ahead of the competition.

Unfortunately, this integrated architecture does not exist at most corporations. Instead, organizations maintain a disjointed IT landscape, with applications and systems all working independently and developed vertically to address the needs of each department—instead of horizontally, across departments, to address the needs of the business. IBM is dedicated to helping these organizations transform themselves to create an on demand computing environment, which begins with the integrated architecture just described—one that facilitates change across all business constructs.

At the same time, IBM recognizes that tumultuous economic changes during the past few years have forced organizations to adopt tighter budgets and stringent guidelines for IT projects. Most have limited the scope of new application development, integration efforts and legacy enhancements, not to mention capital equipment procurement.

To help organizations effectively establish a more cohesive yet cost-efficient approach to IT in this economic environment, IBM encourages them to evaluate existing resources that can help address alignment and integration needs. As they go through this evaluation process and consider how to allocate budgets, companies need to stay focused on the IT challenges driving today's business decisions. These include:

- **Integration of disparate IT systems across the enterprise.** *Pioneered by U.S.-based state and federal IT organizations, one approach to the problem of disconnected systems is called enterprise architecture. Implementing an enterprise architecture can lead to significant savings in application integration costs.*

- **Development staff turnover/retirement.** *Losing IT resources equates to a loss of the intellectual capital of legacy systems. Because systems need to be relearned, system maintenance costs can skyrocket—consuming as much as 80 percent of total IT budget.*<sup>1</sup>
- **Ongoing legislative mandates requiring absolute conformance.** *Experts predicted that Fortune 1000 companies would spend as much as \$2.5 billion in 2003 on compliance-related projects.*<sup>2</sup>
- **Options to outsource development, maintenance or testing.** *Business may be able to cut labor costs by 25 percent to 75 percent by using workers in India, China and the Philippines.*<sup>3</sup>
- **Web services and other technology to consolidate application processing.** *Of all IT executives surveyed by Forrester Research, 70 percent plan to use Web services for integration of internal applications and data, which decreases the cost of application maintenance and modification.*<sup>4</sup>

***Enterprise Transformation provides a holistic approach to the alignment of IT with the mission, strategy and business needs of the entire organization through a comprehensive phased approach.***

To help companies realign their IT infrastructures in a way that will address these challenges, IBM offers a unique solution called Enterprise Transformation. This solution provides a holistic approach to the alignment of IT with the mission, strategy and business needs of the entire organization through a comprehensive phased approach. The Enterprise Transformation solution is consistent with the highly successful IBM® Rational Unified Process®, which steps software development projects through a flexible, iterative development process.

This paper will examine what defines Enterprise Transformation: the phases required for a successful endeavor, the business drivers affecting transformation and the ways that software development modeling and requirements tracking tools can help align your IT portfolio with business goals and strategy.

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<sup>1</sup> Forrester Research. IdeaByte. "IT Trends 2003, Midyear Update: Application Portfolio Management, Web-to-Host and Legacy Modernization." May 27, 2003.

<sup>2</sup> "Cutting the Sarbanes-Oxley red tape." *Info World*. July 11, 2003.

<sup>3</sup> "Shifting Work Offshore? Outsourcer Beware: Quality and security woes can eat expected savings." *BusinessWeek*. January 12, 2004.

<sup>4</sup> Forrester Research. "Ten Tips For Killer Web Services." December 17, 2003.

### **Understanding your enterprise**

The term “enterprise” in this white paper refers to the systems at work within an organization. This definition was first introduced by John Zachman in the 1980s while he was developing the IBM information planning methodology. According to Zachman, “The design of the system is the design of the enterprise; and if the system can’t change, *the enterprise can’t change!*” In other words, for businesses to operate effectively and grow, systems must be synchronized and aligned with the business.<sup>5</sup>

Think of an enterprise as operating in many dimensions. Each dimension can be viewed as a unique portfolio providing essential elements that address the enterprise as a whole. The IT analyst firm Forrester refers to three types of portfolio management: application portfolio management (APM), IT asset management (ITAM) and project portfolio management (PPM). Forrester views these as subdisciplines within the full IT management portfolio.<sup>6</sup>

These subdisciplines fall within a typical business context as follows. Applications that address functional business needs within the organization are part of APM. These applications, both new and legacy, can range from simple spreadsheets for tracking employee vacation and salary to more advanced applications that deliver core business processes, rules and information. The architecture to support these applications is ITAM. Assets include hardware—such as servers, mainframes, terminals, laptops and printers—and the networking and connectivity required to facilitate communication among all of the hardware and software components. All of these assets are part of the “architectural blueprint” for your company.

Unfortunately, most businesses have limited or nonexistent enterprise APM or ITAM systems. Instead, their business units work in isolation, developing departmental applications, purchasing custom applications and purchasing supporting hardware—all to support their own requirements without considering the overall needs or strategy of the organization. The lack of collaboration, understanding and planning among business units contributes to the following problems within the enterprise:

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<sup>5</sup> John A. Zachman. “Enterprise Architecture: The Past and Future.” *DM Direct*. April 2000.

<sup>6</sup> Forrester Research. “Processes and Tools: The Nuts and Bolts of Project Portfolio Management.” April 11, 2003.

- *Redundant and sometimes contradictory information stored in disparate databases, which can lead to erroneous reporting and faulty business decisions*
- *High maintenance and development costs resulting from independent development efforts*
- *High costs associated with unaligned capital asset purchases and underutilized servers and equipment*
- *Security gaps throughout the enterprise because of non-secured assets*

To complicate the situation even further, the lack of PPM systems means that future project plans within and across departments are not tracked, communicated or consolidated. If one department is planning to develop an inventory tracking system and another is developing a sales tracking system, their efforts will be misaligned and they will miss opportunities to integrate and leverage data and shared processes.

According to Forrester, having disjointed (or missing) subdisciplines within an overall management portfolio can adversely affect an organization's value.

***Enterprise Transformation is an initiative to align business needs directly to IT actions.***

*Only 10 percent to 15 percent of organizations effectively roll up the subdisciplines into a higher-level process to better enable strategic decision-making—the very definition of IT portfolio management. As a result, organizations are likely wasting 5 percent to 8 percent or more of their overall budgets due to duplicated, misaligned and ineffective spending. For an organization with a \$500 million per year IT budget, this translates directly into \$25 million to \$40 million per year of pure waste. IT complexity has reached the point where it is no longer possible to manage these resources in the haphazard ways of the past.<sup>7</sup>*

Put more simply, business requirements remain unfulfilled at many organizations because IT efforts do not properly address them. But the reasons for this glaring inadequacy and the resulting waste of budgetary resources are complex; the solution requires a higher-level vision for managing IT efforts across the enterprise.

#### **What is Enterprise Transformation?**

Enterprise Transformation is an initiative to align business needs directly to IT actions. It involves a full assessment and revitalization of an organization's

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<sup>7</sup> Forrester Research. "Maximizing IT Value." January 6, 2003.

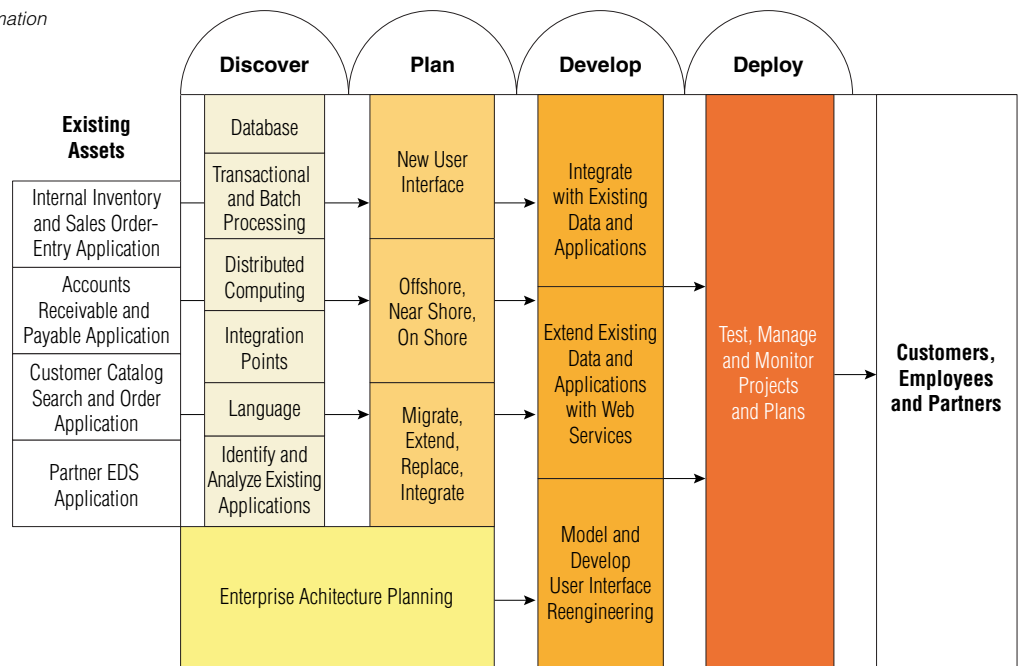
business applications and systems—both internal processing and customer-facing applications.

*Phases*

Four fundamental steps or phases involved in Enterprise Transformation (see Figure 1) include:

1. **Discover.** *Develop a strategy for discovering the elements within your existing system and application portfolio. This phase involves mining, understanding and evaluating existing applications and systems.*
2. **Plan.** *Formulate a revitalization to determine what steps you must take to modernize and revitalize your portfolio. This phase involves stakeholders across the enterprise who assess the current landscape, as defined in the Discover phase, and determine the best mix of projects to align IT spending with organizational goals. Then, develop an execution plan for these projects that revises, extends, preserves, migrates, integrates and builds upon existing resources.*
3. **Develop.** *This phase involves building the assets specified in the Plan phase.*
4. **Deploy.** *Transition all new systems into the operational infrastructure. Revisit and revise your plans periodically, as needed—or both—to reflect changes in your business needs and the competitive environment.*

Figure 1: The IBM Enterprise Transformation initiative—transformation of existing enterprise assets



These steps are discussed in more detail in the following sections, focusing primarily on essential elements in the Discover and Plan phases. The Develop and Deploy phases entail operational expertise to implement requirements determined in the Plan phase. A detailed explanation of these two phases is beyond the scope of this discussion but will be covered in another white paper.

### *Benefits*

Pursuing the four-phase transformation process just described delivers value through:

- *An infrastructure built on consolidation and collaboration among departments*
- *A standardized process to support and augment that infrastructure*
- *A centralized repository of all applications in the organization: Components of these applications are documented, understandable to technical professionals and available for analysis to support operational efficiency*
- *A competitive edge in the marketplace based on an agile infrastructure allowing rapid change to applications and process*
- *An optimized development team focused on high-value business requirements*
- *Lower costs for application integrations*

### **Discover phase of Enterprise Transformation**

The Discover phase consists of many manual and automated processes that yield a robust inventory of enterprise assets. The automated approach consists of a repository containing meta-information for multiple virtual storage (MVS) and distributed environments. Once the data is collected, impact analysis studies can be applied against the inventory. The knowledge and capabilities that can be obtained through this process include:

- *A high-level view of your applications as well as an understanding of their components and architecture*
- *A deeper understanding of business process flow that is gained by drilling down into applications*
- *The capability to identify areas of an application that will change as a consequence of other changes you make, including lines of code that use affected data items and indirect data items*
- *Comprehensive insight into databases and files that comprise the application, and data flows that provide logical connections among programs, processes and applications. This insight is gained through a process of “harvesting” data and*

*application sources—many that may be initially obscure. For more about data harvesting, see the section “Legacy transformation.”*

Reverse engineering and visual trace are additional processes that help teams harvest existing intellectual capital. Reverse engineering provides the ability to connect to databases and source code, which you can then render into visual models. These models communicate key system characteristics to help predict system qualities and the effect on specific properties when aspects of the system are changed. Visual trace,<sup>8</sup> used during program execution to reveal the execution path through a diagram, depicts the control flow and how the software operates.

These processes, combined with manual efforts to record all hardware and networking assets, help define the current state of your enterprise, at both an APM and ITAM level. This definition serves as a foundation for future IT initiatives.

### **Plan phase of Enterprise Transformation**

The system and application portfolio is the starting point for the Plan phase. Upon entering this phase, you are ready to begin integrating current and future projects into your overall system.

The Plan phase involves stakeholders across the enterprise who will carry out the assessments defined in the Discover phase. During Plan, the project team may make recommendations ranging from “We need to develop a new user interface for application X” to “It would be cost-effective to outsource the maintenance for project Y.”

To help determine the best mix of IT spending to achieve alignment with organizational goals, the planning team must specify cost projections, impact analyses, ROI, risks and benefits for each project proposal. This process requires a decision-support tool and cost models; many such tools are available. The planning team must then present this supporting information to the executive governing body, or IT capital planning community, for evaluation and a final decision on each proposed project.

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<sup>8</sup> Visual trace is a capability unique to the IBM solution for Enterprise Transformation.



### *Business issues*

As you formulate a revitalization and execution plan for your organization using the PPM approach, you will weigh IT considerations against business goals, giving consideration to the following key business issues:

- **Legacy applications.** *Now that you have discovered the specifics of your applications and data, your next step is to determine which legacy applications need to be migrated, made obsolete, updated with a new user interface, consolidated or completely rewritten.*
- **System integration.** *As you evaluate all systems at work in your organization, you should consider using advanced technologies to extend and integrate existing systems and applications.*
- **Geographically distributed development.** *Consider maintaining a 24 × 7 development staff, which reduces time-to-market—thus increasing competitive strengths—in addition to offering a significant return on investment (ROI) from reduced payroll costs.*
- **Mandates and standards.** *New standards may be required to ensure legislative compliance, depending on the countries where your business operates. In addition, many organizations can improve overall operational efficiency by adopting any number of standards that have emerged during recent years to support code reuse, Web enablement, business process engineering and so forth.*

The following sections take a closer look at the potential issues faced by organizations during the Plan phase.

### *Legacy transformation*

Enterprise application portfolios usually span several technologies for Web, distributed and mainframe applications. Legacy applications typically serve a processing function within the enterprise that is currently in maintenance mode; they may be based on any number of programming languages, including COBOL, PowerBuilder, RPG, C, C++ and Java. Maintaining and upgrading legacy applications represents a significant cost. Forrester research shows that between 60 and 80 percent of the typical IT budget goes to application maintenance because as employees come and go, new staff must learn how to support these legacy applications.<sup>9</sup>

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<sup>9</sup> Forrester Research. IdeaByte. “IT Trends 2003, Midyear Update: Application Portfolio Management, Web-to-Host and Legacy Modernization.” May 27, 2003.

Although these applications retain functional value for certain areas of the business, their high maintenance cost, reliance on outdated technology and misalignment with business demands add up to the need for a transformation plan. But before dismantling or replacing these applications, you need a detailed understanding of each, which can be largely accomplished through the harvesting done during the Discover phase. This process, which involves locating all source code, maintenance patches, data sources and system interdependencies, can be quite daunting. Often the developers who wrote these applications are no longer with the company and left behind only scant documentation. Those who remain may have limited insight into the application's process flow, data architecture or business logic. The Discover phase in the IBM Enterprise Transformation solution helps to reduce the time, effort and stress associated with these challenges.

When the Discover phase is complete, the primary task during the Plan phase is to address evolutionary options for each application. This process is seldom straightforward and often involves evaluating many aspects of each application, including total cost of ownership (TCO), efficiency, competitive advantage, supporting foundation, risk factors, scalability and business processing priority. As Enterprise Transformation teams evaluate these factors, they must consider business objectives to determine the most effective way to leverage existing applications. Some options to consider include:

- **Extension.** *Some systems may be effectively modernized through Web enablement.*
- **Segmentation.** *Teams may be able to construct new presentation logic that is segmented from the business logic, convert mainframe terminal interfaces to HTML and distribute various components to application server machines.*
- **Planned obsolescence.** *Some applications can be retired if they have been abandoned by a user community because they are inefficient, or if they have been replaced by other processes. Discovering obsolete applications usually reveals deserted servers hosting no-longer-needed data and functionality.*
- **Integration.** *Getting multiple applications to work together more efficiently requires development teams to address points of integration between processes and data across the business. Increasingly, teams use component architecture and Web services to centralize processing for integrated applications.*
- **Code rewrites and translations.** *In some cases, teams may choose to totally reengineer and migrate an application to a new platform, language or both.*

***Realizing a potentially substantial savings through distributed development requires dedication to process and management, a clear understanding of what types of projects to outsource and due diligence regarding vendor selection.***

A legacy transformation plan usually must contain a mix of the preceding options to satisfy—with available funding—business needs and user requirements throughout the organization. To effectively migrate, integrate and extend the application portfolio according to plan, it is important to constantly track and update application requirements throughout the development cycle as well as to continuously verify quality and manage change.

#### *Geographically distributed development*

Offshoring, a trend that began in manufacturing and retail production, is now gaining momentum in IT as geographically distributed development becomes more commonplace. The primary contributor fueling this trend is cost savings. A computer programmer in India making US\$20,000 can do the same work as an American programmer making US\$80,000.<sup>10</sup> Companies that do not consider distributed development to reduce their costs may soon be out-priced by competitors.

However, realizing a potentially substantial savings through distributed development requires dedication to process and management, a clear understanding of what types of projects to outsource and due diligence regarding vendor selection. The choice of software tools is also important: To track and communicate project requirements, map testing plans to each requirement and use models to visually demonstrate data and logic flow, the artifacts and data must be accessible to all team members everywhere. Clear communication is mandatory across geographical boundaries to ensure that the right applications are developed on time and that the correct requirements and quality specifications are being used.

Alignment of process and development tools is fundamental in achieving a high rate of return for distributed development engagements. According to META Group:

*Most IT organizations save 15 percent to 25 percent during the first year; by the third year [of offshore outsourcing], cost savings often reach 35 percent to 40 percent as companies “go up the learning curve” for offshore outsourcing and modify operations to align to an offshore model.<sup>11</sup>*

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<sup>10</sup> “Many New Causes for Old Problem of Jobs Lost Abroad.” *New York Times*. February 15, 2004.

<sup>11</sup> META Group. “Top 10 Risks of Offshore Outsourcing: Outsourcing & Service Provider Strategies, Service Management Strategies.” November 14, 2003.

***The attention devoted to communication, process and standards is an important measure of a distributed development model's effectiveness.***

Typically, projects that work best for distributed development are those that require repetition and have predictable outcomes, such as data conversions. Projects that do not require extensive decision-making during the development cycle and those that do not require knowledge of the sponsoring country's government regulations are also good candidates. Key to success for any project is addressing and understanding cultural and language differences of vendors overseas, as well as having local staff intimately involved in communication among different project and development groups.

The attention devoted to communication, process and standards is an important measure of a distributed development model's effectiveness. In particular, the Capability Maturity Model Integration (CMMI®)<sup>12</sup> is acknowledged as an effective model for obtaining standardized and repeatable results; the higher the level an organization achieves, the more notable the cost savings.

The IBM Enterprise Transformation solution relies on CMMI principles to improve the processes used by teams to create software—and thereby improve software quality. An effective process is vital to the success of a distributed development program. A process is a sequence of steps performed for a given purpose; it integrates people, methods, procedures and tools. Tools that are critical to support a uniform process for outsourced teams include requirements tracking and visual modeling tools. These tools are necessary for communicating project specifications and overall application flow. Quality assurance tools and change and asset management tools are also needed to verify code development and to track application modifications, respectively, throughout the project life cycle.

#### *Mandates and standards*

Whether your organization is subject to a government mandate—for example, the USA PARIOT Act, Health Insurance Portability and Accountability Act (HIPAA), the New Basel Capital Accord (Basel II), Transportation Recall,

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<sup>12</sup>The Capability Maturity Model Integration (CMMI) is a five-level framework for increased productivity and predictability, designed for guiding dramatic improvements in an organization's ability to increase productivity and quality, reduce costs and time-to-market and enhance customer satisfaction.

Enhancement, Accountability, and Documentation (TREAD) Act<sup>13</sup>—or adopting a new standard to improve business practices—Six Sigma or CMMI,<sup>14</sup> for example—keeping up with the avalanche of recent requirements can be a daunting task. To be successful, organizations must attain a solid understanding of each set of requirements, and then learn how to adapt their tools, methodologies and application portfolios to implement the requirements and keep organizations up-to-date.

Complying with multiple standards and mandates is challenging because each set of requirements has a different purpose and uses different terminology to specify it. In complying with one mandate, organizations must avoid implementing new systems too rigid to accommodate the adoption of a second or third set of requirements. At the same time, compliance with multiple standards should not lead to inefficiencies in individual business processes.

As organizations grapple with these challenges, many are turning to software that can help them comply with the law without adding staff. These systems can help businesses identify common threads in their operating procedures, so they can implement each set of requirements properly and the mandated controls can become visible in the operational structure.

One of the most critical mandates affecting businesses across all industries in the U.S. is Sarbanes-Oxley, which requires complete conformance. As META Group states:

*CFOs must make financial accuracy a top priority due to regulatory conditions brought on by recent accounting scandals. G2000 companies must appropriately*

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<sup>13</sup> The USA PATRIOT Act requires banks, investment firms, insurance companies and stock and commodities exchanges to put in place procedures to collect information on customers when they open accounts. The Health Insurance Portability and Accountability Act (HIPAA) requires businesses to adopt standards for the security of electronic-based health information, to be implemented by health plans, healthcare clearinghouses and certain healthcare providers. The New Basel Capital Accord (generally referred to as Basel II) encourages the banking industry to use more sophisticated risk management methodology and requires a capital minimum requirement for financial institutions. The Transportation Recall, Enhancement, Accountability and Documentation Act (TREAD) requires vehicle and equipment makers to submit reports summarizing information about consumer complaints as well as warranty, legal claims and field reports to the National Highway Traffic Safety Administration (NHTSA).

<sup>14</sup> Six Sigma is a methodology that uses data to measure and improve a company's operational performance by eliminating or preventing «defects» in process. See footnote 13 for an explanation of CMMI.

*prioritize IT projects and ensure that their current solutions provide the required financial transparency and visibility.*<sup>15</sup>

In general, many companies are unclear on how they can scope out the work necessary to become compliant, yet still manage all their other IT projects and deadlines. How long will compliance-related development take, and will they be able to meet the associated deadlines? The problem is magnified when applications that must be made compliant were developed to address a particular department's needs and are not centrally managed.

The new mandates also present auditing and bookkeeping challenges. Auditors will be looking for documents on everything: customer orders, shipments, electronic transactions, customer ID verification and more. For some businesses, this will require retooling their accounting practices and retraining their accounting staff to do the following:

- *Validate that all mandate controls are incorporated into systems*
- *Ensure that those controls are fully tested*
- *Maintain an audit trail and documentation for system audits*
- *Foster an agile development environment that can support new compliance mandates and supplements*
- *Continuously validate compliance and assess the organization's capability to handle change*
- *Assess overall project operations and budget controls*

Overall, these new regulations are forcing companies in all industries to rethink the way they manage data and business information across the enterprise. Progressive companies are now taking the opportunity to build systems that improve real-time business process efficiency and control—beyond the scope of any specific regulatory compliance requirement.

#### **One approach: Service-oriented architecture and Web services**

Faced with a portfolio of disparate systems, limited resources, reduced budgets and tighter business deadlines, companies can no longer use the old “rip and replace” approach to updating legacy applications. They cannot resolve the problems of disconnected systems with new systems. Instead,

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<sup>15</sup> META Group. “Jumping on the Sarbanes-Oxley Bandwagon: Enterprise Application Strategies, Application Delivery Strategies.” July 14, 2003.

businesses must find ways to make their current systems work more effectively. Many are now working to decipher common processes within their current system and application portfolio, and then share these processes across the board. Throughout the past decade, advances in distributed computing and component-based software development have begun to support architectural solutions that facilitate change. But the question remains: How do you rebuild applications that have already been designed and deployed so they can now support a more comprehensive business strategy?

***The value of a fully realized SOA extends well beyond the corporate firewall: It enables businesses to leverage Web services created by external service providers and develop Web services within the organization that can be offered to others.***

For many organizations, the answer lies in the latest evolution of the distributed computing and component-based development paradigm: a service-orientated architecture (SOA). Based on Web services, an SOA gives an IT organization the capability to standardize common functions used among many applications as reusable components or services. This enables developers to focus their efforts on creating unique processes within an application, because they can leverage common process functionality across systems simply by calling a Web service. For several years, SOA and Web services have been helping companies improve their IT infrastructures in this way. The value of a fully realized SOA extends well beyond the corporate firewall: It enables businesses to leverage Web services created by external service providers and develop Web services within the organization that can be offered to others.

Forrester Research conducted a survey of 75 IT executives at large North American companies to find out how they were using Web services. Internal deployment of Web services capabilities were at the top of the project list, with 83 percent of firms planning to use Web services inside their firewalls. The project breakdown for these firms planning to use Web services internally follows:

- 70 percent for application integration
- 65 percent for accessing mainframe client/server systems
- 64 percent for facilitating internal Web portals

In addition, the survey indicated that 57 percent of firms are likely to adopt customer Web services and 44 percent plan to adopt supplier Web services.<sup>16</sup>

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<sup>16</sup> Forrester Research. "Web Services Reach The Big Time." September 11, 2003.

Introducing an SOA to the IT infrastructure can deliver several benefits across the organization:

- **Agility to handle future change and support a more competitive business.** *In the current business environment, the capability to make changes quickly is paramount. IT organizations must be prepared to handle mergers that require integrating heterogeneous applications, or implement critical process updates that affect multiple systems.*
- **Greater capacity to expand business opportunities and revenue.** *An SOA environment allows companies to work more effectively with vendors and partners. It also enables them to expand distribution channels, leverage trading opportunities and improve both the quality and breadth of their supply chains.*
- **Increases in reuse and return on existing assets.** *An SOA offers the capability to leverage existing legacy applications, which is usually a cost-effective alternative to rewriting code.*
- **Easier integration of data and applications.** *With an SOA, teams can more easily develop an internal architecture of services for integration, which reduces the time and effort required for each project.*
- **Internal standards for integration.** *Variations in languages, technologies and infrastructure leads to different approaches to application integration. The use of Web services within an SOA framework fosters a standardized approach to data and process integration as well as collaboration across diverse teams.*

***The IBM Enterprise Transformation initiative can help you to modernize the way your organization does business today, and also prepare for rapid responses to business needs in the future.***

#### **Summary**

Initiating and managing an Enterprise Transformation project is by no means for the faint of heart. Rather, this is an effort requiring dedication, discipline and a cohesive team. The team must be willing to pioneer through the Discover and Plan phases to establish the state of the enterprise and map out a strategy for its transformation. Once these phases are complete, the team can then enter the Develop and Deploy phases, in which the plan is executed and finally transitioned into business operations.

A successful transformation plan is usually accompanied by a comprehensive set of tools to facilitate process and development through each phase. The best tools serve as a guide through a process of best practices at each step, assisting you with discovering your assets, mapping out a business model to communicate the steps of your project, and tracking requirements for each development project. The tools also should help you code applications, plus



model and test all aspects of your transformation effort, while helping you manage and track changes throughout the process.

The IBM Enterprise Transformation initiative can help you to modernize the way your organization does business today, and also prepare for rapid responses to business needs in the future. It helps you create a well-designed structural foundation that fosters business resiliency, enables you to meet business goals and keeps you ahead of the competition.



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Route 100  
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June 2004  
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G507-1004-00

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