Improving IT Operational Efficiency
Overview

In today’s highly complex and competitive business environment Information Technology (IT) plays an important role in automating processes and tasks within organizations. It provides the infrastructure to facilitate communication and share information across organizational boundaries.

Responsiveness and flexibility are major challenges in an increasingly dynamic world, where it is necessary to focus business activities based on client preferences. Speed to market in itself provides a competitive advantage. While IT provides support for core business processes, it must also support legacy systems, new technology (for example, wireless) and new areas of business investment, such as virtual marketplaces. The challenge resides in reducing operational costs while preparing for next generation technologies. Each incremental investment in new technology must deliver immediate value and be leveraged by a larger portfolio of services that supports the IT strategy.

As IT organizations struggle to meet competitive business needs, they can become fragmented and dispersed by providing a growing collection of unique solutions. The result is an infrastructure that is increasingly complex and difficult to manage. They are facing mergers and acquisitions, facilities expansion, joint ventures and consolidation in a global market that demands a faster return on investment (ROI). In spite of these increased demands, they need to respond swiftly to client needs.

The most vexing problem for IT executives in this industry is how to maintain the current environment with smaller budgets, increased services, and investment in new business initiatives. Figure 1 shows an example of the results of surveys conducted in 2002 and 2003 about annual IT spending in the Consumer Products Industry. There is every expectation that these trends will continue. The budgets that are available for new development are being dramatically reduced to offset growing IT operational costs.

Figure 1: Consumer Products Industry IT spending survey results from 2002 and 2003
The answer to this seeming paradox is to reduce the complexity of the environment and create a more agile and responsive IT environment, which is also easier to manage. By reducing complexity, portions of the resources and budget that are spent on operating and maintaining existing systems can be redirected and re-invested back into new technology, services, techniques and strategic IT opportunities to run the business faster and more competitively. Figure 2 shows how every 1% reduction in operations costs can yield up to a 4% uplift in the application development budget. The infrastructure value-cycle works by using infrastructure cost reductions to fund application development capabilities.

Figure 2: Infrastructure value-cycle for cost reductions

**Operational efficiency**

Operational efficiency helps improve IT value by reducing and avoiding costs, improving agility and enabling the reallocation of investment dollars for new IT-enabled business initiatives. Actions are taken in both technical and management areas designed to help reduce complexity, improve productivity, manage risk, streamline IT processes and use proven technology and tools to support the IT environment. The ultimate goal is to have an IT environment that is efficient, flexible, scalable and adaptable in a business that requires quick responses to client needs and changing market conditions.

To achieve these benefits, it is necessary to develop a strategy and roadmap to help exploit best practices, standards, technology and tools. A complete roadmap takes into account when it makes the most sense to invest or avoid investment in a given technology. It also accounts for the impact of not investing. This strategy should address how to improve major processes and boundaries, ownership, staffing and IT relationships. It should also address
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Key business imperatives

Businesses in all industries, globally, are seeking ways to streamline their IT environment and operations. IT organizations continually face changing business requirements and demands for improving service levels. They need to find quick wins in the short term to demonstrate credibility and build momentum, but then face increasing pressure to maximize and sustain savings. They must make difficult decisions about investments in new technology and about the challenges of quickly adapting to technology changes. The ultimate goal is to remain competitive in chosen markets, increase profitability and respond to new opportunities.

Generally, four business imperatives become the areas of focus:

- Align IT investments with business needs: — What is the relevance of the IT environment and processes to the business goals? Does the IT environment support the competitive needs of the business?
- Simplify IT infrastructure: — Are the technology hardware and software, applications, communications and professional skills enablers or constraints? Can you do things differently to respond better to changes in business requirements and improve time to value for IT investments?
- Drive cost out, and improve productivity and ROI: — Can you reduce costs by consolidating or eliminating hardware and software and by automating system upgrades or replacements? Can you enhance productivity by leveraging resources more efficiently against business objectives?
- Streamline and enhance IT processes: — Can you standardize, simplify, and automate IT processes for productivity and quality of service improvements?

Align IT investments with Business Needs

Businesses must be able to make solid IT investments by aligning IT systems with business requirements and identifying future IT requirements. They must also understand current IT efficiency against others in the industry and establish baselines for measuring improvements.

The foundational elements of business and IT alignment are:

- Creating an efficient business - driven IT operational model that delivers effective IT services

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**Highlights**

A comprehensive strategy can help improve operational efficiency by exploiting best practices, standards, new technology, and tools.

**IT managers are focusing on four key business imperatives to help become operationally efficient**

- Align IT investments with business needs
- Simplify IT infrastructure
- Reduce cost and improve productivity and ROI
- Streamline and enhance IT processes
• Deploying relevant measurement and reporting systems to manage those services

The involvement of IT early in the planning process can enable an organization to better leverage existing investments, negotiate more aggressive contracts with suppliers and help prevent unplanned or last minute purchases, which at times are not fully used.

Reviewing the IT environment through industry benchmarking can help businesses determine where to allocate funds to more effectively meet growing needs and increase the potential to deliver expected ROI. A rigorous comparative analysis, based on industry best practices, and qualitative and quantitative data evaluated in the context of the IT strategy can identify opportunities to improve the existing IT infrastructure. It can also demonstrate the value of IT to the business, identify requirements for IT service delivery enhancement and create a cohesive and prioritized plan. This comparative analysis should take into account comparable industries with similar strategic IT objectives.

Simplify IT Infrastructure

Many businesses today face uncontrolled growth and complexity of the IT environment. The problems caused by both growth and complexity are exacerbated by a lack of standards, inefficient utilization and deployment of assets, and a lack of asset management and capacity planning. They are also ignited by organizations outside the IT organization that make IT infrastructure decisions, complexity created by duplicate data on disparate systems, and challenges posed by mergers and acquisitions. These forces all cause waste through redundancies and inefficiencies, unplanned adoption of changes in technology, and reactive adjustments to reduction in budgets. Technology is applied to improve productivity and processes, but it is typically implemented with limited consideration to the requirements across the entire organization.
Figure 3 shows how the IT industry has arrived at this point, and the relationship between cost and complexity of the IT environment. This causes inefficiencies, stalemates and frustrations across organizations.

Figure 3: IT infrastructure requirements versus complexity and cost

In response, various business units are increasingly involved in IT decision making. The vast majority of decisions are made collaboratively, including key suppliers and clients. The ultimate goal of the IT organization should be to improve efficiency, productivity and communication while lowering total IT costs. To achieve this objective, the IT organization must maximize the usage of existing computing resources, reduce the complexity of IT and develop a more flexible IT infrastructure to meet business demands.

Drive out cost and improve productivity and ROI

IT organizations find that they spend too much time on management and maintenance of existing systems and do not have the capacity to support changing business needs and new opportunities. They are looking to invest in enabling technologies that take the complexity out of managing their systems and allow IT managers to focus on improving service to the business. IT organizations need to find other methods of managing issues. For example, they need to manage where and when excess capacity can be used, uncontrolled growth of servers, how to service peak workload demand spikes, missed service levels, and system upgrades.

To drive out cost and improve productivity, businesses need to focus on areas of potential rapid cost reduction, and reinvestment of those savings with a focus on ROI improvement. IT productivity initiatives, such as consolidation elimination, automation, system replacement or upgrades and targeted out-

Expenses of core IT operations can be reduced by improving productivity in the IT organization and maximizing your IT investments.

Highlights

- Reactive cost cutting
- Weak asset and financial management
- Proliferation of servers
- Transformational business software packages
- Dot.com spending
- M&A pressures
- Y2K defensive spending
- Competing technical models

Today’s Infrastructure

- Complexity
tasking, can deliver reallocation of people, processes, technology and assets. However, they must be implemented in the context of their impact on the entire infrastructure. Failure to invest the time in considering the entire infrastructure can result in individual areas of fragmented investments for duplicate requirements, such as support, power and space.

Streamline and Enhance IT Processes

IT organizations are aware that improving productivity requires more than simply people being more motivated and efficient at their jobs. It requires that IT knows its key component parts. It also requires that IT can make each of these components work in the simplest way possible, and work more efficiently with each other. IT executives are taking a hard look to identify which business processes require improved internal expertise and which are better left to outside vendors to optimize.

People have more work to do than ever before and are looking for ways to be more productive. Improved collaboration, elimination of duplicate tasks, better planning and management skills and automation of repetitive tasks are all initiatives that can allow people to contribute to the business in a more effective way.

IT organizations today are finding a need to implement best practice processes that will scale with the present and long-term needs of their business. The Information Technology Infrastructure Library (ITIL) is an example of a best practice framework, and is gaining popularity worldwide. The IT processes must not only address task improvements, but also align with related strategies and goals, define an effective governance model with clearly defined organizational roles, and provide adequate control measurements. The design should optimize tool investment through process automation. The IT organization must develop an adaptable, flexible, and scalable process management system to meet current and future needs.
How to achieve operational efficiency

In what ways can your IT environment be streamlined? Based on our experience, we have identified seven key interrelated areas (domains), as shown in Figure 4, which can help determine opportunities to increase operational efficiency. Although some may be more important to your organization than others, and some may already be addressed by your organization, all should work together. Obtaining sustainable efficiency requires an in-depth, “holistic” view of the enterprise.

IBM Global Services offerings are strategically aligned to each of these domains to drive significant value and help your IT environment become more efficient and less complex, resulting in reduced costs.

Figure 4: Seven domains

IBM Global Services can help:

- Determine the proper alignment between business and IT strategies
- Create the basis for improving design and investment priorities
- Provide the foundation for the balanced scorecard, which can help to provide the framework to connect IT value with a business strategy to better accelerate and increase the accuracy of future investments

Strategic Alignment

Given today’s highly complex, competitive and on demand business environment, IT can easily become fragmented, difficult to manage and disconnected from the overall business. Examining your strategic alignment with business goals, both within the enterprise and with the lines of business, offers a way to help your IT organization significantly increase the perception of value from your IT investments. Proper alignment helps to ensure that investments are targeted at the most critical business needs.

IBM can help you to identify significant opportunities for improving your IT environment by reviewing your current IT architecture and planned and funded IT projects. We can also help to assess the full range of IT and business
assets. This assessment can help businesses to make decisions about relocating data centers, consolidating servers, or developing new management processes, all with an eye toward helping you make the most of your current resources. By determining the degree to which your current IT infrastructure and services meet business needs, we can help you identify improvement initiatives to increase the business value of your IT Infrastructure investments.

**Process**

The IT environments of today present relentless challenges for IT professionals to manage and control. Effective IT infrastructure management processes, supported by technology, are needed to help contain or reduce escalating costs while consistently providing optimal customer service. Infrastructure management requires technology-enabled processes that are backed by skilled professionals with easy access to the latest technical information.

IBM Global Services has extensive experience in developing and implementing processes and technology solutions. We have services to advise and assist you in developing a world-class IT management system through the integration of people, process, technology and data. We can provide a framework for efficient management of your IT infrastructure, helping to lower the long-term cost of IT services and improve the quality of IT service delivery.

IBM Global Services combines best practices, standards, process activities, policies, skill sets and the procedures needed to execute a given process. These services, together with practical training on how to use the solution to enable the IT team, help improve efficiency rapidly and the quality of IT infrastructure performance. Proven methods for assessment, design, and implementation of IT management best practices are combined with open frameworks such as the ITIL, and a repository of best practices that have been adopted by major organizations.

**Computing systems and storage**

Many IT environments today are suffering from the effects of years of uncontrolled growth, including disparate and incompatible architectures. Typically there are also multiple data repositories that contain overlapping fragments of client, vendor, asset, and product information. Each architecture has unique operational requirements that demand more skilled staff and consume ever increasing amounts of the IT budget. Even if businesses could come up with enough skilled people, the complexity is growing beyond human ability to manage. As computing evolves, the overlapping connections,
dependencies and interacting applications call for administrative decision-making and responses faster than any human can deliver. In fact, the growing complexity of the IT infrastructure threatens to undermine the benefits that IT aims to provide.

When considering changes to the infrastructure, IT organizations really should consider improving and simplifying their enterprise architecture and begin to integrate all of their disparate systems. Done properly, centralization can improve the flexibility and adaptability of the IT environment. Done poorly, it can create a brittle infrastructure, which is difficult to change, and may be viewed as an operational obstacle.

IBM Global Services can help you make and sustain improvements in your server and storage environments. We can help you to reduce complexity in your IT Infrastructure to improve performance and to increase adaptability to facilitate growth and change in the business.

Our complete data center services are versatile and can include assistance in a variety of areas, -- from design and planning, procurement, installation, integration and migration assistance to systems management, telephone consulting and on-site hardware and software maintenance. Our services are designed to help streamline your operations, reduce complexity and simplify vendor management. They help to improve availability, reliability, performance, and end-user satisfaction.

Applications and Data

The application portfolios of many IT organizations reflect the impact of uncontrolled growth. They are a mixture of point solutions, packages and legacy applications. They often provide duplicate functionality to disparate parts of the organization. They typically inhibit, rather than help, to leverage information across the enterprise. Government regulations can impact the type of data to be retained and how it is shared, by defining new requirements for storage. Without a clear understanding of the interdependencies that exist across applications and within the underlying infrastructure to support a given business process, organizations cannot safely make decisions about how to distribute workload to increase resiliency or invest in making the more resilient environment more efficient.

From a technology perspective, it is important for IT organizations to make optimal investments to maintain applications and data delivery to dispersed business units. However, data that must be shared via applications across
units must be coordinated and managed to meet current business operational requirements and future technology upgrades and changes. The business needs to determine if data assets can be used better to support decision-making and determine whether applications manage content as expected.

IBM Global Services can help first by examining the contents of the application portfolio to determine if its contents reflect the true needs of the business. Then we can help by improving the solution architecture, by designing it to more easily integrate data from disparate sources. We can also help by designing smooth and reliable migration to a streamlined and more easily managed environment.

In addition, executives faced a significant challenge: how to deploy reliable peak-performing business solutions to support growth and a positive ROI. The complexities often require a focus on performance planning. This verifies whether the applications are capable of supporting critical business processes, massive data transactions and simultaneous communications, while supporting government regulations. IBM Global Services can help to validate the performance and capacity of existing and planned business solutions.

Our application simulation and testing services can help you integrate testing into all phases of your software development projects to support delivery of a fully tested software solution on time and under budget.

**Network**

As the world’s marketplace continues to expand and increasingly rely on Internet technology, the network infrastructure has become an important component of global business. Today’s business and technological advances require a responsive network infrastructure that is designed to control costs and reduce risks to the business. At the same time, the infrastructure must enable the ability to seize new business opportunities. The issues facing the network domain of today’s IT environments are similar to those faced by the other domains: uncontrolled growth, incomplete mergers and acquisitions, fast paced technology changes and increasing security risks.

IBM Global Services can help deliver an intelligent network infrastructure that allows companies, regardless of size, to manage their IT investments and support their business objectives. We deliver next generation solutions for On Demand Business anywhere in the networking life cycle, from network...
consulting and integration to total network outsourcing. Through our numerous alliances, including Cisco Systems and AT&T, we can leverage emerging advances in optical, wireless, IP convergence, security and intelligent networking to deliver joint, best-of-breed solutions that can access key markets and technologies.

In addition, IBM offers scalable solutions to help you simplify network operations. Focus is on the traditional disciplines of network management, asset monitoring, performance reporting, and problem, configuration and change management. This provides an attractive alternative to expending the funds and employees to perform this work in-house.

**Organization**
Support comprises one of the largest cost drivers incurred by any IT organization. Given that, the ability to optimize this domain is critical when following a roadmap to become more efficient. Today's IT organizations face a dizzying pace of change. They must have education on new technologies and increased knowledge of the business processes they are supporting. Support service is one of the largest cost drivers incurred by an IT organization. IT organizations need to understand these challenges, and be able to constantly transform themselves through the use of effective organizational change management techniques. Also, the increasing trend of leveraging a remote workforce makes both the opportunities and the challenges, more significant.

IT organizations need the skills and knowledge to leverage business and technology opportunities. As IT organizations become more efficient, there are changes in workload balance, job responsibilities, and skill requirements. Improvements in IT operations do not always lead to the elimination of staff, but rather the redirection of knowledge and skills to value added tasks. Ultimately, the ability to focus the right number of staff on the right activities will make an organization more efficient.

IBM can help your organization understand the skills that you have, the skills that you need, and develop effective education and training strategies to meet those needs. We can also help design an effective organizational structure, including the governance needed to help address today's complex business challenges.

**Finance and environment**
IT executives constantly face the challenge of delivering greater value to
their organizations, while maintaining or reducing costs. There may not be a centralized IT general ledger to control IT investments, a centralized procurement and sourcing strategy, or a complete understanding of what drives the demand for IT services. It is becoming increasingly important for IT to construct flexible operational and cost models that define and allow them to work together with all business units, every day, at every level of the organization.

IBM can help IT executives tackle that challenge by looking at value and cost measurements, analysis techniques that identify and validate management and investment decisions, and management processes that provide ongoing control and improvement.

Our IT Cost and Value services can examine your IT general ledger and budgeting and procurement policies to help gain more from your IT budget. We can help IT organizations design financial allocation methods to determine the appropriate technique to assign IT costs to clients such as allocation, usage based assignment, service and product or direct ownership. We can also help implement the technology to capture the appropriate measures or metrics to help understand and control the demand for IT services.

In addition, many of today’s IT environments reflect the impact of partially completed mergers of multiple organizations. There may be no overall strategy that defines a target environment to guide migration activities. From a technology perspective, it is important for IT organizations to make optimal investments to maintain and deliver data that is dispersed within different business units.

Our data strategy and placement services can help determine the right number and location of datacenters, and then design a migration plan to get you there. IBM Global Services can help to develop a strategy that determines the areas of investments (vendors, hardware and software, and IT infrastructure) and delivery and service requirements. An IBM assessment includes technical modeling, options, analysis, scenario selection and transition planning. During implementation IBM can provide guidance to help lessen disruption of operations during transitions. IBM provides highly skilled data center
specialists with hands-on experience in designing and supporting data centers.

**Conclusion**

IBM has a wide range of services that are designed to help you to improve your IT environment. We have services that can help you to align hardware and software systems, simplify, standardize processes, reduce redundancies and combine workloads to streamline your operations. We can also design automation to help reduce and avoid costs. We take advantage of best practices, proven technology and tools to deliver effective IT systems and management.

IBM Global Services is a premier business partner founded on the quality and experience of the IBM Global Services workforce. IBM provides unique value with expertise in technological innovation and leadership through delivery methodologies. We have in-depth industry expertise and knowledge, with an extensive portfolio of service offerings. IBM has working relationships with many of the best technology companies in the industry. We have a proven track record in applying the right technology with years of experience. And, we have an unsurpassed global reach that ensures our ability to scale for even the largest clients.

**Talk to us**

IBM Global Services specialists can help you with IT Operational Efficiency initiatives. Visit our Web page at:

http://www.ibm.com/services/its/efficiency