



## IT Optimization: Driving Infrastructure Value

*“Faster, better, cheaper has always been infrastructure’s mantra, but in the past, I’ve only had to focus on one or two of these mandates (usually cost) at any given time. Now that the business is attempting to grow, infrastructure is facing enormous pressure to improve on all of these metrics simultaneously while also increasing scale.”*

*– SVP Infrastructure, CPG Manufacturer <sup>1</sup>*

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### Introduction

Optimistic predictions of corporate growth in 2005 and beyond reflect executive aspirations to increase top-line revenue while driving down operational costs. Information technology (IT) leaders are charged with directly supporting this balanced growth strategy, facing pressure to expand the volume and breadth of services while simultaneously reducing costs. Given the dramatic impact of IT infrastructure spending on the corporate bottom line - a 5 percent reduction in the typical infrastructure budget can generate up to a 1 percent increase in net income<sup>2</sup> - the need for effective optimization of infrastructure management has never been more acute.

Three key trends<sup>3</sup> have heightened the urgency for IT organizations to shift from their traditional technical focus, to one that delivers services optimally to its business customers:

1. Increased scrutiny of IT value, as business executives focus on IT as a budget area for company financial savings
2. Heightened visibility of external IT service alternatives, as outsourcing offerings mature and third-party providers promise higher service levels
3. Increased scope of responsibility, as the business's cost per each hour of IT downtime increases

As a result, IT executives are facing new and oftentimes conflicting mandates to satisfy the unrelenting business demand for new services, including adherence to regulatory requirements such as Sarbanes-Oxley, to support higher levels of business resiliency, and to manage larger transaction volumes:

### Operational Efficiency— *squeezing every last dollar*

Despite returning economic optimism in 2005, many businesses continue to pursue aggressive cost-containment initiatives to improve profitability. While IT's focus on cost-cutting over the last few years has yielded substantial unit cost reductions, unchecked business demand for increased service quality, volume, and functionality has driven total infrastructure spending upward. In order to deliver additional cost-savings, IT will need to truly collaborate with business customers and proactively manage demand growth while simultaneously identifying unexploited savings opportunities.

### Business Resiliency— *no time for downtime*

With increasing reliance on IT-enabled solutions to support core business functions, IT faces tremendous pressure to improve systems availability and service resilience. While not new, this mandate stems from the flood of new security threats, highlighting the inadequacy of current risk management strategies, and from the rapid increase in the scale and scope of infrastructure services, exposing the shortcomings of nonstandard or ad hoc operational processes.

### Flexible Technology Portfolio— *size without scale*

Rapid IT expansion in the late 90s left many IT organizations with complex technology infrastructures composed of numerous legacy platforms connected by a network of middleware and point-to-point solutions. Such technology heterogeneity thwarts IT's ability to rapidly provision new services. With business aspirations for growth in 2005 and beyond, IT faces pressure to simplify the existing infrastructure while creating a services portfolio that can quickly adapt to changing business and technology conditions.

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*“I feel that I am trying to land a plane without landing lights because of the fragmented nature of the company’s operating platform and the lack of consistent information to manage the business.”*

– CEO, US Insurance Company <sup>4</sup>

### **Infrastructure: A Function in the Ascendant**

From e-mail to product development to customer relationship management, IT is now critical to virtually every aspect of the modern corporation. Moreover, business leaders are emphasizing top-line growth initiatives and are relying on their Chief Information Officers (CIOs) to rapidly provide the supporting technologies to enable such objectives. As digitization of the business continues to expand and as company revenues and reputation become increasingly dependent on IT, a fundamental reliance on the IT infrastructure — servers, networks and applications; Web sites, internet and intranets; security features and e-mail solutions; plus data centers and storage sites — is emerging. Just as a manufacturer or retailer focuses on improving operations efficiency, improving customer satisfaction and launching new products, IT must also focus on improving its vital infrastructure management capabilities.

The new mandates call for going beyond reducing infrastructure costs through consolidation, standardization, and improved asset management. IT exemplars are aspiring to transform their organizations into true service management functions by better aligning delivered services with business needs, while simultaneously increasing the productivity of infrastructure operations. Achieving this goal requires more than simply optimizing the efficiency of technology silos and individual services — it requires an optimization approach that looks at the entire infrastructure with a business lens.

*“The role of the CIO has changed from what mainly used to be overseeing data processing or managing information systems. In the days of data processing directors, their role was much more focused on running the data center environment. Today, the CIO has become a clear guardian of the information and is expected to stand for the integrity and validity of the data. Now more than ever, CIOs are being held accountable for driving the business value...to be involved not only in strategy development but also in business and product innovation.”*

– Gregor Bailar CIO, Capital One Financial Corporation <sup>5</sup>

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### The IBM Answer: IT Optimization

In response to the overwhelming complexities involved in evaluating, rationalizing and optimizing an IT organization, IBM has formed a single point of contact organization for an enterprise's IT optimization needs. This team leverages the vast scope of IBM Global Services — capabilities needed to understand your business, combine your data centers and servers, rationalize your networks, integrate post-merger infrastructures and more — all controlled by you via an IBM-staffed and managed Program Office. This single focal point brings together the many, often disparate, views of IT value into one holistic optimization program. Through a series of prioritized initiatives, centrally managed, your optimization goals can be achieved more quickly and successfully than with discrete projects.

### Provider Profiles: How IT serves the Enterprise

Even in today's always-on, always-connected world, companies differ widely in their relationship with IT. Before executing an optimization initiative, it is crucial to characterize how a company relates to and leverages IT.

In many large enterprises, various departments will have a different definition of "IT value" and fundamentally want the IT organization to serve different purposes. It is important to acknowledge and weigh these competing value requirements when developing appropriate optimization strategies.

Four distinct value profiles describe these varying perspectives (see figure 1):

- **Commodity Profile** — An enterprise fitting the Commodity Profile views IT services as a basic investment for automating fundamental administrative functions at the lowest possible cost. In optimizing a commodity-framed IT organization, the primary focus is on lowering expenditures.

- **Utility Profile** — The Utility Profile fits companies that are still primarily focused on cost, but acknowledge the importance of building customer relationships. These businesses may want to use IT optimization to work on service-level agreements, response times, availability and other customer-focused issues.
- **Partner Profile** — The Partner Profile describes an organization in which IT is valued at the business level. While cost is always an issue, the emphasis is on the business benefit derived from an investment in IT. In these situations, business units partner with IT organizations to achieve overall quality of service and bottom-line business goals.
- **Enabler Profile** — Companies in which IT is an important element in the development of business strategy fit the Enabler Profile. In these businesses, IT initiatives drive business strategy and are viewed as essential to achieving a competitive advantage.

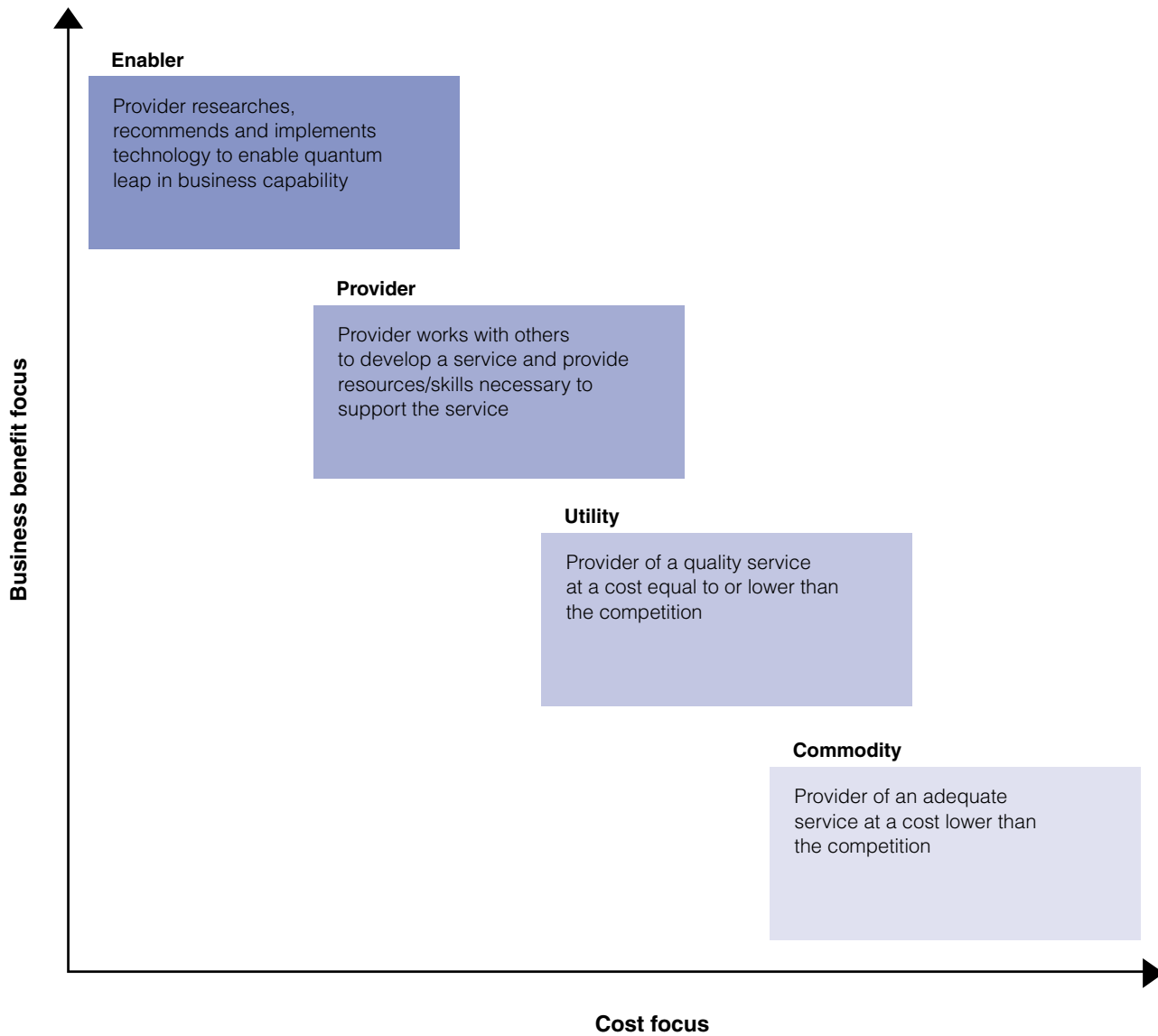
The true challenge in deciding which optimization activities to undertake is that, in many environments, IT is asked to take on aspects of all of these profiles — based on the varying requirements of different business units. Understanding these differences, and learning to balance and prioritize them, is a critical step in making successful optimization choices.

*“As more business functions become IT enabled, we are in a unique position to help the business monitor key business processes and eliminate redundant manual effort through automation. We realized that we should not rest on our laurels on optimizing performance of IT components. We had to look at things top-down—starting with the business process lens, and not vice versa.”*

— CIO, Financial Services <sup>6</sup>

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Figure 1: IT Value Profiles



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### The Balanced Scorecard

To establish what the internal business, external customer, overall financial and innovation/learning perspectives are for the client organization, IBM IT Optimization teams use the widely accepted Balanced Scorecard<sup>7</sup> framework.

All IT Optimization analyses and conclusions are then structured into this framework, which is used as a way to connect the many optimization decisions and build a comprehensive business case. The Balanced Scorecard framework is then used as the foundation for the optimization plan and to establish priorities for all proposed initiatives, to track progress through implementation and to measure what matters most — results.

*“In the past, we’ve tended to take a more internally focused view of IT with our metrics to determine things like data center or network availability. However, customers don’t necessarily care about what is causing a network outage, but more about the fact that the system is down. ...Now we’re attempting to measure ourselves on things business people think are important.”*

— Manager of Global IT Metrics, Electronics Company<sup>8</sup>

### Characteristics of IT Optimization

An early step toward IT optimization is one of simple but crucial evaluation: In what ways could your company streamline and advance its position? In what areas — technology infrastructure, organization or process — could your business effect such transformation? Only by evaluating and understanding what your business wants to accomplish as an enterprise can you effectively work with IT to achieve your goals.

An IT infrastructure consists of both management and technical components. These components can be further segmented into seven discrete, interrelated “domains” which collectively define the potential areas of analysis and applied expertise. Because of their general applicability, these domains permit quick linkage to methods, tools and practitioners who can integrate them into a cohesive approach. Management domains, including Strategic Alignment, Process, Organization, and Finance and Environment, are those that apply to the structure and decision-making processes of the IT organization. Technical domains, including Infrastructure, Network and Applications and Data, are those that apply to the physical and logical elements of the infrastructure itself.

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## The Management Domains

### Strategic Alignment

- establish an understanding of your current and prospective business drivers
- document the alignment between business and IT strategies
- create the basis for optimization design and investment priorities
- provide the foundation for the Balanced Scorecard

### Process

- analyze the extent to which the management system is formally defined and measured based on the IBM Process Reference Model for IT (PRM-IT)
- assess the effectiveness of the management system; examine process ownership, efficiency, effectiveness and consistency
- help determine your preparedness for implementation

### Organization

- establish an understanding of the current organization structure
- provide a foundation for change management
- examine roles, responsibilities, skills and change readiness

### Finance/Environment

- identify financial management system improvement opportunities and validate or refute the optimization financial justification
- establish cost and benefit business case
- examine IT general ledger, budgeting and procurement policies, data center placement, and regulatory issues

## The Technical Domains

### Infrastructure

- inventory and assess the mainframe, server and other technology platforms, as well as the overall management system for the data center environment
- examine architectures, hardware, and system software

### Network

- understand and assess the voice and data network design, as well as the associated network management standards, procedures and policies
- examine topology, utilizations and sourcing

### Applications and Data

- understand and assess the application portfolio and supporting data
- examine application diversity, portfolio composition, data diversity and business process alignment

As opportunities for efficiency and effectiveness improvements often span multiple domains, the individual domain perspectives should not dominate the design or the optimization plan. Each domain can apply to any or all IT value propositions (see figure 2). All aspects of these domains must be considered when creating the design. The key to a successful optimization plan, however, is its holistic nature — the total must be greater than the sum of the parts. All seven domains are essential to an IT optimization effort; each should be actively explored or held constant and not ignored.

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**Figure 2: Management and Technical Domains Apply to All Value Propositions (Example)**

	Management Domains				Technical Domains		
	Strategic alignment	Process	Organization	Finance and environment	Infrastructure	Network	Applications and data
<b>Enable new business capabilities</b>							
Enable an adaptable IT infrastructure	●	●	●	●	●	●	●
Maintain data more effectively	●	●	●	●	●	●	●
<b>Improve internal efficiencies</b>							
Optimize use of IT assets	●	●	●	●	●	●	●
Establish global consistency of IT management	●	●	●	●	●	●	●
<b>Reduce overall IT cost</b>							
Reduce total IT spending	●	●	●	●	●	●	●
Streamline technical architecture/vendors	●	●	●	●	●	●	●
<b>Promote customer satisfaction</b>							
Provide consistent service delivery	●	●	●	●	●	●	●

Primary focus ● Secondary focus ●

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### The IT Optimization Engagement Approach

While the engagement approach is specifically tailored to your company's particular requirements, a universal template exists that effectively describes the teamwork in this offering.

First, a high-performance team of IBM IT Optimization experts engages with your senior management to understand your business strategy and develop a complementary IT optimization strategy. This assessment portion of the engagement — called Solution Framing — begins with explicit business and IT strategy discussions that will result in an initial business plan for optimization and the development of the beginning elements of the Balanced Scorecard. Once the overall objectives are determined, a high-level optimization plan is developed, including a prioritized set of initiatives to attain those objectives, and the potential rewards if they are successfully implemented. This Solution Design phase serves to evaluate and acknowledge what opportunities for optimization exist. The magnitude of such opportunities is determined next, before more significant investments are made. The resulting optimization plan serves as the blueprint for the Transition Planning and Governance of the overall of the overall optimization program. Extending through Solution Delivery, the Program Office manages combinations of skills from within your organization, IBM and third parties, to implement the optimization plan.

From within the Program Office, the focal point for all optimization project management and decision-making, a dedicated IBM IT Optimization Principal will oversee the engagement through delivery. Resources within the Program Office will help you not only with the technical aspects of implementation, but also with the management systems aspects including critical organization change issues. With the help of the IBM IT Optimization team — and the active

collaboration of your organization's business and IT experts—you can evaluate, validate, plan and establish a streamlined, resilient and adaptive IT infrastructure, ready to support your enterprise.

### IBM IT Optimization: An Alliance

Our innovative approach to optimization is an alliance—one in which a dedicated IBM team commits to a level of performance all the way through until the optimization recommendations are implemented and results are achieved. For some select initiatives, shared risk/shared benefit implementation contract arrangements may be possible. Together with IBM, you can define an implementation relationship governance structure that is designed to balance your external investment levels and timing with reductions in program or project risks. During the assessment phases, an optimization solution is designed based on your business strategies and priorities. The output of these phases is a series of initiatives that leads to detailed design and implementation activities. IBM could support the execution of these IT transformation activities in a number of ways:

- **As a Consultant**, IBM would provide the best available expert assistance as required on a time and materials or other standard consulting contract basis. You manage all the risk.
- **As a Co-Manager**, IBM would assume responsibility for selected projects as part of an overall transformation assistance program. You now start to offload some risk to IBM.
- **As a Co-Sourcer**, IBM would take on responsibility for designing and implementing a comprehensive IT transformation (or significant portion thereof) including interim service delivery in preparation for redeployment back to you. This scenario transfers even greater risk to IBM, while you still maintain overall ownership.

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Additionally, IBM financing is available to supplement your own investment dollars and rearrange cash flow to fit your needs.

By joining IBM in this collaborative venture, you may achieve more rapid and successful execution than could be expected with in-house optimization resources — all thanks to the world-class disciplines, skills and experience IBM brings to the table.

### Success stories: IBM on IBM

IBM's transformation was not an event, but a journey — one that is taking place in the midst of greater turbulence and volatility than businesses have faced in more than half a century. IBM's story, though in many ways unique, mirrors the aspirations and challenges faced by many leaders of businesses and institutions today. As did most other companies, IBM leveraged the Internet and global connectivity to simplify access to information and enable simple, Web-based transactions. The company took steps to integrate processes both within the business and among a group of core clients, partners and suppliers. That was a huge effort — and yet by late 2002 it was clear that the real journey had just begun. While IBM reaped enormous efficiency gains, it had yet to challenge long-accepted practices, processes and organizational structures that limited its — and most other companies' — options in the face of globalization, industry consolidation and disruptive technologies.

The answer lay in a new computing model and in a new business architecture called on demand. IBM has committed itself to becoming not simply a case study, but a living laboratory for On Demand Business. The company identified key business characteristics — horizontally

integrated, flexible and responsive — and the IT infrastructure needed to produce its enterprise transformation — integrated, open, virtualized and autonomic. IBM has focused on tackling the complex issues surrounding significant changes to essential business processes, organizational culture and IT infrastructure, and worked to find new ways to access, deploy and finance solutions.

Today, IBM is hitting a new stride — the company continues to operate in a highly disciplined manner, focusing on increased productivity and IT optimization to drive bottom-line earnings. Because this is precisely the type of growth that tops the majority of CEOs' agendas, many will find IBM's story particularly timely and relevant.

IBM's optimization journey is continuing by applying one of our newest analytic frameworks, the IBM Component Business Model for the Business of IT (see figure 3). This framework continues the tradition of an holistic depiction of IT, but at the same time, the componentized nature of the model allows a much more granular examination. Each component within this model is defined to produce discrete elements of the overall IT services portfolio. Based on the specifics of the business and IT strategy, individual components can take on key, differentiating importance to the attainment of your business objectives. In concert with senior IT leadership, the IT Optimization team assists in identifying which of these components is truly differentiating in your situation. The team then examines resource allocation, including budgets, applied to each component, to determine whether organizational resources are focused on those components that truly make a difference. In some cases, consideration of sourcing alternatives may be in order along with exploring ways to increase efficiencies through automation of IT management processes.

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**Figure 3: The IBM Component Business Model for the Business of IT**

	IT Customer Relationship Management	IT Business Management	Business Resilience	Information and Knowledge Management	Service and Solution Development	Service and Solution Deployment	Service Delivery and Support
Directing	Business Enablement Service and Solution Strategy	Business Technology Strategy	Business Resilience Strategy	Information Management Strategy	Development Strategy	Deployment Strategy	Services Delivery Strategy
		Enterprise Architecture	Regulatory Compliance Strategy	Knowledge Management Strategy			IT Support Strategy
		Portfolio Management					
		Technology Innovation	Integrated Risk Strategy				
Controlling	Business Performance Planning	Financial Management	Continuous Business Operations	Information Architecture	Services and Solutions Lifecycle Planning	Change Planning	Operations Planning
	Demand Management	Business Technology Performance and Value	Regulatory Compliance	Information Resource Management			
			Integrated Risk Management		Services and Solutions Architecture	Release Planning	Infrastructure Resource Planning
	Communications Planning	Human Resources Management	Security, Privacy and Data Protection	Knowledge Resource Management			Support Services Planning
Executing	Business Performance Management	IT Financial Management	Business Resilience Remediation	Content Management	Service and Solution Creation	Change Implementation	Support Services Management
		Staff Administration and Development					Infrastructure Resource Management
	IT Services and Solution Marketing	Supplier and Contract Administration	Regulatory Compliance Remediation	Knowledge Capture and Availability	Service and Solution Maintenance	Release Implementation	Infrastructure Operations

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*“Early on, we focused on reducing cost and expense. We had to in order to survive. But today, our focus has shifted from reengineering to reinventing ourselves. We continue to deliver cost and expense improvements, but now we’re tackling a more complex agenda – focusing on growth and innovation as powerful ways to manage and measure our progress.”*

*– Linda Sanford, IBM senior vice president, Enterprise On Demand Transformation and Information Technology<sup>9</sup>*

### Could this be you?

A global financial services conglomerate was looking to achieve major cost savings for its IT infrastructure as well as flexibility to meet future business needs. They engaged IBM to consolidate and integrate the firm’s server, mainframe and storage systems under an on demand computing structure where they would pay for capacity on a per unit basis. The technology services agreement put in place is also expected to help enhance the performance and efficiency of their global computing infrastructure. The agreement included training support for the company’s personnel and a dedicated innovation team – driving innovation and transformation while supporting the alignment of their business and technology strategic plans. The company expects to save several hundred million dollars over the period of the contract. In addition, vital technology is able to be accessed as a flexible, variable cost service resulting in IT flexibility to help meet rapidly changing business needs.

A large, multinational packaged goods company has pursued an aggressive growth through acquisition strategy for a number of years and, as a result, operates a widely disparate IT organization. The parent company wished to reduce overall IT investment and, at the same time, position itself for enterprisewide supply chain initiatives — via consolidation, integration and optimization of the company’s systems, applications and data stores. With the help of experts from IBM Global Services, the company protected its future growth initiatives by launching a three-to-five-year strategy to build a common worldwide infrastructure.

A global financial institution needed to meet new industry regulations for disaster recovery. The company had a lot of work to do to meet these increasingly stringent policies; its current disaster recovery provisions were scattered and difficult to manage. For some systems, the group had only manual disaster recovery procedures, and others lacked them altogether. Moreover, the company was maintaining three data centers - an unnecessarily large IT environment that not only made it difficult to implement a standard disaster recovery policy but also drove up administration costs. The company engaged IBM Global Services to consolidate the three data centers into just two and help establish a compliant disaster recovery plan. The consolidation enabled the reallocation of enough capital to fund the compliance with new disaster recovery regulations. By consolidating its environment, they have achieved an annual cost savings of more than 20 million, representing a 15 percent reduction in total operating expenditures.

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### About IBM Global Services

IBM is distinctly qualified to deliver world-class optimization solutions, as all of IBM Global Services can potentially be included in the offering. When appropriate, other capabilities of IBM — including specific product expertise and even the IBM research organization — can be engaged to help solve your unique optimization challenges. As your single point of contact, IT Optimization makes available all relevant skills, methodologies, processes and services. This means that the demonstrated experience of IBM and our broad-based capabilities are all available during an optimization engagement, and will be brought to bear on your particular set of challenges — as determined during the early, proactive assessment and strategy phases.

As you consider engaging the extensive capabilities of IBM Global Services and our unique IT optimization approach, key decision questions you might ask include:

- Are significant changes in your enterprise causing a realignment of priorities?
- Is it possible that the evolution of your IT infrastructure has created redundancies leading to excessive costs or complexity?
- Does your business have an urgent need for change driven by competitive forces, e-business strategies or customer expectations?

### Summary

Successful IT optimization is becoming mandatory in a business culture built on continuous change. However, the complexity of in-house, end-to-end IT optimization can be daunting. It is in answer to this challenge that IBM Global Services offers its world-class skills, proven technologies and expertise — all via its innovative IT optimization approach.

### Find out more

For more information about IBM IT Optimization solutions, contact your IBM sales representative or visit:

**[ibm.com/services](http://ibm.com/services)**



## References

<sup>1</sup>Infrastructure Executive Council, Avoiding Infrastructure Stall Points, 2004

<sup>2</sup>CIO Executive Board, Avoiding an Infrastructure Value Stall, 2004

<sup>3</sup>Infrastructure Executive Council, IEC Leadership Survey, 2003

<sup>4</sup>CIO Executive Board, Realizing the Promise of Information Integration, 2005

<sup>5</sup>Bansal, Parveen. "Why does the CIO have so many hats?," The Banker December 2003

<sup>6</sup>Infrastructure Executive Council, Emerging Strategies for IT Infrastructure Management, 2004

<sup>7</sup>The Balanced Scorecard was created by Robert Kaplan and David Norton to remedy the inadequacies of performance measurement systems that focused solely on financial metrics. It provides management with a balanced presentation of both financial and operational measures and extends Kaplan's and Norton's original concepts to IT performance management.

<sup>8</sup>CIO Executive Board, IT Balanced Scorecards 2003

<sup>9</sup>On Demand Leadership Update, 2004

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Somers, NY 10589  
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