



IT optimization to meet business goals.

Part of the CIO implications series

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Introduction

Effective optimization of the information technology (IT) infrastructure has never been more important than it is in today's age of fast-paced business, intense competition and a growing services-based economy. In fact, the ability to optimize the IT infrastructure, including the IT management system – while balancing cost control with the need for increased business functionality – can be a key definition of success for an organization.

The desired outcome of IT optimization has evolved toward a dynamic, flexible infrastructure that can support changing business needs. The developing role of IT has directly affected chief information officers (CIOs), in that chief executive officers (CEOs) now expect CIOs to leverage technology to help drive business innovation and ignite the integration of business and technology in order to support business goals.

CEOs today also view innovation as the lifeblood of successful companies. Increasing competition has dictated that companies constantly differentiate themselves. Company longevity heavily depends on top-line growth, which CEOs view as directly attributable to innovation.¹

As IT has become a major resource for fueling business innovation, and with IT optimization necessary to achieve the level of innovation demanded by CEOs, CIOs today have more responsibility than ever to lead their organizations toward the next technological innovations. Their organizations rely on them not only to understand new technologies, but, perhaps more importantly, to understand how those technologies can be applied to support innovative business strategies.

Highlights

CIOs today are expected to help drive business innovation and ignite the integration of business and technology.

There is a delicate balance between efficiency and innovation, cost and quality.

By reducing infrastructure costs and reinvesting the savings, CIOs can drive both cost reduction and business enablement and innovation.

This white paper discusses current CIO initiatives toward IT optimization, addresses how the factors driving IT optimization have changed, and describes how organizations can begin to create a dynamic infrastructure and bring the most value to their businesses.

Running IT like a business: what does it mean?

A 2006 study by CIO Research surveying 500 heads of IT concluded that CIOs see reducing costs and enabling business innovation as the two most important ways in which they impact the enterprise.² This delicate balance between efficiency and innovation – cost and quality – is significant. By creating a dynamic IT infrastructure that is easier and less expensive to manage, upgrade and run, CIOs can focus on using this more flexible infrastructure to support business strategy and innovation.

It is a given that CIOs must keep their organizations running smoothly; but now more than ever, CIOs must achieve uninterrupted operations even as they develop and implement new strategies to enable business goals – including higher profits. When they do upgrade or optimize their infrastructures and functions, they are expected to continue operations without expensive downtime and development costs.

One goal of IT optimization, therefore, should be to improve the IT organization's internal efficiencies in order to generate savings, which can then be applied to innovation efforts within IT or elsewhere in the organization. By reducing infrastructure costs and reinvesting the savings, CIOs can drive both cost reduction and business enablement and innovation.

Highlights

IT is expected to simplify the existing infrastructure while creating a flexible services portfolio that can quickly adapt to changing business conditions.

Understanding the trends and challenges of IT optimization

Because of the pressure to achieve operational efficiency, IT must collaborate with internal business customers and proactively manage growth – all the while seeking new savings opportunities. Currently, nearly 60 percent of IT dollars are spent supporting operations, systems management, maintenance and other minor enhancements.³

And while system availability is much higher than it was even ten years ago, expectations from both users and organizations have risen even higher. (While most servers run at only 20 percent or less utilization, system response problems typically arise during peak hours,⁴ in part because of the unpredictability of demand.) In addition, IT organizations are expected to simplify the existing infrastructure while creating a flexible services portfolio that can quickly adapt to changing business conditions.

Within this larger picture, specific challenges facing IT today include:

- *Controlling costs*
- *Integrating disparate systems to simplify the infrastructure – many enterprises still have suboptimal, complex legacy environments that hinder new initiatives; implementation of new applications can be delayed by time-consuming maintenance and testing of diverse existing systems*
- *Appropriately allocating resources to address long-term enterprise-wide needs*
- *Performing the same amount of work – or more – with fewer resources*
- *Focusing on IT governance and strategic planning in order to manage priorities.*

Highlights

An organization must first determine the needs and characteristics that drive its use of technology.

Ways to meet these challenges include the following initiatives:

- *Automation of IT management processes – Automation can boost efficiency and the bottom line, and deliver more reliable services.*
- *Standardization of operating systems, applications and system software – Technological compatibility based on open standards and optimized communication is crucial for a productive organization.*
- *Automation of service level agreements to meet set business policies – To keep pace with fast-changing business requirements, it is necessary to make automated adjustments to how the infrastructure is provisioned and managed.*

Choosing a model that matches the business

The first step in IT optimization is for an organization to determine the needs and characteristics that drive its use of technology. These characteristics can be defined in a manner that creates four common “profiles” of organizations – commodity, utility, partner or enabler.

No matter which profile best describes an organization, its IT leadership must clearly understand the business goals of its various customer segments, whether internal or external to the enterprise. This enables IT to design an efficient infrastructure that provides the catalog of IT-enabled business services necessary to support the objectives of these segments.

Adding to the challenge, however, is the fact that in many organizations, all four profiles may exist simultaneously – and IT must meet all their requirements. For example, the accounting and finance departments are likely to have different profiles than the manufacturing and sales divisions have. Learning to balance and prioritize these variations is a critical step toward

Highlights

IT must leverage its resources in order to build or maintain technologies that support the requirements of each customer segment.

There are four customer segment profiles: commodity, utility, partner and enabler.

optimization. IT must understand its customer segments just as the business does, and then leverage its resources in order to build or maintain technologies that support the requirements of each customer segment.

From the following examples, an organization must determine which business model or models fit its needs.

Commodity organization

An organization fitting this profile, such as a typical accounting department, 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 typically on lowering the expenses of a standard services portfolio.

Utility organization

The utility profile fits organizations such as cable communications companies that are still primarily focused on cost but that also acknowledge the importance of customer satisfaction. These businesses may want to use IT optimization to focus on improving service level attainment, including response times, availability and other customer-focused requirements.

Partner organization

This profile describes an organization in which IT services are valued at the business level. While cost is always an issue, optimization efforts focus 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, bottom-line business goals and support for new, innovative business services.

Highlights

The next step is to create an IT optimization strategy that supports the organization's customer segment profiles—and, therefore, its business goals.

Enabler organization

Organizations in which IT is an important—and even indispensable—element in the execution of the business strategy, such as online retailers, fit the enabler profile. IT initiatives become integral components of the business strategy, and they are viewed as essential to achieving a competitive advantage. It is vital for such companies to stay on the leading edge of achieving the most benefits possible from technology. They leverage technology to support their goals of business model innovation by providing a highly flexible, open, adaptable IT infrastructure that is able to connect quickly to new business partners.

Once an organization has determined the business model or models into which it falls, it must next create its IT optimization strategy in support of the model.

Creating an IT strategy designed to support business goals

In business, it is almost impossible to make changes in one area and not affect another area, as everything is intricately related. Organizations, therefore, must think of their goals holistically. For example, consolidating servers may provide cost reduction, but over-consolidation may affect the performance and availability of business services, or create an infrastructure that is fragile and difficult to maintain. The net result could be lower business revenue, creating a loss in excess of the savings garnered from consolidation. Server consolidation could also affect other components and functions of the infrastructure, such as the application portfolio and network design.

Clearly, it is critical to weigh competing value requirements when developing appropriate optimization strategies. This requires a constant, delicate balance between cost and benefit, and organizations should proceed methodically through the implementation process.

Highlights

Seven domains typically constitute the IT infrastructure for almost any organization.

Each domain falls into one of two groups—management or technical.

Defining the components of the IT infrastructure

Once the needs and functions of an organization are understood, it is important to perform the same assessment for the functions of IT. Seven domains typically constitute the IT infrastructure for almost any organization, and a holistic view takes into account all of them.

Each domain falls into one of two groups—management or technical. Collectively, the domains define the potential areas of analysis and applied expertise needed to achieve IT optimization in today's competitive landscape. The following are descriptions of the seven domains and the associated steps that an IT organization might take to carry out the optimization process.

Management

Strategic alignment

- *Thoroughly understand a company's current and prospective business drivers and innovation strategies.*
- *Document the alignment between business and IT strategies.*
- *Create the basis for optimization design and investment priorities based on this alignment.*

Processes

- *Analyze the extent to which the management system is formally defined and measured against a robust reference model, such as the IT Infrastructure Library® (ITIL®)-aligned IBM Process Reference Model for IT (PRM-IT).*
- *Assess the effectiveness of the IT service management system by examining process ownership, the efficiency, effectiveness and consistency of the processes, and the level of automation of the workflows responsible for providing IT-enabled business services.*

Highlights

Management domains are strategic alignment, processes, organization, and finance and environment.

Technical domains are infrastructure, network, and applications and data.

Organization

- *Establish an understanding of the organization's structure, professional culture, inhibitors and enablers.*
- *Provide a foundation for transformation.*
- *Examine roles, responsibilities and skills for the current and future states.*

Finance and environment

- *Identify opportunities to improve the IT financial management system to support cost allocation methodologies to better link investments to returns and to control demand.*
- *CIOs must seek opportunities for savings by examining the IT general ledger, budgeting and procurement policies, data center placement and regulatory issues.*

Technical

Infrastructure

- *Inventory and assess the mainframe, server, storage, output services and other technology platforms.*
- *Examine architectures, hardware and system software to identify opportunities for simplification, consolidation and virtualization.*

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 source.*

Applications and data

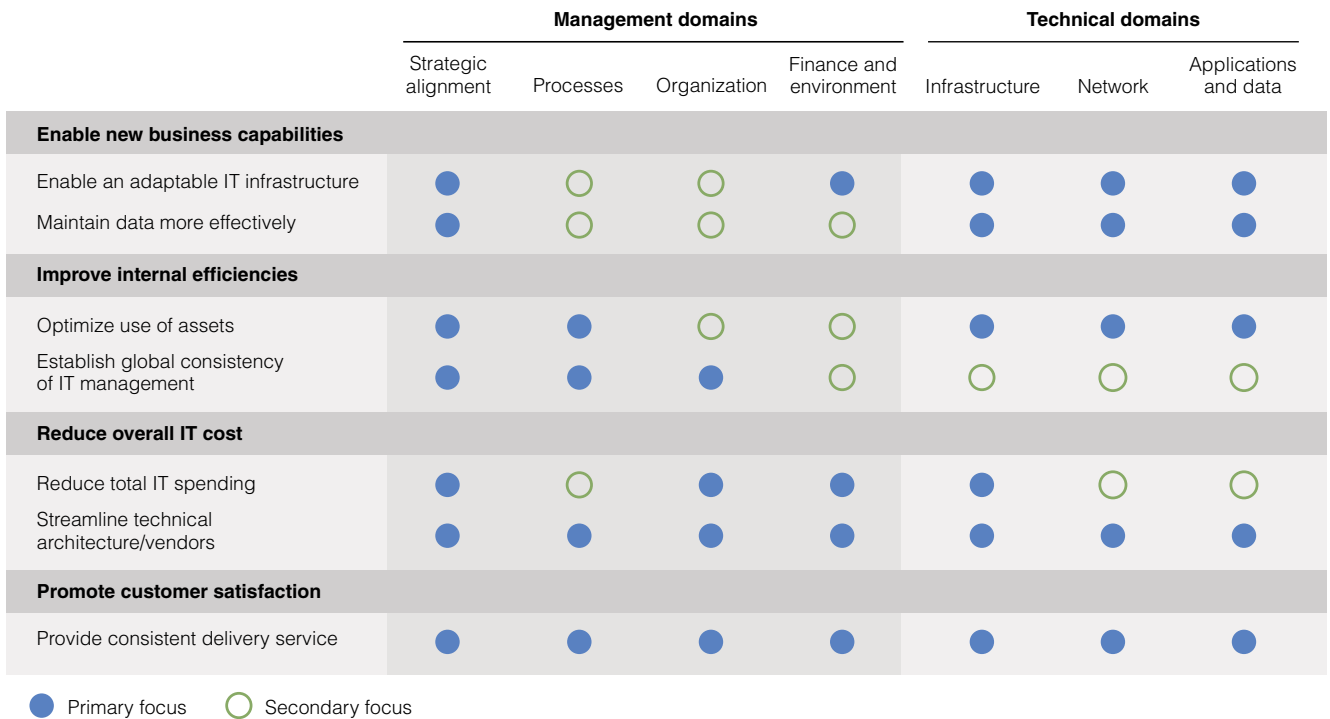
- *Understand and assess the application portfolio and supporting data.*
- *Examine application diversity, portfolio composition, data diversity and business process alignment.*

Highlights

Collectively, the domains define the potential areas of analysis and applied expertise needed to achieve IT optimization in today's competitive landscape.

Making connections between IT and business

The following chart illustrates how these IT domains (named across the top) can intersect with and affect typical IT-related business goals or initiatives (named down the left). The degree to which a functional domain influences a goal is not always the same; each domain focuses more on certain areas. Each domain, however, does influence multiple areas of business and IT.



The chart illustrates the connection between functional domains and goals or initiatives, and it shows the degree to which changes in one area can affect another—for example, that reducing overall IT costs could affect the performance of the network and software applications.

Highlights

To innovate and implement the best optimization strategy, try this process of performing a self-evaluation, creating a strategy and aligning IT with business.

Conclusion

The new vision for IT is to drive business differentiation by enabling product, operations and business model innovation. To make this important shift, organizations can follow a process that includes performing self-evaluation, strategizing and aligning IT with business. This way, IT can innovate and implement the best optimization strategy to support its organization's specific needs.

Whether your IT optimization needs are large or small, IBM can help your organization achieve your business goals.

For more information

To learn more about IT optimization, contact your IBM sales representative or visit:

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1 "IBM Global CEO Study 2006." IBM, 2006.

2 Prewitt, Edward and Ware, Lorraine Cosgrove. "The State of the CIO '06: The Survey." CIO Research, January 1, 2006; www.cio.com/state.

3 IBM and industry studies, client interviews.

4 IBM and industry studies, client interviews.