Infrastructure Optimization

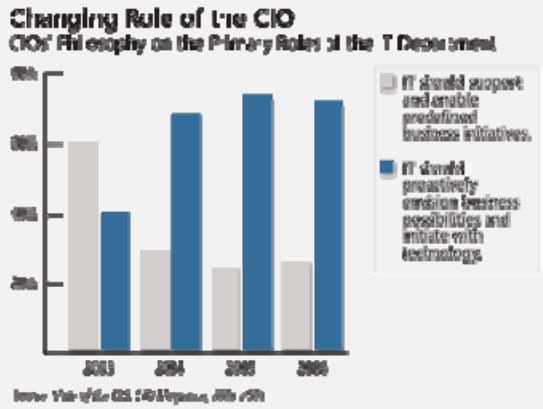
IT: The Foundation for a People-Ready Business

We frequently look to investments in technology to help us differentiate our businesses—in many cases, technology is a strong imperative for improved business performance in the modern enterprise. However, technology alone does not hold the key to business success. IT systems will not offer creative insight into new product development, will not seize opportunities for process improvement, and will not develop strong relationships with our business partners. Technology plays an important role as an enabler to support every enterprise's most valuable asset—its people.

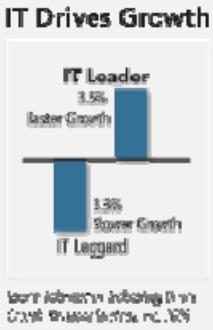
Companies today are realizing that there has never been a greater need for IT to become—and be seen as—a true corporate asset that delivers ongoing business value. [This changing agenda is evident by looking at what chief information officers (CIOs) and IT leaders defined as their top priorities. A 2006 survey by Gartner shows that CIOs are focused on business intelligence, security, collaboration, mobility, and customer relationships—IT priorities that align closely with the business challenges and trends in the modern enterprise.]

CIOs need an IT infrastructure that can help advance rather than impede business. Close alignment between business and IT objectives can help organizations deploy solutions that empower people to reach customers more effectively, harness critical business insight, and collaborate across boundaries. A people-ready business uses IT infrastructure solutions as a foundation to amplify the impact of their people, manage complexity, protect information, control access, and advance the business.

As businesses advance their IT capabilities and achieve a sustained improvement in their IT infrastructure, they must take a long-term, strategic view of optimization and link these capability and optimization improvements to their business needs and strategy. The goal for infrastructure optimization is to help companies build the people-ready business by helping them realize the full value of their IT infrastructure to drive business results.

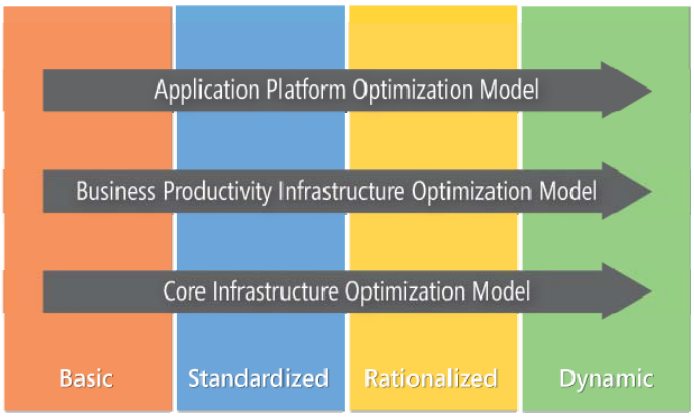


The "State of the CIO Study 2006" (CIO Research, 2006) shows that, more and more, CIOs are looking for IT to proactively initiate technology solutions to enable business outcomes. This is a dramatic shift from just a few years ago when the majority of CIOs viewed the role of IT as a supporter and enabler of predefined business initiatives.



In a 2006 study, Keystone Strategy, Inc analyzed the correlation between IT capabilities and business performance to answer the question "does IT matter?" Focused on IT enablement of business processes, the study found a direct correlation between businesses with a higher IT capability and a superior revenue growth.

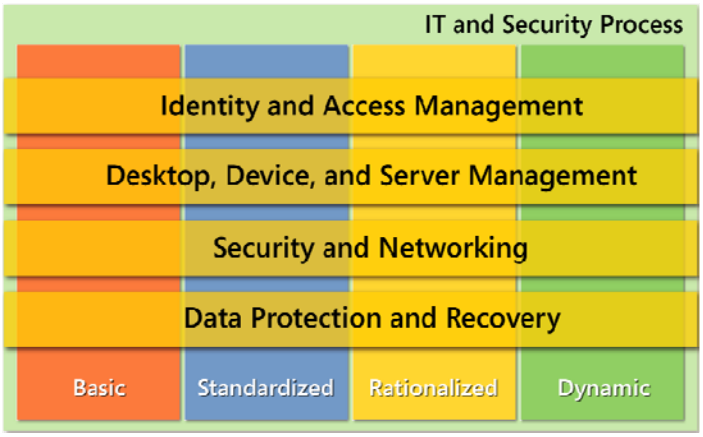
Infrastructure optimization—centered on using an organization's IT assets to support and advance the business—helps businesses measure their level of infrastructure optimization and drive for a truly people-ready infrastructure. Microsoft has developed three models—focusing on core infrastructure, business productivity infrastructure and application platform —that outline a progression through four stages of infrastructure optimization and that can lead to a roadmap for infrastructure maturity. Each of the models illustrate the strategic value and business benefits of moving from a "basic" stage of optimization, where the IT infrastructure is generally considered a "cost center," toward a "dynamic" infrastructure, where the business value of the IT infrastructure is clearly understood and is viewed as a business growth enabler and strategic business asset. Using these models, you can gauge the current stage of the infrastructure, establish a technology vision for the future, and build a clear roadmap to achieving that vision.



Core Infrastructure Optimization Model

The infrastructure optimization model from Microsoft helps customers understand and subsequently improve the current state of their IT infrastructure and what that means in terms of cost, security, risk, and operational agility.

The core infrastructure optimization model helps customers understand and strive for a more secure, well-managed, and dynamic core IT infrastructure that will help enable them to reduce their overall IT costs, make better use of IT resources, and make IT a strategic asset for the business. The key challenge in this area is to support IT professionals in the management of servers, desktops, mobile devices, and applications and in achieving efficient resource usage to help customers eliminate unnecessary cost and complexity, ensure that their business is always up and running, and establish a responsive infrastructure.



Dramatic cost savings can be realized by moving from an unmanaged environment towards a fully automated management and dynamic resource usage environment. Security also improves from highly vulnerable in a basic infrastructure to dynamically proactive in a more optimized infrastructure. IT infrastructure management changes from highly manual and reactive to highly automated and proactive. As technologies can't be implemented without reviewing the current IT process, the model also provides recommendations (Best Practices) on how processes can be integrated and improved to satisfy the new IT infrastructure while the customer's ability to use technology to improve their business agility and deliver business value increases as they move from the basic state up the continuum toward a dynamic state, empowering information workers and managers and supporting new business opportunities.

By working with Microsoft and using this model as a framework, an enterprise can quickly understand the strategic value and business benefits to the organization in moving from a "basic" level of optimization, where the IT infrastructure is generally considered a "cost center," towards a more "dynamic" use, when the business value of the IT infrastructure is clearly understood and the IT infrastructure is viewed as a strategic business asset and business enabler.

For partners, the model also helps establish a dialogue with IT decision makers on how to advance the state of their IT infrastructure, thus creating revenue opportunities that help drive Enterprise Agreement (EA) renewals and Enterprise CAL (Client Access License) acceptance and help win new deals and accelerate adoption of infrastructure optimization and deployment of Microsoft software. Additionally, it enables partners to drive infrastructure optimization and move a customer's infrastructure through the optimization model, which grows partner channel capabilities.

In FY07, Microsoft account teams completed the discovery process on nearly 12,000 customers worldwide and found, for example that although we have improved in areas like Automated Patch Management solutions (+6 points increased from previous year) and Secure wireless (+5 points increase); there are still a lot of opportunities that can be improved by helping our customers to deploy and adopt our latest version of products like Vista to manage their standard imaging solution (Only 57% of our customers have a standard image in use).

Capabilities

The core infrastructure optimization model defines five capabilities that are required to build a more agile IT infrastructure:

1. **Identity & Access Management** – Describes how customers should manage people and asset identities, solutions that should be implemented to manage and protect their identity data (synchronization, password management, and user provisioning, to mention few), and how to manage access to resources from corporate mobile users, customers and/or partners outside of a firewall.
2. **Desktop, Device and Server Management** – Describes how customers should manage desktops, mobile devices, and servers as well as how to deploy patches, operating systems, and applications across the network. It also includes how customers can leverage virtualization and branch office technologies to improve their IT infrastructure.

3. **Security and Networking** – Describes what customers should consider implementing in their IT infrastructure to help guarantee that information and communication are protected from unauthorized access while at the same time provides a mechanism to protect their IT infrastructure from denial attacks and viruses while preserving access to corporate resources.
4. **Data Protection and Recovery** – Provides structured or disciplined backup, storage, and restore management. As information and data stores proliferate, organizations are under increasing pressure to protect that information and provide cost-effective and time-efficient recovery when required.
5. **IT and Security Process** – Provides proven best practice guidance on how to cost-effectively design, develop, operate, and support solutions while achieving high reliability, availability, and security. While rock-solid technology is necessary to meet demands for reliable, available, and highly secure IT services, technology alone is not sufficient; excellence in process and people (skills, roles, and responsibilities) is also needed.

Optimization Levels

The Core IO Model defines four optimization levels (basic, standardized, rationalized, and dynamic) for each of the capabilities described above. The characteristics of these optimization levels are as follows:

1. **Basic** – The basic IT infrastructure is characterized by manual, localized processes; minimal central control; and non-existent or un-enforced IT policies and standards regarding security, backup, image management and deployment, compliance, and other common IT standards. There is a general lack of knowledge regarding the details of the infrastructure that is currently in place or which tactics will have the greatest impact to improve upon it. The overall health of applications and services is unknown because there is a lack of tools and resources. There is no vehicle for sharing accumulated knowledge across IT. Customers with basic infrastructures find their environments extremely hard to control, have very high desktop and server management costs, are generally very reactive to security threats, and have very little positive impact on the ability of the business to benefit from IT. Generally all patches, software deployments, and services are provided high touch and high cost.
2. **Standardized** – The standardized infrastructure introduces controls through the use of standards and policies to manage desktops, mobile devices, and servers and how machines are introduced to the network. They now use the Microsoft Active Directory® directory service to manage resources, security policies, and access control. Customers in a standardized state have realized the value of basic standards and some policies yet are still quite reactive. Generally all patches, software deployments, and desktop services are provided through medium touch with medium to high cost. However, these customers have a reasonable inventory of hardware and software and are beginning to manage licenses and application testing is based on a virtualized environment. Security measures are improved with a locked down perimeter, though internal security may still be a risk. If customer has remote locations to manage (Branch Offices), they may be consolidating their infrastructure based on Networking Solutions
3. **Rationalized** – The rationalized infrastructure is where the costs involved in managing desktops and servers are at their lowest and processes and policies have been optimized to begin playing a large role in supporting and expanding the business. Security is very proactive and responding to threats and challenges is rapid and controlled. The use of zero-touch deployment helps minimize cost, the time to deploy, and technical challenges. The number of images is minimal and the process for managing desktops is very low touch. These customers have a clear inventory of hardware and software and only purchase those licenses and computers that they need. Security is extremely proactive with strict policies and control from the desktop to server to firewall to extranet. For customers with remote locations (Branch Offices), they have a centralized management environment and virtualization is being used at remote locations.
4. **Dynamic** – Customers with a dynamic infrastructure are fully aware of the strategic value that their infrastructure provides in helping them run their business efficiently and staying ahead of competitors. Costs are fully controlled; there is integration between users and data, desktops, and servers; collaboration between users and departments is pervasive; and mobile users have nearly on-site levels of service and capabilities regardless of location and virtualization is used for dynamic application access and recovery for desktop application. Processes are fully automated, often incorporated into the technology itself, allowing IT to be aligned and managed according to the business needs. Additional investments in technology yield specific, rapid, measurable benefits for the business. The use of self-provisioning software and quarantine-like systems for ensuring patch management and compliance with established security policies allows the dynamic organization to automate processes, thus helping improve reliability, lower costs, and increase service levels

Business Productivity Infrastructure Optimization Model

As a business investment, technology has the flexibility and capacity to adapt as your people increase their own capacity and output. IT can deliver value in this dynamic environment through integration, simplification, and software applications and services that manage complexity in the background and extend human capabilities. It can do this by facilitating interaction and helping people to both manage the overload of information and make sense of complex data.

The business productivity infrastructure optimization model is a complete set of technologies that helps streamline the management and control of content, data, and processes across all areas of a customer's business. It helps simplify how people work together, make processes and content management more efficient, and improve the quality of business insight while enabling IT to increase responsiveness and have a strategic impact on the business.

Capabilities

The business productivity infrastructure optimization model defines three capabilities that are required to build a more agile IT infrastructure:

1. **Collaboration** – Describes how customers uses workspaces and portals to provide a productive collaboration environment where IT can define processes and standard solutions that can be customized to meet specific Business needs and can be extended to provide social computing capabilities, integration with Line of Business applications and federated relationship with other organizations
2. **Unified Communications** – Describes how customers should manage and secure their messaging infrastructure to protect users from viruses, SPAM, malware coming from other users while collaborating and/or doing business. As structure and un-structure data converge with other type of communication like voice, presence and conferencing; this capability provides a framework on how IT can leverage their infrastructure to provide new (or improve) IT services that simplify how people work together
3. **Enterprise Content Management** – Describes what customer should consider implementing for web authoring, Forms, documents and Web content management, record management that streamline the management of content and process
4. **Enterprise Search** – As information (structure and un-structured data) is growing at fast speed, the ability to provide a robust enterprise search solution is critical to allow users to make the right decisions based on the corporate knowledge collected by their users. This capability describes how customers should integrate this information with standard search capabilities that integrate different formats, data sources and Line of Business applications from a centralized and standard infrastructure that leverage a current set of standard business productivity solutions.
5. **Business Intelligence** – Reporting, analysis, and performance management capabilities that can improve business insight by allowing IT defining standard reports, analysis and data transformation that can be exposed and accessed by users in a rich user interface and based on roles to assure that information is available to people with the right set of permissions. (this is jointly owned with the application platform team)

Optimization Levels

The Business Productivity IO model defines four optimization levels (basic, standardized, rationalized, and dynamic) for each of the capabilities. The characteristics of these optimization levels are as follows:

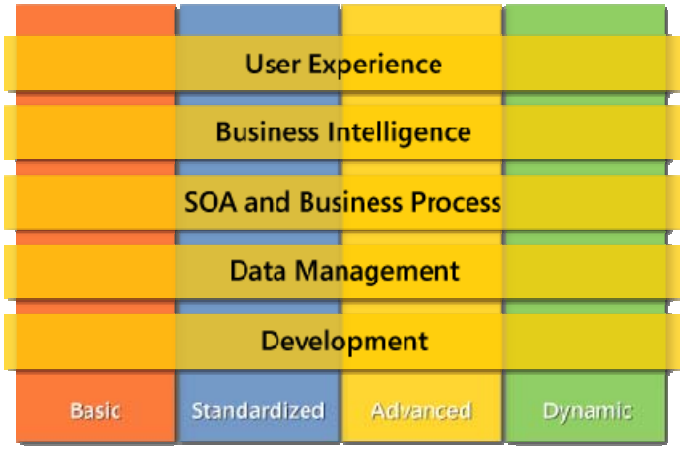
1. **Basic** – The basic business productivity infrastructure is characterized by simple e-mail and file shares. Standard telephone service is the primary communication medium. Data is stored in file shares and personal drives with disparate search tools (Search typically deployed in silos - both desktop and server - It could include complex or specialized search applications deployed for a limited number of users). Records management is through manual, paper-based processes. Performance is tracked using manually entered key performance indicators (KPIs) and static documents.
2. **Standardized** – The standardized infrastructure introduces ad-hoc teaming around functions and projects. Content is consolidated and records retention is managed using disconnected repositories with basic search capabilities. Standards in place for both desktop and server-side search and business drivers for a search solution are typically based on cost savings and enhanced productivity. Transactional processes are forms based and reporting and analysis for centrally managed data is IT dependent. Although governance is not yet fully in place; organization may be

experimenting with social computing capabilities, but these are not part of the existing organization-wide collaboration and portal infrastructure

3. **Rationalized** – Organization has single collaboration and portal infrastructure that connects people, process and information across the organization and more sophisticated methods of collaboration are enabled; organizations are able to take files offline, and they offer content-centric social computing capabilities integrated into existing infrastructure while governance policies are fully in place. The e-mail platform supports compliance and meets legal discovery needs. Voice over Internet Protocol (VoIP) has scenario-specific integration with PBX phones and deeper penetration of presence. Document and records management, search as a considered as strategic enabler for the business and is integrated with one or more Business Productivity infrastructure investments (ECM, Portal, Collaboration, Line Of Business Applications) and IT has defined process and procedures to provisioning search integration with new Line of Business applications. Content Management solutions offer a multi-tier authoring environment, with XML schema-based document templates and forms-based solutions to support enterprise-wide business processes are in place. The infrastructure provides enterprise-wide strategic alignment and financial consolidation. Reporting and analysis are user-driven and centrally managed and the infrastructure provides automated tools for budgeting, planning and forecasting.
4. **Dynamic** – Customers with a dynamic infrastructure enjoy seamless collaboration with suppliers and partners across the firewall. Organization is leveraging an integrated collaboration and portal infrastructure to seamlessly connect people inside and outside the organization to the people, process and information they need; they are building sophisticated composite applications within a role-based environment, offering people-centric social computing capabilities and are fostering federated relationships with other organizations. Integration of Unified communication solutions with business processes and Line of Business Applications. Federated Document & Record Management within and outside the enterprise and single search across desktop, enterprise content, LOB applications and devices. Proactive analysis takes place in real time in a closed loop process.

Application Platform Optimization Model

The Microsoft application platform enables IT to help drive the business forward by quickly delivering connected, flexible and highly secure applications. Using the application platform infrastructure optimization model, Microsoft and its partners can provide IT organizations with a tool to help them understand and adopt a more flexible and agile application platform.



Businesses are moving from static customer e-commerce sites to ones that dynamically deliver self-service capabilities and real-time information. Legacy budget and expense applications that rely on spreadsheets and e-mail are being replaced with powerful, easy-to-use applications that are integrated into internal Web portals or Microsoft Outlook accounts. In this new paradigm there is no single application that companies use to manage all parts of their business. The key is to dynamically link the many systems that run business operations, through service orientation and integrated business process management, to deliver the right information to the right people, at the right time.

So with the typical organization now moving from a few brittle, hard-coded applications to possibly hundreds of dynamic ones, the need for a flexible application platform is of utmost importance. Our goal at Microsoft is to provide world-class products, tools, and processes to customers in each of these capability areas, delivered alongside the strongest technology partner base in the world, and with compelling ROI to the bottom line

Capabilities

The application platform optimization model defines the following capabilities:

1. **User Experience** – This capability defines how User experience should be included as part of design and development of applications to improve usability of applications while provide a richer interface regardless of what platform the application is being developed for (web, rich client applications, smart devices and more).
2. **Development** – Addresses the needs of ITDMs and developers working alone or in teams looking to rapidly deliver high quality, secure applications that connect business processes to meet business needs. Microsoft's Application Platform offers the best integrated software development platform to manage the application life cycle, increase team collaboration and productivity, and improve software quality. It provides an integrated server with a single data store and

built-in collaboration and quality tools for the entire development team together with a common development framework for Web services, rich client applications, smart devices, and more.

3. **Service-Oriented Architecture (SOA) and Business Process** – Business Process Management technology integrates heterogeneous systems (Enterprise Application Integration or EAI) and between organizations & trading partners (B2B), and manages processes (Business Process Management or BPM) that span people, partners, and software services. BizTalk Server provides these capabilities, along with easy administration & management functionality "in the box", enabling business of all sizes to build and deploy business process management solutions that drive increased efficiency, growth and competitive advantage.
4. **Data Management** –Describes how customer should consider when implementing an integrated data management and analysis software that enables organizations to reliably manage mission-critical information and confidently run today's increasingly complex business applications.
5. **Business Intelligence** – Microsoft's vision for BI is to improve organizations by providing business insights to all employees leading to better, faster, more relevant decisions. Microsoft continues to invest heavily in the business intelligence. Key investment areas across Microsoft for BI include performance management, collaboration, visualization, analysis and reporting, data mining, data integration, data warehousing and development.

Optimization Levels

The Application Platform IO Model defines four optimization levels (basic, standardized, advanced, and dynamic) for each of the capabilities. The characteristics of these optimization levels are as follows:

1. **Basic** – The Basic application platform is characterized by brittle, disconnected applications and platforms that hinder the rapid development and interoperability of business-critical applications. There is a general lack of process and rigor in how these applications are developed, combined with ill-defined business processes. Overall health of applications and services is unknown due to a lack of tools and resources. There is no vehicle for collaboration and exchange across development teams or with business users. Customers with a Basic infrastructure find their environments hard to manage and optimize, which leads to higher costs, application backlogs, and lower IT productivity
2. **Standardized** – The organization with a Standardized application platform has begun to adopt XML and other industry standards more broadly across departments and with trusted trading partners. In addition, it has introduced a more sophisticated development and data infrastructure that can begin to deliver BI reports and business analytics. Some business processes and departmental services are automated. Companies at this level are starting to see their IT departments less as a cost center and more as a business enabler that can help them build more adaptive applications quickly.
3. **Advanced** – The Advanced infrastructure is one in which IT can truly become a business enabler and partner. The infrastructure and applications are more easily managed, optimized and delivered throughout the IT lifecycle. The business has a stronger view into its core business processes and can rely on IT to quickly build applications that take advantage of new business opportunities or competitive threats. Companies at this level have standardized on a flexible and robust application platform for their most critical applications and business processes.
4. **Dynamic –** Customers with a Dynamic infrastructure are fully aware of the strategic value their infrastructure provides in helping them run their businesses efficiently and stay ahead of competitors. Costs are fully controlled. Integration between both users and data and customers and partners is pervasive, as is collaboration between business and IT. Processes are fully automated, often incorporated into the technology itself, which helps IT to be aligned and managed according to business needs. Additional investments in technology yield specific, rapid, measurable business benefits. The use of service-oriented architecture is well defined within the company and is delivering adaptive and cost-effective applications and application development.