IBM

Using automation to become an on demand e-business.

You face many challenges on the way to becoming an on demand e-business.

You need a reliable infrastructure with the availability to support your business operations.

Utilize all your IT assets — putting idle resources to work supporting active needs.

Increase operational speed while lowering your operational costs. And boost productivity

while increasing flexibility. For your business to remain competitive, you need to adapt

your IT environment, increase productivity and maximize the return on your current investments.

IBM solutions help you automate and integrate your business processes — whether they

are within your company or extend to systems residing with trading partners, customers or suppliers.

The results can improve your operational efficiency, increase your responsiveness

to competitive pressures and save you time and money.

Challenges that businesses can face in the transition to e-business on demand are:

- *Managing service levels in complex, heterogeneous environments*
  According to an NOP Research Group study conducted for IBM, 55 percent of large organizations have service levels that they must meet to support their internal customers, and 42 percent have service levels that they must meet for external customers.[1] Yet achieving these expected service levels is getting harder than ever. Over the years, as businesses have grown, IT infrastructures have expanded in a piecemeal fashion. Custom-made functionality was developed for specific purposes. IT infrastructures were deployed independently, like towers or "silos" within the business, each containing components from various vendors. Initially, this worked. But in today's environment, many businesses are left with a legacy of complex heterogeneous environments that they must maintain and keep running efficiently—a major challenge for most businesses.

- *Increasing resource utilization while maintaining availability and reliability*
  A recent Gartner study has found that roughly 75 percent of server CPU power is not being used at any one time worldwide.[2] This huge inefficiency is caused by changes in workload levels— changes that range from relatively predictable to spiky—forcing companies to overprovision their servers. At the same time, these complex systems are being taxed to provide more and more services and to be available on a 24-hour basis, 7 days a week. e-business is now the norm, and customers are demanding more services online. Services that are always available and performing at top speed. If you aren't providing those services, customers will look for someone else who is. Customers are not as loyal as they were in the past. Competition is increasing as businesses fight to maintain their bottom line. According to an IBM study, 69 percent of customers are concerned about ensuring infrastructure reliability and availability to support business operations.[3] Furthermore, IBM estimates

that about 40 percent of computer system outages are caused by operator error.[4] These outages can be horrendously expensive. The reason for these operator errors is a combination of time pressures and the increasing complexity of today's systems, which makes them difficult to understand.

- *Reducing IT costs*

  As noted in a 2003 Morgan Stanley CIO survey, CIOs expect their IT budgets to be flat in the second half of 2003.[5] Their expectations for the full year are for a paltry one-percent growth. CIOs are clearly being asked to reduce costs and to focus on fewer, more important IT areas; in short, to do more with less. Today's economy requires that all businesses reduce costs across the board, including in their IT infrastructure costs. Everyone is looking for ways to do more with less. IT executives are asking questions such as: How do I get

more performance out of my current IT infrastructure? How do I manage this complex environment with my current IT staff? How do I better utilize the IT infrastructure already in place so that the business provides competitive products without extra cost?

- *Accelerating operational changes and improving flexibility*

  The velocity of business is ever increasing. Business agility is at a premium. In a recent survey of IBM customers, 60 percent said that responding quickly to opportunities, competition and regulation is a major concern.[6] Yet, even when businesses today start making operational changes, the process is slow and often manual. In some cases, it takes days or weeks to respond to even minor changes. If businesses are not quick on their feet, they can lose valuable customers to the competition and lose market share due
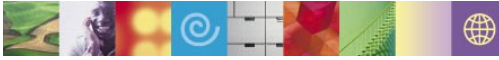
to missed opportunities they could have capitalized on if only they had been more flexible. Businesses are requiring better system management tools that will allow them to make changes on demand and to integrate their own business rules into their systems.

- *Managing increasing amounts of risk*
  All four of these business challenges—managing service levels in complex heterogeneous environments, increasing resource utilization while maintaining availability and reliability, reducing IT costs, and increasing the flexibility and speed of operational changes—add up to a fifth challenge: managing increasing amounts of risk. The very urgency of these business challenges automatically denotes business risk. If it weren't so important, it wouldn't be risky. You can't have one without the other. Tackling these important business challenges together causes risks to escalate as well. For example, achieving service level

agreements in complex, heterogeneous environments is made more difficult and risky by the simultaneous demand to reduce IT costs. Increasing resource utilization is more risky when you are charged with increasing the flexibility and speed of operational changes. But, perhaps the greatest risk of all is to not address these challenges, and risk competitive disadvantage.

How are these challenges being met?

The traditional IT environment is characterized by inflexible systems. Manual IT processes hamper and slow response. Traditional environments are labor intensive, have low utilization rates and ever-increasing costs. Business expectations have changed dramatically in the last few years. Today, your customers, suppliers, trading partners and employees expect you to deliver around-the-clock online access to essential information about your company, products and services. It's the era of e-business on demand™, where these expectations are the standard rather than the exception.

Automation guidelines and best practices

The capabilities of automation in the areas of availability, security, optimization, provisioning, orchestration and business service management deliver solutions to the business challenges you face.

To remain competitive, you need to move toward becoming an on demand enterprise. The on demand IT environment is characterized by agile systems. Speedy and responsive, with lower IT costs and high utilization rates. To meet the challenges you are facing, you need a reliable technology infrastructure with the availability to support your business operations. You need a way to effectively optimize your IT assets—putting idle resources to work supporting active needs. You need tools to increase operational speed while lowering costs and best-practice business processes that help boost productivity while increasing flexibility.

In today's economic climate, adapting your IT environment to increase productivity and maximize the return on your current investments is a mission-critical business objective. Solutions from IBM help you automate and integrate your business processes—internally and across your value chain of trading partners, customers and suppliers. You can enhance operational efficiency, increase your responsiveness to changing market conditions, decrease costs and potentially improve your time to market with new products and services.

IBM is changing this outdated management paradigm to help your IT organization meet on demand challenges. The plan for building e-business on demand capability is found in the automation guidelines and best practices.

The capabilities of automation in the areas of availability, security, optimization, provisioning, orchestration and business service management deliver solutions to the business challenges you face. These core capabilities can help you create an on-demand infrastructure through automation. All six capabilities have the following characteristics:

- *Heterogeneous*
  The IBM automation guidelines and best practices are open standards-based to accommodate heterogeneous environments.

- *Open-standards based*
  The use of open standards eases integration, reduces costs and adds flexibility.

- *Modular*
  The guidelines and best practices encourage adoption in a modular fashion. You do not need to address the guidelines all at once in a single effort — instead, view the guidelines as a forward-looking guide to assembling an optimal on demand IT environment.

- *Incremental value*
  Modular implementation delivers incremental value.

- *Best practices*
  The integrated aspects of the guidelines, together with industry-based practices, can minimize implementation costs.

**Business service management:
Visualizes IT environment in business
service terms and manages service levels
to business objectives**

Business service management provides
intelligent, policy-based solutions to build,
run and manage critical dynamic business
processes through automation, integration
and predefined best practices. This helps
reduce IT support costs by creating value-
optimized infrastructure that supports key
business initiatives.

*IBM Tivoli Business Systems Manager,
Version 2.1*

Enables businesses to manage their IT
infrastructure in terms of their most critical
business priorities. With Tivoli® Business
Systems Manager software, your IT team is
easily and dynamically able to identify when
key business processes are experiencing
problems due to infrastructure issues. Tivoli
Business Systems Manager allows the IT
team to uncover the root cause of these
problems quickly and intelligently to expedite
a resolution. When multiple infrastructure
issues arise, Tivoli Business Systems
Manager helps the IT team to prioritize its
response to deliver the optimum level of value
to the business.

*IBM Tivoli Service Level Advisor,
Version 1.2*

Allows businesses to easily, proactively and
economically manage service levels across
their entire organization for maximum uptime.
Tivoli Service Level Advisor software's user-
friendly, Web-based reporting capability and
at-a-glance dashboard can show the status
of current service levels and predict future
trends, so you can take preventive action now
to avoid problems later. When a trend toward
violation is identified, Tivoli Service Level
Advisor software integrates with other Tivoli
products and can send alerts to the IBM Tivoli
Enterprise Console®, to the IBM Tivoli Busi-
ness Systems Manager console, or directly
to you via e-mail or Simple Network Manage-
ment Protocol (SNMP). With its automated
service level agreement evaluation capability,
Tivoli Service Level Advisor software elimi-
nates manual data analysis — saving labor,
time, and money. When Tivoli Service Level
Advisor software is combined with Tivoli Busi-
ness Systems Manager software, you can
better align your IT infrastructure with your
business processes and further increase the
return on your IT investment.

Availability: Ensures the health and appropriate functioning of IT environments

Solutions to help increase the resilience of critical infrastructure elements by leveraging intelligent best practices to respond dynamically to changing environmental conditions.

IBM DB2 Automation Tool, Version 1.3

Helps reduce your labor costs with adaptive tools. DB2® Automation Tool software allows database administrators to focus more on database optimization, automates maintenance tasks and provides statistical history reports for trend analysis and forecasting. DB2 Automation Tool enables enterprise autonomic computing and offers enhancements to enterprise resource planning (ERP) environments. DB2 Automation Tool continuously and automatically coordinates the execution of DB2 tools, helping you to realize the full potential of your DB2 system. The software provides manual, periodic or rules-based execution of various tools, as well as easy creation of job specifications. It also allows the development of job profiles through Interactive Structured Programming Facility (ISPF) panels.

IBM DB2 Recovery Expert, Version 1.1

Simulates and prevents recovery problems with predictive tools. DB2 Recovery Expert software provides targeted, flexible and automated recovery of database assets, even as systems remain online. DB2 Recovery Expert allows expert or novice database administrators to recover database objects safely, precisely and quickly — without having to resort to full disaster-recovery processes. The solution offers precision recovery options to support safe database development and maintenance. Building on IBM's autonomic computing and on demand expertise, the tool provides intelligent analysis and diagnostics of altered, incorrect or missing database assets including tables, indexes or data. As a result, you can have reduced dependency in specialized skills in your organization, as well as faster and better decision making.

IBM Tivoli Enterprise Console , Version 3.9
Offers an integrated, end-to-end event-man-
agement solution that maintains peak system
resilience and performance and lowers costs
by dramatically reducing manual effort. Tivoli
Enterprise Console software displays system
events anytime, anywhere on an easy-to-
use, Web-based console that automatically
highlights and prioritizes critical problems
throughout your IT infrastructure. The solution
can discover network, system and distributed
application relationships and automatically
apply preconfigured, intelligent best-practice
rules for system operations. Tivoli Enterprise
Console also contains several new enhance-
ments, including impact-based prioritization
of events and built-in action, escalation and
notification capabilities for improved out-of-
the-box value.

IBM Tivoli Monitoring for Business Integration,
Version 5.1.1
Provides complete intelligent management
of IBM WebSphere® MQ, IBM WebSphere
MQ Integrator, IBM WebSphere MQ Workflow
and IBM WebSphere InterChange Server
software. Tivoli Monitoring for Business
Integration software offers intelligent, proac-
tive monitoring and management through
a powerful set of tools that leverages com-
mon Tivoli autonomic technology to provide
enhanced application resilience and greater
ease of use. Tivoli Monitoring for Business
Integration software monitors the status of
key WebSphere business integration compo-
nents — such as queue managers, queues,
channels and message flows — identifies
problems in real time by providing local
correlation for root cause analysis, notifies
administrators and takes appropriate correc-
tive action for quick problem resolution.

IBM Tivoli Monitoring for Transaction Performance, Version 5.2

Intelligently manages and helps improve the performance of your Web and enterprise IT infrastructure. Tivoli Monitoring for Transaction Performance software monitors transactions from an end-to-end perspective and identifies and isolates performance problems before significantly impacting your customers and employees. With Tivoli Monitoring for Transaction Performance, you can monitor and deconstruct a transaction step by step to ensure the overall resilience and performance of that transaction. With its easy-to-use browser interface, you can view performance data showing transaction processing time at each stage. You can quickly identify bottlenecks so that an alert, page, e-mail or other type of notification can be used to initiate corrective action. Increasing end-user satisfaction by improving performance and response times, and reducing manual effort and costs through automatic problem determination and corrective action.

IBM Tivoli Monitoring for Web Infrastructure, Version 5.1.2

Proactively monitors Web applications and underlying Web servers for optimized hosting availability, resilience and performance. Automated functions can quickly identify problems impacting Web infrastructure performance, alert IT personnel to system performance issues and perform automated problem correction using intelligent best practices. Tivoli Monitoring for Web Infrastructure software guards your critical e-commerce revenue channels and other customer-facing Web applications against unplanned server system downtime. New features include support for IBM WebSphere Application Server, Version 5.0.

IBM Tivoli Storage Area Network Manager, Version 1.3

Provides a comprehensive management solution for the heterogeneous storage area network (SAN) environment. Based on industry standards, Tivoli Storage Area Network Manager software gives you the flexibility you need to choose best-of-breed components for your environment. Scalable to manage SAN islands up to enterprise installations, Tivoli Storage Area Network manager grows with your environment. Broad platform support gives you investment protection, and error-prediction capabilities keep your systems and applications available. Tivoli Storage Area Network Manager can reduce the complexity of SAN management through its standards-based device discovery, SAN topology rendering, zone control, monitoring and alerts, management of SAN components and SAN error-prediction capabilities.

Security: Ensures information assets, confidentiality and data integrity are protected

Enhanced security features keep your systems protected from external threats and effectively manage and protect access to information with dynamic compliance. These solutions can help increase the resiliency and security of your IT environment.

IBM Backup, Recovery and Media Services for OS/400, Version 5.2

Provides automated support for the management of all server backup and recovery operations. Your ability to recover any part of your systems relies on a solid backup strategy that is implemented in a structured way to minimize exposures. Backup, Recovery and Media Services for IBM OS/400® software can help you achieve this with an easy-to-learn tool you can deploy quickly. Backup, Recovery and Media Services for OS/400 can help you implement a disciplined approach to managing your backups, providing you with an orderly way to retrieve lost or damaged data. You can simply manage your most critical and complex backups, including online backups of IBM Lotus® servers. You

can also recover your system fully in the event of disaster or failure. Backup, Recovery and Media Services for OS/400 also helps you track all your backup media from creation to expiration. The solution integrates with IBM @server ™ iSeries Navigator software to provide a highly graphical, easy-to-use interface, including setup wizards.

IBM Directory Integrator, Version 5.2
Helps you quickly and effectively integrate your application-specific directories to create a comprehensive and authoritative identity-data infrastructure that maximizes the value — as well as accelerates the deployment — of critical e-business applica-tions. Tivoli Directory Integrator software provides real-time synchronization between identity-data sources so you can establish an authoritative, up-to-date data infrastructure to serve as a platform for your business-critical security and Web services applica-tions. Tivoli Directory Integrator speeds deployment and reduces cost by enabling integration and synchronization with existing directory sources, maximizing flexibility in a heterogeneous environment — without requiring the inflexible, physical centralization of this data or extensive custom development work.

IBM Tivoli Access Manager for Business Integration, Version 5.1
Adds a multiplatform security-management solution for IBM WebSphere MQ that upgrades its security functions to those offered in IBM WebSphere MQ Extended Security Edition. It upgrades WebSphere MQ security services to provide applica-tion-level data protection for WebSphere MQ software-based applications and the WebSphere business integration family of products — without the need to modify or even recompile them. Tivoli Access Manager for Business Integration software also offers centralized administration of access-control and data-protection policies across main-frame and distributed servers. In addition, the solution provides message-level audit function and generates audit records to dem-onstrate specific compliance with the defined security policy, giving you a comprehensive integration and security management solu-tion for your mission-critical line-of-business applications. You can set security policies that enforce end-to-end integrity and privacy protection for sensitive business data, without requiring security-specific coding in each application.

IBM Tivoli Access Manager for e-business, Version 5.1
Adds dynamic rules and security features to its policy-based access-control solution for e-business and enterprise applications. Tivoli Access Manager for e-business software helps deploy applications quickly, while minimizing application development and administrative costs. The solution helps you consistently enforce security across Web and application resources. It provides single sign-on and centralized access control from browsers, PCs and wireless devices to any Web server, using flexible authentication.

IBM Tivoli Access Manager for Operating Systems, Version 5.1
Addresses the many system vulnerabilities surrounding UNIX® and Linux super user or root accounts. Tivoli Access Manager for Operating Systems is a policy-based, access-control system for UNIX and Linux operating systems. Many security failures in UNIX and Linux environments are from super user account abuse or a hack that

obtains access to an account. Tivoli Access Manager for Operating Systems extends Tivoli software identity management and security management capabilities to the workstation, enabling robust security and access control on your key resources, files and ports.

IBM Tivoli Directory Server, Version 5.2
Provides a foundation for deploying comprehensive identity-management applications and advanced software architectures such as Web services. A powerful Lightweight Directory Access Protocol (LDAP) infrastructure with scalability to support tens of millions of entries, this cross-platform directory enables you to increase operating efficiencies and deliver personalized services. Robust replication capability is offered for both master or subordinate replication for dozens of master servers, as well as cascaded, gateway and peer-to-peer replication capability. A growing list of compatible
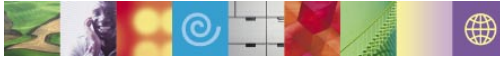
IBM Business Partners and applications with IBM Tivoli Directory Professional Services enable turnkey directory implementation, metadirectory and identity-provisioning solutions.

IBM Tivoli Privacy Manager for e-business, Version 1.2

Automates privacy management across your enterprise. It enforces privacy policies directly in the applications and databases that collect and use personal information, ensuring only authorized users can view authorized data. This capability adds consistency to privacy management and dramatically cuts compliance and audit costs. Tivoli Privacy Manager software helps reduce privacy-compliance costs by automating manual procedures, builds trust by managing end-user consent to privacy policies, externalizes data-handling rules from applications and IT systems, and provides detailed reports on access to sensitive information to facilitate audit requirements.

IBM Tivoli Risk Manager, Version 4.2

Correlates and prioritizes the vast number of security events generated across applications, operating systems and network devices to provide an overall view of the security architecture. Tivoli Risk Manager software helps eliminate clutter—like false positives—while quickly identifying and managing security incidents and vulnerabilities to help administrators respond with adaptive security measures. With Tivoli Risk Manager's reporting capabilities, administrators can pinpoint business security risks and take corrective action.

IBM Tivoli Storage Manager, Version 5.2.1

Focuses on key data-protection activities of backup, archive, recovery, space management and disaster planning. This comprehensive suite of products provides additional optional application modules for mail, databases, application servers, ERP and hardware provides higher levels of application and hardware integration with the data-protection process. Tivoli Storage Manager software includes unique technol-

ogy to help significantly improve performance and resource efficiencies, reducing storage-related costs. Tivoli Storage Manager protects enterprise data from hardware failures and other errors by storing backup and archive copies of data on offline storage. Tivoli Storage Manager can scale to protect hundreds of computers running a dozen operating systems — ranging from laptops to mainframes connected via the Internet, WANs or LANs. Tivoli Storage Manager uses centralized Web-based management, smart-data move-and-store techniques and comprehensive policy-based automation to minimize data-protection administration costs and impact to computers and networks. And the self-optimizing features of Tivoli Storage Manager complete the benefits that deliver a solid return on investment (ROI) for today's 24x7 storage management environment.

Optimization: Ensures the most productive utilization of IT infrastructure

Optimization solutions intelligently make the most of your resources so that they run efficiently and provide you with an increased return on your investment. They also provide resilient workload management between resources, which can automatically be balanced for optimal throughput and performance.

IBM DB2 Parallelism with SMP

Expands on the parallel capabilities of DB2 for OS/400 for iSeries. With DB2 Parallelism with SMP for iSeries, a single database operation can run on multiple processors at the same time. This additional processing power can allow some operations to run dramatically faster. The performance gains provided by this feature allow for better, more effective business decisions to be made in a more timely manner.

IBM DB2 Performance Expert, Version 1.1
Simulates and prevents performance prob-
lems with predictive tools. DB2 Performance
Expert integrates performance monitoring,
reporting, buffer pool analysis and a perfor-
mance warehouse function into one tool.
It provides a single system overview that
monitors all subsystems and instances
across many different platforms in a consis-
tent way. DB2 Performance Expert software
analyzes, controls and tunes the performance
of DB2® Universal Database™ and applica-
tions. It provides expert analysis, a real-time
online monitor, a wide range of reports for
analyzing and optimizing DB2 application
and SQL statements. DB2 Performance
Expert includes a performance warehouse
for storing performance data and analysis
tools. The software identifies performance
bottlenecks, helping reduce dependency
in deep skills in your organization, as well as
enhanced decision making.

IBM DB2 SQL Performance Analyzer, Version 2.1
Simulates and prevents performance
problems with predictive tools. DB2 SQL
Performance Analyzer software provides
you with an extensive analysis of SQL queries
without executing them. This analysis aids
in tuning your queries to achieve maximum
performance. DB2 SQL Performance Ana-
lyzer helps to reduce the escalating costs
of database queries by estimating their cost
prior to execution. It delivers performance
analysis for all phases of database applica-
tion design and development. It also helps
you find out how long queries will take and
helps prevent them from running too long.
DB2 SQL Performance Analyzer integrates
the cost-analysis function with several other
IBM data management tools, such as IBM
DB2 Web Query Tool, IBM DB2 Admin Tool
and IBM DB2 Query Monitor.

IBM Performance Management for iSeries
Automatically collects and manages system
utilization information and transmits that
data to IBM for storage for up to 15 months
and for further analysis. In return you
receive Web-based reports on demand
for all the systems or logical partitions in
your network, indicating performance and
growth trends in a significant number of
key areas. You can merge the summarized
historical data with IBM @server Workload
Estimator to plan for needed upgrades, to
size for server consolidation or additions
like applications from IBM Lotus Notes®
Domino® and WebSphere software.

*IBM Tivoli Decision Support for OS/390,
Version 1.6*
Offers a flexible reporting tool for the
enterprise that can help correlate systems
performance data to improve the economic
performance of your investment. Tivoli
Decision Support for OS/390 software
provides a centralized repository for easy
access to enterprise-wide IT data valuable
in performance management, capacity
management, service-level management
and cost management.

IBM Tivoli Performance Modeler, Version 2.1
Models the performance characteristics for
an individual workload or multiple workloads
on your z/OS or IBM OS/390® mainframe
computer. Systems programmers or opera-
tions professionals can use the performance
modeling or capacity-planning tools to simu-
late the actual performance behavior of the
mainframe computer. Predict the output of
these complex mainframe systems and the
impact of changing hardware or software.
With this data, you can proactively manage
your z/OS and OS/390 systems.

IBM Tivoli Storage Optimizer for z/OS

Provides near real-time monitoring of storage resources with dynamic alerting when predefined thresholds are exceeded. It also automates routine tasks such as volume backup, freeing up storage administrators to work on other essential tasks.

IBM Tivoli Storage Resource Manager, Version 1.3

Provides an intelligent console for the storage environment that provides a set of policy-driven, automated tools for managing storage capacity, availability, events, performance and assets in your enterprise environment, including direct access storage (DAS), networked-attached storage (NAS) and SAN technologies. Tivoli Storage Resource Manager software provides over 300 comprehensive reports, monitoring and alerts, policy-based management, database support and chargeback. Tivoli Storage Resource Manager installs in minutes and can help you improve your storage utilization, reduce storage costs, manage more assets with the same staff and ensure application availability.

IBM WebSphere Edge Server, Version 2.0

Distributes application processing to the edge of the network under centralized administrative and application control, and provides unparalleled application scalability and user response times. With its tight integration in the WebSphere software family, WebSphere Edge Server is a world-class vehicle for deploying selected components into the network. WebSphere Application Server Network Deployment addresses the needs of highly available, high-volume environments with the inclusion of sophisticated load balancing, caching and centralized security capabilities based on WebSphere Edge Server software.

Provisioning: Makes available the right resources to the right processes and people

Provisioning automates the allocation, change and configuration of your IT infrastructure resources — including systems, networks, middleware and applications — using intelligent best practices. It creates identity provisioning so users can access the appropriate resources across multiple heterogeneous systems.

IBM Tivoli Configuration Manager, Version 4.2.1
Helps you gain total control over your enterprise software and hardware. Its software distribution module can give you the ability to rapidly and efficiently deploy complex mission-critical applications to multiple locations from a central location. After systems are deployed, the inventory module lets you automatically scan for and collect hardware and software configuration information from computer systems across your enterprise. New features in Tivoli Configuration Manager software include the ability to install operating systems on unattended desktops and servers.

IBM Tivoli Identity Manager, Version 4.5
Helps users, systems and applications get online fast—automating the management and provisioning of user identities across your e-business infrastructure. Tivoli Identity Manager software can help reduce administration costs with delegated administration, centralized user account creation (including self-service interfaces), automated approvals processing that integrates with existing business processes and resource provisioning.

IBM Tivoli Provisioning Manager, Version 1.1
Provides a comprehensive solution to automate provisioning processes for the complete application environment including servers, software, networking and middleware. It allows you to build and modify your own best-practice workflows for provisioning and maintaining complex application environments using a drag-and-drop graphical user interface. It improves server-to-administrator ratios by automating all the steps necessary to provision, configure and deploy a complete operational application environment. Tivoli Provisioning Manager software creates a fast return on investment by utilizing existing hardware, software and network devices without rewiring your infrastructure.

Tivoli Provisioning Manager software delivers enhanced scalability by pooling resources and making them available to quickly scale any application environment to support unforeseen peaks in demand, or to recover complete production environments after a primary site disaster. You can reduce security exposures by tracking and applying operating system, application and security patches to heterogeneous distributed servers. Increase the productivity of experienced IT administrators by automating repetitive, complex tasks and assigning them to junior operations staff, while reducing production outages caused by human error.

Orchestration: Senses and responds to your changing business needs

Orchestration helps your IT infrastructure respond dynamically to changing conditions based on defined business policies. It provides intelligent prioritization of automated action and assigns computing resources where and when they are needed. Orchestration enables increased utilization of existing and new resources, improves productivity of IT staff and accelerates responsiveness to changing business needs.

IBM Tivoli Intelligent ThinkDynamic™ Orchestrator, Version 1.1

Manipulates the IT infrastructure in real time, in response to changing business demands. Provides increased speed and flexibility, increased resource utilization, productivity and responsiveness and increased service levels. Drives rapid, simple and easy-to-implement solution through support for heterogeneous environments and support for open standards such as Java™, SNMP, XML and Simple Object Access Protocol (SOAP). With more than 135 extensible best-practice workflows supporting a wide range of industry platforms and equipment, Tivoli Intelligent ThinkDynamic Orchestrator software enables you to increase your efficiency by sensing and responding to fluctuating demands on your IT environment. This allows your IT environment to anticipate resource requirements based on your business policies and respond by allocating required resources. Tivoli Intelligent ThinkDynamic Orchestrator software delivers flexibility through customizable automation workflows that adapt to your existing infrastructure, allowing you to implement automation at your own pace.

IBM Web Infrastructure Orchestration

Provides software, hardware and optional services that simplify the deployment, management and maintenance of a WebSphere Application Server environment, while retaining the flexibility to customize the offering to your Web infrastructure needs. This offering delivers a flexible Intel® processor-based IBM @server BladeCenter™ solution that is open, extensible, secure, reliable and able to handle fluctuating Web workloads, with advanced systems-management capabilities. The solution enables automated orchestration of BladeCenter servers, networking configuration, operating systems, WebSphere middleware and Tivoli management tools. Web Infrastructure Orchestration software accelerates the time to value from weeks to days by enabling companies to increase their Web server and application computing power dynamically based on business needs. It helps you to reduce infrastructure costs by leveraging best-in-breed technologies from IBM, including Tivoli Intelligent ThinkDynamic Orchestrator, WebSphere, DB2, IBM TotalStorage™ and BladeCenter. Web Infrastructure Orchestration software can be extended to manage your heterogeneous, open environments.

IBM Infrastructure Management Outsourcing
Provides outsourced delivery and management of IT infrastructure, applications and business processes. Helps you focus your IT resources on strategic projects, gain access to utility services and refresh your technology. Infrastructure Management Outsourcing software enables a transition from fixed to variable costs and can help reduce capital expenditures. Infrastructure Management Outsourcing institutes a redundant architecture and network design, along with a proven infrastructure, applications and HR management that are based on 15 years of outsourcing expertise. It helps pool your IT resources to provide low-cost services as well as a single portal for monitoring, report generation, and problem and change management. Security features include monitored and controlled user access, ID administration, administrator-defined entitlement levels and alerts to intrusions and security breaches.

IBM Infrastructure Management Services
Brings business discipline to technology through proven IBM architecture and best practices for data center management. Infrastructure Management Services software offers assessment design and integration services to create a utility computing environment on your premises. Providing preconfigured blueprints for infrastructure, application and network environment design ensures that your IT environment can support your business's needs. Intellectual property workflows and operational processes help automate the implementation of architecture designs and software images — freeing your IT resources. Integrated and pretested end-to-end systems management tools help speed implementation.

Automation can transform your business to on demand

To become an e-business on demand, you need to transform your business processes and align your IT infrastructure with business requirements. Increase efficiencies, enhance employee productivity and improve customer satisfaction. Improve utilization of IT resources while minimizing expenses to meet your business objectives. And leverage automated technologies to manage IT resources — freeing you to focus on your business and improve your bottom line.

Your first step: Use the IBM automation assessment tool

Automation is an essential element in any on demand operating environment. Through automation, you can achieve operational resilience, efficiency, responsiveness, speed and flexibility. A fully automated IT infrastructure can detect changing conditions—such as demand surges or isolated application errors—and can spot trends that could lead to costly system downtime. The infrastructure then automatically responds to those conditions by taking corrective actions to help ensure that availability, security, optimization and utilization of IT resources remain in line with your business goals. IBM offers a complimentary tool to measure your infrastructure's level of automation. To get a preview of the assessment tool, visit **ibm.com**/software/tivoli/resource-center.

Why IBM?

Because IBM can help you achieve three key goals. First, automation can help you reduce your IT costs. Second, IBM simplifies intelligent infrastructure management automation through a spectrum of offerings. These offerings are a family of modular on demand solutions, a spectrum of value, including products, bundled offerings, services and best-practices intellectual capital that give customers choices in how they can deploy effective infrastructure management to leverage their current skills and IT resources. Third, by deploying these on demand solutions, you can speed your business transformation through infrastructure optimization. IBM automation solutions are designed to keep you in the driver's seat. Businesses today not only must deliver results, but they also must deliver results fast.

Why IBM? Because IBM can help you gain a competitive advantage by utilizing the automation guidelines and best practices in your business. Tivoli software from IBM offers products, services and solutions to help you achieve automation through intelligent infrastructure management to support all your business strategies and objectives.

Can you see it? Can you imagine the power of doing business on demand? Can you see the value from becoming a fully automated operating environment? You can start expanding the capabilities of your operating environment today, within a budget that meets your unique requirements.

> " *With IBM software, we are saving money. We don't need to add staff. We can resolve problems faster. Our staff is not very big and we need to handle many different kinds of applications in systems management. If we did not have IBM products, we would need more staff to do our work.*"
>
> – *Hermann Seichter, Team Leader,*
>   *Systems Management, NLV Insurance*

For more information

To learn how solutions from IBM can help
you optimize your IT resources and improve
enterprise efficiency as you build your
on demand business, contact your IBM
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ibm.com/software/info/openenvironment/
automation.html

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