

Why i:
The next generation of IBM @server iSeries
systems in the on demand era

IBM



The on demand era.

Will it take a genie lamp to handle it?

You've probably heard a lot about the on demand era, and the pressures it will put on your business. Your customers and partners will demand that you be more responsive, more flexible and more resilient than ever. They will expect you, like magic, to have products ready when they need them, to provide information when they demand it and, literally, to deliver "on demand," with an unprecedented level of customization. And of course, there is no magic genie lamp. Instead, the onus is on your IT infrastructure to have an almost intuitive level of responsiveness and resiliency. And this means tighter integration between your business and your technology. So, the question quickly becomes, is your business ready to handle the demands of the on demand era?

@ business on demand.



It's here. The next generation IBM @server iSeries.

The next generation of iSeries™ servers are perhaps the first line of servers built with the on demand era in mind. They deliver many of the tools you need to regain control of your infrastructure and succeed in today's dynamic marketplace. Here are some examples:

WHAT YOU'LL NEED	THE iSERIES DELIVERS
<p>Flexibility So you can choose your applications</p>	<p>iSeries offers a multi-platform operating environment that can simultaneously run Operating System/400® (OS/400®), Microsoft® Windows®, Linux®, Lotus® Domino®, ported UNIX® applications as well as application environments and languages such as WebSphere® and Java™.</p>
<p>Resiliency For a more efficient infrastructure</p>	<p>iSeries' dynamic workload manager automatically balances system performance across all operating environments, helping to reduce administration costs and save you time. Up to 32 logical partitions per server, dynamic logical partitioning on a uni-processor and up to 10 Linux or OS/400 partitions per processor. iSeries self-optimizing storage architecture helps automate of storage with balanced application performance.</p>
<p>Reliability For mitigation of risk</p>	<p>A legendary track-record of reliability, natural virus resistance and self-managing, self-healing features means the iSeries can help increase uptime, optimize performance and identify and help fix problems before they occur.</p>
<p>Performance To fully leverage your technology</p>	<p>Advanced silicon-on-insulator (SOI) technology makes the POWER4™ chip one of the fastest 64-bit processors in the world, winning an award from MicroDesign Resources as a best workstation/server processor.¹</p>
<p>Cost-efficiency For lower TCO</p>	<p>iSeries new capacity on demand capabilities can help increase cost efficiency. On/Off Capacity on Demand allows you to turn on extra processing power when you need it, turn it off when you don't. And with Capacity Upgrade on Demand, you can activate new permanent processing power as your business grows.</p>
<p>Integration For easier management</p>	<p>Integrated storage, database and e-business tools allow you to centrally manage your entire infrastructure—including Linux and Microsoft Windows workloads. With integrated xSeries™ Windows solutions, you can run your windows servers from your iSeries, plus WebSphere products offered on iSeries allow easy modernization of traditional applications.</p>



“We are seeing an infectiousness with respect to speed,” wrote Fast Company. “Once you know that you can have something tomorrow, you ask, ‘Why can’t I have everything tomorrow?’ And increasingly, the answer is, ‘You can.’ Whoever delivers what you want the next day is going to win.”

The on demand world

Market dynamics have changed. Companies now face a new set of challenges. For example:

- Decision making used to take place within a business unit, today it is essential for tight collaboration across integrated value nets that span geographic, organizational and industry boundaries.
- Rigid reporting structures are being replaced by dynamic and adaptive learning organizations.
- Businesses can no longer plan on long-term product cycles under conditions of steady economic growth, but now deal with shorter cycles and unpredictable economic fluctuations.
- Privacy requirements and increased security exposure are now making proactive risk management strategies more essential.

In turn, all of these changes bring with them clear implications for how companies will need to deploy technology.

- Previously accustomed to fixed costs with predictable upgrade growth strategies, companies now demand variable pricing and cost structures.
- Companies require new capacity, available immediately to enable them to respond to unpredictable demands.
- Open, standards-based technologies are becoming increasingly more important, making middleware integration a strategic priority—for businesses of every size.
- Finally, while organizations used to expect users to conform to their own technology strategies, now—in a consumer-driven, technology-savvy economy—businesses must adapt their systems to Web-set end-user expectations.



“Business agility today is limited by rigid technologies that prevent quick adjustment in response to changing business conditions,” wrote Forrester Research.



WEB ENABLEMENT

New iSeries packaging² offers WebSphere-Express for iSeries which includes an application server and a WebSphere application development tool, including the IBM WebFacing Tool. This allows companies to modernize traditional applications and extend them to the Web. Plus, iSeries servers include IBM HTTP Server (powered by Apache) and supports Java and Domino—for superior flexibility in choosing e-business applications.

The on demand operating environment

New business paradigms require new strategies and new approaches to conducting business. In the past several years, it has become important for technology infrastructures to be reliable, open, scalable and secure. Technology is handling more and more of a company's transactions, vital communications and access to key assets. Technology is no longer a back-office function, but is playing a strategic business role.

As the new on demand paradigm emerges, these demands will become increasingly more important to success, and will require even further innovation. Based on years of industry leadership, expertise and thousands of customer engagements, IBM has defined four key strategies to help address the business needs of an on demand environment: integration, open standards, virtualization and autonomic computing.

So how will companies optimize their infrastructure in the on demand era?

It starts with making sure the fundamental groundwork is in place. IBM @server iSeries servers are well positioned to help you apply these innovations and to assist in transforming your business through the stages of e-business.

iSeries is built on an integrated architecture—one that has proven its versatility in successive generations of computing. iSeries incorporates e-business technologies from a wide variety of open technology sources and operating environments, offering a flexible, multi-platform solution. It is uniquely positioned to play a leadership role in the on demand era. Here's how:

- **Integration**

This means having the ability to manage complex technology “seams” between heterogeneous operating systems, middleware



THE NEXT GENERATION iSERIES

A new line of highly integrated, reliable servers that deliver a multi-platform operating environment. New packaging options and enhanced capabilities allow customers to adjust dynamically to changing requirements.



DATABASE TOOLS

Built into OS/400 is the industry-leading IBM DB2[®] Universal Database™ (UDB). DB2 UDB for iSeries supports multiple, independently-named database images within a single OS/400 partition so companies can consolidate multiple databases across several lines of business while maintaining operational and accounting independence.

iSeries allows Linux applications to be combined with other business applications and e-business solutions on a single server. Processor resources can be dynamically moved between partitions and with storage virtualization, Linux can take advantage of the performance, protection and management provided by the advanced iSeries storage architecture.



and application components. And this can be complex. You need to team up with a technology provider that has the partnerships, the know-how and the “feet on the street” to help you.

iSeries systems have pioneered integration design concepts, combining and pre-testing database, workload management, storage and security technologies into a highly robust, easy-to-use operating environment for business applications. Add the integration of Microsoft Windows and support for Linux, and the iSeries has extended the boundaries of integration beyond a single server and operating system to multiple operating environments. That’s why so many customers choose iSeries to run their businesses and why so many Independent Solution Vendors (ISVs) write their applications for iSeries.

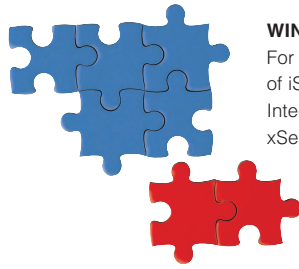
• **Open standards**

There is no other choice. One size does not fit all. On demand technology must embrace *de facto* standards. IBM has embraced many open standards across its entire product portfolio and continues to help drive these standards in the marketplace. It’s important that your technology providers in the on demand era be industry leaders in driving open standards.

iSeries has made a strong commitment to open standards such as Java, SQL, XML and Linux. And Linux marks one of most important elements of on demand computing. In fact, nowhere is this commitment more evident than in the iSeries implementation of Linux, enabling customers to manage new, open infrastructure solutions inside logical partitions and storage management frameworks on the iSeries. iSeries is well recognized as a technology leader in the Linux community, previously winning Best of Show at LinuxWorld.

• **Virtualization**

Virtualization promotes the ability to dynamically provision server, storage and application resources according to changing demand and priorities. One result of the past several years is that many organizations are sitting on top of enormous amounts of unused computing capacity. The next generation of technology will need the capability to virtualize these resources into single, powerful computing instances. Server consolidation and capacity on demand are important first steps. And to even further address this issue of underutilization, grid computing is gaining more momentum, helping to take these practices to an even higher level, accessible to commercial businesses around the world.



WINDOWS INTEGRATION

For local consolidation of Intel servers and storage, with centralized management of iSeries and xSeries servers, the iSeries offers two options: installing the Integrated xSeries Server inside the iSeries or attaching external IBM @server xSeries servers directly to the iSeries via the Integrated xSeries Adapter™.



AUTONOMIC COMPUTING

iSeries provides self-optimizing and self-healing features as well as intuitive graphical tools that can help automate management tasks. Self-healing features help automate monitoring to promote availability and prevent downtime. Self-optimization features automate routine administrative tasks such as dynamically optimizing available storage for OS/400, Windows and Linux servers and dynamically reallocating resources across application environments for increased efficiency.

The first essential iSeries building blocks toward the goal of virtualization began with built-in virtualization of system resources and dynamic workload management. Next came OS/400 support for fully dynamic logical partitioning and the ability to divide a single processor into multiple partitions, making possible multiple “virtual blades” or images of Linux-based workloads. Now, fully dynamic enablement of reserve capacity on demand—permanent and temporary—is the gold standard for dynamic provisioning.

- **Autonomic**

Just as the human nervous system manages and sustains your body, autonomic technologies help to manage, sustain—even optimize your infrastructure. The on demand world will require your technology to be self-protecting, self-optimizing, self-healing and self-configuring. Why? To ensure optimal reliability, availability and serviceability, plus less downtime and lower cost of ownership.

A prime example of IBM’s dedication to innovation is the initiative to develop systems that can manage and repair themselves with less human intervention. IBM is consistently breaking milestones in this area, and iSeries has adopted many of these technologies as a model for success.

In fact, OS/400 is built on architectural foundations that encompass autonomic concepts such as self-optimizing disk management and the ability to automatically dial-up for service in anticipation of a problem. iSeries autonomic features have been extended to include dynamic partitioning for efficient resource utilization and automatic advisor for self-management of database indices and single network signon through Enterprise Identity Mapping. This addresses the challenge of managing user identities and passwords in heterogeneous enterprise networks.

Imagination backed by innovation

As we move forward, the need for businesses to move faster, improve flexibility and bolster collaboration on a global level will undoubtedly grow. For this reason, the adoption of optimized IT infrastructures based on the four strategies just discussed will become more critical to business success.

And the importance of having a partner like IBM will become increasingly apparent. The on demand era of e-business will require invention and leadership from your technology provider.

IBM has the depth of industry knowledge and technology expertise, the vision that comes from having deep process skills in 18 different industries, the service depth to help make sure solutions actually work.

IBM has the leadership track record in e-business, with years of experience in fulfilling our promises and delivering real business value to thousands of customers around the world.

IBM gives you the ability to see the future so tangibly. With more U.S. patents than any other company over the last ten years, IBM has a unique ability to help you understand what is on the technology horizon. According to figures released in January 2003 by the United States Patent and Trademark Office, IBM's patents surpass the combined total of patents awarded to 10 of the largest U.S.-based companies in the IT industry during the last decade.

IBM backs up that knowledge with the kind of global horsepower needed to help make sure that the solutions you sign up for today deliver real business value tomorrow.

IBM was ranked #1 in 2002's "100 Best Corporate Citizens" by *Business Ethics* magazine.³ IBM was also ranked #1 in *FORTUNE*'s 10 Most Admired Computer Companies.⁴ At a time when integrity is more valuable than ever, you can count on IBM.



POSSIBILITY ON DEMAND

In an on demand world, a pharmaceutical company could access integrated patient data in real time, through in-home diagnostic, monitoring and communications technologies. Physicians and researchers could respond much faster to real-world disease conditions—and the firm could reduce its reliance on expensive, risky "blockbuster drugs," and move toward the creation of customized medicines for smaller patient populations.



POSSIBILITY ON DEMAND

A car company still has the problem of inventory lying stagnant on the manufacturing end. One of the largest car companies today could hold only four hours' worth of parts in its production plants—but has 90 days' worth of depreciating inventory on its dealers' lots. In an on demand world, not only could intelligence on actual (not projected) customer demand be fed into its core systems, but cars could be built to order in just a few days.



POSSIBILITY ON DEMAND

In an on demand world, a retailer could equip its in-store managers with real-time pricing and supply information to make decisions on the floor (helping to create a truly "connected store") to drastically improve customer service and satisfaction in an increasingly cutthroat retail marketplace.



Why i. In about 30 seconds

Virtually every facet of the on demand era will put great demands on you, your business, your servers. And there is no magic genie lamp. It will be up to you to sense and respond. Be resilient and flexible. Be fast and cost-effective. The IBM eServer iSeries can do all of that. What's more, the iSeries is backed by one of the world's largest support networks, including thousands of Business Partners and flexible financing arrangements.

For more information

Learn more about the new line of iSeries servers, including new packaging and new capabilities that can help you get ready for the on demand era. Visit: **ibm.com/eserver/series**

© Copyright IBM Corporation 2003

IBM Corporation
Integrated Marketing Communications,
Systems Group
Route 100
Somers, NY 10589

Produced in the United States of America
2-03
All Rights Reserved.

References in this publication to IBM products or services do not imply that IBM intends to make them available in every country in which IBM operates. The information may be subject to change without notice. Consult your local IBM business contact for information on the products, features and services available in your area.

IBM, the IBM logo, the e-business logo, AIX, DB2, DB2 Universal Database, Domino, e-business on demand, eServer, iSeries, Lotus, Operating System/400, OS/400, POWER4, WebSphere and xSeries are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

Linux is a registered trademark of Linus Torvalds.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product and service names may be trademarks or service marks of others.

All statements regarding IBM's future directions and intent are subject to change or withdrawal without notice and represent goals and objective only.

IBM hardware products are manufactured from new parts, or new and used parts. Regardless, our warranty terms apply.

Photographs shown are of engineering prototypes. Changes may be incorporated in production models.

Information concerning non-IBM products was obtained from the suppliers of these products. Questions on the capabilities of the non-IBM products should be addressed with the suppliers.

¹ Source: HYPERLINK "<http://www.mdonline.com>" www.mdonline.com, January 30, 2002.

² Included on Model 800 Standard and Advanced Editions, and choice of WebSphere Application Server 5.0 or WebSphere Express for iSeries on Models 825, 870 and 890 Enterprise Editions.

³ *Business Ethics*, March/April 2002 issue.

⁴ *FORTUNE*, March 11, 2002, issue.