



e-business is your business.

Your world, your rules.

Because e-business is your business

IBM @server systems The engines of e-business

Today's businesses rely more and more on e-business methods to achieve faster, more efficient results for customers. IBM @server brand is a portfolio of hardware, services and support that form the building blocks of successful e-business. At the core of the portfolio are four IBM @server categories:

• xSeries™ • iSe

iSeries[™]

pSeries[™]

zSeries[™]

IBM @server xSeries systems are designed to deliver on the vision of project eLiza—an IBM initiative to advance the goal of self-sustaining systems. Through a combination of mainframe-inspired technologies and intelligent management tools, xSeries servers give you true hands-off reliability. Part of the IBM @server hardware portfolio for e-business, xSeries systems are a high-performance line of Intel® processor-based servers ranging from appliances to enterprise-class systems. The offering continues to grow with the powerful IBM @server xSeries 440 and 360 systems exploiting our groundbreaking IBM Enterprise X-Architecture™ technology, as well as a new IBM @server xSeries 330 model featuring Memory eXpansion Technology (MXT).

IBM @server vision:

These servers support the industry's

broadest range of platforms—

hardware, operating systems and

applications—for a wide range of

solutions to fit your needs, including

open standards. IBM @server systems

interconnect and merge smoothly with

your existing technology to deliver a

flexible and integrated infrastructure.

Three critical elements make up the IBM vision for the future of e-business:

- Application flexibility—
 Choices in selecting, building and deploying applications
- New tools for managing e-business—
 New ways to manage end-to-end growth, risks and costs
- Innovative technology—
 Extreme performance and scalability with IBM reliability and security

IBM @server xSeries systems are the critical Intel processor-based component of IBM @server solutions. They deliver on the IBM @server vision to bring you application flexibility, new tools and innovative technology via the X-Architecture blueprint.



IBM@server xSeries 360

"We chose IBM @server systems because they offer us rock-solid quality. And our customers can enjoy cross-platform capability with IBM @server."

-Brian Turbow, President and Chief Information Technology Officer, Myrient

New technology introduces a revolutionary economic model

IBM X-Architecture technology is a blueprint for building IBM mainframe-inspired muscle into Intel processor-based servers. What you get is enhanced availability, scalability and systems management—all on industry-standard hardware. Over the past several years, IBM has delivered continuously on this strategy with such innovative technologies as Active™ PCI, C2T Interconnect™ cabling, Chipkill™ memory, Predictive Failure Analysis®, Light Path Diagnostics™ and IBM Director Software Rejuvenation, to name a few.

Now IBM unleashes its greatest surge of X-Architecture innovation to date. Called Enterprise X-Architecture technology, this new phase brings revolutionary advancements in performance, memory and I/O capabilities as well as a "pay as you grow" approach to buying Intel architecture 32-bit and 64-bit high-end xSeries systems. The result: highly reliable hardware in servers that can be scaled quickly, easily and inexpensively, allowing you to do more with your IT dollars.

Enterprise X-Architecture technology enables the following capabilities:

XpandOnDemand™ scalability—

Supports upgrading processors, I/O slots and other resources via modular external cabinets so you can start small and grow big

• System partitioning—

Allows you to run multiple operating systems and applications concurrently

Active[™] PCI-X—

Enables hot-add/hot-swap PCI and PCI-X adapters with failover

• Remote I/0-

Lets you increase I/O when you add the IBM RXE-100 Remote Expansion Enclosure, an I/O expansion unit with 6 or 12 adapter slots

• Real Time Diagnostics-

Lets you run diagnostics without taking the server offline

XceL4[™] Server Accelerator Cache—

Provides up to 64MB of high-speed L4 cache

• 400MHz front side bus-

Enables data movement between devices faster than previously possible

· Memory enhancements—

Active Memory™

 Allows you to write data simultaneously to two independent memory cards for a level of redundancy similar to RAID-1 disk mirroring, but without the performance penalty of other designs

Chipkill memory

 Corrects multiple errors using off-the-shelf, industry-standard ECC memory

Double data rate (DDR) memory

 Boosts performance using high-speed PC200 or standard ECC SDRAM memory

Large capacity

Supports up to 256GB of memory

Memory ProteXion™

 Uses spare bits analogous to a hard disk drive hot spare to automatically reroute data in the event of an on-DIMM chip failure, helping keep the server running smoothly





Versatile x440 solution

New servers for dynamic solutions

With innovatively designed hardware and smart management tools, IBM @server systems provide dynamic solutions that keep your business agile, ready to absorb—even exploit—the rapid-fire changes of e-business. These new xSeries servers bring versatility to the data center, enabling you to do more with less: Do more with your money, do more with your data center, do more with your IT staff.

Ultimate XpandOnDemand scalability: the IBM @server xSeries 440

The first xSeries system to fully exploit the entire Enterprise X-Architecture blueprint, the x440 is truly a breakthrough in server technology for the Intel architecture 32-bit platform. Its building-block approach to scalability introduces a revolutionary economic model to enterprise computing, offering exceptional configuration and application flexibility.

The building blocks are x440 scalable enterprise nodes, bet-your-business servers that initiate a smarter, more cost-effective strategy for high-performance computing on industry-standard hardware.

Each x440 scalable enterprise node contains an SMP Expansion Module, which houses up to four processors, memory and cache and can be joined to another SMP Expansion Module to easily take your 4-way x440 to an 8-way. The x440 can also be connected to another x440 via super-fast scalability ports for expansion up to 16-way SMP.

Along with the impressive flexibility of the x440, the Enterprise X-Architecture blueprint delivers another pay as you grow first in industry-standard computing—remote I/O. The IBM RXE-100 Remote Expansion Enclosure gives the x440 up to 12 additional Active PCI-X slots per chassis by way of an innovative, high-speed interconnect.

The x440, with its modular design, allows you to purchase only the processing, memory and I/O capacity you need, when you need it. You no longer have to buy server headroom that may go unused, simply for the sake of trying to anticipate growth. Instead, pay as you grow.

Exceptional availability and reliability

For the highest achievable availability, the x440 can be configured into a flexible clustering solution for your mission-critical needs. Physical partitioning via high-speed scalability ports enables connection of an 8-way x440 to another x440 for 12-way or 16-way SMP, giving your crucial data and applications the failover protection they need for the utmost reliability. And, with the modular design of the x440, you no longer have to incur the expense of purchasing separate servers, adapters and switches in order to reap the benefits of clustering.

You can cluster nodes much more affordably in a variety of combinations by using the x440 scalability ports as high-speed interconnects.

To further increase availability of your data, the x440 includes other Enterprise X-Architecture firsts such as high-availability advancements in memory. Memory mirroring and Memory ProteXion help keep downtime from affecting your business operations, and the XceL4 Server Accelerator Cache helps dramatically increase performance. By taking industry-standard processors, memory and I/O, and making them work better together, the x440 introduces a new era in high-performance server computing.



IBM@server xSeries 440

High-performance computing in rack-optimized designs

Maximum power meets minimum space: the IBM @server xSeries 360

For everything from file-and-print to database serving, CRM and server consolidation, the 4-way, rack-dense x360 is the ideal choice for high-performance computing in a space-constrained environment.

The x360 uses the new Intel Xeon™
Processor MP and packs incredible processing power into a sleek 3U chassis. Selected by Intel to be the validation platform for their next generation of high-performance processors, the slim x360 design allows you to fit 40% more processors per rack compared to 4U systems.

As with the x440, Enterprise X-Architecture technology brings economical scalability to the x360. A high-speed remote I/O port can connect the x360 to the RXE-100, a remote I/O unit that allows you to add more PCI and PCI-X slots to the x360 without requiring you to invest in a full system upgrade. This pay as you grow capability lets you quickly and easily build enterprise-class, partitionable solutions including high-availability SANs and clusters that require many I/O slots for redundancy.



IBM @server xSeries 360

Enterprise X-Architecture technology brings pay as you grow scalability to enterprise-class solutions.

High-availability features in the x360 include Active PCI-X, which allows you to hot add and hot swap I/O adapters, and third-generation Chipkill DDR memory for improved reliability and performance. The x360 also helps reduce your total cost of ownership with leading systems management features like the Remote Supervisor Adapter and IBM Director software, which are both included at no extra charge. Bottom line: The x360 saves you space and money, while also delivering radical application flexibility, scalability and performance.

A new age of efficiency in 1U computing: the IBM @server xSeries 330 with MXT

Engineered for outstanding performance and manageability in the smallest form factor on the market (1U), the 2-way x330 MXT is a powerful solution to the space dilemma faced by ISPs and other e-businesses. The x330 MXT, with its ultra-efficient data storage format, can actually increase the capacity of industry-standard memory, which can dramatically improve performance in certain memory-constrained environments. Hence the x330 MXT maximizes computing power per unit, per rack, like never before.



IBM @server xSeries 330 with MXT













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	Universal Designed for maximum	internal scalability to meet de	mands for increased applicati	on data or user workload		Rack-optimized Delivers outstanding performa
xSeries model	x200	x220	x232	x250	x300	x300 DC-power
Form factor/height	Tower, Rack/4U	Tower, Rack/4U	Tower, Rack/5U	Tower, Rack/8U	Rack/1U	Rack/1U
Intel processor (max)	1.26GHz-S Pentium® III	1.4GHz-S Pentium III	1.4GHz-S Pentium III	900MHz Pentium III Xeon	1GHz Pentium III	800MHz Celeron®
Number of processors (std/max)	1/1	1/2	1/2	1/4	1/1	1/1
Cache (max)	512KB L2	512KB L2	512KB L2	2MB L2	256KB L2	128KB L2
Memory (max)	1.5GB	4GB	4GB	16GB Chipkill	1.5GB	1.5GB
Expansion slots (total/Active PCI)	5/0	5/0	5/0	6/4	2/0	2/0
Disk bays (total/hot-swap)	4/0 (IDE or SCSI)	4/3	9/9 with optional 3-pack hot-swap HDD kit	10/10	2/0	2/0
CD-ROM/ diskette drive	Yes	Yes	Yes	Yes	Yes	Yes
Maximum internal storage	293.6GB ¹	293.6GB	660.6GB	734GB	160GB	160GB
Network	Integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Dual integrated 10/100 Ethernet	Dual integrated 10/100 Ethernet
Advanced System Management processor	N/A	Optional (supports Remote Supervisor Adapter)	Integrated (supports Remote Supervisor Adapter)	Integrated	N/A	N/A
Power supply (std/max)	330W 1/1	330W 1/1	385W or 2x250W 1 or 2/3 hot-swap	2x250W 2/4 hot-swap	200W 1/1	200W 1-48V DC/1
Hot-swap components	N/A	HDDs (select models)	Power supply, HDDs	Power supply, fans, HDDs, PCI	N/A	N/A
Light Path Diagnostics	Limited	Limited	Yes	Yes	N/A	N/A
RAID support	Optional	Optional	Optional	Optional	Optional	Optional
Limited warranty and support	3-year or 1-year parts/1-year onsite labor	3-year parts/1-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/1-year onsite labor	3-year parts/1-year onsite labor
For more information or to buy now, go to ibm.com and enter the NavCode™ in this row, or simply click on it	<u>x200</u>	<u>x220</u>	<u>x232</u>	<u>x250</u>	<u>x300</u>	<u>x300DC</u>

^{*}See page 12 for limited warranty information².











nce and manageability in the slimmest chassis possible

nce and manageability in the slimmest chassis possible											
x330	x330 DC-power	x342	x350	x360	x370	x380	x440				
Rack/1U	Rack/1U	Rack/3U	Rack/4U	Rack/3U	Rack/8U	Rack/7U	Rack/4U				
1.4GHz-S Pentium III	1.26GHz-S Pentium III	1.4GHz-S Pentium III	900MHz Pentium III Xeon	1.6GHz Xeon Processor MP	900MHz Pentium III Xeon	800MHz Itanium™	1.6GHz Xeon Processor MP				
1/2	1/2	1/2	1/4	2/4	1/8	1/4	2/8				
512KB L2	512KB L2	512KB L2	2MB L2	1MB L3	2MB L2	1MB L3	1MB L3 32MB L4				
4GB Select model with MXT	4GB	4GB	16GB Chipkill	8GB Chipkill DDR	32GB	64GB	32GB Chipkill (16GB/4-way or 32GB/8-way)				
2/0	2/0	5/0	6/6	6/6 Active PCI-X	12/12	8/8**	6/6 Active PCI-X				
2/2	2/2	6/6 with optional 3-pack hot-swap HDD kit	6/6 with optional 3-pack hot-swap HDD kit	3/3	2/2	2/2	2/2				
Yes	Yes	Yes	Yes	Yes	Yes	Yes/LS-120	Yes				
146.8GB	146.8GB	440.4GB	440.4GB	220.2GB	146.8GB	72.8GB	146.8GB				
Dual integrated 10/100 Ethernet	Dual integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Integrated 10/100 Ethernet	Optional 10/100 Ethernet	Integrated 10/100 Ethernet	Integrated 10/100/1000 Ethernet				
Integrated (supports Remote Supervisor Adapter)	Integrated (supports Remote Supervisor Adapter)	Integrated (supports Remote Supervisor Adapter)	Integrated	Remote Supervisor Adapter in dedicated slot	Remote Supervisor Adapter in dedicated slot	Yes*** (ISC required)	Remote Supervisor Adapter in dedicated slot				
200W 1/1	200W 1-48V DC/1	270W 1/2 hot-swap	270W 1/3 hot-swap	370W 1 or 2/3 hot-swap	3x550W (110v) or 3x750W (220v) 3/3 hot-swap	4x800W 4/4 hot-swap	2x1050W (220v) 2/2 hot-swap				
HDDs	HDDs	Power supply, fans, HDDs	Power supply, fans, HDDs, PCI	Power supply, fans, HDDs, PCI-X	Power supply, fans, HDDs, PCI	Power supply, fans, HDDs	Power supply, fans, HDDs, PCI-X				
Yes	Yes	Yes	Yes	Yes	Yes	No	Yes				
Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional				
3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	3-year parts/3-year onsite labor	1-year parts/1-year onsite labor				
<u>x330</u>	x330DC	<u>x342</u>	<u>x350</u>	<u>x360</u>	<u>x370</u>	<u>x380</u>	<u>x440</u>				

^{**}Hot-swap operation requires operating system support and installation of the required device drivers (not included).



 $^{{}^{\}star\star\star} \text{Intel Server Control (ISC) required} \underline{\hspace{0.5cm}} \text{tool provided and supported by Intel at an additional cost.}$

Exceptional investment protection

Included software³

- IBM Director and IBM Director Extentions (available on most xSeries servers)
- IBM ServerGuide[™]
 (available on most xSeries servers)

Unrivaled service and support

xSeries systems come with the acclaimed service and support you expect from IBM, offering enhanced value, peace of mind and confidence. Here are some of the many ways you can gain direct access to IBM expertise:

- Three-year limited warranty*—
 Includes parts and onsite labor.

 Available with most xSeries servers.
- ServerGuide—Enables rapid loading of major network operating systems and simplifies hardware configuration.

• IBM High Availability Services for

- Business-Critical Systems4—
 Uniquely tailored optional solutions available on certain xSeries servers to help meet your end-to-end business availability objectives.
- IBM Global Services—Providing end-to-end service suites that improve your ability to conduct business.
- Education—Key information training available through classroom, Internet and video media.

Operating systems supported (select models)

- Microsoft® Windows® 2000
- Microsoft Windows NT®
- Novell NetWare
- SCO UnixWare

- Linux® (Red Hat, SuSE, Caldera, Turbolinux)
- IBM 0S/2®

It's about business, not just technology

The following programs can help reduce your total cost of ownership by lowering integration risks, helping ensure smooth installation and decreasing the need for post-implementation support.

IBM ServerProven®

Open systems require open relationships. The ServerProven⁵ program affords participating vendors the opportunity to work with IBM to test and optimize software applications. hardware and network operating systems for compatibility on IBM Intel processor-based servers. For an extensive selection of ServerProven software and middleware, visit the IBM Solution Library at www.developer. ibm.com/welcome/myvc.pl and select "Solutions Library." This library is one of the industry's premier repositories of marketing and technical information about IBM e-business solutions.

Visit **ibm.com**/pc/support for more information.

IBM ClusterProven™

The ClusterProven⁵ program provides support to IBM solution developers who wish to join the market trend of delivering proven, highly available solutions to customers. When you see the IBM ClusterProven emblem, it means the entire solution—hardware, operating system, cluster middleware and applications—has been validated and tested. IBM ClusterProven reduces the guess-and-test cycle with clearly defined criteria for validating end-to-end clustering solutions.

"I firmly believe that if I were not using IBM equipment, I would have to double or triple the size of my department."

-Ronnie Chandler, Director of Technology, Muskogee Public Schools

^{*}See page 12 for limited warranty information².

Personalized solutions with xSeries Options

xSeries Options for spiraling data demands

By year end 2002, 93% of firms expect to transact business over the Internet. By 2004, Web-based business-to-business commerce will reach nearly \$3 trillion⁶. The figures are staggering. These trillions of dollars represent unthinkable quantities of data, all of it necessary to generate the next round of trillion-dollar e-business.

How do you keep your share of that data expanse protected?
Available? Manageable, so that your data-warehousing and CRM applications can make sense of it all? And how do you equip your application servers to handle the spiraling workloads?

xSeries Options offer a wide range of proven components that integrate easily into complete solutions for your storage and performance needs. They are designed to help you track, process, manage and share information more efficiently across your infrastructure—so you can tap into your data's real earning potential.

Your data is your business

xSeries servers help protect your crucial information assets, keep your business-critical systems up and running, allow your network to grow with your business and provide an open path for the future. Large or small, your business should address the following five data requirements:



Key IT business protection issues

Increasing storage needs

Are you moving to an e-business environment and finding that your storage requirements are escalating? Is your data your most valuable asset?

Data availability

Are there times when the network is unavailable because the server is down? Does your business lose money if your data is unavailable?

Data protection

How much is your data worth? Recreating lost computer data can cost thousands of dollars. Are your data backup systems adequate?

Space constraints

How do you increase your computing capacity without driving your company out of its current space?

Performance/scalability

Does your current storage configuration provide sufficient data access to support your business needs? Do you have performance issues on your network? Are you running out of I/O slots?

xSeries Options

- IBM offers SCSI and Fibre Channel hot-swap hard disk drives up to 73.4GB.
- Using an EXP300 SCSI expansion unit, you can load 14 73.4GB drives for over 1TB1 of storage.
- IBM storage area network (SAN) solutions featuring IBM Fibre Array Storage Technology (FAStT) support the growing requirement of providing superior performance and high bandwidth for faster data access.
- IBM offers nine levels of RAID protection for the redundancy you need; both Fibre Channel and SCSI RAID adapters are available.
- IBM high-availability and clustering solutions enable multiple servers to operate as one system and provide around-the-clock operations, in a very cost-effective manner.
- IBM offers a complete family of tape options including tape libraries, autoloaders and rackable tape automation products to help your business run smoothly in critical, data-dependent environments.
- Racks make it easy to centralize, organize and access your hardware for servicing, upgrading and managing
 your infrastructure. IBM racks offer server consolidation and space savings with easy access to components.
- IBM 42U rack enables 14TB of storage—or string eight together for 112TB of storage.
- The IBM FAStT family of storage servers delivers the performance necessary to optimize data access and delivery.
- Adding memory or processors represents a significant performance increase, helping increase productivity.
- Increasing memory in a Web server can significantly increase your performance.
- The new IBM RXE-100 Remote Expansion Enclosure gives you true pay as you grow scalability because it
 eliminates the need to buy an entire new system to increase your I/O capacity.



Self-managing capabilities

Systems management tools—a combination of hardware instrumentation and advanced software—endow xSeries servers with actual self-managing capabilities. They optimize performance in the face of fluctuating workloads and continuing growth—providing rock-solid reliability along with the flexibility you need to navigate the trends of e-business.

Systems management tools help boost your bottom line with these benefits:

- Reduced management costs
- Freeing up of valuable IT staff time for development, rather than maintenance
- Maximum systems uptime, helping eliminate the costs of downtime and increasing end-user productivity



NetBAY™ 42 Enterprise Rack

Achieving new levels of productivity

xSeries systems management comprises an integrated set of hardware instrumentation and advanced software tools that keep your network up and running at peak efficiency, while minimizing your total cost of ownership. These tools simplify and automate preventive and routine maintenance.

Hardware

- Predictive Failure Analysis (PFA)
 provides advanced notification of
 an impending failure so that
 corrective action may be taken
 to avoid unplanned downtime.
 IBM offers PFA on more components
 than any other server vendor:
 hard disk drives, memory,
 power supplies, fans, processors
 and voltage regulators.
- Light Path Diagnostics works in conjunction with PFA. Built-in LED indicators attached to individual components—as well as an external service panel—alert you to problems and their exact location, helping to expedite repairs and help minimize downtime.
- **IBM Integrated System Management** Processor (ISMP) is literally an individual computer within xSeries servers that gives you around-the-clock remote management and troubleshooting capabilities. The ISMP continuously monitors systems health to make you aware of potential issues with temperature, voltage, fan redundancy, memory and hard drive performance. Plus, it provides configuration management benefits with such features as remote firmware updates, remote power control and Automatic Server Restart (ASR) to help make sure your operating system is in active status at all times.

"We found IBM's management suite to be comprehensive, easy to get up to speed on and effortless to administer from. IBM gets an A+ rating for manageability...."

Rock-solid reliability

IBM Remote Supervisor Adapter augments ISMP capability on select xSeries servers by giving you full out-of-band management functionality. Even if the server is powered down or otherwise nonresponsive, its independently powered ISMP can bring it back under your control. Through an embedded Web browser, the processor yields full graphical console redirection for easy GUI management of an offline server. The Remote Supervisor Adapter even makes managing multiple servers simple; it has a special interconnect feature for single-point management of up to 12 xSeries systems.

Software

• IBM Director 3.1 provides a simple GUI to remotely manage up to 5,000 Intel processor-based clients. It automates many of the processes required to run your networks productively, for example: performance planning, preventive maintenance, diagnostic monitoring and troubleshooting. As part of your xSeries hardware purchase, IBM Director delivers a depth of management that other vendors cannot match—and they charge extra for most of their tools.

IBM Director Extensions are another no-charge collection of software utilities included with IBM Director. They integrate with IBM Director to extend the manageability of your xSeries hardware with advanced, predictive, self-healing technologies. For example,

 Capacity Manager tracks server

resource utilization and uses built-in intelligence to identify bottlenecks and automatically correct them. **Software**

Rejuvenation predicts software failures and automatically schedules software resets, helping protect the server from an unplanned outage caused by aging software.



Real Time Diagnostics is an IBM exclusive that allows you to run server diagnostics without powering systems down—a first in industry-standard computing. Real Time Diagnostics is available for download at ibm.com eserver/xseries/rtd.

New:

Process Control allows you to control how applications share server resources such as memory and processor utilization, helping ensure that your most critical business applications get the priority they need for optimal performance. Process Control is also available for download at ibm.com/eserver/xseries/process.

"Without a doubt, the...management tools are among the best we've seen. We especially like the preventative monitoring services of Director. IBM is the only vendor with an 'Excellent' rating for manageability."

—PC Magazine May 2001





Need more information?

World Wide Web

IBM @server xSeries ibm.com/eserver/xseries

IBM Options for xSeries servers

ibm.com/pc/us/eserver/xseries/storage

IBM X-Architecture technology

ibm.com/eserver/xarchitecture

IBM Enterprise X-Architecture technology

ibm.com/eserver/enterprise_xarchitecture

IBM Small Business Program ibm.com/smallbusiness

IBM xSeries Systems Management

ibm.com/pc/ww/eserver/xseries/systems_management

IBM High Availability Services for Business Critical Systems

ibm.com/services/its/us/highavail2

ClusterProven ibm.com/pc/ww/eserver/xseries/clusterproven ibm.com/pc/ww/eserver/xseries/serverproven

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- ¹When referring to storage capacity, GB equals 1,000,000,000 and TB equals 1,000,000,000,000. Accessible capacity is less.
- ²For a copy of the IBM Statement of Limited Warranty, call 1 800 772-2227. Telephone support may be subject to additional charges. For onsite service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.
- ³Some software may differ from its retail version (if any) and may not include user manuals or all program functionality. Warranty, service and support for non-IBM products are provided directly to you by third parties, not IBM. IBM makes no representations or warranties regarding non-IBM products. For non-IBM software, applicable third-party software licenses may apply.
- ⁴The High Availability Services for Business-Critical Systems offering is an optional service in the U.S. only. It is offered for only selected xSeries models at this time. IBM reserves the right to change the terms and conditions of the offering at any time without notice.
- ⁵ IBM makes no warranties, express or implied, regarding non-IBM products and services that are ServerProven or ClusterProven, including but not limited to the implied warranties of merchantability and fitness for particular purpose. These products are offered and warranted solely by third parties.
- ⁶The Forrester Report, February 2000, eMarketplaces Boost B2B Trade.

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