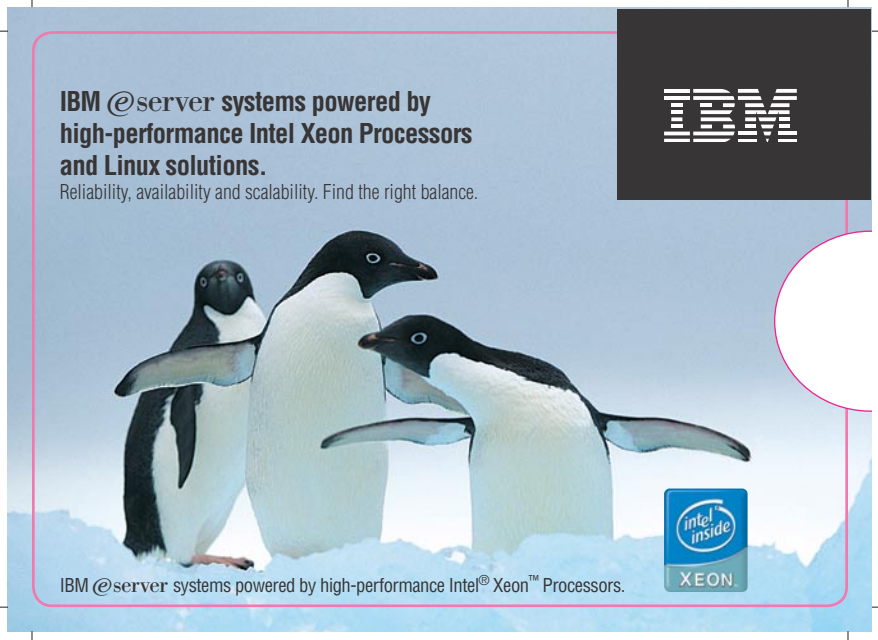
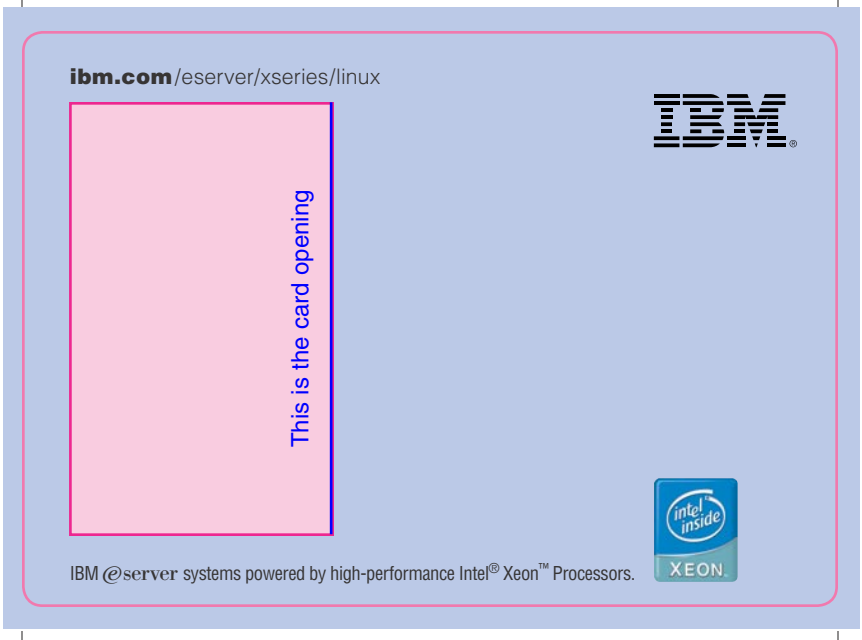
MID SIZE OUTER CARDS (3” x 4.25”)



FRONT



BACK

Approx. 2 5/8

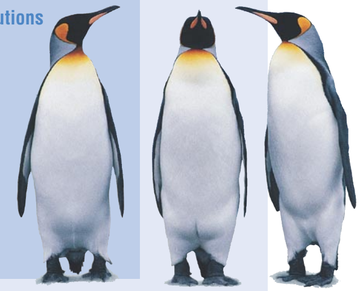
Approx. 3 13/16

Approx. 3 7/8

Approx. 3 13/16

Choose reliable IBM @server xSeries systems powered by high-performance Intel® Xeon™ Processors to run Linux solutions

IBM @server® xSeries® systems help optimize business systems to impact bottom-line results using affordable, leading-edge technologies. xSeries systems are powered by high-performance Intel Xeon Processors, Intel Itanium® 2 Processors and Intel Pentium® 4 Processors—providing scalable performance for servers and workstations. Running Linux solutions on xSeries systems delivers high reliability, availability and scalability for business applications in an open operating environment. And customers can take advantage of customization, service, support and training from IBM. To learn more about Linux on xSeries servers, visit **ibm.com**/linux/xseries.



Speed delivery of e-business on demand with integrated solutions

IBM offers several solutions to run Linux applications on xSeries systems—through hardware and software configurations for both growing businesses and large enterprises.

IBM Integrated Platform Express

This bundled solution offers an optimized platform to help customers become more proactive, responsive and resilient—helping deliver e-business on demand™. Packaged for small and midsize businesses (SMBs), this scalable solution is designed to meet growing-business needs—and budgets. Customers can:

- *Take advantage of an affordable entry point for deploying a scalable e-business infrastructure on highly reliable, powerful xSeries systems*
- *Leverage IBM Express software, providing simple installation and near-zero administration so businesses with limited resources can get started quickly*
- *Call on the service and expertise of IBM Business Partners and ISVs to deliver, implement and customize the solution, helping save time and money*

To learn more, visit **ibm.com**/linux/integratedplatformexpress.

Deploy truly open solutions with IBM software on Linux

IBM software on Linux provides open technologies to help protect current IT investments, lower e-business implementation costs and provide better solution performance. Software on Linux includes:

IBM DB2® Universal Database™ on Linux

- *Leverage a robust, easy-to-manage, high-performance database*
- *Enable integration across systems to improve efficiencies and information access*
- *Enjoy potentially lower cost than other e-business-ready, Linux-compatible databases*

IBM Lotus® software on Linux

- *Foster real-time collaboration among employees, customers, partners and suppliers to strengthen relationships and loyalty*
- *Create connected communities of employees, customers and partners to increase productivity, facilitate mobile commerce and gain competitive advantage*

IBM Rational® software on Linux

- *Improve every phase of software development to shorten time to value*
- *Leverage integrated software engineering best practices, development tools and expert services to optimize developer productivity*

IBM Tivoli® software on Linux

- *Cut costs and simplify infrastructure management with an array of cross-platform, security-rich IT management tools*
- *Speed return on investment and improve business responsiveness with solutions that are self-healing and self-optimizing for high reliability and availability*

IBM WebSphere® software on Linux

- *Deploy and manage advanced Web applications in an open environment to extend the reach of business and improve profitability*
- *Strengthen business relationships and improve efficiencies by offering customers, suppliers and partners highly secure portals for online transactions and data access*

To learn more about IBM software on Linux, visit **ibm.com**/software/linux.

Leverage a solid platform for Grid solutions

IBM @server systems provide a solid foundation for designing, delivering and managing Grid solutions, allowing businesses to:

- *Consolidate workload management to save administrative time and expenses*
- *Provide capacity for high-demand applications*
- *Improve collaboration and data access to increase efficiencies*
- *Enable resilient system recoveries to improve availability of critical processes*

To learn more about IBM @server systems and Grid computing, visit **ibm.com**/grid.

Add high-performance storage with IBM TotalStorage FAStT900 Storage Server

Designed for today's on demand, compute-intensive business environments, IBM TotalStorage® FAStT900 Storage Server offers:

- *Optimum performance and reliability to support high-bandwidth applications*
- *Advanced storage functions and scalable, flexible configurations*
- *Advanced replication features to help protect business information, aid disaster recovery and keep business systems running*

To learn more, visit **ibm.com**/storage.

Pair the right price and performance to power your enterprise with IBM and Intel

Get high levels of power, performance, scalability and reliability for xSeries systems and IBM IntelliStation® workstations with an Intel® Xeon™ Processor, Intel Itanium® 2 Processor or Intel Pentium® 4 Processor. These high-performance processors extend Intel architecture to new levels of enterprise computing performance—and offer outstanding compatibility and reliability.

Realize added value from IBM Business Partners and ISVs

IBM Business Partners and ISVs offer a broad range of solutions for running Linux applications on xSeries systems. Many Business Partners and ISVs add value through:

- *Solutions designed and scaled for specific industries, business needs and budgets*
- *Local service, including implementation, installation and customization support*
- *Technology training and education*

To find an IBM Business Partner or ISV near you, visit **ibm.com**/partnerworld.

Leverage a company commitment to Linux solutions

IBM is demonstrating its commitment to the Linux operating system with an expanding range of solutions optimized for Linux. IBM further supports Linux through:

- *Close relationships with Red Hat, Inc. and SUSE LINUX to optimize and certify their Linux distributions for IBM configurations[1]*
- *A wide range of Linux offerings available on xSeries servers, giving customers the flexibility to choose the optimum Linux implementation for their requirements*

Hear what customers have to say

Many customers have enjoyed benefits of running Linux solutions on xSeries servers powered by high-performance Intel Xeon Processors, including:

- *Improved performance and availability, leading to greater productivity and efficiency*
- *Improved efficiencies across their organizations*
- *Significant value and return on investment*

Watch, listen or read their success stories at **ibm.com**/eserver/success.

Subscribe to *The Update* for Linux

Your source for breaking news about xSeries systems powered by high-performance Intel Xeon Processors and Linux solutions

This monthly e-newsletter delivers valuable news and information to your inbox. Each issue includes a focus on xSeries systems, IntelliStation workstations and clustered offerings, as well as news about Linux solutions. Subscribe today to benefit from:

- *Timely, strategic perspectives and objective, third-party opinions about open source technologies and servers*
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IBM @server xSeries systems powered by high-performance Intel® Xeon™ Processors.

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IBM Systems Group
3039 Cornwallis Road
Research Triangle Park, NC 27709

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May 2004

IBM xSeries systems are assembled in the U.S., Great Britain, Japan, Australia and Brazil and comprise U.S. and non-U.S. components.

Printed in the United States on recycled paper containing 10% recovered post-consumer fiber.

IBM xSeries servers powered by high-performance Intel® Xeon™ Processors and Linux

Tower servers offer versatile designs that convert from tower to rack-mount. Value models take small business serving to new levels of productivity at affordable prices; larger enterprise models combine maximum internal scalability and high-availability tools for intense workloads.

Rack-optimized servers help solve your data center space dilemma with outstanding performance and manageability in a slim chassis at a low infrastructure cost.

High-performance scalable servers scale up with pay as you grow modular SMP server technology for high-end transaction performance or server consolidation.

Blade servers (HS20 and HS40) help solve IT problems involving space constraints, manageability, scalability, performance and cost—at twice the density of most of today's 1U servers.

For more information or to purchase go to: **ibm.com**/eserver/xseries.

IBM @server Cluster 1350
Expertly designed, thoroughly pretested, factory-integrated Linux cluster solutions

- Using xSeries rack-optimized or IBM @server BladeCenter™ HS20 and HS40 nodes and a variety of popular third-party components
- Thoroughly tested configurations with a huge range of scalability
- Clearly defined, repeatable manufacturing process (including testing in our factory prior to ship)
- Spare parts well stocked, including third-party components
- Onsite cluster installation and setup included
- Common service/support offerings for the cluster as a whole widely available

Cluster 1350 provides a factory-integrated Linux cluster solution based on selected rack-optimized and blade servers shown on this page.

For more information about the Cluster 1350 solution visit: **ibm.com**/servers/eserver/clusters/















xSeries[2]	x206	x225	x235	x255	x306	x335	x345	x365	x382	x445	x455	IBM @server BladeCenter HS20 and HS40 blades	IntelliStation M Pro 6220-44U	IntelliStation M Pro 6230-49U	IntelliStation Z Pro 6221-59U
Form Factor	Tower, Rack/4U	Tower, Rack/4U	Tower, Rack/5U	Tower, Rack/7U	Rack/1U	Rack/1U	Rack/2U	Rack/3U	Rack/2U per chassis	Rack/4U per chassis	Rack/4U	Rack/7U chassis (up to 14 2-way blade servers and up to 7 4-way)	Desktop	Mini Tower	Mini Tower
Processor (max)	Intel® Pentium® 4 Processor up to 3.2GHz/800MHz	Intel® Xeon™ Processor up to 3.06GHz	Intel Xeon Processor up to 3.2GHz	Intel® Xeon™ Processor MP up to 3.0GHz	Intel Pentium 4 Processor up to 3.2GHz/800MHz	Intel Xeon Processor up to 3.2GHz	Intel Xeon Processor up to 3.2GHz	Intel Xeon Processor MP up to 3.0GHz	Intel® Itanium® 2 Processor up to 1.5GHz	Intel Xeon Processor MP up to 3.0GHz or Intel Xeon Processor 3.0GHz	Intel Itanium 2 Processor up to 1.5GHz	Intel Xeon Processor MP up to 3.0GHz	Intel Pentium 4 Processor Up to 3.4GHz	Intel Pentium 4 Processor Up to 3.4GHz	Intel Xeon Processor Up to 3.2GHz
Number of Processors (std/max)	1/1	1/2	1/2	1/4	1/1	1/2	1/2	1/4 or 2/4	2/2	2/32 with Xeon Processor MP 2/4 with Xeon Processor	1/16 (up to 4 processors per x455 unit)	1/2 per server (14/28 per chassis)	1/1	1/1	1/2
Cache (max)	1MB L2	512KB L2	1MB L3	4MB L3	1MB L2	Up to 2MB L3	Up to 2MB L3	2MB or 4MB	Up to 6MB	4MB L3/64MB XceL4 Server Accelerator Cache	6MB L3, 64MB XceL4 Server Accelerator Cache	Up to 2MB L3 HS20 blade; up to 4MB L3 HS40 blade	512KB L2	512KB L2	1MB L3
Memory[3] (max)	4GB PC2700/PC3200 DDR standard (model dependent)	8GB PC2100 DDR[4]	12GB PC2100 DDR[4]	24GB PC1600 DDR IBM Chipkill™	4GB PC2700/PC3200 DDR standard (model dependent)	8GB PC2100 DDR[4]	8GB PC2100 DDR[4]	32GB PC2100 DDR Chipkill	16GB PC2100 DDR Chipkill	64GB DDR SDRAM Chipkill per chassis	56GB DDR SDRAM Chipkill	Up to 8GB ECC DDR[4] on HS20 blade; up to 16GB DDR ECC Chipkill on HS40 blade	4GB PC2700 DDR SDRAM	4GB PC2700 DDR SDRAM	8GB PC2100 DDR SDRAM
Expansion Slots	2 PCI-X, 3 PCI	5 total/4 PCI-X	6 total/2 Active PCI-X	6 Active PCI-X	2 PCI-X (66MHz)	2 PCI-X (64-bit 100MHz)	4 PCI-X, 1 PCI	6 slots (5 available) Active PCI-X	3/3 PCI-X	6/6 Active PCI-X, with RXE-100 Remote Expansion Enclosure	6/6 Active PCI-X per chassis	All features integrated	1 8X AGP 3 PCI	1 8X AGP 5 PCI	1 8X AGP 1 PCI, 4 PCI-X
Disk Bays (total/hot-swap)	4/3 (IDE, SCSI or simple-swap SATA drives)	6/6	6/6	12/12 with optional 6-pack hot-swap HDD kit	2/2 (SATA models only)	2/2	6/6	6/6	2/2	2/2	2/2	IDE: 2/0 (up to 28) SCSI: 2.2 (up to 14 per chassis with optional SCSI Storage Expansion Unit)	3/NA	7/NA	6/NA
CD-ROM/Diskette Drive	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes/48X CD-ROM	Yes/CD-RW	Yes/DVD/CD-RW combo
Maximum Internal Storage[3]	320GB[5] SATA 587.2GB SCSI	880.8GB hot-swap 587.2GB non-hot-swap	1.3TB[5]	1.76TB	293.6GB SCSI 320GB SATA	293.6GB SCSI 240GB IDE	880.8GB	876GB	293.6GB	293.6GB Ultra 320 SCSI	293.6GB	80GB IDE and 293.6GB SCSI	320GB S-ATA	587.2GB Ultra320 SCSI	438GB Ultra320 SCSI
Network	Integrated 10/100/1000 Ethernet	Integrated 10/100/1000 Ethernet	Integrated 10/100/1000 Ethernet	Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Dual Integrated 10/100/1000 Ethernet	Integrated dual GB Ethernet per server (GB Ethernet and Fibre Channel switch modules options for chassis)	Intel Gigabit Ethernet 10/100/1000 integrated	Intel Gigabit Ethernet 10/100/1000 integrated	Broadcom Gigabit Ethernet 10/100/1000 integrated
System Management Processor	Supports optional Remote Supervisor Adapter II	Supports optional Remote Supervisor Adapter II	Integrated (supports Remote Supervisor Adapter)	Integrated (supports Remote Supervisor Adapter)	Supports optional Remote Supervisor Adapter II	Integrated (supports Remote Supervisor Adapter)	Integrated (supports Remote Supervisor Adapter)	Remote Supervisor Adapter II in dedicated slot	Integrated Intel IPMI 1.5	Remote Supervisor Adapter II-EXA standard	Remote Supervisor Adapter in dedicated slot	Integrated on server (Integrated Management Module on chassis)	N/A	N/A	N/A
Power Supply (std/max)	340W 1/1	425W or (2) 514W hot-swap	560W or 660W 1/2	370W 2/4 hot-swap	300W 1/1	332W or 411W 1/1	350W or 514W 1/2	950W 1 or 2/2 hot-swap	350W 2/3	1200W 2/2 hot-swap	1050W 2/2 hot-swap	Integrated 1800W (2/4 per chassis)	200W	340W	425W
Hot-swap Components	HDDs (select models)	Power supply, HDDs (select models)	Power supply, fans, HDDs, PCI-X slots	Power supply, fans, HDDs, PCI-X adapters	Simple-swap SATA drives	HDDs	Power supply, fans, HDDs	Power supply, fans, HDDs, PCI-X adapters	Power supply, HDDs	Power supply, fans, HDDs, PCI-X adapters, memory DIMMs	Power supply, fans, PCI-X adapters, HDDs, and memory DIMMs	Blade server, management module, power supply modules, GB Ethernet Switch Module, Fibre Channel Switch Module, blowers	N/A	N/A	N/A
Light Path Diagnostics	Limited	Limited	Yes	Yes	N/A	Yes	Yes	Yes	N/A	Yes	Yes	Yes	N/A	N/A	Light Path LEDs
RAID Support	Integrated IBM ServeRAID™-7e (RAID 0,1)	Integrated RAID-1	Integrated RAID-1 Optional RAID-5	Optional	Integrated IBM ServeRAID-7e (RAID 0,1)	Integrated RAID-1 (mirroring)	Integrated RAID-1 optional RAID-5	RAID-0/1 standard RAID-5 optional	Integrated RAID-1	Integrated RAID-1	Integrated RAID-1	Integrated IDE RAID standard on blade server, integrated RAID with SCSI Storage Expansion Unit Option	Adapter only	Adapter only	RAID 1 integrated
xSeries Linux Compatibilities[1]	Red Hat®, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat, SUSE LINUX	Red Hat Enterprise Linux WS 3	Red Hat Enterprise Linux WS 3	Red Hat Enterprise Linux WS 3

1 To locate ServerProven®/Certification information for xSeries servers and Linux, go to: **ibm.com**/pc/us/compat/index.html

2 Visit **ibm.com**/pc/safecomputing periodically for the latest information about safe and effective computing. Warranty information: For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203. IBM makes no representation or warranty regarding third-party products or services including those designated as ServerProven or ClusterProven.

3 Maximum internal hard disk and memory capacities may require the replacement of any standard hard drives and/or memory and the population of all hard disk bays and memory slots with the largest currently supported drives available. When referring to variable speed CD-ROMs, CD-Rs, CD-RWs and DVDs, actual playback speed will vary and is often less than the maximum possible.

4 Memory with Chipkill-enabled technology is optionally available, but only for memory DIMMs that are 512MB DIMMs and larger.

5 GB= 1,000,000,000 bytes when referring to storage capacity. Accessible capacity is less. TB= 1,000,000,000,000 bytes when referring to storage capacity. Accessible capacity is less.