



## IBM System x3400 M3 5U tower servers offer high-performance with fast Intel Xeon processors

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### At a glance



The System x3400 M3 servers feature:

- A 1.60 GHz/4.8 GTS-4 MB 4C Intel® Xeon® processor (81Y5942)
- A 2.13 GHz/4.8 GTS-8 MB 4C Intel Xeon processor (81Y5943)
- A 2.26 GHz/4.8 GTS-8 MB 4C Intel Xeon processor (81Y5944)
- A 2.4 GHz/5.86 GTS-12 MB 4C Intel Xeon processor (69Y0851)
- A 2.4 GHz/5.86 GTS-12 MB 6C Intel Xeon processor (81Y5945)
- A 2.53 GHz/5.86 GTS-12 MB 6C Intel Xeon processor<sup>1</sup> (81Y5946)

These processors contain either 4 MB, 8MB, or 12 MB cache and can deliver up to 10.5 GB/s via data bus to the system. Transactions over the web at 2.53 GHz/5.86 GTS (10.5 GB/s) are quick and efficient.

These systems offer:

- 2 GB or 4 GB of 1333 MHz DDR3 ECC system memory, 128 GB maximum<sup>2</sup>
- Eight-port SAS/SATA RAID controller on hot-swap models
- One 670-watt power supply, or one 920-watt, power supply, model dependent
- Integrated Management Module
- Six PCI slots: five PCI-Express slots, and one PCI 32-bit/33 MHz slot
- Eleven or seven drive bays: DVD-ROM<sup>3</sup>, two HH bays for tape drive options, and eight SFF hot-swap HDDs or four simple-swap HDDs
- Up to 16.0 TB hot-swap SATA disk storage using 3.5-inch 2 TB HDDs; or up to 9.6 TB using sixteen 600 GB 2.5-inch SAS HDDs

- Integrated Broadcom 5716C Dual Port Gigabit Ethernet controller
- 5U tower industry-standard models, rack mount optional
- Six USB ports and one serial port; one integrated system management port; no mouse port; no keyboard port; and three RJ-45 ports

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## Overview

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With fixed power, hot-swap cooling fans, and greater systems management control, the System x3400 M3 servers feature:

- 4.8 GTS and 5.86 GTS Quickpath Interconnect (QPI) support
- Three hot-swap fans standard
- Five PCI-Express card slots (one x16, four x8) and one 32-bit/33 MHz card slot
- Integrated dual port Gigabit Ethernet
- Hot-swap models for RAID-0, -1, and -1E support
- Simple-swap / SATA and hot-swap SAS/SATA models with SATA controller standard
- DDR3 ECC RDIMMs, combined with an integrated ECC memory controller in core logic, that correct many soft and hard single-bit memory errors<sup>4</sup>, to minimize disruption of service to LAN clients
- Integrated Management Module (IMM) with an optional upgrade to Remote Presence function with IMM hardware key option

### Powered and scaled for needed business growth

The servers contain either a 1.60 GHz/4.8 GTS-4 MB 4C, a 2.13 GHz/4.8 GTS-8 MB 4C, a 2.26 GHz/4.8 GTS-8 MB 4C, a 2.4 GHz/5.86 GTS- 12 MB 4C or 6C, or a 2.53 GHz/5.86 GTS-12 MB 6C Intel Xeon processor<sup>1</sup>. These processors contain either 4 MB, 8 MB, or 12 MB cache and can deliver up to 10.5 GB/s via data bus to the system. Transactions over the web at 2.66 GHz/5.86 GTS (10.5 GB/s) are quick and efficient.

- 2 GB or 4 GB of high-speed 1333 MHz ECC memory, 128 GB maximum<sup>2</sup>
- Broadcom 5716C dual Gigabit Ethernet ports and SAS/SATA support
- Eight SFF hot-swap drive bays, eight 3.5-inch hot-swap or four simple-swap drive bays; capacity as follows, model dependent:
  - SS-4x 3.5-inch HDD, 8 TB total using 2 TB drives
  - HS-4x 3.5-inch HDD, CTO up to 8, maximum 16 TB using 2 TB HDD
  - HS-8x 2.5-inch or 16 HDD, maximum 4.8 TB using 8-600 GB or 9.6 TB, using 16 drives

### High availability for around-the-clock business demand

- Integrated Management Module and support for the IMM hardware key option
- Wake on LAN®
- ECC memory to detect memory double-bit errors and correct memory single-bit errors
- Integrated memory mirroring

### Service and support perfected for needs of business

- ServerGuide™, which includes utilities and drivers for assisted installation of popular network operating systems
- IBM® Director, a powerful, highly integrated systems management software solution
- IBM server support and web support<sup>5</sup>
- Standard warranty

- 7379 machine models: Three-year, customer replaceable unit (CRU) and on-site<sup>6</sup> service, limited warranty<sup>7</sup>
- Optional warranty service upgrades

<sup>1</sup> GHz and MHz denote the internal and/or external clock speed of the microprocessor only, not application performance. Many factors affect application performance.

<sup>2</sup> PC3-10600R-999 DDR3 memory. Sixteen DIMM slots enable you to deploy up to 128 GB of DDR3 SDRAM Registered DIMM memory, with 2, 4 GB memory standard (model dependent), 8 GB DIMM optional.

<sup>3</sup> Actual playback speed varies and is often less than maximum.

<sup>4</sup> ECC memory distributes information covered by error correcting code across separate memory chips. If any chip fails, the data can still be reconstructed from the remaining chips and the system can continue running.

<sup>5</sup> Some programs may not be available in all countries.

<sup>6</sup> With respect to on-site service, you may be asked certain diagnostic questions before a technician is sent.

<sup>7</sup> For information on the IBM Statement of Limited Warranty, contact your IBM representative or reseller. Copies are available upon request.

<sup>8</sup> IBM makes no warranties, expressed or implied, regarding non-IBM products and services that are ServerProven®, including but not limited to implied warranties of merchantability and fitness for a particular purpose. These products are offered and warranted solely by third parties.

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## Key prerequisites

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- Monitor
- Keyboard
- Mouse

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## Planned availability date

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March 15, 2011

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## Description

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### Related options

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#### Intel Xeon processor options

- Addl Intel Xeon Processor E5603 4C 1.60GHz 4MB Cache 1066MHz 80W (81Y5942)
- Addl Intel Xeon Processor E5606 4C 2.13GHz 8MB Cache 1066MHz 80W (81Y5943)
- Addl Intel Xeon Processor E5607 4C 2.26GHz 8MB Cache 1066MHz 80w (81Y5944)
- Addl Intel Xeon Processor E5645 6C 2.40GHz 12MB Cache 1333MHz 80w (81Y5945)
- Addl Intel Xeon Processor E5649 6C 2.53GHz 12MB Cache 1333MHz 80w (81Y5946)

- Addl Intel Xeon Processor E5620 4C 2.40GHz 12MB Cache 1066MHz 80w (69Y0851)

Intel Xeon processors with 4 MB, 8 MB, or 12 MB cache feature Intel NetBurst microarchitecture with Extended Memory 64 Technology (EM64T), which increases overall throughput via a faster 1333 MHz system bus and enhanced level 2 cache. These enhancements add up to a faster response time.

These processor options support SMP applications when installed in the second processor slot on all System x3400 M3 models with similar processors.

### **IBM Memory options supported**

- 2GB 1Rx8 2Gbit PC3-10600R-999 LP RDIMM (44T1592)
- 4GB 2Rx8 2Gbit PC3-10600R-999 LP RDIMM (44T1599)
- 8GB 2Rx4 2Gbit PC3L-10600R LP RDIMM 1.35v (49Y1397)
- 8GB 2Rx4 2Gbit PC3L-8500R LP RDIMM 1.35v (49Y1398)
- 2GB (2Gb, 1Rx8, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1405)
- 4GB (2Gb, 1Rx4, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1406)
- 4GB (2Gb, 2Rx8, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1407)
- 2GB (2Gb, 1Rx8, 1.35v) DDR3-1333 LP UDIMM (49Y1403)
- 2GB (2Gb, 2Rx8, 1.35v) PC3L-10600E LP UDIMM (49Y1404)

**Note:** DDR3 ECC RDIMMs, combined with an integrated ECC memory controller, correct many soft and hard single-bit memory errors and minimize disruption of service to LAN clients.

Increased processor performance coupled with DDR3 memory enables you to retrieve and process information faster and more efficiently. DDR memory executes twice the number of operations per cycle than traditional SDRAM memory, effectively doubling the data exchange rate between memory and processors.

### **ServeRAID controllers supported**

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- ServeRAID-M1015 SAS/SATA Controller (provides RAID-0, -1, and -1E, standard in hot-swap models) (46M0831)
- ServeRAID-M5015 SAS/SATA Controller (provides the advanced RAID levels) (46M0829)
- ServeRAID-MR10M SAS/SATA Controller (connection to external storage devices) (44E8825)
- ServeRAID-BR10ilv2 (49Y4731)
- IBM ServeRAID™ M1000 Series Advance Feature Key (46M0832)
- IBM ServeRAID M5014 SAS/SATA Controller (46M0916)
- IBM ServeRAID M5000 Series Battery Kit (46M0917)
- IBM ServeRAID M5000 Series Advance Feature Key (46M0930)

### **Remote Presence IMM Upgrade with Royalty (46C7527)**

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Features and benefits:

- Video compression hardware is built in, eliminating drivers.
- Faster graphics support makes monitoring and control more efficient.
- Virtual CD enables you to configure and diagnose a server remotely without a visit from your IT staff.
- IMM supports Secure Sockets Layer (SSL) and Lightweight Directory Access Protocol (LDAP).

## High-performance server subsystems

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System x3400 M3 servers are high-throughput, two-way, SMP-capable network servers with excellent performance scalability when you add memory and a second processor. They incorporate powerful Intel Xeon DP processors with QPI. These flip-chip DP chipset 36D processors feature advanced transfer L2 caches integrated onto the processor core and run at the same clock speed as the processor core.

Two processor connectors are standard on the system board to support installation of a second processor. High-speed, 1333 MHz DDR3 RDIMMs are optimized for 1333 MHz processor-to-memory subsystem performance. The System x3400 M3 servers use the Intel Tylersburg DP chipset 36D to maximize throughput from processor to memory, and system I/O buses.

### Standard x3400 M3 configurations

Model	Processor	Cache	Memory	HDD interface	Mechanical
7379-A2x	1.60 GHz/4.8 GTS	4 MB	2 GB	S/S SATA	Tower
7379-A4x	1.60 GHz/4.8 GTS	4 MB	2 GB	HS SAS/SATA	Tower
7379-B2x	2.13 GHz/4.8 GTS	8 MB	2 GB	S/S SATA	Tower
7379-B4x	2.13 GHz/4.8 GTS	8 MB	2 GB	HS SAS/SATA	Tower
7379-C2x	2.26 GHz/4.8 GTS	8 MB	2 GB	HS SAS/SATA	Tower
7379-D2x	2.40 GHz/5.86 GTS	12 MB	4 GB	HS SFF SAS/SATA	Tower
7379-56x	2.40 GHz/5.86 GTS	12 MB	4 GB	HS SAS/SATA	Tower
7379-58x	2.40 GHz/5.86 GTS	12 MB	4 GB	HS SFF SAS/SATA	Tower
7379-F2x	2.53 GHz/5.86 GTS	12 MB	4 GB	HS SFF SAS/SATA	Tower

Note: For EMEA x=G

Additional features:

- Ability to upgrade to two-way SMP processing by adding a second processor of the same speed and processor type
- System board that contains sixteen DIMM connectors supporting 2 GB and 4 GB DDR3-1333 MHz SDRAMs (model dependent)
  - Up to 128 GB of system memory (with 8 GB memory DIMMs installed)
- High-speed, wide-bandwidth, PCI bus slots
  - Slot 1: PCIe2 x8 -- PCI-E x8 slot with x8 lanes (Gen2, from IOH) Support
  - Slot 2: PCIe2 x16 (8,1) -- PCI-E x16 slot with x8 lanes (Gen2, from IOH) support
  - Slot 3: PCIe2 x8 (4,1) -- PCI-E x8 slot with x4 lanes (Gen2, from IOH) support
  - Slot 4: PCIe2 x8 (4,1) -- PCI-E x8 slot with x4 lanes (Gen2, from IOH) support
  - Slot 5: PCIe2 x8 -- PCI-E x8 slot with x8 lanes (Gen2, from IOH) support
  - Slot 6: PCI-32 -- PCI-32 slot with 32bit/33MHz (from ICH-10) support
- Optional extender board that supports two PCI-X slots or one PCI-E x4 slot
- Eight-channel SAS/SATA RAID controller that supports high-speed internal storage solutions (model dependent)
- Single full-duplex, Gigabit Ethernet controller that speeds network communications to LAN clients

The x3400 M3 subsystems are tuned to provide solid system throughput from processor, to memory, to bus, to disk-intensive I/O. These features, combined with SMP capability, make the System x3400 M3 servers an excellent choice for a stand-alone or clustered general-business application, file, and print server.

### High-availability and serviceability features

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- One 670-watt power supply to support full configuration for robust high-availability applications, or one 920-watt power supply, model dependent
- Hot-swap HDD bays with SAS connectors or simple-swap HDD bays with native SATA controller

- SAS or SATA controller to support following:
  - SS-4x 3.5-inch HDD, 8 TB total using 2 TB drives
  - HS-4x 3.5-inch HDD, CTO up to 8, maximum 16 TB using 2 TB HDD
  - HS-8x 2.5-inch or 16 HDD, maximum 4.8 TB using 8-600 GB or 9.6 TB, using 16 drives
- DDR3 ECC RDIMMs, combined with an integrated ECC memory controller in core logic, to correct many soft and hard single-bit memory errors (using memory mirroring), while minimizing disruption of services to LAN clients
- Memory hardware scrubbing to correct many soft memory errors automatically without software intervention
- L2 cache processors to improve data integrity and help reduce down time
- PFA on processors and memory to help alert the system administrator of an imminent component failure
- Integrated Management Module (IMM) that supports:
  - Fan monitoring and control
  - Power supply monitoring
  - Temperature monitoring
  - Voltage monitoring
  - Power on/off, reset sequencing
  - LED controls (diagnostics support)
  - IPMI capability that allows you to accept commands and send status
  - Remote firmware update
  - Numeric error logging
- Information LED panel to give visual indications of system health
- Onboard diagnostics LED map that provides error codes, which are explained in the hardware maintenance manual
- Easy access to system board, adapter cards, processor, and memory
- CPU failure recovery in SMP configurations; generates alerts and error logs

### **Expandability and growth**

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The System x3400 M3 server is a 5U tower configuration engineered to meet the compactness of a 5U rack drawer. SVGA video, SAS, and full-duplex Gigabit Ethernet are integrated on the system board.

Features include:

- System memory expansion to 128 GB (with 8 GB memory DIMMs installed)
- Six adapter card slots: five PCI-Express, one 32-bit/33 MHz slot
- Eleven or 7 drive bays:
  - Eight 2.5-inch, or eight 3.5-inch HDD, hot-swap drive bays; three 5.25 inch, half-high device bays
  - Internal support for high performance (up to 15,000 rpm) for up to eight SAS/SATA HDDs and a high-capacity tape backup device
  - Up to 4.8 TB of internal data storage, using eight 600 GB SAS HDDs, or 8.0 TB using four 2 TB SATA hot-swap HDDs or 16.0 TB using 8 2 TB HDDs

These servers can handle applications for today and expand for future growth.

### **Systems management**

Integrated Management Module (IMM)

The System x3400 M3 includes an Integrated Management Module (IMM) that provides industry-standard Intelligent Platform Management Interface (IPMI) 2.0-compliant systems management. The IMM comes standard, and shares one of the

two onboard Ethernet ports for access. The IMM can be accessed via software that is compatible with IPMI 2.0 (xCAT, for example).

Features and benefits:

- Monitoring:
  - System voltages
  - Battery voltage
  - System temperatures
- Fan speed control.
- Fan tachometer monitor.
- Good Power signal monitor.
- System ID and planar version detection.
- System power and reset control.
- NMI detection (system interrupts).
- SMI detection and generation (system interrupts).
- Serial port text console redirection.
- System LED control (power, HDD, activity, alerts, and heartbeat).
- An embedded web server that gives you remote control from any standard web browser. No additional software is required on the remote administrator's workstation.
- For users who are accustomed to a command-line interface (CLI), the capability for the administrator to also use the CLI from a Telnet session, which will help to perform some of the functions that can be performed from the web server.
- Secure Sockets Layer (SSL) and Lightweight Directory Access Protocol (LDAP).
- Built-in LAN and serial connectivity that supports virtually any network infrastructure.
- Multiple alerting functions that warn systems administrators of potential problems through email, IPMI PEs, and SNMP.

In addition, you can purchase an optional remote presence hardware key for additional systems management function.

### **IBM Director**

x3400 M3 servers feature IBM Director, a powerful, highly integrated systems management software solution built on industry standards and designed for ease of use. Exploit your existing enterprise or workgroup management environments and use rich security features to access and manage physically dispersed IT assets more efficiently over the Internet.

IBM Director potentially reduces cost through:

- Reduced down time
- Increased productivity of IT personnel and end users
- Reduced service and support costs

IBM Director provides integration into leading workgroup and enterprise systems management environments, via upward integration modules. The advanced management capabilities built into System x® servers can be accessed from:

- Tivoli® Enterprise and Tivoli NetView®
- Computer Associates CA Unicenter TNG Framework
- NetIQ
- IMM Patrol
- Microsoft® SMS
- Intel LANDesk Management Suite

- HP OpenView Network Node Manager

IT administrators can view the hardware configuration of remote systems in detail and monitor the usage and performance of critical components, such as processors, HDDs, and memory.

IBM Director includes IBM Director Extensions, a portfolio of server tools that integrate into the Director framework and work with the integrated systems management processor to access environmental system information.

The processor supervises the operating system status and the following system components, and alerts the IT administrator to critical errors:

- Fan status and fan presence are monitored. Fan speed is controlled and automatically increased to maintain system cooling if temperature thresholds are exceeded. An alert is generated if:
  - Failure occurs or failure is predicted.
  - Installation or removal occurs.
  - Power supply condition changes for the power supply.
- CPU temperatures are monitored.
- An alert is generated if (preset) temperature warning thresholds are exceeded or restored and if critical temperature thresholds are exceeded. Soft and hard system shutdowns are automatically initiated if critical temperature thresholds are exceeded.
- CPU and power subsystem voltage thresholds are monitored. An alert is generated if over or under voltages occur.
- Diagnostics LEDs are illuminated in case of key component errors or failures, to enable quick local diagnostics and servicing.

The Integrated Management Module supports upgrading to the optionally available remote presence hardware key for full, out-of-band remote management.

The IT administrator has comprehensive, virtual on-site control of System x servers and can remotely:

- Access the server almost regardless of the status
- Review displayed detailed system and component information
- View server bootup during POST
- Browse and delete logs of events and errors
- Reset or power cycle the server
- Run diagnostics, SAS/SATA setup, and RAID setup during POST
- Monitor thresholds on server health including:
  - Operating system load
  - POST time-out
  - Voltage
  - Temperature
- Alert critical server events proactively, including PFA on:
  - Processors
  - Memory
- Define automated actions, such as:
  - Send email or a page to an administrator
  - Execute a command or program
  - Pop up an error message to the Director console
- Monitor flash BIOS
- Monitor and graph the utilization of server resources, such as:



- Memory
- Processor
- HDDs
- Identify potential performance bottlenecks and react to prevent down time
- Monitor, manage, and configure RAID subsystems without taking them offline

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### **Integrated System x Adapter for iSeries , when supported**

The System x3400 server is the newest server to be attached to an IBM i5 or iSeries® server. A new Integrated System x Adapter (1519-200) attaches an x3400 to connect to an i5 or iSeries server. You can connect the iSeries family of servers to provide virtual storage, virtual Ethernet, and tape sharing to an attached x3400 server. You can easily integrate security, backup, and operations of a Microsoft Windows® and OS/400® environment.

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### **Advanced Configuration and Power Interface (ACPI)**

This open industry specification defines a flexible and extensible hardware interface for the system board. Software designers use this specification to integrate power management features throughout a computer system, including hardware, the operating system, and application software. This integration enables Windows to determine which applications are active and handle all of the power management resources for computer subsystems and peripherals.

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### **World-class support tools and programs**

The System x3400 M3 server includes tools and programs designed to make ownership a positive experience. From the start, IBM programs help you purchase servers, get them running, and keep them running. IBM can help your company maintain ownership of technology leadership network servers.

- The server purchase includes a three year, customer replaceable unit (CRU) and on-site service, limited warranty; optional warranty service upgrades available.
- The ServerProven<sup>®</sup> program enables you to configure your server confidently with various devices and operating systems. This web-based program provides compatibility information from actual testing of the x3400 M3 server various adapters and devices.
- The ServerGuide CD includes utilities and drivers for assisted installation of popular network operating systems. Also included is a Broadcom Ethernet CD.
- Electronic support on the web provides additional support in an easy-to-use format.

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## **Product positioning**

The System x3400 M3 servers are positioned above the entry, one-way, x3200 M3 and below the four-way departmental tower x3500 M3. These servers contain additional fault tolerance through PCI-E, and support for PCI-X. They also feature enhanced systems-management control. As universal servers, they are offered in flexible tower models and can be rack-mounted using a tower-to-rack conversion kit (special bid only).

With these servers, two segments will be combined into one departmental and mission-critical space. The System x3400 M3 servers form a compact 5U, two-socket, SMP-capable Xeon processor-based platform designed with integrated high-availability features for mainstream network server applications.

These servers are ideal for clients who require up to two-socket 2.53 GHz/5.86 GTS processing power, significant memory, high availability, and large data-storage scalability. High-speed memory, 64-bit and 32-bit PCI buses, and up to eight SAS/SATA, hot-swap drive bays, or four SATA simple-swap drive bays and a device bay,

for high-capacity tape drives, make these servers ideal for mainstream network computing.

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## Product number

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Description	Machine	Model	SAP number
IBM System x3400 M3	7379	A2G	7379A2G
	7379	A4G	7379A4G
	7379	B2G	7379B2G
	7379	B4G	7379B4G
	7379	C2G	7379C2G
	7379	D2G	7379D2G
	7379	F2G	7379F2G
	7379	56G	737956G
	7379	58G	737958G

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## Publications

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The following publications and CD-ROMs are shipped with the x3400 M3 servers:

- The *System x3400 M3 Installation Guide* contains an introduction to the computer, installation and setup, installing options, reference information, and problem determination. The installation guide has easy-to-use text and pictorials to enable you to quickly set up the System x3400 M3 server.
- The ServerGuide CD contains drivers to support the System x3400 M3 servers. In addition, it includes a set of easy-to-use utilities for assisted installation via CD of several popular network operating systems.
- A Publications CD and a Broadcom Ethernet Driver CD are included.
- IBM Director systems management software is included.

**Note:** Software versions, features, and functions shipped with these systems may change as new releases become available or may be discontinued at any time.

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at

<http://publib14.boulder.ibm.com/infocenter/systems>

### Displayable softcopy publications

The product books are offered in displayable softcopy form. The displayable manuals are part of the basic machine-readable material at no charge. The files are shipped on the CD-ROM.

### Source file publications

The product books are offered in source file form as a no-charge feature. The source files are shipped on the same media type as the basic machine-readable material.

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## Additional publications

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- System x3400 M3 Installation Guide
- Documentation CD:
  - Option Installation Guide
  - Installation Guide
  - User's Guide

- Hardware Maintenance Manual and Troubleshooting Guide

All of these publications are available at

<http://www.ibm.com/support>

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## Services

### Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

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## Technical information

### Specified operating environment

#### Physical specifications

x3400 M3

Note: US, LA, CAN x=U for MT 7379

Brazil = x=P for MT 7379

Argentina x=T for MT 7379

EMEA x=G for MT 7379 (except models 58x, D2x and F2x)

AP = x for MT 7378 and 7379 (7378 AP only)

	7378-A2x 7379-A2x	7378-A4x 7379-A4x	7378-B2x 7379-B2x
Processor	Xeon 4C E5603	Xeon 4C E5603	Xeon 4C E5606
Internal speed	1.6 GHZ	1.6 GHZ	2.13 GHZ
External speed	4.8 GTS	4.8 GTS	4.8 GTS
Number standard	1	1	1
Maximum	2	2	2
L3 cache (full-speed)	4 MB	4 MB	8 MB
Memory (PC3-1066R-999 DDR3)	2 GB ECC	2 GB ECC	2 GB ECC
AMF	1 x 2 GB 2Gb 1Rx8, 1.35V No chipkill	1 x 2 GB 2Gb 1Rx8, 1.35V No chipkill	1 x 2 GB 2Gb 1Rx8, 1.35V No chipkill
DIMM sockets	16	16	16
Capacity	128 GB (9)	128 GB (9)	128 (9)
Video	SVGA	SVGA	SVGA
memory	16 MB	16 MB	16 MB
SATA controller	1	1	1

SAS/SATA RAID controller	0	BR10iLv2	0
Channels	4	4	4
Connector internal	0	1	0
SFF 8087 (4-port)			
Connector external	0	0	0
HDD	Open bay	Open bay	Open bay
Total bays	7	7	7
5.25-in	3	3	3
Simple-swap 3.5-inch	4	0	4
Hot-swap 3.5-inch	0	4	0
Internal capacity	8.0 TB(10)	8.0 TB (10)	8.0 TB (10)
Bays available	6	6	6
5.25 in	2	2	2
Simple-swap 3.5-inch	4	0	4
Hot-swap 3.5-inch	0	4	0
Total PCI slots	6	6	6
PCI_E slots	5	5	5
32-bit/33 MHz	1	1	1
Slots available	6	5	6
System management	Standard (11)	Standard (11)	Standard (11)
Ethernet controllers	10/100/1000 Mb	10/100/1000	10/100/1000
SATA DVD	1	1	1
Power supply	670 w	670 w	670 w (12)
Number standard	1	1	1
Hot-swap	No	No	No
Redundant power	No	No	No
Auto start	Yes	Yes	Yes
	7378-B4x	7378-C2x	7378-56x
	7379-B4x	7379-C2x	7379-56x
Processor	Xeon 4C E5606	Xeon 4C E5607	Xeon 4C E5620
Internal speed	2.13 GHZ	2.26 GHZ	2.4 GHZ
External speed	4.8 GTS	4.8 GTS	5.86 GTS
Number standard	1	1	1
Maximum	2	2	2
L3 cache (full-speed)	8 MB	8 MB	12 MB
Memory	2 GB ECC	2 GB ECC	4 GB ECC
(PC3-1066R-999 DDR3)	1 x 2 GB	1 x 2 GB	1 x 4 GB
	2Gb 1Rx8, 1.35V	2Gb 1Rx8, 1.35V	2Gb 1Rx8, 1.35V
	No Chipkill	No Chipkill	No Chipkill
DIMM sockets	16	16	16
Capacity	128 GB (9)	128 GB (9)	128 (9)
Video	SVGA	SVGA	SVGA
memory	16 MB	16 MB	16 MB
SATA controller	1	1	1
SAS/SATA RAID controller	BR10iLv2	BR10iLv2	BR10iLv2
Channels	4	4	4
Connector internal	1	1	1
SFF 8087 (4-port)			
Connector external	0	0	0
HDD	Open bay	Open bay	Open bay
Total bays	7	7	7
5.25-in	3	3	3
Simple-swap 3.5-inch	0	0	0
Hot-swap 3.5-inch	4	4	4
Internal capacity	8.0 TB(10)	8.0 TB (10)	8.0 TB (10)
Bays available	6	6	6
5.25 in	2	2	2
Simple-swap 3.5-inch	0	0	0
Hot-swap 3.5-inch	4	4	4
Total PCI slots	6	6	6
PCI_E slots	5	5	5
32-bit/33 MHz	1	1	1
Slots available	5	5	5
System management	Standard (11)	Standard (11)	Standard (11)
Ethernet controllers	10/100/1000 Mb	10/100/1000	10/100/1000
SATA DVD	1	1	1
Power supply	670 w (12)	670 w (12)	670 w (12)
Number standard	1	1	1
Hot-swap	No	No	No
Redundant power	No	No	No

Auto start	Yes	Yes	Yes
	7378-58x 7379-58x	7378-D2x 7379-D2x	7378-F2x 7379-F2x
Processor	Xeon 4C E5620	Xeon 6C E5645	Xeon 6C E5649
Internal speed	2.4 GHZ	2.40 GHZ	2.53 GHZ
External speed	5.86 GTS	5.86 GTS	5.86 GTS
Number standard	1	1	1
Maximum	2	2	2
L3 cache (full-speed)	12 MB	12 MB	12 MB
Memory	4 GB ECC	4 GB ECC	4 GB ECC
(PC3-1066-999 DDR3)	1 x 4 GB 2Gb 2Rx8, 1.35V No ChipKill	1 x 4 GB 2Gb 2Rx8, 1.35V No ChipKill	1 x 4 GB 2Gb 2Rx8, 1.35V No ChipKill
DIMM sockets	16	16	16
Capacity	128 GB (9)	128 GB (9)	128 GB (9)
Video	SVGA	SVGA	SVGA
memory	16 MB	16 MB	16 MB
SATA controller	1	1	1
SAS/SATA RAID controller	M1015	M1015	M5014
Channels	8	8	8
Connector internal	2	2	2
SFF 8087 (4-port)			
Connector external	0	0	0
HDD	Open bay	Open bay	Open bay
Total bays	11	11	19
5.25/3.5-in HH	3	3	3
Simple-swap	0	0	0
Hot-swap 2.5-inch	8	8	16
Internal capacity	4.8 TB(10)	4.8 TB(10)	9.6 TB (10)
Bays available	10	10	18
5.25/3.5-in HH	2	2	2
Simple-swap	0	0	0
Hot-swap	8	8	16
Total PCI slots	6	6	6
PCI_E	5	5	5
32-bit/33 MHz	1	1	1
Slots available	5	5	4
System management	Standard (11)	Standard (11)	Standard (11)
Ethernet controllers	10/100/1000 Mb	10/100/1000 Mb	10/100/1000 Mb
SATA DVD	1	1	1
Power supply	920 w (12)	670 w (12)	920 w (12)
Number standard	1	1	1
Hot-swap	Yes	No	Yes
Redundant power	Optional	No	Optional
Auto restart	Yes	Yes	Yes

<sup>9</sup> Sixteen DIMM slots enable you to deploy up to 128 GB of DDR3 SDRAM Registered DIMM memory, with 2 GB or 4 GB memory standard (model dependent); or 8 GB DIMM optional.

<sup>10</sup> Drive bays provide following capacities. SS-4x 3.5-inch HDD, 8 TB total using 2 TB drives. HS-4x 3.5-inch HDD, CTO up to 8, maximum 16 TB using 2 TB HDD HS-8x 2.5-inch or 16 HDD, maximum 4.8 TB using 8-600 GB or 9.6 TB, using 16 drives.

16 TB total capacity using 1 TB 2.5-inch NL SFF SAS/SATA HDDs, (available 2Q 2011)

<sup>11</sup> These systems contain an integrated system management processor that provides a set of monitoring and alert features. Refer to the [Description](#) section for details.

<sup>12</sup> The 670-watt power supply is designed to support systems when fully configured. Some models come with a 920-watt power supply.

## Dimensions

- Tower
- width: 218.0 mm (8.6 in)

- Depth: 767.0 mm (30.2 in)
- Height: 440.0 mm (17.3 in)

**Tower:**

- weight: 27.10 kg (59.7 lb) (minimum configuration)
- weight: 37.85 kg (83.4 lb) (maximum configuration)

**Rack**

- width: 424.0 mm (16.7 in)
- Depth: 702.0 mm (27.6 in)
- Height: 218.0 mm (8.6 in)

**Rack:**

- weight: 25.8 kg (56.9 lb) (minimum configuration)
- weight: 36.00 kg (79.3 lb) (maximum configuration)

**Electrical**

- 100 to 240 v ac; 50 - 60 Hz; 10 - 5 A
- Input kilovolt-amperes (kVA) (approximately):
  - Minimum configuration: 0.60 kVA
  - Maximum configuration: 0.82 kVA
- Btu output: ship configuration - 2013 Btu/hr (590 watts)
- Btu output: full configuration - 2788 Btu/hr (817 watts)
- Acoustical noise emission levels:
  - 5.5 bels (idling)
  - 6.0 bels (operating)

Note: The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines. All measurements made in accordance with ISO 7779 and reported in conformance with ISO 9296.

These servers are intended for use as floor-standing servers and are tested and designed to operate in a horizontal position. These servers can also be used as a rack model with the optional rack install kit.

**Standards**

These systems support or comply with the following standards:

- Multiprocessor Specification (MPS) 1.4
- Peripheral Component Interconnect (PCI) specification 2.2
- Peripheral Component Interconnect (PCI-X) specification v2.0
- PCI-Express specification 1.0
- SAS - SCSI
- Hardware-enabled to meet the International Organization for Standardization (ISO) 9241, Part 3

**Equipment approvals and safety**

- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, and EN61000-3-3)
- CISPR 22, Class A
- TUV-GS EN60950-1 /IEC60950-1,EK1-ITB2000)
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-99, GOST R 51317.3.3-99
- IEC 60950-1 (CB Certificate and CB Test Report)

**Operating environment**

**Rack**

- width: 424.0 mm (16.7 in)
- Depth: 702.0 mm (27.6 in)
- Height: 218.0 mm (8.6 in)

**Rack:**

- weight: 25.8 kg (56.9 lb) (minimum configuration)
- weight: 36.00 kg (73.3 lb) (maximum configuration)

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

**Environment temperature:**

- Server on: 10 degrees C to 35 degrees C (50 F to 95 F);  
altitude: 0 to 915 m (3,000 ft)
- Server on: 10 degrees C to 32 degrees C (50 F to 90 F);  
altitude: 915 m (3,000 ft) to 2,134 m (7,000 ft)
- Server on: 10 degrees C to 28 degrees C (50 F to 83 F);  
altitude: 2,134 m (7,000 ft) to 3,050 m (10,000 ft)
- Server off: 5 degrees C to 45 degrees C (41.0 F to 113 F)
- Shipping: -40 degrees C to 60 degrees C (-40 F to 140 F)

**Humidity:**

- Server on: 20% to 80%, maximum dew point 21 degrees C, maximum rate of change 5 degrees C/hr
- Server off: 8% to 80%, maximum dew point 27 degrees C

Maximum altitude: 2,134 m (7,000 ft)

**Hardware requirements**

For attended installation of an operating system, this server requires a compatible:

- Keyboard (only in EMEA and AG)
- Mouse (only in EMEA and AG)
- HDD
- Display (C117, T115, T117, or equivalent)

Unattended or remote installation may be performed without requiring some or all of these components. Review your unattended software installation program information for specific hardware configuration requirements.

For service, the server requires a compatible:

- Keyboard (only in EMEA and AG)
- Mouse (only in EMEA and AG)
- HDD
- Display (E51, E54, E74, G78, LCD, or equivalent)

When having the unit serviced, plan to have these components attached to your server either directly or indirectly via a console switch.

**Software requirements**

The following network operating systems are supported in the x3400 M3 server:

- Microsoft
- windows Server 2008 (32 bit and EM64T)
    - windows Server 2008 R2 (EM64T)
    - Windows Server 2008, Standard Edition x32, x64
    - Windows Server 2008, Enterprise Edition x32, x64
    - windows Server 2008, web Edition x32, x64
    - Windows Server 2008, Data center x32, x64
    - windows EBS Standard Edition
    - Windows EBS Premium Edition
    - Windows SBS x64 Standard Edition
    - Windows SBS x64 Premium Edition

VMware	<ul style="list-style-type: none"> <li>- VMware ESX Server 4.0</li> <li>- VMware ESX Server 4.1</li> <li>- VMware ESXi Server 4.0</li> <li>- VMware ESXi Server 4.1</li> </ul>
Linux®	<ul style="list-style-type: none"> <li>- SUSE Linux Enterprise Server 10 for x86</li> <li>- SUSE Linux Enterprise Server 10 for AMD64/EM64T</li> <li>- SUSE Linux Enterprise Server 10 with Xen for AMD64/EM64T</li> <li>- SUSE Linux Enterprise Server 11 for x86</li> <li>- SUSE Linux Enterprise Server 11 for AMD64/EM64T</li> <li>- SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T</li> <li>- Red Hat Enterprise Linux 5 Server Edition</li> <li>- Red Hat Enterprise Linux 5 Server x64 Edition</li> <li>- Red Hat Enterprise Linux 5 Server with Xen x64 Edition</li> <li>- Red Hat Enterprise Linux 6 Server Edition</li> <li>- Red Hat Enterprise Linux 6 Server x64 Edition</li> </ul>

Note: Certification is planned for these operating systems. For additional information on support, certification, and versions on network operating systems, visit

<http://www.ibm.com/us/compat>

### **Compatibility**

The System x3400 M3 server systems contain licensed system programs that include set configuration, set features, and test programs. System BIOS is loaded from a "flash" EEPROM into system memory. This BIOS provides instructions and interfaces designed to support the standard features of the x3400 server and to maintain compatibility with many current software programs.

To view detailed information on the Internet about IBM and non-IBM devices, adapters, software, and network operating systems supported with x3400 M3 servers, visit

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

Contact your IBM representative or IBM Business Partner, or refer to the *IBM Sales Manual* for information on the compatibility of hardware and software for x3400 M3 servers. The *Sales Manual* is updated periodically as new features and options are announced that support these servers.

### **Limitations**

- The System x3400 M3 servers support a maximum of 128 GB of system memory when you add an 8 GB memory DIMM in each of the 16 DIMM slots.<sup>2</sup> All supported system memory is addressable through direct memory access (DMA). The x3400 M3 server supports 2 GB, 4 GB, and 8 GB DDR3 ECC RDIMMs which are synchronized with processor QPI bandwidth. Refer to the [Planning information](#) section for supported memory options.
- Mixing microprocessors of different speeds or cache size is not supported.
- Use the version of ServerGuide shipped with the system, or a later version, to load software and drivers. Earlier versions of ServerGuide may not be compatible with the server.

### **User group requirements**

This announcement satisfies or partially satisfies requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.



## **Planning information**

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### ***Customer responsibilities***

#### *Customer setup*

The x3400 M3 servers are designated as customer setup. Customer setup instructions are shipped with systems and options.

#### *Bay configuration*

The server contains 19, 11, or 7 drive bays. The four 3.5-inch or eight 2.5-inch hot-swap bays are located on the lower half of System x 3400 M3 tower models. These bays are ready for installation of various supported hot-swap or simple-swap drive options. The system offers optional 16x 2.5-inch HDDs for a 9.6 TB capacity. The three bays on the top portion of tower models are designed primarily for removable media devices. One bay contains the SATA DVD drive, while the remaining two 5.25-inch half-high bays can support tape backup or other devices.

ServeRAID-M1015 is a standard offering on hot-swap models.

The SATA DVD is cabled directly to the SATA port.

### ***External SAS attachment***

In the configurations where an external SAS device attachment is required, a support SAS adapter is required.

### ***External serial attachment***

To attach an external serial cable RS-232, use the serial connector at the rear of the system.

### **Processor upgrades**

The following processor upgrades are supported:

- Addl Intel Xeon Processor E5603 4C 1.60GHz 4MB Cache 1066MHz 80W (81Y5942)
- Addl Intel Xeon Processor E5606 4C 2.13GHz 8MB Cache 1066MHz 80W (81Y5943)
- Addl Intel Xeon Processor E5607 4C 2.26GHz 8MB Cache 1066MHz 80w (81Y5944)
- Addl Intel Xeon Processor E5645 6C 2.40GHz 12MB Cache 1333MHz 80w (81Y5945)
- Addl Intel Xeon Processor E5649 6C 2.53GHz 12MB Cache 1333MHz 80w (81Y5946)
- Addl Intel Xeon Processor E5620 4C 2.40GHz 12MB Cache 1066MHz 80w (69Y0851)

### ***Supported memory options***

The following memory options are supported:

- 2GB 1Rx8 2Gbit PC3-10600R-999 LP RDIMM (44T1592)
- 4GB 2Rx8 2Gbit PC3-10600R-999 LP RDIMM (44T1599)
- 8GB 2Rx4 2Gbit PC3L-10600R LP RDIMM 1.35v (49Y1397)
- 8GB 2Rx4 2Gbit PC3L-8500R LP RDIMM 1.35v (49Y1398)
- 2GB (2Gb, 1Rx8, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1405)
- 4GB (2Gb, 1Rx4, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1406)
- 4GB (2Gb, 2Rx8, 1.35v) PC3L-10600R ECC LP RDIMM (49Y1407)
- 2GB (2Gb, 1Rx8, 1.35v) DDR3-1333 LP UDIMM (49Y1403)

- 2GB (2Gb, 2Rx8, 1.35v) PC3L-10600E LP UDIMM (49Y1404)
- 2GB (1x2GB, 2Rx8, 1.35V) PC3-10600 CL9 ECC DDR3 1333MHz LP (49Y1392) RDIMM
- 2GB (1x2GB, 1Rx4, 1.35V) PC3-10600 CL9 ECC DDR3 1333MHz LP (49Y1393) RDIMM
- 4GB (1x4GB, 2Rx4, 1.35V) PC3-10600 CL9 ECC DDR3 1333MHz LP (49Y1394) RDIMM

**Note:** Sixteen DIMM slots enable you to deploy up to 128 GB of DDR3 SDRAM Registered DIMM memory, with 2 GB or 4 GB memory standard (model dependent); 8 GB DIMM optional.

#### *Power supply requirements*

These models contain one 670-watt fixed power supply, or one 920-watt power supply, model dependent. One power supply has enough power to supply a fully loaded box. If redundancy is required, you should install an additional power supply to ensure sufficient power will be available. A fault light illuminates when a power supply fails.

#### **Optional rack installations**

These models are optionally installable as rack units and are designed so they can be installed in an industry-standard 19-inch rack cabinet such as the NetBAY42 or NetBAY25. The x3400 M3 server system requires a rack mount kit for rack installation. In addition, it can also be installed in the deeper NetBAY42 ER.

If you choose not to use an IBM rack, the cabinet must meet EIA-310-D standards for mounting flanges and hole clearances with front to rear mounting of 70 - 73 cm (27.5 - 28.5 in). The rack must provide sufficient room in front of the forward EIA flange to allow for bezel attachment. The standard for 310-D suggests 49 mm (1.9 in) clearance. It must also provide adequate room at the rear of the rack, behind the rear flange for cable management; the System x3400 server requires approximately 16.6 cm (6.5 in) in this space.

The rack should include perforated front and rear doors and must not prevent the flow of cool air into or out of the rack. The weight handling capacity of the rack is 22.7 kg (50 lb). Finally, the rack must provide proper stabilization so that the rack does not become unstable when servers are pulled out of service.

#### **Cable orders**

Broadcom 5716C 10/100/1000 Mbps, full-duplex dual Gigabit Ethernet PCI-Express controllers, standard with the x3400 M3 servers, are connected directly to one independent RJ-45 connector. The RJ-45 connector provides a 10BASE-T, 100BASE-TX, or 1000BASE-TX interface for connecting twisted-pair cable to the Ethernet network. Cabling is not included with the server. To connect the Ethernet controller to a repeater or switch, use a UTP cable with RJ-45 connectors at both ends. For 100/1000 Mbps operation, Category 5 cabling must be used. For 10 Mbps operation, Category 3, or better, cabling must be used.

There are no additional cabling requirements, other than for system power, keyboard, mouse, and monitor connections.

#### **Installability**

The System x3400 M3 server requires about 30 minutes for installation. Installation includes unpacking, setting up, and powering on the system. Additional time is required to install an operating system, additional adapters, or features.

#### **Packaging**

Product	Package description	Boxes
System x3400 M3	System Unit Carton	1

Contents:

System Unit

System x3400 M3      Country Kit Carton

Contents:

- Machine types 7378 and 7379 x3400 M3 ship group
- Important Notices Flyer
- Machine types 7378 and 7379 x3400 M3 doc browser
- Director V5.20.3 CD
- Ethernet V T4.6.13 CD

The system is shipped as a single package. The country kit carton is contained inside the top portion of the system unit carton.

### **Security, auditability, and control**

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This product uses the security and auditability features of host hardware, host software, AND application software.

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

### **Global Technology Services**

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Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

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## **IBM Electronic Services**

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IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

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## Terms and conditions

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To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM.

### Warranty period

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- System x3400 M3 7378 - One year (AP only)
- System x3400 M3 7379 - Three years

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

### Extended warranty service

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This product is provided with one year of standard warranty and additional years of extended warranty services to make these offerings. Please consult with your advisors about the appropriate financial treatment for this offering.

The following have been designated as consumables or supply items and are, therefore, not covered by this warranty:

- RAID battery

### Warranty service

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If required, IBM provides repair or exchange service, depending on the type of warranty service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

The type of service is Customer Replaceable Unit (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

### **Customer Replaceable Unit (CRU) Service**

IBM provides a replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request. A CRU is designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU. Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation. You may install a Tier 2 CRU

yourself or request IBM to install it, at no additional charge, under the type of warranty service specified below, On-site Service.

Based upon availability, a CRU will be shipped for next business day (NBD) delivery. IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

- System foot kit (rear)
- System foot kit (front)
- Blank filler
- SS EMC Plate Kit
- EMC shield 4x3.5
- 3.5-inch HS EMC Kit
- Cable bracket asm
- Hard disk drive
- Hot-swap fan cage asm
- Hot-swap power supply
- Fan cage/guide arm asm
- Lift handle kit
- Opt wheel USB
- Cover top/side
- Side cover asm
- Bottom cover
- Front bezel asm
- 120mm Fan asm
- DDR3-1333 memory
- Memory expansion card
- Optical drive
- PCI adapter
- PCI divider
- Power cord
- Service label
- Service processor
- Rack bezel asm
- Air duct
- Key card asm
- W2008 CDs
- Keyboards
- USB/Light path cable bracket asm
- CMOS battery

### ***On-site Service***

This provides On-site Repair, 9 hours per day, Monday through Friday excluding holidays, NBD response. IBM or your reseller will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose. On-site Service is not available in all countries, and some countries have kilometer or mileage limitations from an IBM service center. In

those locations where On-site Service is not available, the normal in-country service delivery is used.

### ***International Warranty Service***

International Warranty Service (IWS) is available in selected countries or regions.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased.

Under IWS, warranty service will be provided with the prevailing warranty service type and service level available for the IWS-eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

To determine the eligibility of your machine and to view a list of countries where service is available, visit

<http://www-304.ibm.com/jct01004c/systems/support/supportsite.wss/warrantyform?brandind=5000008>

For more information on IWS, refer to Services Announcement 601-034, dated September 25, 2001.

### ***Licensing***

Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

### ***Warranty service upgrades***

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#### ***IBM hourly service rate classification***

Two

#### ***Field-installable features***

Yes

#### ***Model conversions***

No

#### ***Machine installation***

Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

#### ***Licensed Machine Code***

IBM Machine Code is licensed for use by a customer on the IBM machine for which it was provided by IBM under the terms and conditions of the IBM License Agreement for Machine Code, to enable the machine to function in accordance with its specifications, and only for the capacity authorized by IBM and acquired by the customer. You can obtain the agreement by contacting your IBM representative or visiting

[http://www.ibm.com/servers/support/machine\\_warranties/machine\\_code.html](http://www.ibm.com/servers/support/machine_warranties/machine_code.html)

IBM may release changes to the Machine Code. IBM plans to make the Machine Code changes available for download from the IBM System x technical support Web site

<http://www-304.ibm.com/systems/support>

If the machine does not function as warranted and your problem can be resolved through your application of downloadable Machine Code, you are responsible for downloading and installing these designated Machine Code changes as IBM specifies. If you would prefer, you may request IBM to install downloadable Machine Code changes; however, you may be charged for that service.

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## Pricing

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For all local charges, contact your IBM representative.

### **ServicePac for Warranty and Maintenance options**

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The announced products are also eligible for ServicePac® for Warranty upgrades. These ServicePacs provide a higher level of service than that provided under the basic IBM machine warranty.

### **IBM Business Partners and Distribution Channels**

ServicePacs can be purchased from IBM Business Partners and are specific to the machines/products listed.

System x3400 Servicepac offering	ServicePac number	Ordering part number
7379		
3yr On-site Repair 9hr x 5 days 4hr Resp Target	PC1133 e-ServicePac	- 68Y5329
3yr On-site Repair 24hr x 7 days 4hr Resp Target	PC1134 e-ServicePac	- 68Y5330
3yr On-site Repair 24hr x 7 days 6hr Committed Service	PC506 e-ServicePac	- 41W9360(4)
3yr On-site Repair 24hr x 7 days 6hr Committed Service (UK Only)	PC1088 e-ServicePac	- 65Y5212
3yr On-site Repair 24hr x 7 days 6hr Committed Service (Italy Only)	PC1097 e-ServicePac	- 68Y5030
3yr On-site Repair 24hr x 7 days 6hr Committed Service (France only)	PC1121 e-ServicePac	- 68Y5151
3yr On-site Repair 24hr x 7 days 8hr Committed Service	PC528 e-ServicePac	- 41W9679 (5)
3yr On-site Repair 24hr x 7 days 8hr Committed Service	PC1108 e-ServicePac	- 68Y4933 (11)
3yr On-site Repair 24hr x 7 days 24hr Committed Service	PC513 e-ServicePac	- 41Y9367 (6)
3yr On-site Repair 24hr x 7 days 24hr Committed Service	PC831 e-ServicePac	- 51J9366 (7)
4yr On-site Repair 9hr x 5 days 4hr Resp Target	PC1135 e-ServicePac	- 68Y5331

4yr On-site Repair 24hr x 7 days 4hr Resp Target	PC1136 e-ServicePac	- 68Y5332
5yr On-site Repair 9hr x 5 days 4hr Resp Target	PC1137 e-ServicePac	- 68Y5333
5yr On-site Repair 24hr x 7 days 4hr Resp Target	PC1138 e-ServicePac	- 68Y5334
3yr On-site Repair 9hr x 5 days NBD Comm Parts (Russia only)	PC1020 e-ServicePac	- 65Y0087

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- (2) Except Russia
- (3) UK mainland Only
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## Corrections

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### **(Corrected on March 2, 2011)**

The title was revised to refer to "tower" instead of "rack."