

IBM System x3200 M3 tower server with latest Intel quad-core processors designed for distributed enterprises, retail stores, or small-to-medium-sized businesses

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At a glance



Features of the System x3200 M3 server include:

- The latest Intel® Xeon® 3400 series processors
- Standard system DDR-3 ECC memory including 1 GB, 2 GB, and 4 GB UDIMMs and 1 GB, 2 GB, 4 GB, and 8 GB RDIMMs¹
- Integrated Serial-ATA (SATA) and Serial Attached SCSI (SAS) controllers, depending on model
- Tower to Rack mount kit support through a rack conversion kit option (model dependant, rack mount kit does not support 11 bays)
- Five available I/O expansion slots (plus dedicated PCI-E slot for the RAID controller)
- Hardware-based RAID striping (RAID-0) and mirroring (RAID-1) standard without consuming an I/O expansion slot, standard for Hot Swap models, optional for Simple Swap models. Optional hardware RAID-5, depending on model
- Optional Hardware Key for remote presence
- Up to eleven total bays (special bid only): two 5.25-inch, one 3.5-inch for optional diskette drive, and four 3.5-inch or up to eight 2.5-inch for HDDs (special bid)²
- SATA DVD-ROM
- One fixed 401 W (high efficiency redundant 430 W model dependant or via CTO)
- System management support

- I/O ports:
 - Seven USB (four rear, two front, one internal)
 - Support for Dual Gigabit Ethernet for greater bandwidth and redundancy; one Gigabit shared to system management
 - One software-compatible serial port
- Integrated Matrox graphics controller with 128 MB video memory

Overview

The IBM® System x3200 M3 offers enhanced features and performance to help you take on the dynamic challenges of running IT with an emphasis on security, simplicity, efficiency and reliability -- delivered at the right price in a single-socket tower.

Value and performance

- Powerful Intel processor:
 - Xeon X3400 Series
 - Optimized for EM64T to support 32-bit or 64-bit applications
- Six expansion slots:
 - Two 32-bit/33 MHz PCI
 - Two PCI-Express x8
 - Two PCI-Express x4 (one dedicated to RAID controller)
- Integrated Gigabit Ethernet controller
- Choice of HDD:
 - 3.5-inch SATA, 3.5-inch SAS
 - 2.5-inch SAS (special bid)
- Seven drive bays standard
- Open bay models supporting simple-swap SATA, hot-swap SATA, or hot-swap SAS HDD
- Fixed 401 W power supply (high efficiency redundant 430 W model dependant or via CTO)

At your control

Manageability and serviceability features help diagnose problems quickly.

- Integrated Management Module (IMM) subsystems with IPMI 2.0 support, Trusted Platform Module (TPM) 1.2 support, and optional Hardware Key for remote presence
- Text console redirect over LAN for monitoring vital system functions
- Energy savings with IBM Systems Director Active Energy Manager™ and optional high-efficiency power supply (model dependant)
- Automatic server restart (ASR) to restart server after operating system failure
- Monitoring of memory, thermal, and voltage faults
- Preboot eXecution Environment (PXE) and support for Wake on LAN®

At your service

Valuable services, utilities, and systems management tools help improve productivity and get your server up and running quickly.

- IBM Director to manage System x3200 M3 servers and other LAN assets
- IBM System x® ToolsCenter and ServerGuide³ utilities to assist loading of many popular network and operating systems

- One- and three-year, customer replaceable unit (CRU) and on-site service⁴, limited warranty⁵; optional warranty service upgrades available

¹ Maximum UDIMM support 16 GB when 4 GB DIMMs are available first quarter, 2010, and maximum RDIMM support 32 GB when 8 GB DIMMs are available first quarter, 2010.

² Eight 2.5-inch hot-swap SAS HDDs (2.5-inch HDD cage will be available through sales configuration tool first quarter, 2010).

³ The Microsoft® Windows® Preinstallation Environment software, included as part of ServerGuide™ software, may be used for boot, diagnostic, setup, restoration, installation, configuration, test, or disaster-recovery purposes only.

Note: The Microsoft Windows Preinstallation Environment software contains a security feature that will cause an end-user customer's system to reboot without prior notification to the end-user customer after 24 hours of continuous use of the Microsoft Windows Preinstallation Environment. During routine usage of ServerGuide, which does not usually require usage of the Microsoft Windows Preinstallation Environment software for such an extended time period, this condition should not occur.

⁴ You may be asked certain diagnostic questions before a technician is sent.

⁵ For information on IBM's Statement of Limited Warranty, contact your IBM representative or reseller. Copies are available upon request.

Key prerequisites

- Monitor

Planned availability date

October 30, 2009: System x3200 M3 models

Option SEOs:

October 30, 2009: 44T1599 - 4 GB (1x4GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM

October 30, 2009: 44T1568 - 1 GB (1x1GB, Single Rankx8) PC3-10600 CL9 ECC DDR3 1333 MHz LP UDIMM

November 16, 2009: 46C7448 - 4 GB (1x4GB, Quad Rankx8) PC3-8500 CL7 ECC DDR3 1066 MHz LP RDIMM

November 16, 2009: 44T1569 - 2 GB (1x2GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333 MHz LP UDIMM

Description

Solid server subsystems

This uniprocessor tower server delivers solid, enhanced performance by utilizing the latest Intel Xeon quad-core processors at up to 3.06 GHz/4 MB with DDR-3 ECC 1066/1333 MHz DIMM memory, and SAS or SATA storage subsystems.

The System x3200 M3 server couples these new processors with advanced features to produce a system that is an optimal choice for clients with applications that demand performance today, or for growing businesses that need to accommodate future performance growth.

The System x3200 M3 server uses high-performance advanced chipsets to optimize throughput from the processors to memory and I/O.

Additional features include:

- 1 GB, 2 GB, and 4 GB UDIMMs and 1 GB, 2 GB, 4 GB, and 8 GB RDIMMs
- Up to six slots: two PCI 32-bit/33 MHz, and two PCI-Express x8, one PCI-Express x4, and one PCI-X dedicated for the RAID controller
- Dual Gigabit Ethernet for greater network bandwidth and redundancy (one Gigabit shared to systems management)

Expansion capacity and standard features

The System x3200 M3 server is housed in a 5U tower (optionally rack mountable) that can economically handle expansion. This model features:

- Worldwide voltage-sensing 401 W power supply with auto restart that supports maximum configurations and minimizes operator intervention after a temporary power outage; optional 430 W high efficiency redundant power supply with Active Energy Manager (model dependant or via CTO)
- Three variable fans in each power supply that cools:
 - Power supply
 - Drive bays
 - Microprocessor
 - I/O
- Six DIMM sockets that support:
 - Up to 32 GB of system memory
 - 1 GB, 2 GB, or 4 GB UDIMMs and 1 GB, 2 GB, 4 GB, and 8 GB RDIMMS
 - Mixing memory sizes
- Up to four adapter card slots that support multiple adapters for network, systems management, or data storage
- Additional dedicated PCI-e x4 slot for hardware-based RAID-0,1 adapter
- Seven standard or eleven drive bays (special bid):
 - One accessible 5.25-inch, half-high bay with optical drive
 - One open, accessible 5.25/3.5-inch, half-high bay, supporting tape backup devices and second optical drive
 - One accessible 3.5-inch, slim high bay
 - Four internal 3.5-inch, slim high bays
 - Eight internal 2.5-inch, slim high bays (special bid)
- Simple-swap SATA, hot-swap SATA, or hot-swap SAS HDDs
 - 3.5-inch simple-swap SATA HDD
 - 3.5-inch hot-swap SAS or SATA HDD
- Support for 15,000 rpm SAS HDDs
- Integrated Matrox graphics controller with 128 MB video memory

Systems management and control

System x3200 M3 servers comply with the 2000 ATX implementation guidelines. These guidelines offer better control and manageability of a network.

Supported features include:

- Systems Management base on Integrated Management Module (IMM) with IPMI 2.0 support
- Wake on LAN for existing LAN adapters to remotely turn the server on from an off state

- Wake on LAN supported on integrated Ethernet controller
- Flash EPROM write protection
- SMBus isolation that isolates one bus section and required system components during system power-down, to prevent current leakage into devices without power
- PXE support
- Unified Extensible Firmware Interface (UEFI)
- MAC address on PC box
- Remote Deployment Manager™

The System x3200 M3 server also features IBM Systems Director - a powerful, highly integrated systems management software solution built on industry standards and designed for ease of use. This product helps enable you to take control of your IT environment and manage physically dispersed IT assets more efficiently. It can help reduce costs by potentially:

- Reducing downtime
- Increasing productivity of IT personnel and end users
- Reducing service and support costs

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 Systems Director includes a portfolio of integrated server tools that work with the Remote presence Hardware Key or other systems management monitoring functions. Typical functions and monitoring capabilities can include:

- Temperature
- Voltage
- Fan speed
- Diagnostic LEDs

IT administrators achieve comprehensive, virtual on-site control of System x servers through the ability to remotely:

- Access the server, often regardless of its status
- Inventory and display detailed system and component information
- View server bootup during POST
- Browse and delete logs of events and errors
- Reset or power cycle the server
- Monitor and set thresholds on server health, including:
 - Operating system load
 - POST time-out
 - Voltage
 - Temperature
- Set proactive alerts for critical server events, including Predictive Failure Analysis® (PFA) on:
 - Processors
 - Memory
 - HDDs
- Define automated actions, such as:
 - Send an e-mail to an administrator
 - Execute a command or program
 - Pop up an error message to the IBM Director console

- Flash BIOS
- Monitor and graph the use of server resources, such as:
 - Memory
 - Processor
 - HDDs
- Identify potential performance bottlenecks and react to prevent downtime

IBM Director Agent provides integration into leading workgroup and enterprise systems management environments via upward integration modules (available from IBM and third parties). Advanced management capabilities built into these servers are available through:

- Tivoli® Enterprise and Tivoli NetView®
- Computer Associates (CA) Unicenter TNG
- HP OpenView
- Microsoft SMS
- BMC Patrol
- NetIQ

World-class support tools and programs

The System x3200 M3 server comes with a number of tools and programs that make ownership a positive experience. From the start, IBM can help you purchase a server, get it running, and keep it running over the long haul. IBM can help your company maintain ownership of technology leadership servers.

- The ServerProven⁶ program lets you confidently configure your server with various devices and operating systems. This Web-based program provides compatibility information from actual testing of the System x3200 M3 server with various adapters and devices.
- The ServerGuide CD library includes online publications, utilities, and drivers that assist you in the loading of popular network operating systems.

⁶IBM 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, including those designated as ServerProven or ClusterProven®.

Standard System x3200 M3 configurations

Model	Processor		Cache	Memory	HDD		Other
					Interface	HDD	
7327-C1x	2.4	GHZ	8 MB	2 GB	OB/SS/SATA	3.5-in	Open bay
7327-C2x	2.4	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7327-42x	2.53	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7327-54x	2.67	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7327-62x	2.8	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7328-C1x	2.4	GHZ	8 MB	2 GB	OB/SS/SATA	3.5-in	Open bay
7328-C2x	2.4	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7328-42x	2.53	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7328-54x	2.67	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7328-62x	2.8	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay
7328-E2x	2.67	GHZ	8 MB	2 GB	OB/HS/SATA	3.5-in	Open bay

Note: All models contain a SATA DVD-ROM drive .

Accessibility by people with disabilities

A U.S. Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

The IBM System x3200 M3 offers enhanced features and performance to help you take on the dynamic challenges of running IT with an emphasis on security, simplicity, efficiency, and reliability-delivered at the right price in a single-socket tower system.

The System x3200 M3 server is positioned as an affordable, enterprise-class platform of the System x uniprocessor server line. It is designed and packaged with features intended specifically for cost-sensitive small and medium-sized businesses, or for deployment in distributed environments and retail locations.

The System x3200 M3 server combines leading industry-standard technologies, excellent internal data storage capacity, availability, and basic systems management and control features into an attractively priced entry server. This uniprocessor server provides solid performance to support general-purpose network infrastructure, retail store, or e-mail and messaging applications.

Product number

The following feature numbers are automatically added to the 5372-SWX HIPO order whenever one of the hardware system units are configured in an order.

HIPO Feature Number	Description
4186	7327-AC1 Routing Code
4187	7327-MC1 Routing Code
4188	7328-AC1 Routing Code
4189	7328-MC1 Routing Code

GAV Models

Description	Machine	Models	Part number
System x3200 M3	7327	C1A	7327C1A
	7327	C1M	7327C1M
	7327	C1B	7327C1B
	7327	C1V	7327C1V
	7327	C1K	7327C1K
	7327	C1R	7327C1R
	7327	C1Q	7327C1Q
	7327	C1J	7327C1J
	7327	C1E	7327C1E
	System x3200 M3	7327	C2A
7327		C2M	7327C2M
7327		C2B	7327C2B
7327		C2V	7327C2V
7327		C2K	7327C2K
7327		C2R	7327C2R
7327		C2Q	7327C2Q
7327		C2J	7327C2J
7327		C2E	7327C2E
System x3200 M3		7327	42A
	7327	42M	732742M

	7327	42B	732742B
	7327	42V	732742V
	7327	42K	732742K
	7327	42R	732742R
	7327	42Q	732742Q
	7327	42J	732742J
	7327	42E	732742E
System x3200 M3	7327	54A	732754A
	7327	54M	732754M
	7327	54B	732754B
	7327	54V	732754V
	7327	54K	732754K
	7327	54R	732754R
	7327	54Q	732754Q
	7327	54J	732754J
	7327	54E	732754E
System x3200 M3	7327	62A	732762A
	7327	62M	732762M
	7327	62B	732762B
	7327	62V	732762V
	7327	62K	732762K
	7327	62R	732762R
	7327	62Q	732762Q
	7327	62J	732762J
	7327	62E	732762E
System x3200 M3	7328	C1A	7328C1A
	7328	C1M	7328C1M
	7328	C1B	7328C1B
	7328	C1V	7328C1V
	7328	C1K	7328C1K
	7328	C1R	7328C1R
	7328	C1Q	7328C1Q
	7328	C1J	7328C1J
	7328	C1E	7328C1E
System x3200 M3	7328	C2A	7328C2A
	7328	C2M	7328C2M
	7328	C2B	7328C2B
	7328	C2V	7328C2V
	7328	C2K	7328C2K
	7328	C2R	7328C2R
	7328	C2Q	7328C2Q
	7328	C2J	7328C2J
	7328	C2E	7328C2E
System x3200 M3	7328	42A	732842A
	7328	42M	732842M
	7328	42B	732842B
	7328	42V	732842V
	7328	42K	732842K
	7328	42R	732842R
	7328	42Q	732842Q
	7328	42J	732842J
	7328	42E	732842E
System x3200 M3	7328	54A	732854A
	7328	54M	732854M
	7328	54B	732854B
	7328	54V	732854V
	7328	54K	732854K
	7328	54R	732854R
	7328	54Q	732854Q
	7328	54J	732854J
	7328	54E	732854E
System x3200 M3	7328	62A	732862A
	7328	62M	732862M
	7328	62B	732862B
	7328	62V	732862V

7328	62K	732862K
7328	62R	732862R
7328	62Q	732862Q
7328	62J	732862J
7328	62E	732862E

MTM Models

Description	Machine	Models	Part number
System x3200 M3	7327	C1C	7327C1C
	7327	C1N	7327C1N
System x3200 M3	7327	C2C	7327C2C
	7327	C2N	7327C2N
System x3200 M3	7327	42C	732742C
	7327	42N	732742N
System x3200 M3	7327	54C	732754C
	7327	54N	732754N
System x3200 M3	7327	62Q	732762Q
	7327	62J	732762J
System x3200 M3	7328	C1C	7328C1C
	7328	C1N	7328C1N
System x3200 M3	7328	C2C	7328C2C
	7328	C2N	7328C2N
System x3200 M3	7328	42C	732842C
	7328	42N	732842N
System x3200 M3	7328	54C	732854C
	7328	54N	732854N
System x3200 M3	7328	62Q	732862Q
	7328	62J	732862J

xxJ = Japan (Japanese)
 xxE = Japan (Japan/English)
 xxK = Korea (Korean)
 xxR = Korea (Korean/English)
 xxC = Peoples Republic of China (Simple Chinese)
 xxN = Peoples Republic of China (English)
 xxV = Taiwan
 xxB = Hong Kong
 xxA = Hong Kong, Singapore, Brunei, Malaysia, Myanmar (Burma)
 xxM = Australia, New Zealand
 xxQ = India, Nepal, Sri Lanka

Option Part Numbers

Description	Part Number
4GB (1x4GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333MHZ LP RDIMM	44T1599
1GB (1x1GB, Single Rankx8) PC3-10600 CL9 ECC DDR3 1333MHZ LP UDIMM	44T1568
4GB (1x4GB, Quad Rankx8) PC3- 8500 CL7 ECC DDR3 1066MHZ LP RDIMM	46C7448
2GB (1x2GB, Dual Rankx8) PC3-10600 CL9 ECC DDR3 1333MHZ LP UDIMM	44T1569

Publications

The following publications and CD-ROMs are shipped with the System x3200 M3 server:

- *System x3200 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 your server.
- *ServerGuide* contains online publications and drivers to support the System x3200 M3 server. In addition, it includes a set of easy-to-use utilities with assisted installation via CD of several popular network operating systems.
- IBM Director systems management software is included.

Software versions, features, and functions shipped with this system may change as new releases become available or may be discontinued at any time.

The *System x3200 M3 Installation Guide* and *Problem Determination and Service Guide*, in U.S. English versions, are available from

<http://www-304.ibm.com/jct01004c/systems/support/>

Select servers, then server family, and then click on publications.

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.

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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.

Technical information

Specified operating environment

Physical specifications

7327-C1x	7327-C2x	7328-C1x	7328-C2x
Processor	Xeon X3430	Xeon X3430	Xeon X3430
Internal speed	2.4 GHz	2.4 GHz	2.4 GHz
External speed	1333 MHz	1333 MHz	1333 MHz
Number standard	1	1	1
Maximum	1	1	1
L3 cache (full-speed)	8 MB	8 MB	8 MB

Memory	2048 MB	2048 MB
DIMMs	2 x 1024 MB	2 x 1024 MB
DIMM sockets	6	6
Capacity	24 GB	24 GB
Video controller	Matrox G200ev	Matrox G200ev
Memory	128 MB	128 MB
HDD	SS SATA	HS SATA
HDD controllers	SATA	SAS/SATA
Channels	1	4
Connector int.	6	1
Connector ext.	0	0
Fixed disk standard	0	0
Tape backup	0	0
Total bays	7	7
5.25/3.5-in half-high	2	2
3.5-in slim	5	5
2.5-in slim	0	0
Hot-swap	0	4
Internal capacity	4 TB	4 TB
Bays available	6	6
5.25/3.5-in half-high	1	1
3.5-in slim	5	5
2.5-in slim	0	0
Hot-swap	0	4
Total slots	4	4
PCI 2.2 (32/33 MHz)	2	2
PCI-E (x8/x4/x1)	3	3
Slots available	5	5
Management proc.	Optional	Optional
Ethernet controller	1 Gb	1 Gb
Optical drive (SATA)	DVD-ROM	DVD-ROM
Diskette drive	0	0
Power supply	401 W	401 W
Number standard	1	1
Hot-swap	No	No
Redundant power	No	No
Auto restart	Yes	Yes

7327-42x	7327-54x	7328-42x	7328-54x
Processor	Xeon X3440		Xeon X3450
Internal speed	2.53 GHz		2.67GHz
External speed	1333 MHz		1333 MHz
Number standard	1		1
Maximum	1		1
L3 cache (full-speed)	8 MB		8 MB
Memory	2048 MB		2048 MB
DIMMs	2 x 1024 MB		2 x 1024 MB
DIMM sockets	6		6
Capacity	24 GB		24 GB
Video controller	Matrox G200ev		Matrox G200ev
Memory	128 MB		128 MB
HDD	HS SATA		HS SATA
HDD controllers	SAS/SATA		SAS/SATA
Channels	4		4
Connector int.	1		1
Connector ext.	0		0
Fixed disk standard	0		0
Tape backup	0		0
Total bays	7		7
5.25/3.5-in half-high	2		2
3.5-in slim	5		5
2.5-in slim	0		0
Hot-swap	4		4
Internal capacity	4.0 TB		4.0 TB
Bays available	6		6
5.25/3.5-in half-high	1		1
3.5-in slim	5		5
2.5-in slim	0		0
Hot-swap	4		4
Total slots	5		5
PCI 2.2 (32/33 MHz)	2		2
PCI-E (x8/x4/x1)	3		3
Slots available	5		5
Management proc.	Optional		Optional
Ethernet controller	1 Gb		1 Gb
Optical drive (SATA)	DVD-ROM		DVD-ROM
Diskette drive	0		0
Power supply	401 W		430 W
Number standard	1		2
Hot-swap	No		Yes
Redundant power	No		Yes
Auto restart	Yes		Yes

7327-62x	7328-62x
Processor	Xeon X3460
Internal speed	2.8 GHz
External speed	1333 MHz
Number standard	1
Maximum	1
L3 cache (full-speed)	8 MB
Memory	2048 MB ECC
DIMMs	2 x 1024 MB
DIMM sockets	6
Capacity	24 GB
Video controller	Matrox G200ev
Memory	128 MB
HDD	HS SATA
HDD controllers	SAS/SATA
Channels	4
Connector int.	1
Connector ext.	0
Fixed disk standard	0
Tape backup	0
Total bays	7
5.25/3.5-in half-high	2
3.5-in slim	5
2.5-in slim	0
Hot-swap	4
Internal capacity	4.0 TB

Bays available	6
5.25/3.5-in half-high	1
3.5-in slim	1
Hot-swap	4
Total slots	4
PCI 2.2 (32/33 MHz)	2
PCI-E (x8/x4/x1)	3
Slots available	5
Management proc.	Optional
Ethernet controller	1 Gb
Optical drive (SATA)	DVD-ROM
Diskette drive	0
Power supply	401 W
Number standard	1
Hot-swap	No
Redundant power	No
Auto restart	Yes

Note: Capacities are based on installation of 750 GB SATA HDDs. For the most up-to-date information on supported HDD options, visit

<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/>

Video subsystem

- Integrated on planar and connected to the PCI-e bus
- Support for DDR2 SDRAM external memory
- 128-bit graphics engine with 8, 16, and 24 bpp mode acceleration
- 32 bpp (4G colors/True Color) support
- Integrated 350 MHz RAMDAC
- DDC2B monitor communications support

Supported video mode capabilities for the SVGA PCI controller with a 200 MHz memory clock:

Microsoft windows (32- and 64-bit) and Linux® (all distributions)

Resolution	Vertical Refresh Rate	Color Depth
1600 x 1200	60, 65, 70, 75, 85	8, 16
1440 x 1050	60, 75, 85	8, 16 (must be supported in EDID)
1440 x 900	75, 85	8, 16 (must be supported in EDID)
1280 x 900	60	8, 16, 32
1280 x 1024	75, 85	8, 16
1280 x 1024	60	8, 16, 32
1152 x 864	60	8, 16, 32
1024 x 768	60, 70, 75, 85	8, 16, 32
800 x 600	56, 60, 72, 75, 85	8, 16, 32
640 x 400	60, 72, 75, 85	8, 16, 32

Dimensions

- Width: 215.9 mm (8.5 in)
- Depth: 539.75 (21.25 in)
- Height: 438.15 mm (17.25 in)
- Weight:
 - Minimum ship configuration: 16.3 kg (36.0 lb)
 - Maximum ship configuration: 25.2 kg (56.0 lb)

Minimum clearance for cooling

- 100 mm (4 in) at the back
- 50 mm (2 in) on each side

The System x3200 M3 is shipped as a floor-standing server. An optional 5U Tower-to-Rack Kit allows rack mounting for seven bay models. This server is supported in

a horizontal orientation only with this conversion kit. Eleven bay models are not rack mountable.

Standards

These systems:

- Support or comply with Peripheral Component Interconnect (PCI) specification 2.2.
- Are ISO 9241 capable. A supplier's declaration is available.

Equipment approvals and safety

- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 22:2006, Class A
- IEC-60950-1 (CB Certificate and CB Test Report)
- China CCC (GB4943-2001), GB9254-1998 or 2009 (from 09/01/2009) ClassA, GB17625.1-2003
- Taiwan BSMI CNS 13438, Class A); CNS 14336
- Korea KN22, Class A; KN24

Operating environment

- Air temperature:
 - Server on
 - 10.0° to 35.0° C (50° to 95° F); altitude: 0 to 914.4 m (3,000 ft)
 - 10.0° to 32.0° C (50° to 89.6° F); altitude: 914.4 m (3,000 ft) to 2,133.6 m (7,000 ft)
 - Server off
 - 10.0° to 43.0° C (50° to 109.4° F); maximum altitude: 2,133.6 m (7,000 ft)
 - Shipping
 - -40° to 60° C (-40° to 140° F)
- Relative humidity: 8% to 80%
- Maximum altitude: 2,133.6 m (7,000 ft)

Electrical

- 100 to 127 (nominal) V ac; 50 to 60 Hz; 8.0 A (maximum)
- 200 to 240 (nominal) V ac; 50 to 60 Hz; 4.0 A (maximum)
- Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.058 kVA
 - Maximum configuration: 0.55 kVA
- Btu output:
 - Ship configuration - 188 Btu/hr (55 watts)
 - Full configuration - 1784 Btu/hr (523 watts)
- Acoustical noise emission level: Sound power levels
 - 4.5 bels (idling - non-redundant power system)
 - 5.0 bels (idling - redundant power system)
 - 5.3 bels (operating)

Note: The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines, typically configured, and operating in idle mode; for example, powered on, but no disk drive read/write or other I/O

activity. All measurements are made in accordance with ANSI S12.10 and ISO 7779, and reported in accordance with ISO 9296.

Japan Energy Saving Standard

Energy value tables - System x3200 M3

Machine Type/Model	Category 2005/2007	Power (watts) Consumption	CTP MTOPS	Energy Consumption Efficiency	Input (Hz) Frequency
7327-C1x	I / E	66	72800	0.00104	60
7327-C2x	I / E	66	72800	0.00104	60
7327-42x	I / E	67	76743	0.00100	60
7327-54x	I / E	68	80687	0.00097	60
7327-62x	I / E	68	84933	0.00092	60
7328-C1x	I / E	66	72800	0.00104	60
7328-C2x	I / E	66	72800	0.00104	60
7328-42x	I / E	67	76743	0.00100	60
7328-54x	I / E	68	80687	0.00097	60
7328-62x	I / E	68	84933	0.00092	60

Hardware requirements

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

- Keyboard
- Mouse
- HDD
- Display

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
- Mouse
- HDD
- Display

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 System x3200 M3 server:

- Microsoft:
 - Microsoft Windows Server 2003/2003 R2, Enterprise Edition
 - Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
 - Microsoft Windows Server 2003/2003 R2, Standard Edition
 - Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
 - Microsoft Windows Server 2003, Web Edition
 - Microsoft Windows Server 2008, Datacenter x86 Edition
 - Microsoft Windows Server 2008, Datacenter x64 Edition
 - Microsoft Windows Server 2008, Enterprise x86 Edition
 - Microsoft Windows Server 2008, Enterprise x64 Edition
 - Microsoft Windows Server 2008, Standard x86 Edition

- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Windows Small Business Server 2008 Premium Edition
- Windows Small Business Server 2008 Standard Edition
- Linux:
 - SUSE LINUX Enterprise Server 10 for x866
 - SUSE LINUX Enterprise Server 10 for AMD64/EM64T
 - SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
 - SUSE LINUX Enterprise Server 11 for x86
 - SUSE LINUX Enterprise Server 11 for AMD64/EM64T
 - SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
 - Red Hat Enterprise Linux 4 AS for x86
 - Red Hat Enterprise Linux 4 AS for AMD64/EM64T
 - Red Hat Enterprise Linux 4 ES for x86
 - Red Hat Enterprise Linux 4 ES for AMD64/EM64T
 - Red Hat Enterprise Linux 4 WS/HPC for x86
 - Red Hat Enterprise Linux 4 WS/HPC for AMD64/EM64T
 - Red Hat Enterprise Linux 5 Server Edition
 - Red Hat Enterprise Linux 5 Server x64 Edition
 - Red Hat Enterprise Linux 5 Server with Xen x64 Edition
 - Red Hat Enterprise Linux 5 Server Edition with Xen
- Virtualizer:
 - VMware ESX 4.0
 - VMware ESXi 4.0

The following network operating systems are supported as preloads in the System x3200 M3 server:

- Microsoft:
 - Microsoft Windows Server 2008, Datacenter x86 Edition
 - Microsoft Windows Server 2008, Datacenter x64 Edition
 - Microsoft Windows Server 2008, Enterprise x86 Edition
 - Microsoft Windows Server 2008, Enterprise x64 Edition
 - Microsoft Windows Server 2008, Standard x86 Edition
 - Microsoft Windows Server 2008, Standard x64 Edition
 - Microsoft Windows Server 2008, Web x86 Edition
 - Microsoft Windows Server 2008, Web x64 Edition
 - Windows Small Business Server 2008 Premium Edition
 - Windows Small Business Server 2008 Standard Edition

Note: For additional support, certification, and version information on network operating systems, visit

<http://www-03.ibm.com/servers/eserver/serverproven/compat/us/>

Compatibility

The System x3200 M3 systems contain licensed system programs that include set configuration, set features, and test programs. System BIOS (flash BIOS modified to IBM specifications) is loaded from a "flash" EEPROM into system memory. This BIOS provides instructions and interfaces designed to support the standard features of the server and to maintain compatibility with many current software programs.

To view detailed information about IBM and non-IBM devices, adapters, software, and network operating systems supported with xSeries® servers, visit

<http://www-03.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 xSeries servers. The *Sales Manual* is updated periodically as new features and options are announced that support these servers.

Limitations

- SATA and SAS drives cannot be intermixed on the same system.
- Mixed speed SAS HDDs (10,000/15,000 rpm) are not supported on same system.
- Wake on LAN is not supported if systems are improperly shut down.
- The open 5.25-inch bay supports removable media devices, such as tape backup devices.
- Use the version of ServerGuide that is shipped with the system, or a later version, to load software and drivers. Earlier versions of ServerGuide may not be compatible with the server.
- If using a fixed power supply and a hot-swap SAS/SATA HDD, a 400 W Interposer Cable is required.

Refer to the [Software requirements](#) section for operating system limitations.

Planning information

Customer responsibilities

Customer setup

The System x3200 M3 server is designated as customer setup. Customer setup instructions are shipped with systems.

Standard SATA configurations

The System x3200 M3 server uses the SATA interface for the optical drive.

Six single-drop SATA cables are used to attach up to four SATA HDDs and two SATA Optical Disk Drives (ODDs).

Standard SAS configurations

System x3200 M3 models use a paddle board with the LSI 1064E controller.

Supported memory options

- 44T1480 1GB 1Rx8 1Gbit PC3-10600R-999, LP RDIMM
- 44T1481 2GB 2Rx8 1Gbit PC3-10600R-999, LP RDIMM
- 46C7448 4GB 4Rx8 1Gbit PC3-8500R-777, LP RDIMM
- 44T1568 1GB 1Rx8 1Gbit PC3-10600E-999, LP UDIMM
- 44T1569 2GB 2Rx8 1Gbit PC3-10600E-999, LP UDIMM
- 44T1599 4GB 2Rx8 2Gbit PC3-10600R-999, LP RDIMM

Rack installations

The System x3200 M3 server can be converted to a rack-mounted unit by installing a 5U x 20-inch Tower-to-Rack Kit. The 5U System x3200 M3 server can be installed in a 19-inch industry-standard rack such as:

- IBM 25U Standard Rack
- IBM 42U Standard Rack Extension

- IBM 42U Standard Rack

If using a non-IBM rack, the cabinet must meet the EIA-310-D standards with a depth of at least 71 cm (28 in). Also, adequate space (approximately 2.5 cm (2 in) for the front bezel and one inch for air flow) must be maintained from the slide assembly to the front door of the rack cabinet to allow sufficient space for the door to close and provide adequate air flow.

Cable orders

The gigabit full duplex, Ethernet controller, standard with the server, is connected directly to an RJ-45 connector. The RJ-45 connector provides a 10/100/1000Base-T 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 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 x3200 M3 system 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

One box

- System unit carton: system unit
- System unit power cord
- Country kit:
 - Publications/CD bag:
 - System x3200 M3 Installation Guide
 - Documentation CD
 - Diagnostics CD
 - Safety pointer publication
 - Contents information flyer
 - ServerGuide and IBM Director CDs

The System x3200 M3 system is shipped as a single package. The country kit is contained inside the top portion of the system unit carton.

Supplies

None

Security, auditability, and control

Security and auditability features include:

- A power-on password (secured boot) can be used.
- A mechanical lock allows the user to lock the system cover to prevent unauthorized personnel access to internal components of the server.
- Selectable boot sequence prevents unauthorized installation of software or removal of data from the diskette drive.
- Tie-down capability is available by using a common U bolt attached to the back frame.

- Operation without a keyboard is display are supported after the server is configured with the appropriate network operating system. This reduces the risk of unauthorized people tampering with the system software and configuration.

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

Terms and conditions

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

Warranty period

- One year: Machine type 7327
- Three years: Machine type 7328

Optional IBM features initially installed in an IBM machine carry the same warranty period as the machine. If installed after the initial machine installation, they carry the balance of the machine warranty or the optional feature warranty, whichever is greater.

The following has been designated as a consumable or supply item; therefore, not covered by this warranty:

- Battery

Warranty service

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. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. 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 (CRU) (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

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 or a Tier 2 CRU. Installation of a Tier 1 CRU 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 have been designated as a Tier 1 CRU:

- Blank filler

- Cable-management arm
- Hard disk drive
- Hot-swap power supply (option)
- Lift handle kit
- Memory DIMM
- Memory expansion card
- Optical drive
- PCI adapter
- PCI divider
- Power cord
- Service label
- Service processor
- System label
- Top cover
- Voltage regulator module

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-county 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 [AA01-3100](#), dated September 28, 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

IBM hourly service rate classification

One

Field-installable features

No

Model conversions

No

Machine installation

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

Graduated program license charges apply

No

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-304.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.

Educational allowance

None

Prices

For all local charges, contact your IBM representative.

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AP distribution

Country/Region	Announced	Date
AP IOT		
ASEAN*	Yes	September 22, 2009
India/South Asia**	Yes	September 22, 2009
Australia	Yes	September 22, 2009
People's Republic of China	Yes	September 22, 2009
Hong Kong S.A.R of the PRC	Yes	September 22, 2009
Macao S.A.R of the PRC	Yes	September 22, 2009
Taiwan	Yes	September 22, 2009
Korea	Yes	September 22, 2009
New Zealand	Yes	September 22, 2009
Japan IOT		
Japan	Yes	September 22, 2009

* Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, and Vietnam

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