IBM System x3620 M3

IBM System x at-a-glance guide

The System x3620 M3 is a 2U, dual-socket rack server for single or multiple general business application hosting built on innovative IBM® X-Architecture® leveraging Intel Quick Path Interconnect (QPI) technology. Featuring power-optimized, high-performance Intel Xeon multicore processors and an energy-efficient design with balanced functionality, the x3620 M3 can help reduce cost, improve service, and allow you to manage risk easily and simply.

The x3620 M3 is suitable for mid-market and SMB rack clients looking to optimize their IT budgets, and is designed for single or multiple general business application hosting and virtualized, non-blade environments.

Figure 1. The IBM System x3620 M3

Did you know

The System x3620 M3 server contains high levels of function and storage capacity for a 2U, 19-inch rack-drawer package. Hot-swap models feature eight 3.5" hot-swap HDD bays plus the ability to add optional media like internal optical drives or internal tape drives. Simple-swap models feature four 3.5-inch simple-swap drive bays. The server has rich reliability and availability features, including Chipkill memory and memory mirroring, redundant power supplies, redundant fans, Predictive Failure Analysis and Light Path Diagnostics, and Integrated Management Module (IMM).

Locations of key components

Figure 2 shows the front of the hot-swap drive model and the front of the simple-swap drive model of the x3620 M3 server.

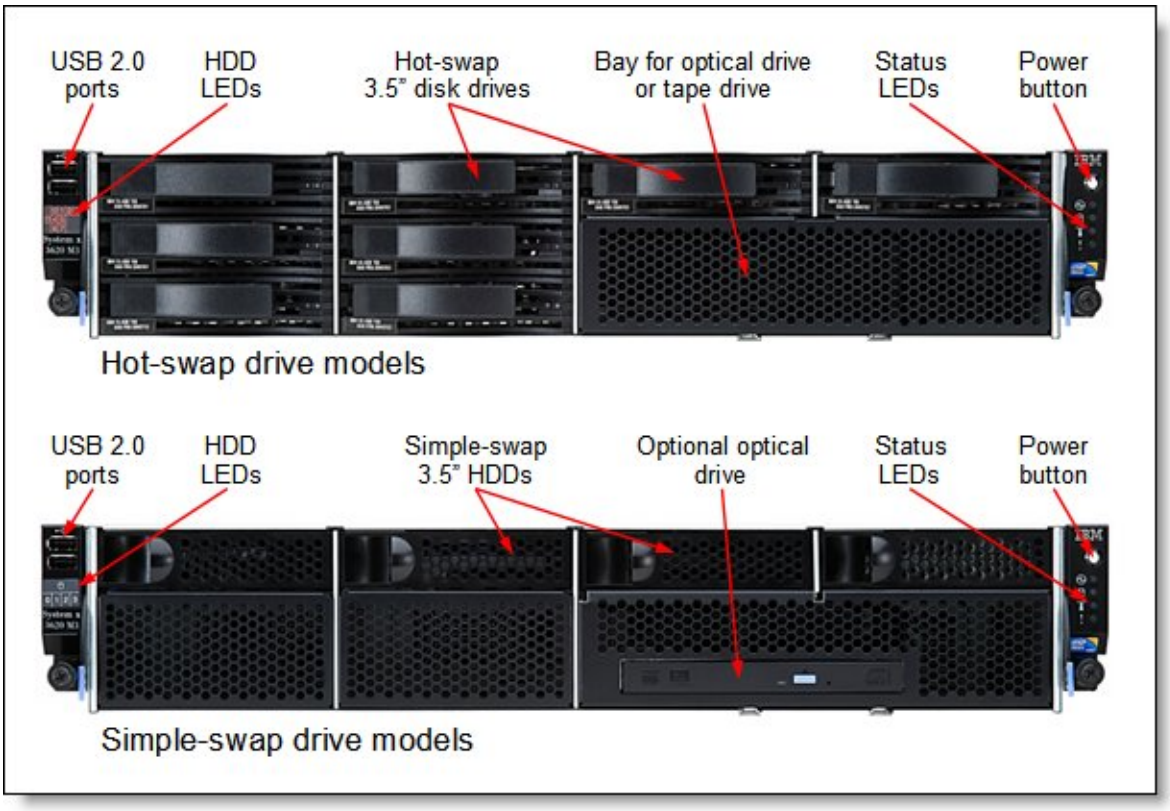

Figure 2. The System x3620 M3 - Front view

Figure 3 shows the rear of the server.

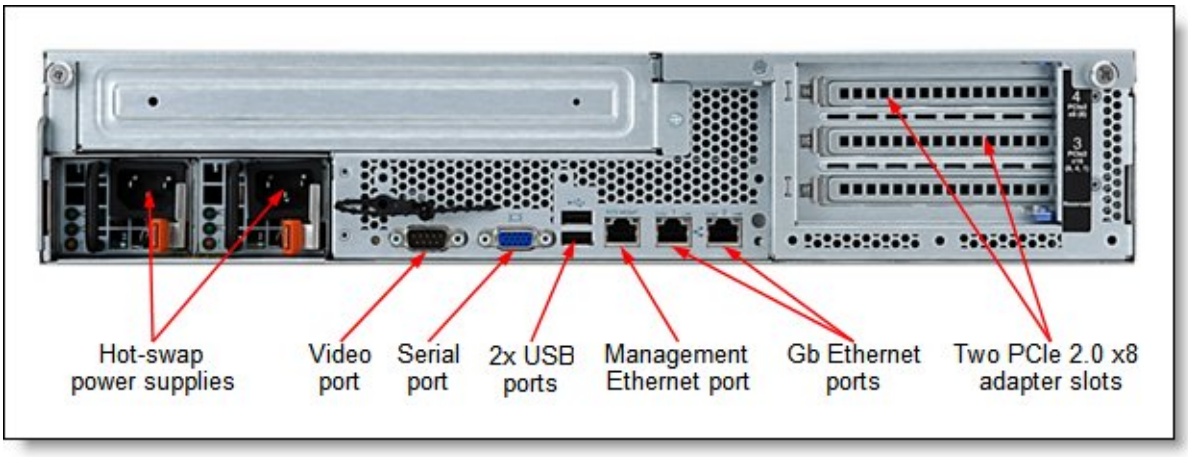

Figure 3. The System x3620 M3 - Rear view

Figure 4 shows the locations of key components inside the server.

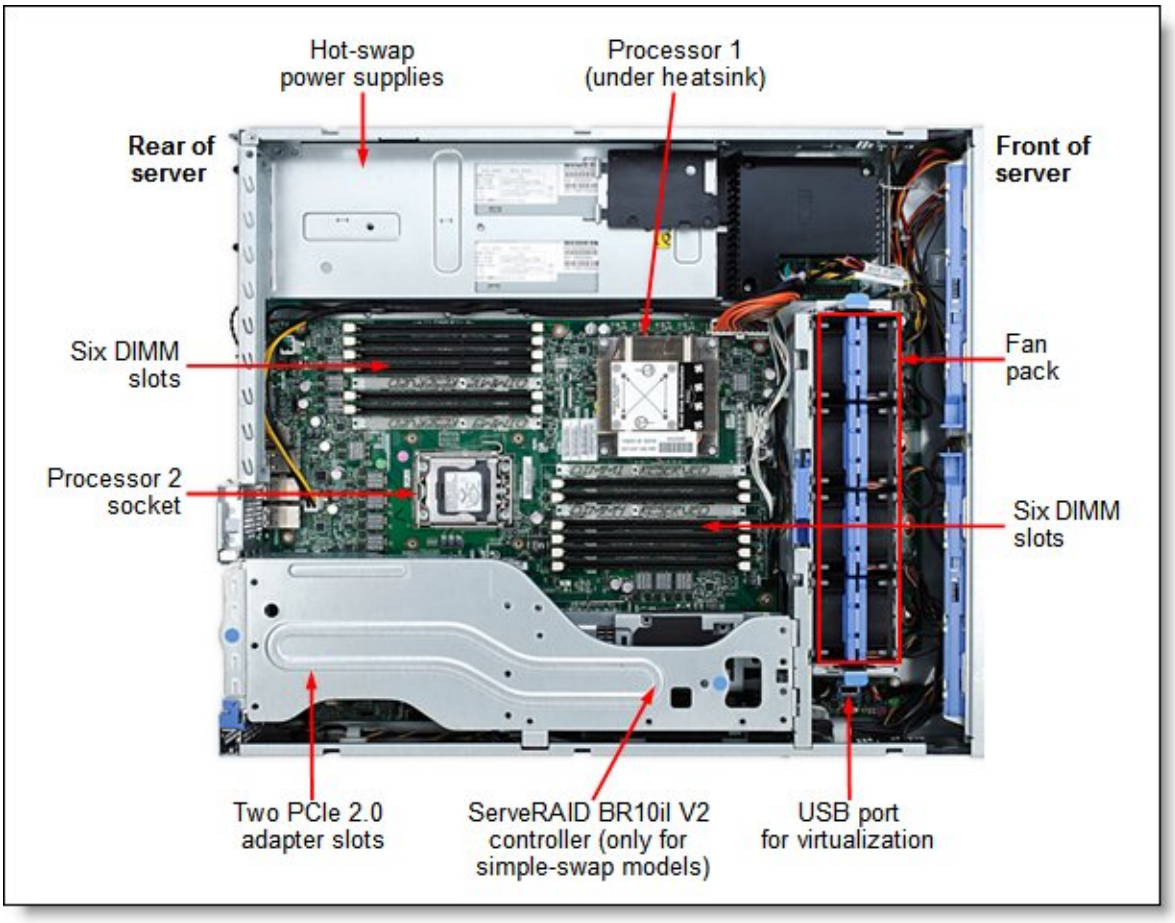

Figure 4. The System x3620 M3 - Inside view

Standard specifications

Table 1. Standard specifications (part 1)

Components	Specification
Form factor	2U rack.
Processor	Up to two six-core (up to 3.06 GHz) or quad-core (up to 3.2 GHz) Intel Xeon 5600 series processors with QuickPath Interconnect technology up to 6.4 GT/s, and up to 1333 MHz memory speed. Supports basic Quad-core and Dual-core Intel Xeon 5500 series processors either in standard models or via Configure-To-Order (CTO).
Memory cache	Up to 12 MB L3 for Intel Xeon 5600 series processors. Up to 4 MB L3 for Intel Xeon 5500 series processors.
Chipset	Intel 5500.
Memory DIMM slots	12 (6 per installed processor).
Memory capacity	Up to 192 GB with 16 GB DDR3 RDIMMs and 12 populated DIMM slots (up to 96 GB with 6 DIMMs per processor).
Memory protection	ECC, ChipKill (for x4-based memory DIMMs), and Memory Mirroring.

Table 1. Standard specifications (part 2)

Components	Specification
Disk drive bays	Four 3.5" simple-swap SATA HDD bays; or eight 3.5" hot-swap SAS/SATA HDD bays (model dependent).
Maximum internal storage	Up to 4.8 TB with 600 GB SAS HDDs, or up to 16.0 TB with 2 TB SATA HDDs. Intermix of SAS/SATA is supported.
RAID Support	Software RAID 0, 1 with integrated 6-port SATA controller. RAID 0, 1, 1E with an optional ServeRAID M1015 controller. RAID 0, 1, 5, 10, 50 with an optional ServeRAID M5014 or M5015 controller. Optional upgrade to RAID 5 is available for M1015. Optional upgrade to RAID 6, 60 is available for M5014/M5015.
Optical drive bays	Optional. Optical Disk Drive (ODD) Enablement kit is required to support internal optical drive. Support for Multiburner.
Tape drive bays	Optional. Tape Enablement Kit is required to support internal tape drive.
Network interfaces	Integrated 2-port Gigabit Ethernet (Intel 82575).
PCI Expansion slots	Three PCI Express 2.0 slots: ● One PCI Express 2.0 x16 (x4 wired) (dedicated to ServeRAID BR10il v2) ● One PCI Express 2.0 x16 (x8 wired) ● One PCI Express 2.0 x8 (x8 wired)
External ports	Front: Two USB 2.0 ports. Rear: Two USB 2.0, one DB-15 video, one DB-9 serial, one RJ-45 systems management, two RJ-45 Gigabit Ethernet network ports. Internal: One USB port for embedded hypervisor. One USB port for internal USB tape drive.
Cooling	IBM Calibrated Vectored Cooling™ with four counter-rotating non-hot-swap fans with N+1 redundancy.
Power supply	Up to 2 redundant hot-swap 460 W AC or 675 W AC or 675 W high-efficiency (HE) AC power supplies with 90%+ efficiency.
Hot-swap components	Hard drives, power supplies.
Systems management	UEFI, IBM Integrated Management Module (IMM), Predictive Failure Analysis, Light Path Diagnostics, Automatic Server Restart, IBM Systems Director and IBM Systems Director Active Energy Manager™, and IBM ServerGuide. Optional Virtual Media Key for remote presence (graphics, keyboard and mouse, virtual media).
Security features	Power-on password, administrator's password.
Video	Matrox G200eV with 16 MB memory integrated into the IMM. Maximum resolution is 1280x1024 at 75 Hz with 16M colors.
Operating systems supported	Microsoft Windows Server 2008 R2 and 2008, Red Hat Enterprise Linux 5 and 6, SUSE Linux Enterprise Server 10 and 11, VMware ESX 4 and VMware ESXi 4 embedded hypervisor.
Limited warranty	Three-year customer-replaceable unit and onsite limited warranty with 9x5 next-business-day response time.
Service and support	Optional service upgrades are available through IBM ServicePacs®: 24x7 with next business day or 4 hours onsite repair, 1-year or 2-year warranty extension, remote technical support for IBM hardware and selected IBM and third-party (Microsoft, Linux, VMware) software.

The x3620 M3 servers are shipped with the following items:

- Statement of Limited Warranty
- Important Notices
- Rack Installation Instructions
- Documentation CD that contains the *Installation and User's Guide*
- IBM Systems Director 6.2 Base for x86 DVD-ROM
- Slides Kit
- One 2.8 m C13 - C14 power cord

Standard models

Table 2 lists the standard models.

Table 2. Standard models

Model	Intel Xeon processor* (2 maximum)	RAM	RAID	Disk bays	Disk	GbE	DVD	Power
	Models announced February 2011							
7376-A2x	1x E5603 1.60GHz 4C 4MB 1066MHz	1x 2GB	SATA‡	4x 3.5" SS	Open	2	Open	1x 460W
7376-B2x	1x E5607 2.26GHz 4C 8MB 1066MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 460W
7376-44x	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 460W
7376-D2x	1x E5645 2.40GHz 6C 12MB 1333MHz	1x 4GB	M5014	8x 3.5" HS	Open	2	Open	1x 460W
7376-64x	1x X5650 2.66GHz 6C 12MB 1333MHz	1x 4GB	M5015(b)	8x 3.5" HS	Open	2	Open	1x 675W
	Models announced March 2010							
7376-22x	1x E5506 2.13GHz 4C 4MB 800MHz	1x 2GB	SATA‡	4x 3.5" SS	Open	2	Open	1x 675W
7376-32x	1x E5507 2.26GHz 4C 4MB 800MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 675W
7376-42x	1x E5620 2.4GHz 4C 12MB 1066MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 675W
7376-52x	1x E5630 2.53GHz 4C 12MB 1066MHz	1x 4GB	M5014	8x 3.5" HS	Open	2	Open	1x 675W
7376-62x	1x X5650 2.66GHz6C 12MB 1333MHz	3x 4GB	M5014(b)	8x 3.5" HS	Open	2	Open	1x 675W

* Processor model, core speed, cores, L3 cache, memory speed.
‡ These models use a SATA controller integrated on the system board.
(b) The ServeRAID M5014 RAID controller in this model includes a battery.

Refer to the Specifications section for information about standard features of the server.

Express models

Express models are preconfigured with additional components such as processors, memory, and disks with the purpose of making the ordering and installation process simpler. Table 3 lists the express models that are available in certain regions.

Table 3. Express models

Model	Intel Xeon Processor* (2 max)	RAM	RAID	Bays	Disks	GbE	DVD	Power
NA & LA								
7376-E1U	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 675W
7376-E2U	1x E5620 2.4GHz 4C 12MB 1066MHz	3x 2GB	M5014	8x 3.5" HS	Open	2	Open	1x 675W
7376-E3U	1x X5650 2.66GHz 6C 12MB 1333MHz	3x 4GB	M5015(b)	8x 3.5" HS	Open	2	Open	2x 675W
7376-E4U	1x E5606 2.13GHz 4C 8MB 1066MHz	1x 4 GB	M1015	8x 3.5" HS	Open	2	Multi	1x 460W
NE & SW								
7376-K1G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	SATA‡	4x 3.5" SS	2x 500GB	2	Multi	1x 675W
CEEMEA								
7376-K1G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	SATA‡	4x 3.5" SS	2x 500GB	2	Multi	1x 675W
7376-K2G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Multi	1x 675W
RCIS								
7376-K3G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M5015(b)	8x 3.5" HS	Open	2	Multi	1x 675W
7376-K4G	1x E5620 2.4GHz 4C 12MB 1066MHz	1x 4GB	M5015(b)	8x 3.5" HS	Open	2	Multi	1x 675W
Japan								
7376-PAD	1x E5507 2.26GHz 4C 4MB 800MHz	3x 2GB	M5015(b)	8x 3.5" HS	Open	2	Open	1x 675W
Korea								
7376-I1K	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	8x 3.5" HS	Open	2	Open	1x 675W
Hong Kong								
7376-I5H	1x E5507 2.26GHz 4C 4MB 800MHz	1x 4GB	M5014	8x 3.5" HS	Open	2	Multi	1x 675W

* In the processor column: Standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed.
‡ These models use a SATA controller integrated on the system board.
(b) The ServeRAID M5015 RAID controller in this model includes a battery.

Processor options

The server supports up to two processors. Table 4 shows which server models have each processor standard, and it lists the additional processor options supported by this server. If there is no corresponding *where-used* model for a particular processor, then that processor is only available through the configure-to-order (CTO) process.

Table 4. Processor options

Part number	Description	Models where used
69Y5251	Intel Xeon Processor E5503 2C 2.0GHz 4MB Cache 800MHz 80w	-
69Y1217	Intel Xeon Processor E5506 4C 2.13 GHz 4 MB Cache 800 MHz 80 w	22x
69Y1356	Intel Xeon Processor E5507 4C 2.26 GHz 4 MB Cache 800 MHz 80 w	32x
81Y6703	Intel Xeon Processor E5603 4C 1.60GHz 4MB Cache 1066MHz 80w	A2x
81Y6704	Intel Xeon Processor E5606 4C 2.13GHz 8MB Cache 1066MHz 80w	-
81Y6705	Intel Xeon Processor E5607 4C 2.26GHz 8MB Cache 1066MHz 80w	B2x
69Y1225	Intel Xeon Processor E5620 4C 2.40 GHz 12 MB Cache 1066 MHz 80 w	42x
81Y6706	Intel Xeon Processor E5620 4C 2.40GHz 12MB Cache 1066MHz 80w	44x
69Y1357	Intel Xeon Processor E5630 4C 2.53 GHz 12 MB Cache 1066 MHz 80 w	52x
69Y1358	Intel Xeon Processor E5640 4C 2.66 GHz 12 MB Cache 1066 MHz 80 w	-
81Y6707	Intel Xeon Processor E5645 6C 2.40GHz 12MB Cache 1333MHz 80w	D2x
81Y6708	Intel Xeon Processor E5649 6C 2.53GHz 12MB Cache 1333MHz 80w	-
81Y6713	Intel Xeon Processor L5609 4C 1.86GHz 12MB Cache 1066MHz 40w	-
69Y1359	Intel Xeon Processor L5630 4C 2.13 GHz 12 MB Cache 1066 MHz 40 w	-
69Y1227	Intel Xeon Processor L5640 6C 2.26 GHz 12 MB Cache 1333 MHz 60 w	-
69Y1229	Intel Xeon Processor X5650 6C 2.66 GHz 12 MB Cache 1333 MHz 95 w	62x
81Y6709	Intel Xeon Processor X5650 6C 2.66GHz 12MB Cache 1333MHz 95w	64x
81Y6710	Intel Xeon Processor X5660 6C 2.80GHz 12MB Cache 1333MHz 95w	-
69Y1231	Intel Xeon Processor X5670 6C 2.93 GHz 12 MB Cache 1333 MHz 95 w	-
81Y6712	Intel Xeon Processor X5672 4C 3.20GHz 12MB Cache 1333MHz 95w	-
81Y6711	Intel Xeon Processor X5675 6C 3.06GHz 12MB Cache 1333MHz 95w	-

Memory options

The server supports 12 DIMM slots. When one processor is installed, then only six DIMM slots can be used. When two processors are installed, then all 12 DIMM slots can be used. The server supports single-rank, dual-rank, and quad-rank RDIMMs. The maximum amount of memory is achieved when two processors are installed and 16 GB quad-rank RDIMMs are used for a total of 192 GB (96 GB per CPU).

Each CPU has three memory channels and there are two DIMMs per channel. Maximum memory speed is limited by memory speed supported by the specific processor and by the number and type of DIMMs installed (whichever has a lower memory speed rating), as follows:

- Intel Xeon 5600 series processors:
  - 1333 MHz when one or two single-rank or dual-rank RDIMMs per channel are installed
  - 1066 MHz when one quad-rank RDIMM per channel is installed
  - 800 MHz when two quad-rank RDIMMs per channel are installed
- Quad-core and dual-core Intel Xeon 5500 series processors in x3620 M3 only support memory speed at 800 MHz.

The server supports both 1.5 V and 1.35 V DIMMs. However, mixing the DIMMs with different voltage is not supported. Only systems with Intel Xeon 5600 series processors support the 1.35 V DIMMs.

The following memory protection technologies are supported:

- ECC
- ChipKill (for x4-based RDIMMs)
- Memory Mirroring

If memory mirroring is used then DIMMs must be installed in pairs (minimum of one pair per each CPU), and both DIMMs in a pair must be identical in type and size.

Table 5 lists memory options available for x3620 M3 server.

Table 5. Memory options

Part number	Description	Maximum quantity supported	Models where used
49Y1432	1 GB (1x 1 GB, 1Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1434	2 GB (1x 2 GB, 1Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	22x
49Y1405	2 GB (1x 2 GB, 1Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	A2x
49Y1392	2 GB (1x 2 GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1433	2 GB (1x 2 GB, 2Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1394	4 GB (1x 4 GB, 2Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1435	4 GB (1x 4 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	32x, 42x, 52x, 62x
49Y1406	4 GB (1x 4 GB, 1Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	B2x, 44x, D2x, 64x
49Y1407	4 GB (1x 4 GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1397	8 GB (1x 8 GB, 2Rx4, 1.35 V) PC3L-10600 CL9 ECC 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1398	8 GB (1x 8 GB, 2Rx4, 1.35 V) PC3L-8500 CL7 ECC 1066 MHz LP RDIMM	12 (6 per CPU)	-
49Y1436	8 GB (1x 8 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1400	16 GB (1x 16 GB, 4Rx4, 1.35 V) PC3L-8500 CL7 ECC DDR3 1066 MHz LP RDIMM	12 (6 per CPU)	-

Internal disk storage options

The IBM System x3620 M3 supports the following internal disk storage configurations:

- Four 3.5" simple-swap SATA hard drive bays
- Four 3.5" simple-swap SATA hard drive bays plus an internal optical drive
- Four 3.5" simple-swap SATA hard drive bays plus an internal tape drive
- Eight 3.5" hot-swap SAS/SATA hard drive bays
- Eight 3.5" hot-swap SAS/SATA hard drive bays plus an internal optical drive
- Eight 3.5" hot-swap SAS/SATA hard drive bays plus an internal tape drive

Standard models of the x3620 M3 ship with four 3.5" simple-swap SATA hard drive bays or with eight 3.5" hot-swap SAS/SATA hard drive bays (model dependent).

Table 6 lists the hard drive options for the internal disk storage of server. The intermixing of SAS and SATA drives is supported.

Table 6. Disk drive options

Part number	Description	Maximum supported
3.5" Simple-Swap SATA HDDs		
39M4508	250 GB 7200 RPM 3.5" Simple-Swap SATA II	4
39M4514	500 GB 7200 RPM 3.5" Simple-Swap SATA II	4
43W7750	IBM 250GB 7.2K SATA 3.5" Simple-Swap HDD	4
None*	IBM Server 1 TB 7200 SATA 3.5" Simple Swap HDD	4
42D0787	IBM 2 TB 7200 NL SATA 3.5" SS HDD	4
3.5" Hot-Swap SATA HDD		
39M4526	250 GB 7200 RPM 3.5" Hot-Swap SATA II	8
39M4530	500 GB 7200 RPM 3.5" Hot-Swap SATA II	8
43W7754	IBM 250GB 7.2K SATA 3.5" Hot-Swap HDD	8
43W7626	IBM 1 TB 7200 SATA 3.5" HS HDD	8
42D0782	IBM 2 TB 7200 NL SATA 3.5" HS HDD	8
3.5" Hot-Swap SAS HDDs		
44W2234	IBM 300 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	8
44W2239	IBM 450 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	8
44W2244	IBM 600 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	8
42D0777	IBM 1 TB 7.2 K 6 Gbps NL SAS 3.5" HS HDD	8
42D0767	IBM 2 TB 7.2 K 6 Gbps NL SAS 3.5" HS HDD	8

* This drive cannot be ordered separately. It is only available via special bid or the Configure To Order (CTO) process.

To control the internal disk storage of the x3620 M3, simple-swap models use the integrated SATA controller, which offers RAID-0 or RAID-1. Simple-swap models can be upgraded to the ServeRAID BR10il v2, in which case you must also order the IBM x3620 M3 Software RAID to Hardware RAID Upgrade Kit, 69Y1360. Hot-swap models ship with either a ServeRAID M1015, M5014, or M5015 controller. See Tables 2 and 3 for model specifics.

Table 7 lists the RAID controllers and additional options available for the x3620 M3 server.

Table 7. RAID controllers for internal storage

Part number	Description	Maximum quantity supported	Standard models where used
49Y4731	ServeRAID-BR10il SAS/SATA Controller v2*	1	-
69Y1360	IBM x3620 M3 Software RAID to Hardware RAID Upgrade Kit	1	-
46M0831	ServeRAID M1015 SAS/SATA Controller	1	32x, 42x, B2x, 44x
46M0832	ServeRAID M1000 Series Advance Feature Key	1	-
46M0916	ServeRAID M5014 SAS/SATA Controller	1	52x, 62x, D2x
46M0829	ServeRAID M5015 SAS/SATA Controller	1	64x
46M0917	ServeRAID M5000 Series Battery Kit	1	-
46M0930	ServeRAID M5000 Series Advanced Feature Key**	1	-
81Y4426	ServeRAID M5000 Series Performance Accelerator Key**	1	-

* Installation of ServeRAID-BR10il v2 is only supported on simple-swap models and requires optional Software RAID to Hardware RAID Upgrade Kit (part number 69Y1360).
** The Advanced Feature Key and Performance Accelerator Key cannot be used at the same time. Only one key can be installed on a given RAID controller.

The BR10il v2 RAID controller is installed in a dedicated PCIe slot in the x3620 M3 and does not consume either of the two regular PCIe expansion slots. However, the M1015, M5014, or M5015 RAID controller does occupy one of the two standard PCIe 2.0 x8 slots when installed, therefore limiting the maximum number of additional I/O adapter slots to one. Only one RAID controller can be used with the server to support internal disk drives.

The ServeRAID BR10il v2 SAS/SATA Controller has the following specifications:

- One Mini-SAS internal connector
- Supports RAID levels 0, 1, and 1E
- 3 Gbps throughput per port
- Based on the LSI 1064E controller
- PCI Express 2.0 x4 host interface
- Stripe size: 64 KB (fixed)

For more information, see the at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0741.html?Open

The ServeRAID M1015 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 10
- Supports RAID levels 5 and 50 with optional ServeRAID M1000 Series Advanced Feature Key
- 6 Gbps throughput per port
- Based on the LSI SAS2008 6 Gbps RAID on Chip (ROC) controller
- PCI Express 2.0 x8 host interface
- Configurable stripe size up to 64 KB

For more information, see the at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0740.html?Open

The ServeRAID M5014 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps RAID on Chip (ROC) controller
- 256 MB of onboard cache
- Optional Intelligent Li-Ion-based battery backup unit with the ServeRAID M5000 Series Battery Kit

For more information, see the at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0738.html?Open

The ServeRAID M5015 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps RAID on Chip (ROC) controller
- 512 MB of onboard cache
- Standard Intelligent Li-Ion-based battery backup unit with up to 48 hours of data retention

For more information, see the at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0738.html?Open

Internal tape drives

The server supports an internal tape drive via optional tape enablement kits. A maximum of one tape drive is supported. If an internal tape drive is installed, then the optical drive cannot be installed. Table 8 lists tape enablement kits and supported tape drives for the x3620 M3 server.

Table 8. Internal tape drives and tape enablement kits

Part number	Description	Maximum quantity supported
69Y0798	IBM x3620 M3 Tape Enablement Kit	1
69Y1032	IBM x3620 M3 SATA Tape Drive Cage ASM	1
39M5636	IBM DDS Generation 6 USB Tape Drive	1
43W8480	IBM DDS Generation 5 SATA Tape Drive	1

x3620 Tape Enablement Kit (part number 69Y0798) is used with DDS 6 USB tape drive, and this drive is connected to the USB tape port on the system board with the USB cable included in the kit. SATA Tape Drive Cage (part number 69Y1032) is used with DDS 5 SATA tape drive, and this drive is connected to the SATA port on the system board with the SATA cable included in the kit.

For information about the DDS 6 USB Tape Drive, see the following at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0725.html?Open

Optical drives

The server supports internal optical drive options via the optional Optical Disk Drive (ODD) Enablement Kit (part number 69Y0797). If an internal optical drive is installed in the server then internal tape drives cannot be installed. Table 9 lists the options required to install the internal optical drive.

Table 9. Enablement kit and optical drives

Part number	Description	Maximum quantity supported	Standard models where used
69Y0797	IBM x3620 M3 ODD Enablement Kit	1	-
46M0902	UltraSlim Enhanced SATA Multi-Burner	1	-

IBM UltraSlim Enhanced SATA Multi-Burner (part number 46M0902) supports the following media and speeds for reading:

- CD-ROM 24X
- CD-DA (DAE) 20X
- CD-R 24X
- CD-RW 24X
- DVD-ROM (single layer) 8X
- DVD-ROM (dual layer) 8X
- DVD-R (4.7 GB) 6X
- DVD-R DL 4X
- DVD+R 6X
- DVD+R DL 4X
- DVD-RW (4.7 GB) 4X
- DVD+RW 4X
- DVD-RAM (4.7/9.4 GB) 4X

IBM UltraSlim Enhanced SATA Multi-Burner (part number 46M0902) supports the following media and speeds for writing:

- CD-R 24X
- CD-RW 4X
- High Speed CD-RW 10X
- Ultra Speed CD-RW 16X
- Ultra Speed Plus CD-RW 16X
- DVD-R 8X
- DVD-R DL 6X
- DVD+R 8X
- DVD+R DL 6X
- DVD-RW 6X
- DVD+RW 8X
- DVD-RAM 5X

External disk storage expansion

The external disk storage expansion enclosures listed in the following table are available.

Table 10. External storage expansion enclosures

Part number	Description	Maximum quantity supported per one M5025
172701X	IBM System Storage® EXP3000	18 (9 per port)

The hard disk drives listed in the following table are supported with external expansion enclosures.

Table 11. Hard drive options for external expansion enclosures

Part number	Description	Maximum quantity supported per one enclosure
EXP3000 Hot-Swap SATA 3.5" Hard Drives		
43W7630	1000 GB Dual Port Hot Swap SATA	12
49Y1940	IBM 2 TB 7200 Dual Port SATA 3.5" HS HDD	12
EXP3000 Hot-Swap SAS 3.5" Hard Drives		
44W2234	IBM 300 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12
44W2239	IBM 450 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12
44W2244	IBM 600 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12

The RAID controllers listed in the following table are supported with external expansion enclosures.

Table 12. RAID controllers for external storage expansion enclosures

Part number	Description	Maximum quantity supported
46M0830	ServeRAID M5025 SAS/SATA Controller	1
46M0930	ServeRAID M5000 Series Advance Feature Key†	1 per one M5025
81Y4426	ServeRAID M5000 Series Performance Accelerator Key†	1 per one M5025

† Only one key is supported in each controller, either the Advance Feature Key or the Performance Accelerator Key.

The ServeRAID M5025 SAS/SATA Controller has the following specifications:

- Two Mini-SAS external connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps ROC controller
- 512 MB of onboard cache
- Intelligent Li-Ion-based battery backup unit with up to 48 hours of data retention
- Supports connectivity to the EXP3000, EXP2512, and EXP2524 storage expansion enclosures

For more information, see the *ServeRAID M5025 SAS/SATA Controller for IBM System x* at-a-glance guide: http://www.redbooks.ibm.com/abstracts/tips0739.html?Open

The external SAS cables listed in the following table are supported with external expansion enclosures and M5025 RAID controllers.

Table 13. External SAS cables for external storage expansion enclosures

Part number	Description	Maximum quantity supported per enclosure*
39R6531	IBM 3 m SAS Cable	1
39R6529	IBM 1 m SAS Cable	1

* Note: The EXP3000 series can be chained with each other. In such a case, one cable is used to connect first EXP3000 to the RAID controller, and every consecutive EXP unit is connected to previous one by one cable.

External tape backup

The server supports the external tape attachment options listed in Table 16.

Table 14. External tape options

Part number	Description
External tape expansion enclosures for internal tape drives	
87651UX	1U Tape Drive Enclosure
8767HHX	Half High Tape Drive Enclosure
87651NX	1U Tape Drive Enclosure (with Nema 5-15P LineCord)
8767HNX	Half High Tape Drive Enclosure (with Nema 5-15P LineCord)
Tape enclosure adapters (with cables)	
44E8869	USB Enclosure Adapter Kit
Internal tape drives supported by external tape enclosures	
46C5364	IBM RDX Removable Hard Disk Storage System - Internal USB 160GB Bundle
46C5387	IBM RDX Removable Hard Disk Storage System - Internal USB 320GB Bundle
46C5388	IBM RDX Removable Hard Disk Storage System - Internal USB 500GB Bundle
39M5636	IBM DDS Generation 6 USB Tape Drive
43W8480	IBM DDS Generation 5 SATA Tape Drive
46C5399	IBM DDS Generation 5 USB Tape Drive
External tape drives	
3572-Sxx	IBM System Storage TS2900 Tape Autoloader
3573-xxx	IBM System Storage TS3100/TS3200 Tape Library
3580-H5S	IBM System Storage TS2250 Tape Drive Model H5S
3580-S3E	IBM System Storage TS2230 Tape Drive Express Model
3580-S4E	IBM System Storage TS2240 Tape Drive Model S4E
3580-S53	IBM System Storage TS2350 Tape Drive Model S53

Internal tape drives are installed in a Half High Tape Drive Enclosure (up to one tape drive per enclosure) or in a 1U Tape Drive Enclosure (up to two tape drives). One USB Enclosure Adapter Kit is required per tape drive (x3620 M3 only supports USB connections for internal USB or SATA tape drives in external tape enclosures). The USB Enclosure Kit include external 3 m cable and a SATA-to-USB dongle to connect the enclosure to the server's USB port.

I/O expansion options

The server has three PCI Express slots:

- Slot 2: PCI Express 2.0 x16 (x4 wired) low-profile slot, dedicated to the ServeRAID BR10il v2, if installed
- Slot 3: PCI Express 2.0 x16 (x8 wired) suitable for adapters that are full-height, half-length
- Slot 4: PCI Express 2.0 x8 (x8 wired) suitable for adapters that are full-height, half-length

Slot 2 is an internal slot and does not offer external port access. Slots 3 and 4 enable external port access for network adapters, HBAs, and other standard PCIe adapters.

Note: There is no slot labeled *Slot 1* in the server.

Network adapters

x3620 M3 has two integrated Gigabit Ethernet ports. Integrated NICs have the following features:

- Intel 82575 chip
- TCP/UDP, IPv4, and IPv6 checksum offloads
- TCP Segmentation/Transmit Segmentation Offloading (TSO)
- Wake on LAN support
- 802.1Q VLAN tagging support
- Support for jumbo frames up to 9 KBytes
- NIC Teaming (Load Balancing and Failover) with Intel PROSet software

Table 15 lists additional supported network adapters.

Table 15. Network adapters

Part number	Description	Maximum quantity supported
10 Gb Ethernet		
42C1790	NetXtreme II 10 GigE Express Fiber SR Adapter	2
49Y4250	Emulex 10GbE Virtual Fabric Adapter for IBM System x	2
Gigabit Ethernet		
39Y6126	PRO/1000 PT Dual Port Server Adapter by Intel	2
39Y6136	PRO/1000 PT Quad Port Server Adapter by Intel	2
42C1780	NetXtreme II 1000 Express Dual Port Ethernet Adapter	2
49Y4220	NetXtreme II 1000 Express Quad Port Ethernet Adapter	2
49Y4230	Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	2
49Y4240	Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	2

Storage host bus adapters (HBAs)

Table 16 lists storage adapters supported by the x3620 M3 server.

Table 16. Storage adapters

Part number	Description	Maximum supported
Fibre Channel		
59Y1987	Brocade 4 Gb FC Single-port HBA for IBM System x	2
59Y1993	Brocade 4 Gb FC Dual-port HBA for IBM System x	2
42C2069	Emulex 4 Gbps FC Single-Port PCI-e HBA for IBM System x	2
42C2071	Emulex 4 Gbps FC Dual-Port PCI-e HBA for IBM System x	2
39R6525	QLogic 4 Gb FC Single-Port PCIe HBA for IBM System x	2
39R6527	QLogic 4 Gb FC Dual-Port PCIe HBA for IBM System x	2
46M6049	Brocade 8 Gb FC Single-port HBA for IBM System x	2
46M6050	Brocade 8 Gb FC Dual-port HBA for IBM System x	2
42D0485	Emulex 8 Gb FC Single-port HBA for IBM System x	2
42D0494	Emulex 8 Gb FC Dual-port HBA for IBM System x	2
42D0501	QLogic 8 Gb FC Single-port HBA for IBM System x	2
42D0510	QLogic 8 Gb FC Dual-port HBA for IBM System x	2
Converged Network Adapters (CNA)*		
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	2
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	2
SAS		
46M0907	IBM 6 Gb SAS HBA Controller	4
44E8700	IBM 3 Gb SAS HBA v2	2

* Converged Network Adapters require SFP+ optical transceivers or DAC cables that must be purchased separately.

PCIe SSD adapters

The server does not supports High IOPS SSD adapters.

Power supplies

The server supports up to two redundant power supplies, providing N+N redundancy. Standard models come with one power supply. The following table lists the power supplies for x3620 M3.

Table 17. Power supplies

Part number	Description	Max quantity supported	Standard models where used
69Y1213	675W Redundant Power Supply	2*	64x
81Y6557	IBM 675 W High Efficiency Redundant AC Power Supply	2*	-
81Y6754	IBM 460 W Redundant AC Power Supply	2*	A2x, B2x, 44x, D2x

* One power supply comes standard with every model.

One 2.8 m C13 - C14 power cord is included with every power supply.

Remote management

The server contains the IBM Integrated Management Module (IMM), which provides advanced service-processor control, monitoring, and alerting functions. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you diagnose the problem, records the error in the event log, and alerts you to the problem. Optionally, the IMM also provides a virtual presence capability for remote server management capabilities.

The IMM provides remote server management through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Simple Network Management Protocol (SNMP) Version 3
- Common Information Model (CIM)
- Web browser

The optional virtual media key is required to enable the remote presence and blue-screen capture features. It is orderable as listed in the following table.

Table 18. Remote management options

Part number	Description	Maximum quantity supported
46C7527	IBM Virtual Media Key for Entry Systems	1

The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1280x1024 at 75 Hz, regardless of the system state
- Remotely accessing the server, using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating system hang condition. A system administrator can use the blue-screen capture to assist in determining the cause of the hang condition.

Integrated virtualization

The server supports VMware ESXi installed on a USB memory key. The key is installed in a USB socket inside the server.

Table 19. Virtualization options

Part number	Description	Maximum quantity supported
41Y8278	IBM USB Memory Key for VMware Hypervisor ESXi 4.0	1
41Y8287	IBM USB Memory Key for VMware ESXi 4.1	1

Uninterruptible power supply units

The server supports attachments to the uninterruptible power supply (UPS) units listed in Table 23.

Table 20. Uninterruptible power supply units

Part number	Description
53951AX	IBM 1500VA LCD 2U Rack UPS (100V/120V)
53951KX	IBM 1500VA LCD 2U Rack UPS (230V)
53952AX	IBM 2200VA LCD 2U Rack UPS (100V/120V)
53952KX	IBM 2200VA LCD 2U Rack UPS (230V)
53953AX	IBM 3000VA LCD 3U Rack UPS (100V/120V)
53953JX	IBM 3000VA LCD 3U Rack UPS (200V/208V)
53953KX	IBM 3000VA LCD 3U Rack UPS (230V)
53956AX	IBM 6000VA LCD 4U Rack UPS (200V/208V)
53956KX	IBM 6000VA LCD 4U Rack UPS (230V)
53959KX	IBM 11000VA LCD 5U Rack UPS (200V/208V/230V)

For more information, see the following IBM Redbooks at-a-glance guides, available from: http://www.redbooks.ibm.com/cgi-bin/searchsite.cgi?query=upsaagg

- *IBM 1000VA and 1500VA LCD Tower Uninterruptible Power Supply*
- *IBM 1500VA LCD 2U Rack Uninterruptible Power Supply*
- *IBM 2200VA LCD 2U Rack Uninterruptible Power Supply*
- *IBM 3000VA LCD 3U Rack Uninterruptible Power Supply*
- *IBM 6000VA LCD 4U Rack Uninterruptible Power Supply*
- *IBM 11000VA LCD 5U Rack Uninterruptible Power Supply*

Power distribution units

The server supports attachments to the power distribution units (PDUs) listed in Table 24 when installed in rack.

Table 21. Power distribution units (part 1)

Part number	Description
Switched and Monitored PDUs	
46M4002	IBM 1U 9 C19/3 C13 Active Energy Manager DPI® PDU
46M4003	IBM 1U 9 C19/3 C13 Active Energy Manager 60A 3 Phase PDU
46M4004	IBM 1U 12 C13 Active Energy Manager DPI PDU
46M4005	IBM 1U 12 C13 Active Energy Manager 60A 3 Phase PDU
46M4167	IBM 1U 9 C19/3 C13 Switched and Monitored 30A 3 Phase PDU
46M4116	IBM 0U 24 C13 Switched and Monitored 30A PDU
46M4119	IBM 0U 24 C13 Switched and Monitored 32A PDU
46M4134	IBM 0U 12 C19/12 C13 Switched and Monitored 50A 3 Phase PDU
46M4137	IBM 0U 12 C19/12 C13 Switched and Monitored 32A 3 Phase PDU
Enterprise PDUs	
71762MX	IBM Ultra Density Enterprise PDU C19 PDU+ (WW)
71762NX	IBM Ultra Density Enterprise PDU C19 PDU (WW)
71763MU	IBM Ultra Density Enterprise PDU C19 3 phase 60A PDU+ (NA)
71763NU	IBM Ultra Density Enterprise PDU C19 3 phase 60A PDU (NA)
39M2816	IBM DPI C13 Enterprise PDU without linecord
39Y8923	DPI 60A Three Phase C19 Enterprise PDU w/ IEC309 3P+G (208 V) fixed line cord
39Y8941	DPI Single Phase C13 Enterprise PDU without line cord
39Y8948	DPI Single Phase C19 Enterprise PDU without line cord
Front-End PDUs	
39Y8934	DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd connector
39Y8935	DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd connector
39Y8938	30amp/125V Front-end PDU with NEMA L5-30P connector
39Y8939	30amp/250V Front-end PDU with NEMA L6-30P connector
39Y8940	60amp/250V Front-end PDU with IEC 309 60A 2P+N+Gnd connector

Table 21. Power distribution units (part 2)

Part number	Description
Universal PDUs	
39Y8951	DPI Universal Rack PDU with US LV and HV line cords
39Y8952	DPI Universal Rack PDU with CEE7-VII Europe LC
39Y8953	DPI Universal Rack PDU with Denmark LC
39Y8954	DPI Universal Rack PDU with Israel LC
39Y8955	DPI Universal Rack PDU with Italy LC
39Y8956	DPI Universal Rack PDU with South Africa LC
39Y8957	DPI Universal Rack PDU with UK LC
39Y8958	DPI Universal Rack PDU with AS/NZ LC
39Y8959	DPI Universal Rack PDU with China LC
39Y8962	DPI Universal Rack PDU (Argentina)
39Y8960	DPI Universal Rack PDU (Brazil)
39Y8961	DPI Universal Rack PDU (India)
0U Basic PDUs	
46M4122	IBM 0U 24 C13 16A 3 Phase PDU
46M4125	IBM 0U 24 C13 30A 3 Phase PDU
46M4128	IBM 0U 24 C13 30A PDU
46M4131	IBM 0U 24 C13 32A PDU
46M4140	IBM 0U 12 C19/12 C13 60A 3 Phase PDU
46M4143	IBM 0U 12 C19/12 C13 32A 3 Phase PDU

Rack cabinets

The server supports the rack cabinets listed in Table 25. Tower-to-Rack Conversion Kit (part number 42C8923, 5Ux20" Tower to Rack Conversion Kit for x3200) is required for the server to be installed in the rack.

Table 22. Rack cabinets

Part number	Description
201886X	IBM 11U Office Enablement Kit
93072PX	IBM 25U Static S2 Standard Rack
93072RX	IBM 25U Standard Rack
93074RX	IBM 42U Standard Rack
93074XX	IBM 42U Standard Rack Extension
93084EX	IBM 42U Enterprise Expansion Rack
93084PX	IBM 42U Enterprise Rack
93604EX	IBM 42U 1200 mm Deep Dynamic Expansion Rack
93604PX	IBM 42U 1200 mm Deep Dynamic Rack
93614EX	IBM 42U 1200 mm Deep Static Expansion Rack
93614PX	IBM 42U 1200 mm Deep Static Rack
93624EX	IBM 47U 1200 mm Deep Static Expansion Rack
93624PX	IBM 47U 1200 mm Deep Static Rack
99564RX	IBM S2 42U Dynamic Standard Rack
99564XX	IBM S2 42U Dynamic Standard Expansion Rack

Rack options

The server supports the rack console switches and monitor kits listed in Table 26.

Table 23. Rack options

Part number	Description
Monitor kits and keyboard trays	
17231RX	IBM 1U 17" Flat Panel Console Kit with Optical Drive Bay
17233RX	IBM 1U 15" Flat Panel Console Kit
17235RX	IBM Rack Keyboard Tray
Console switches	
1754D2X	IBM Global 4x2x32 Console Manager (GCM32)
1754D1X	IBM Global 2x2x16 Console Manager (GCM16)
1754A2X	IBM Local 2x16 Console Manager (LCM16)
1754A1X	IBM Local 1x8 Console Manager (LCM8)
Console cables	
43V6147	IBM Single Cable USB Conversion Option (UCO)
39M2895	IBM USB Conversion Option (UCO) - 4 Pack
39M2897	IBM Long KVM Conversion Option (KCO) - 4 Pack
46M5383	IBM Virtual Media Conversion Option Gen2 (VCO2)

For more information, see the following IBM Redbooks® at-a-glance guides:

- *IBM 1754 LCM8 and LCM16 Local Console Managers*
  http://www.redbooks.ibm.com/abstracts/tips0788.html
- *IBM GCM16 and GCM32 Global Console Managers*
  http://www.redbooks.ibm.com/abstracts/tips0772.html

Warranty options

The IBM System x3620 M3 has a 3-year onsite warranty with 9x5/next-business-day terms. IBM offers warranty service upgrades through IBM ServicePacs. The IBM ServicePac is a series of prepackaged warranty maintenance upgrades and post-warranty maintenance agreements with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

IBM ServicePac offerings are country-specific. That is, each country can have its own service types, service levels, response times, and terms and conditions. Not all covered types of ServicePacs might be available in a particular country. For more information about IBM ServicePac offerings available in your country, see the IBM ServicePac Product Selector at:

https://www.ibm.com/sales/gss/spst/servicepac/extProductSelectorWWW.do

In general, the types of IBM ServicePacs are:

- Warranty and maintenance service upgrades
  - One, 2, 3, 4, or 5 years of 9x5 or 24x7 service coverage
  - Onsite repair from next business day to 4 or 2 hours (selected areas)
  - One or 2 years of warranty extension
- Remote technical support services
  - One or 3 years with 24x7 coverage (severity 1) or 9x5/next-business-day for all severities
  - Installation and startup support for System x® servers
  - Remote technical support for System x servers
  - Software support - Support Line
    - Microsoft or Linux software
    - VMware
    - IBM Director

Table 24 explains warranty service definitions in more detail.

Table 24. Warranty service definitions

Term	Description
IBM onsite repair (IOR)	A service technician will come to the server's location for equipment repair.
24x7x2 hour	A service technician is scheduled to arrive at your customer's location within two hours after remote problem determination is completed. We provide service around the clock, every day, including IBM holidays.
24x7x4 hour	A service technician is scheduled to arrive at your customer's location within four hours after remote problem determination is completed. We provide service around the clock, every day, including IBM holidays.
9x5x4 hour	A service technician is scheduled to arrive at your customer's location within four business hours after remote problem determination is completed. We provide service from 8:00 a.m. to 5:00 p.m. in the customer's local time zone, Monday through Friday, excluding IBM holidays. If after 1:00 p.m. it is determined that onsite service is required, the customer can expect the service technician to arrive the morning of the following business day. For noncritical service requests, a service technician will arrive by the end of the following business day.
9x5 next business day	A service technician is scheduled to arrive at your customer's location on the business day after we receive your call, following remote problem determination. We provide service from 8:00 a.m. to 5:00 p.m. in the customer's local time zone, Monday through Friday, excluding IBM holidays.

Physical and electrical specifications

Dimensions:

- Width
  - With top cover: 447 mm (17.598 in)
  - With front bezel: 487.995 mm (19.212 in)
- Depth
  - EIA flange to rear: 719.39 mm (28.32 in)
  - Overall: 749.39 mm (29.5 in)
- Height: 86.5 mm (3.406 in)
- Weight
  - Minimum configuration: 16.30 kg (35.94 lb)
  - Maximum configuration: 22.45 kg (49.50 lb)

Operating environment:

- Air temperature
  - Server on
    - 10 - 35 C (50 - 95 F); altitude: 0 - 915 m (3,000 ft)
    - 10 - 32 C (50 - 95 F); altitude: 915 - 2134 m (3,000 - 7,000 ft)
    - 10 - 28 C (50 - 83 F); altitude: 2134 - 3050 m (7,000 - 10,000 ft)
  - Server off: 5 - 45 C (41 F - 113 F)
  - Shipment: -40 C to +60 C (-40 F to 140 F)
- Humidity
  - Server on: 20 - 80%, maximum dew point 21 C, maximum rate of change 5 C/hr
  - Server off: 8 - 80%, maximum dew point 27 C
  - Shipment: 5 - 100%
- Electrical:
  - Models with 675 W power supplies:
    - 100 to 127 (nominal) V ac; 50 Hz or 60 Hz; 7.8 A
    - 200 to 240 (nominal) V ac; 50 Hz or 60 Hz; 3.8 A
    - Input kilovolt-amperes (kVA) (approximately):
      - Minimum configuration: 0.12 kVA
      - Maximum configuration: 0.78 kVA
  - Models with 460 W power supplies:
    - 100 to 127 (nominal) V ac; 50 Hz or 60 Hz; 5.3 A
    - 200 to 240 (nominal) V ac; 50 Hz or 60 Hz; 2.6 A
    - Input kilovolt-amperes (kVA) (approximately):
      - Minimum configuration: 0.12 kVA
      - Maximum configuration: 0.53 kVA
- BTU output
  - Minimum configuration: 307 Btu/hr (90 watts)
  - Maximum configuration: 2662 Btu/hr (780 watts)
- Acoustical noise level emission level: Sound power levels
  - 6.1 bels (idling)
  - 6.1 bels (operating)

Regulatory compliance

The servers conform to the following international standards:

- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 4, Class A
- UL/IEC 60950-1
- CSA C22.2 No. 69950-1-03
- NOM-019
- Argentina IEC60950-1
- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 22:2009, Class A
- IEC-60950-1:2001 (CB Certificate and CB Test Report)
- Taiwan BSMI CNS 13438, Class A; CNS 14336
- China CCC (4943-2001), GB 9254-2008 Class A, GB 17625.1:2003
- Korea KN22, Class A; KN24
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-2006, GOST R 51317.3.3-99
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- CISPR 22, Class A
- TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)

Supported operating systems

The server supports the following operating systems:

Microsoft

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Server 2008, Web 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
- Windows Essential Business Server 2008 Premium Edition
- Windows Essential Business Server 2008 Standard Edition
- Windows Small Business Server 2008 Premium Edition
- Windows Small Business Server 2008 Standard Edition
- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
- Microsoft Windows Server 2003/2003 R2, Standard Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter Edition
- Microsoft Windows Server 2003 R2 x64 Datacenter Edition Unlimited Virtualization
- Microsoft Windows Server 2003 R2 Datacenter Edition Unlimited Virtualization
- Windows Small Business Server 2003/2003 R2 Standard Edition
- Windows Small Business Server 2003/2003 R2 Premium Edition

Novell SUSE

- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T

Red Hat

- Red Hat Enterprise Linux 6 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition

VMware

- VMware ESX 4.1
- VMware ESXi 4.1
- VMware ESX 4.0
- VMware ESXi 4.0

See the IBM ServerProven® website for the latest information about the specific versions and service levels supported and any other prerequisites:
http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/nos/matrix.shtml

Related publications and links

For more information see the following documents:

- IBM System x3620 M3 product page
  http://www.ibm.com/systems/x/hardware/rack/x3620m3/index.html
- *IBM System x 3620 M3 Installation and User's Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5084233
- *IBM System x 3620 M3 Problem Determination and Service Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5084234
- ServerProven hardware compatibility page for the x3620 M3
  http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/7376.html
- At-a-glance guides for IBM System x options
  http://www.redbooks.ibm.com/portals/systemx?Open&page=ataglance
- IBM System x DDR3 Memory Configurator
  http://www.ibm.com/systems/x/hardware/ddr3config/
- *Configuration and Option Guide*
  http://www.ibm.com/systems/xbc/cog/
- xRef - IBM System x Reference Sheets
  http://www.redbooks.ibm.com/xref
- IBM System x Support Portal
  http://ibm.com/support/entry/portal/
  http://ibm.com/support/entry/portal/Downloads/Hardware/Systems/System_x/System_x3620_M3

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