IBM System x3550 M3

The IBM® System x3550 M3 builds on the latest Intel Xeon processor technology with extreme processing power and superior energy-management and cooling features. With twice the performance of previous generations and a flexible, energy-smart design that integrates low-wattage components, the x3550 M3 can help you meet demanding workloads at a lower cost per watt.

Figure 1. The IBM System x3550 M3

Did you know?

The x3550 M3 offers a flexible, scalable design and simple upgrade path to eight HDDs or SSDs, and 192 GB of memory. In addition, a built-in altimeter provides more efficient power utilization and lower noise levels.

Comprehensive systems management tools such as advanced diagnostics, a cable management arm, and the ability to control resources from a single point make it easy to deploy, integrate, service, and manage. The server also offers an upgrade to four built-in Gigabit Ethernet ports without consuming an additional PCI Express slot.

Locations of key components

Figure 2 shows the front of the server, with key components identified.

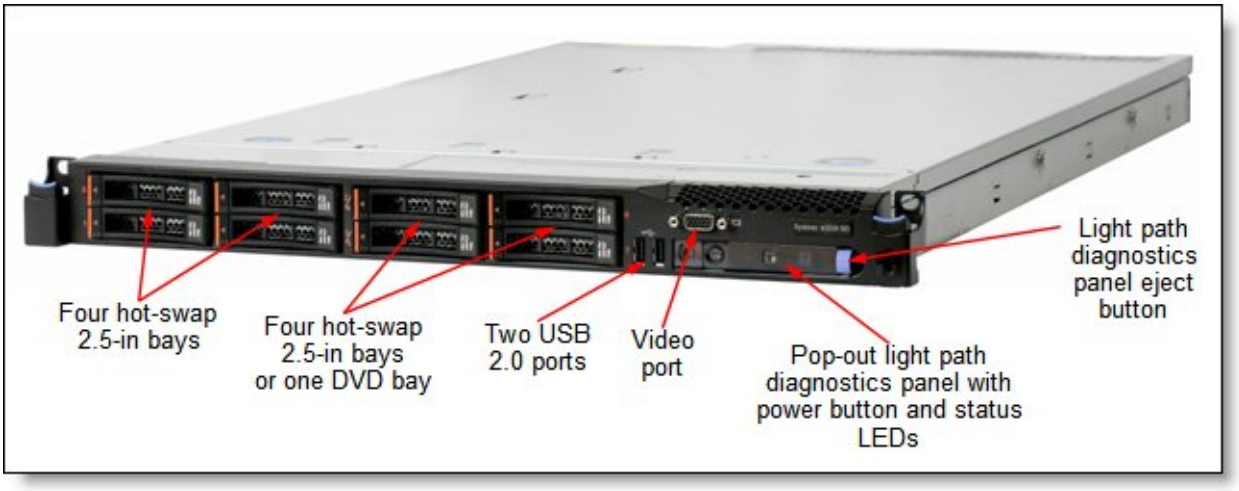

Figure 2. Front view of the IBM System x3550 M2

Figure 3 shows the rear of the server.

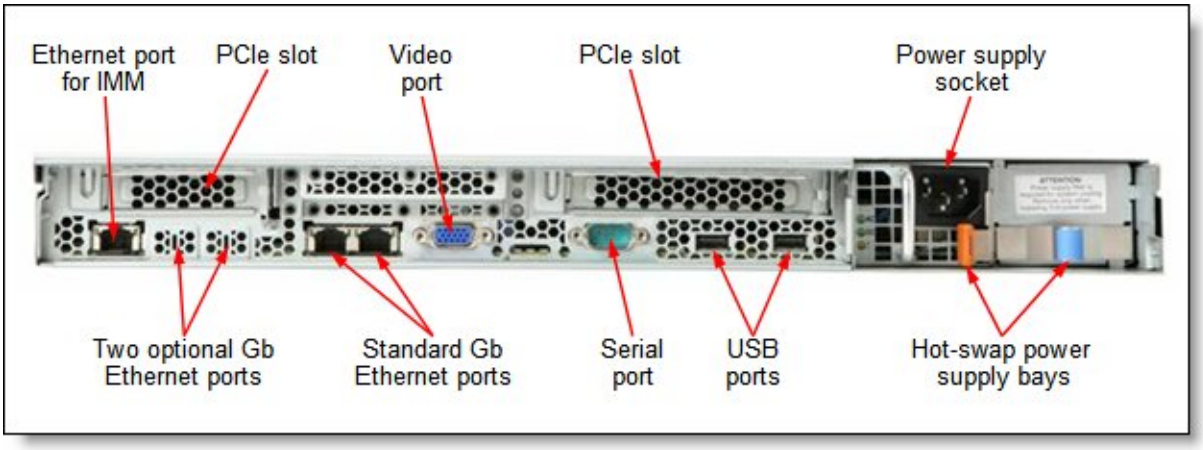

Figure 3. Rear view of the IBM System x3550 M2

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

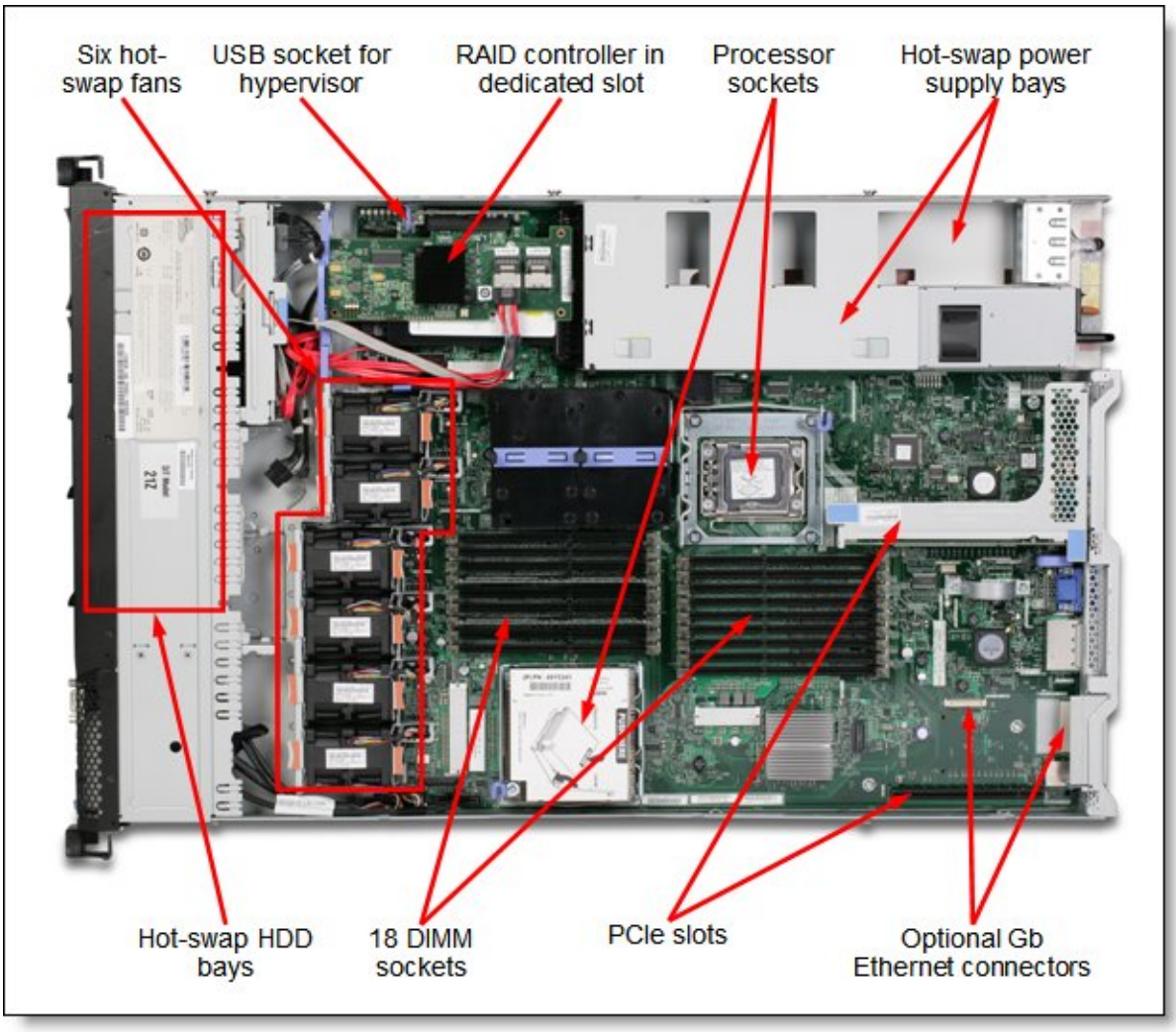

Figure 4. Inside view of the IBM System x3550 M3

Standard specifications

Table 1. Standard specifications (part 1)

Components	Specification
Form factor	1U Rack.
Processor	Up to two six-core (up to 3.46 GHz) or quad-core (up to 3.6 GHz) Intel Xeon 5600 series processors with QuickPath Interconnect technology up to 6.4 GT/s, and up to 1333 MHz memory speed. Supports specific Quad-core and Dual-core Intel Xeon 5500 series processors via Configure-To-Order (CTO).
Memory cache	Up to 12 MB L3 for Intel Xeon 5600 series processors. Up to 8 MB L3 for Intel Xeon 5500 series processors.
Chipset	Intel 5520.
Memory	Up to 18 DIMM sockets (9 DIMMs per processor). Up to 192 GB with 16 GB DDR3 RDIMMs and 12 populated DIMM slots (up to 96 GB with 6 DIMMs per processor), or up to 48 GB with 4 GB DDR3 UDIMMs and 12 populated DIMM slots (up to 24 GB with 6 DIMMs per processor).
Memory protection	ECC, ChipKill (for x4-based memory DIMMs), Memory Mirroring, and Memory Sparing.
Disk drive bays	Up to eight 2.5" hot-swap SAS/SATA HDDs or solid-state drives (SSDs).
Maximum internal storage	Up to 4.8 TB with 600 GB SAS HDDs, or up to 4.0 TB with 500 GB SATA HDDs, or up to 400 GB with 50 GB SSD HDDs. Intermix of SAS/SATA/SSD is supported.
RAID Support	RAID 0, 1, 1E with ServeRAID-BR10il v2 or M1015; RAID 0, 1, 5, 10, 50 with M5014 or M5015. Optional upgrade to RAID 5 is available for M1015. Optional upgrade to RAID 6, 60 is available for M5014/M5015.
Optical drive bays	One with optional Optical Drive Enablement Kit, support for DVD-ROM or Multiburner. If used, the maximum number of HDD bays is limited to 4.
Tape drive bays	None.
Network interfaces	Integrated 2 Gigabit Ethernet ports, plus 2 ports on optional Gigabit Ethernet with Ethernet Daughter Card (does not consume PCI slot).
PCI Expansion slots	Up to 3 (up to 2 available, one slot is dedicated to RAID controller), dependant on the riser cards used (two different riser cards are available: 1x PCI-E x16 Gen 2 and 1x PCI-X 64 bit/133 MHz). Up to two riser cards are supported.
External ports	Two USB 2.0 and one DB-15 video on front. Two USB 2.0, one DB-15 video, one DB-9 serial, one RJ-45 systems management, up to 4 RJ-45 Gigabit Ethernet network ports (2 standard, 2 optional) on rear. One internal USB port for embedded hypervisor.
Cooling	IBM Calibrated Vectored Cooling™ with 6 counter-rotating hot swap fans with N+1 redundancy. Altimeter is to control fan speed based on atmospheric pressure.
Power supply	Up to 2 redundant hot-swap 460 W AC or 675 W AC or 675 W HE AC power supplies with 90%+ efficiency. 675 W -48 V DC models are available via CTO.
Hot-swap components	Hard drives, power supplies, fans.
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™, IBM ServerGuide. Optional Virtual Media Key for remote presence (graphics, keyboard & mouse, virtual media).

Table 1. Standard specifications (part 2)

Components	Specification
Security features	Power-on password, administrator's password, Trusted Platform Module (TPM).
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 4.1 and VMware ESXi 4.1 embedded hypervisor, Sun Solaris 10.
Limited warranty	Three-year customer replaceable unit and onsite limited warranty with 9x5/next business day (NBD) response time.
Service and Support	Optional service upgrades are available through IBM ServicePacs®: 24x7/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 x3550 M3 servers are shipped with the following items:

- Important Notices and Statement of Limited Warranty documents
- Documentation CD that contains the *Installation and User's Guide*
- Rack Installation Instructions
- IBM Systems Director 6.2 Base for x86 DVD-ROM
- IBM Gen 2 Slides Kit
- IBM Gen 2 Cable Management Arm
- 2.8 m C13 - C14 power cord (one for models with one power supply and two for models with two power supplies)

Standard models

Table 2 lists the standard models.

Table 2. Standard models

Model	Intel Xeon processors† (2 maximum)	Memory	RAID	Disk bays	Disks	GbE	DVD	Power
Models announced February 2011								
7944-12x	1x E5603 1.60GHz 4C 4MB 1066MHz	1x 4 GB	BR10ilv2	4 / 8	Open	2x GbE	Open	1x 460W
7944-22x	1x E5606 2.13GHz 4C 8MB 1066MHz	1x 4 GB	M1015	4 / 8	Open	2x GbE	Open	1x 460W
7944-32x	1x E5607 2.26GHz 4C 8MB 1066MHz	1x 4 GB	M1015	4 / 8	Open	2x GbE	Open	1x 460W
7944-D4x	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4 GB	M1015	4 / 8	Open	2x GbE	Open	1x 460W
7944-H4x	1x L5640 2.26GHz 6C 12MB 1333MHz	1x 4 GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 460W
7944-52x	1x E5645 2.40GHz 6C 12MB 1333MHz	1x 4 GB	M5014	4 / 8	Open	2x GbE	Open	1x 460W
7944-54x	2x E5645 2.40GHz 6C 12MB 1333MHz	2x 4 GB	M5014	4 / 8	Open	2x GbE	Open	2x 675W HE
7944-62x	1x E5649 2.53GHz 6C 12MB 1333MHz	1x 4 GB	M5014	4 / 8	Open	2x GbE	Open	1x 460W
7944-J4x	1x X5650 2.66GHz 6C 12MB 1333MHz	1x 4 GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 675W
7944-72x	1x X5675 3.06GHz 6C 12MB 1333MHz	1x 4 GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 675W
7944-82x	1x X5690 3.46GHz 6C 12MB 1333MHz	1x 4 GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 675W HE
Models announced March 2010								
7944-A2x	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	BR10ilv2	4 / 8	Open	2x GbE	Open	1x 675W
7944-B2x	1x E5507 2.26GHz 4C 4MB 800MHz	1x 4GB	M1015	4 / 8	Open	2x GbE	Open	1x 675W
7944-C2x	1x L5630 2.13GHz 4C 12MB 1066MHz	1x 4GB	M1015	4 / 8	Open	2x GbE	Open	1x 675W
7944-D2x	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	M1015	4 / 8	Open	2x GbE	Open	1x 675W
7944-F2x	2x E5630 2.53GHz 4C 12MB 1066MHz	2x 4GB	M5014	4 / 8	Open	2x GbE	Open	2x 675W
7944-G2x	1x E5640 2.66GHz 4C 12MB 1066MHz	1x 4GB	M5014	4 / 8	Open	2x GbE	Open	1x 675W
7944-H2x	1x L5640 2.26GHz 6C 12MB 1333MHz	1x 4GB	M1015	4 / 8	Open	2x GbE	Open	1x 675W
7944-J2x	1x X5650 2.66GHz 6C 12MB 1333MHz	3x 4GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 675W
7944-M2x	1x X5670 2.93GHz 6C 12MB 1333MHz	3x 4GB	M5015(b)	4 / 8	Open	2x GbE	Open	1x 675W
7944-N2x	1x X5680 3.33GHz 6C 12MB 1333MHz	3x 4GB	M1015	4 / 8	Open	2x GbE	Open	1x 675W

† In the processor column: Standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed.
(b) The ServeRAID M5015 RAID controller in this model includes a battery.

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

Express models

Table 3 lists the Express models that are available in certain regions. 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. Express models (part 1)

Region/ model	Intel Xeon Processors† (2 maximum)	Memory	RAID	Disk bays	Disks	GbE	DVD	PS
NA								
7944-E1U	1x E5507 2.26GHz 4C 4MB 800MHz	3x 2GB	M1015	4 / 8	Open	2 / 4	Open	1x 675W
7944-E2U	1x E5640 2.66GHz 4C 12MB 1066MHz	3x 4GB	M5014	4 / 8	Open	2 / 4	Open	2x 675W
7944-E3U	2x X5650 2.66GHz 6C 12MB 1333MHz	6x 4GB	M5015(b)	4 / 8	Open	2 / 4	Open	2x 675W
7944-E4U	1x E5607 2.26GHz 4C 8MB 1066MHz	3x 2 GB	M1015	4 / 8	Optional	2 / 4	Multi	1x 460W
7944-E5U	1x E5649 2.53GHz 6C 12MB 1333MHz	3x 2 GB	M1015	4 / 8	Optional	2 / 4	Multi	1x 460W
7944-E6U	1x X5650 2.66GHz 6C 12MB 1333MHz	3x 4 GB	M1015	4 / 8	Optional	2 / 4	Multi	2x 675W
NE/SW IOT								
7944-K1G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	4 / 8	Open	2 / 4	Multi	1x 675W
7944-K2G	1x E5507 2.26GHz 4C 4MB 800MHz	1x 4GB	M1015	8 / 8	Open	2 / 4	Open	1x 675W
7944-K3G	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	M5014	8 / 8	Open	2 / 4	Open	1x 675W
7944-K5G	1x E5620 2.40GHz 4C 12MB 1066MHz	3x 4GB	M1015	4 / 8	2x 146GB	2 / 4	Multi	1x 675W
CEEMEA								
7944K1G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	4 / 8	Open	2 / 4	Multi	1x 675W
7944K2G	1x E5507 2.26GHz 4C 4MB 800MHz	1x 4GB	M1015	8 / 8	Open	2 / 4	Open	1x 675W
7944K3G	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	M5014	8 / 8	Open	2 / 4	Open	1x 675W
7944K4G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M5014	4 / 8	2x 146GB	2 / 4	Multi	2x 675W
7944K9G	1x E5630 2.53GHz 4C 12MB 1066MHz	2x 4GB	M5014	4 / 8	2x 146GB	2 / 4	Multi	2x 675W
Russia								
7944K6G	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M5015(b)	4 / 8	Open	2 / 4	Multi	1x 675W
7944K7G	1x E5620 2.40GHz 4C 12MB 1066MHz	2x 4GB	M5015(b)	4 / 8	Open	2 / 4	Multi	1x 675W
7944K8G	1x E5630 2.53GHz 4C 12MB 1066MHz	2x 4GB	M5015(b)	4 / 8	Open	2 / 4	Multi	2x 675W

† In the processor column: Standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed.
(b) The ServeRAID M5015 RAID controller in this model includes a battery.
(n) The ServeRAID M5015 RAID controller in this model does not include a battery.

Table 3. Express models (part 2)

Region/ model	Intel Xeon Processors† (2 maximum)	Memory	RAID	Disk bays	Disks	GbE	DVD	PS
LA								
7944-E1U	1x E5507 2.26GHz 4C 4MB 800MHz	3x 2GB	M1015	4 / 8	Open	2 / 4	Open	1x 675W
7944-E2U	1x E5640 2.66GHz 4C 12MB 1066MHz	3x 4GB	M5014	4 / 8	Open	2 / 4	Open	2x 675W
7944-E3U	2x X5650 2.66GHz 6C 12MB 1333MHz	6x 4GB	M5015(b)	4 / 8	Open	2 / 4	Open	2x 675W
7944-E4U	1x E5607 2.26GHz 4C 8MB 1066MHz	3x 2 GB	M1015	4 / 8	Optional	2 / 4	Multi	1x 460W
7944-E5U	1x E5649 2.53GHz 6C 12MB 1333MHz	3x 2 GB	M1015	4 / 8	Optional	2 / 4	Multi	1x 460W
7944-E6U	1x X5650 2.66GHz 6C 12MB 1333MHz	3x 4 GB	M1015	4 / 8	Optional	2 / 4	Multi	2x 675W
Japan								
7944PAA	1x X5650 2.66GHz 6C 12MB 1333MHz	3x 2GB	M5015(b)	4 / 8	Open	2 / 4	Open	1x 675W
7944PAC	1x E5506 2.13GHz 4C 4MB 800MHz	3x 2GB	M5015(b)	4 / 8	Open	2 / 4	Open	1x 675W
7944PCU	1x E5630 2.53GHz 4C 12MB 1066MHz	3x 2GB	M5015(b)	4 / 8	Open	2 / 4	Open	1x 675W
7944PEA	1x E5503 2.00GHz 2C 4MB 800MHz	3x 2GB	M5015(b)	4 / 8	Open	2 / 4	Open	1x 675W
China								
7944-I01	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	BR10ilv2	4 / 8	1x 146GB	2 / 4	Open	1x 675W
7944-I05	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M5015(n)	4 / 8	1x 146GB	2 / 4	Open	1x 675W
7944-I21	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	BR10ilv2	4 / 8	1x 146GB	2 / 4	Open	1x 675W
7944-I25	1x E5620 2.40GHz 4C 12MB 1066MHz	1x 4GB	M5015(n)	4 / 8	1x 146GB	2 / 4	Open	1x 675W
ISA								
7944-I7S	1x E5506 2.13GHz 4C 4MB 800MHz	1x 4GB	M1015	4 / 8	Open	2 / 4	Multi	1x 675W

† In the processor column: Standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed.
(b) The ServeRAID M5015 RAID controller in this model includes a battery.
(n) The ServeRAID M5015 RAID controller in this model does not include a battery.

Processor options

The server supports the processor options listed in the following table. The server supports up to two processors. The table shows which server models have each processor standard. If there is no corresponding *where-used* model for a particular processor, then this model is only available through CTO.

Table 4. Processor options (Part 1)

Part number	Description	Standard models where used
Intel Xeon 5600 series processors		
81Y6548	Intel Xeon E5603 4C 1.60 GHz 4 MB Cache 1066 MHz 80w (with fan)	12x
81Y6549	Intel Xeon E5606 4C 2.13 GHz 8 MB Cache 1066 MHz 80w (with fan)	22x
81Y6550	Intel Xeon E5607 4C 2.26 GHz 8 MB Cache 1066 MHz 80 w (with fan)	32x, E4x
59Y4006	Intel Xeon E5620 4C 2.40 GHz 12 MB Cache 1066 MHz 80 w (with fan)	D2x, D4x
59Y4007	Intel Xeon E5630 4C 2.53 GHz 12 MB Cache 1066 MHz 80 w (with fan)	F2x
59Y4008	Intel Xeon E5640 4C 2.66 GHz 12 MB Cache 1066 MHz 80 w (with fan)	G2x, E2x
81Y6547	Intel Xeon E5645 6C 2.40 GHz 12 MB Cache 1333 MHz 80w (with fan)	52x, 54x
81Y6552	Intel Xeon E5649 6C 2.53 GHz 12 MB Cache 1333 MHz 80w (with fan)	62x, E5x
59Y4003	Intel Xeon L5609 4C 1.86 GHz 12 MB Cache 1066 MHz 40 w (with fan)	-
59Y4004	Intel Xeon L5630 4C 2.13 GHz 12 MB Cache 1066 MHz 40 w (with fan)	C2x
59Y4005	Intel Xeon L5640 6C 2.26 GHz 12 MB Cache 1333 MHz 60 w (with fan)	H2x
81Y6551	Intel Xeon X5647 4C 2.93 GHz 12 MB Cache 1333 MHz 130w (with fan)	-
59Y4009	Intel Xeon X5650 6C 2.66 GHz 12 MB Cache 1333 MHz 95 w (with fan)	J2x, E3x, J4x, E6x
59Y4010	Intel Xeon X5660 6C 2.80 GHz 12 MB Cache 1333 MHz 95 w (with fan)	-
59Y4012	Intel Xeon X5667 4C 3.06 GHz 12 MB Cache 1333 MHz 95 w (with fan)	-
59Y4011	Intel Xeon X5670 6C 2.93 GHz 12 MB Cache 1333 MHz 95 w (with fan)	M2x
81Y6553	Intel Xeon X5672 4C 3.20 GHz 12 MB Cache 1333 MHz 95w (with fan)	-
81Y6554	Intel Xeon X5675 6C 3.06 GHz 12 MB Cache 1333 MHz 95w (with fan)	72x
59Y4013	Intel Xeon X5677 4C 3.46 GHz 12 MB Cache 1333 MHz 130 w (with fan)	-
59Y4014	Intel Xeon X5680 6C 3.33 GHz 12 MB Cache 1333 MHz 130 w (with fan)	N2x
81Y6555	Intel Xeon X5687 4C 3.60 GHz 12 MB Cache 1333 MHz 130w (with fan)	-
81Y6556	Intel Xeon X5690 6C 3.46 GHz 12 MB Cache 1333 MHz 130w (with fan)	82x

Table 4. Processor options (Part 2)

Part number	Description	Standard models where used
Intel Xeon 5500 series processors		
59Y4001	Intel Xeon E5503 2C 2.0 GHz 4 MB Cache 800 MHz 80 w (with fan)	-
59Y3960	Intel Xeon E5504 4C 2.0 GHz 4 MB L3 Cache 800 MHz 80 w (with fan)	-
59Y3954	Intel Xeon E5506 4C 2.13 GHz 4 MB L3 Cache 800 MHz 80 w (with fan)	A2x
59Y4002	Intel Xeon E5507 4C 2.26 GHz 4 MB Cache 800 MHz 80 w (with fan)	B2x, E1x
59Y3961	Intel Xeon E5520 4C 2.26 GHz 8 MB L3 Cache 1066 MHz 80 w (with fan)	-
59Y3956	Intel Xeon E5530 4C 2.4 GHz 8 MB L3 Cache 1066 MHz 80 w (with fan)	-
59Y3963	Intel Xeon E5540 4C 2.53 GHz 8 MB L3 Cache 1066 MHz 80 w (with fan)	-
59Y3957	Intel Xeon X5550 4C 2.66 GHz 8 MB L3 Cache 1333 MHz 95 w (with fan)	-
59Y3958	Intel Xeon X5560 4C 2.8 GHz 8 MB L3 Cache 1333 MHz 95 w (with fan)	-
59Y3959	Intel Xeon X5570 4C 2.93 GHz 8 MB L3 Cache 1333 MHz 95 w (with fan)	-

Memory options

The server has 18 DIMM slots. When one processor is installed, then only nine DIMM slots can be used. When two processors are installed, then all 18 DIMM slots can be used. However, the maximum amount of DIMMs that can be installed is also limited by the type and rank of DIMM used, as follows:

- RDIMMs
  - Up to 18 single-rank RDIMMs (nine per processor) for a maximum of 72 GB (18x 4 GB)
  - Up to 18 dual-rank RDIMMs (nine per processor) for a maximum of 144 GB (18x 8 GB)
  - Up to 12 quad-rank RDIMMs (six per processor) for a maximum of 192 GB (12x 16 GB)
- UDIMMs
  - Up to 12 dual-rank UDIMMs (six per processor) for a maximum of 48 GB (12x 4 GB)

Each CPU has three memory channels, and there are three DIMMs per channel. RDIMMs can be populated three per channel. However, UDIMMs can only be populated two DIMMs per channel. That is, you can have up to 18 RDIMMs installed in the server, but only up to 12 UDIMMs. Mixing UDIMMs and RDIMMs is not supported.

Maximum memory speed is limited by memory speed supported by the specific CPU (that is, if the CPU only supports 1066 MHz, then the memory speed cannot exceed 1066 MHz in any case) and by the number and type of DIMMs installed (whatever is lower), as follows:

- Intel Xeon 5600 series processors:
  - 1333 MHz when one or two single-rank or dual-rank RDIMMs per channel are installed or one UDIMM per channel is installed
  - 1066 MHz when one quad-rank RDIMM per channel is installed or two UDIMMs per channel are installed
  - 800 MHz when three single-rank or dual-rank RDIMMs or two quad-rank RDIMMs per channel are installed

- Quad-core Intel Xeon 5500 series processors:
  - 1333 MHz when one single-rank or dual-rank RDIMM per channel is installed or one UDIMM per channel is installed
  - 1066 MHz when two single-rank or dual-rank RDIMMs per channel are installed, or one quad-rank RDIMM per channel is installed, or two UDIMMs per channel are installed
  - 800 MHz when three single-rank or dual-rank RDIMMs or two quad-rank RDIMMs per channel are installed
- Dual-core Intel Xeon 5500 series processors only support memory speed at 800 MHz.

The server supports both 1.5 V and 1.35 V DIMMs. Mixing 1.5 V and 1.35 V DIMMs in the same server is supported for Intel Xeon 5600 series processor-based systems, in such a case all DIMMs operate at 1.5 V. Intel Xeon 5500 series processor-based systems do not support 1.35 V DIMMs.

The following memory protection technologies are supported:

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

If memory mirroring is used then DIMMs must be installed in pairs (minimum of one pair per CPU), and both DIMMs in a pair must be identical in type and size. If memory sparing is used then DIMMs must be installed in sets of three, and all DIMMs in the same set must be identical in type and size. Memory sparing is only supported in systems with Intel Xeon 5600 series processors installed.

Table 5 lists memory options available for x3550 M3 server.

Table 5. Memory options

Part number	Description	Maximum quantity supported	Standard models where used
UDIMMs			
44T1569	2 GB (1x 2 GB, 2Rx8, 1.5 V) PC3-10600 ECC DDR3 1333 MHz LP UDIMM	12 (6 per CPU)	-
49Y1403	2 GB (1x 2 GB, 1Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP UDIMM	12 (6 per CPU)	-
49Y1404	4 GB (1x 4 GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP UDIMM	12 (6 per CPU)	-
RDIMMs			
49Y1434	2 GB (1x 2 GB, 1Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1405	2 GB (1x 2 GB, 1Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	E4x, E5x
44T1592	2 GB (1x 2 GB, 1Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1392	2 GB (1x 2 GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1433	2 GB (1x 2 GB, 2Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1406	4 GB (1x 4GB, 1Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	12x, 22x, 32x, D4x, H4x, 52x, 54x, 62x, J4x, 72x, 82x, E6x
49Y1394	4 GB (1x 4 GB, 2Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	C2x, H2x
49Y1435	4 GB (1x 4 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	A2x, B2x, D2x, F2x, G2x, J2x, M2x, N2x
49Y1407	4 GB (1x 4GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
44T1599	4 GB (1x 4 GB, 2Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1397	8 GB (1x 8 GB, 2Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1398	8 GB (1x 8 GB, 2Rx4, 1.35 V) PC3L-8500 CL7 ECC DDR3 1066MHz LP RDIMM	18 (9 per CPU)	-
46C7449	8 GB (1x 8 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3-1333 MHz LP RDIMM	18 (9 per CPU)	-
49Y1436	8 GB (1x 8 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	18 (9 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)	-
46C7483	16 GB (1x 16 GB, 4Rx4, 1.5 V) PC3-8500 CL7 ECC DDR3 1066 MHz LP RDIMM	12 (6 per CPU)	-

Internal disk storage options

The IBM System x3550 M3 supports the following internal disk storage configurations:

- Four SATA 2.5" SFF Simple-Swap hard drive bays (only available in CTO)
- Four SAS/SATA 2.5" SFF hot-swap hard drive bays, with or without space for an optical disk drive
- Eight SAS/SATA 2.5" SFF hot-swap hard drive bays (Note that the optical drive bay is not available in this configuration.)

Figure 5 shows these.

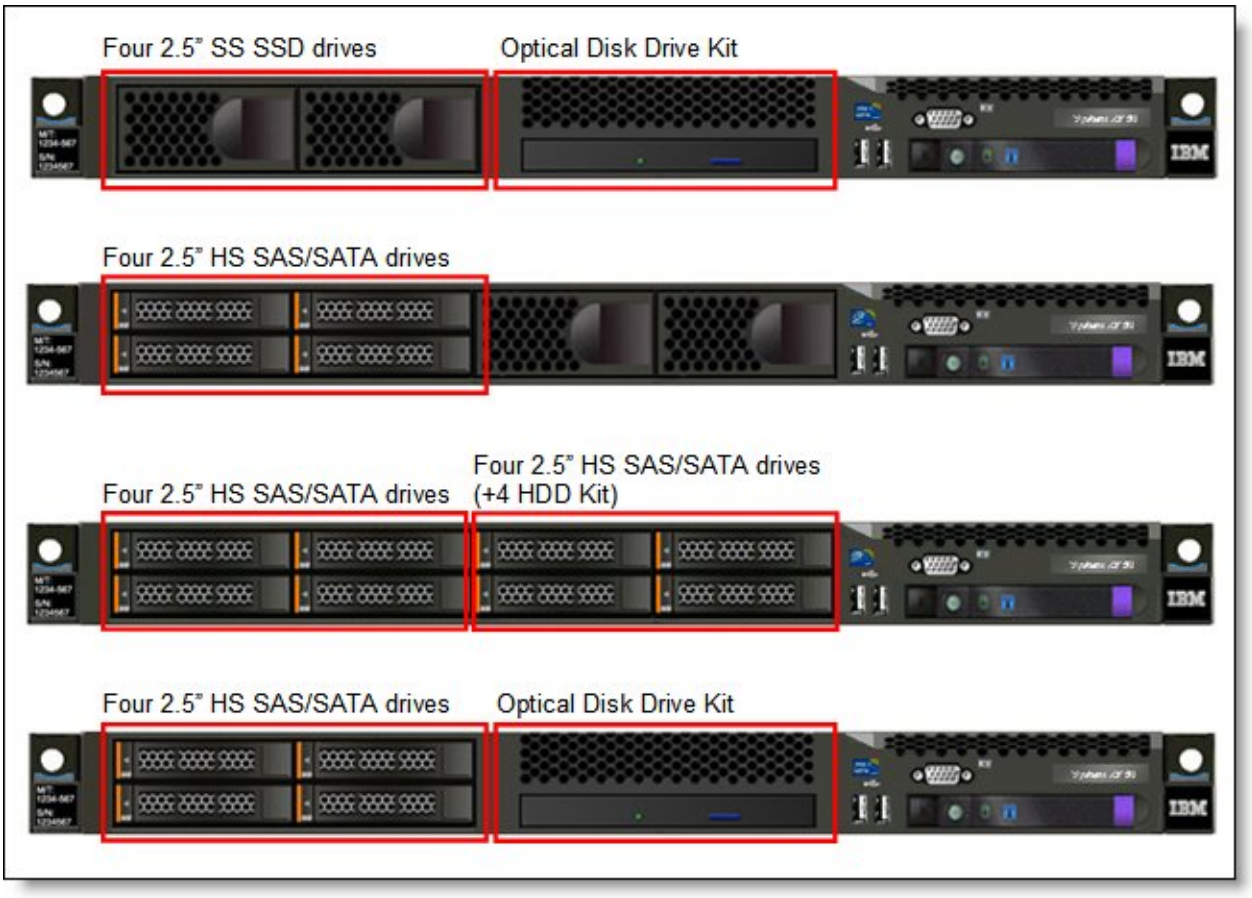

Figure 5. Internal disk storage options

Standard models of x3550 M3 ship with four SAS/SATA 2.5" SFF hot-swap hard drive bays. Table 6 shows the option available for x3550 M3 server to add four additional hot-swap drive bays.

Option 59Y3992 upgrades models with four hot-swap HDD bays to eight hot-swap HDD bays. If the server already has an optical disk drive installed, the drive must be removed first. For model A2Y, this upgrade also requires a new RAID controller (M1015, M5014, or M5015) to be purchased.

Table 6. Internal storage expansion options

Part number	Description	Maximum quantity supported
59Y3992	IBM System x3550 M3 R2 plus 4 HDD Kit with 8HDD Bezel	1

Table 7 lists hard drive options for internal disk storage of x3550 M3 server.

Table 7. Disk drive options for internal disk storage

Part number	Description	Maximum quantity supported
Hot-Swap SATA HDDs		
42D0747	IBM 160 GB 7200 NL SATA 2.5" SFF Slim-HS HDD	8
42D0752	IBM 500 GB 7200 NL SATA 2.5" SFF Slim-HS HDD	8
Hot-Swap SAS HDDs		
42D0632	IBM 146 GB 10K 6 Gbps SAS 2.5" SFF Slim-HS HDD	8
42D0637	IBM 300 GB 10K 6 Gbps SAS 2.5" SFF Slim-HS HDD	8
42D0672	IBM 73 GB 15K 6 Gbps SAS 2.5" SFF Slim-HS HDD	8
42D0677	IBM 146 GB 15K 6 Gbps SAS 2.5" SFF Slim-HS HDD	8
42D0707	IBM 500 GB 7200 6 Gbps NL SAS 2.5" SFF Slim-HS HDD	8
49Y2003	IBM 600 GB 10K 6 Gbps SAS 2.5" SFF Slim-HS HDD	8
44W2264	IBM 300 GB 10K 6 Gbps SAS 2.5" SFF Slim-HS SED	8
44W2294	IBM 146 GB 15K 6 Gbps SAS 2.5" SFF Slim-HS SED	8
Hot-Swap SATA solid state drives		
43W7714	IBM 50 GB SATA 2.5" SFF Slim-HS High IOPS SSD	8
Simple-Swap SATA solid state drives		
None*	50 GB Simple Swap SATA SSD	4

* This drive cannot be ordered separately. It is only available via special bid or the CTO process.

Table 8 lists the RAID controllers and additional options used for internal disk storage of x3550 M3 server.

Table 8. RAID controllers for internal storage

Part number	Description	Maximum supported	Standard models where used
44E8689	ServeRAID-BR10i SAS/SATA Controller	1	-
49Y4731	ServeRAID-BR10il SAS/SATA Controller V2	1	A2x, 12x
46M0831	ServeRAID M1015 SAS/SATA Controller	1	B2x, C2x, D2x, H2x, N2x, 22x, 32x, D4x
46M0832	ServeRAID M1000 Series Advance Feature Key	1	-
46M0916	ServeRAID M5014 SAS/SATA Controller	1	F2x, G2x, 52x, 54x, 62x
46M0829	ServeRAID M5015 SAS/SATA Controller	1	J2x, M2x, H4x, J4x, 72x, 82x
46M0917	ServeRAID M5000 Series Battery Kit	1	J2x, M2x, H4x, J4x, 72x, 82x
46M0930	ServeRAID M5000 Series Advanced Feature Key*	1	-
81Y4426	ServeRAID M5000 Series Performance Accelerator Key*	1	-
46M0969	ServeRAID B5015 SSD Controller	1	-

* Note: The Advanced Feature Key and Performance Accelerator Key cannot be used at the same time. Only one key can be installed onto the RAID controller.

The RAID controllers listed above occupy a dedicated PCI-E slot on x3550 M3 and do not consume regular PCI-E slots. Only one RAID controller can be used with the server to support internal HDDs.

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 *ServeRAID-BR10il SAS/SATA Controller v2 for IBM System x* at-a-glance guide at: 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, and 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 *ServeRAID M1015 SAS/SATA Controller for System x* 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 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 *ServeRAID M5015 and M5014 SAS/SATA Controllers for IBM System x* 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 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

The ServeRAID B5015 SSD Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 1 and 5
- 6 Gbps throughput per SAS port
- PCI Express 2.0 x8 host interface
- Based on PMC-Sierra PM8013 maxSAS 6 Gb/s SAS RoC controller
- Performance optimized for SSDs
- Stripe size of up to 1 MB

For more information, see the *ServeRAID M5015 and M5014 SAS/SATA Controllers for IBM System x* at-a-glance guide: http://www.redbooks.ibm.com/abstracts/tips0763.html?Open

Internal tape drives

The server does not support internal tape drive options.

Optical drives

The server supports the optical drive options listed in Table 9.

Table 9. Optical drives

Part number	Description	Maximum quantity supported	Standard models where used
46M0901	IBM UltraSlim Enhanced SATA DVD-ROM	1	-
46M0902	UltraSlim Enhanced SATA Multi-Burner	1	-
59Y3952	IBM System x3550 M3 R2 ODD Kit	1	-

The x3550 M3 server requires the Optical Drive Kit (ODD Kit) to be installed to support the optical drive. If the ODD Kit is used, then the maximum number of HDD bays is limited to four.

The IBM UltraSlim Enhanced SATA DVD-ROM (part number 46M0901) 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

The IBM UltraSlim Enhanced SATA Multi-Burner (part number 46M0902) supports the same media and speeds for reading as the DVD-ROM (46M0901). In addition, this drive 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 Table 10 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)
174712X	IBM System Storage EXP2512 Express	18 (9 per port)
174724X	IBM System Storage EXP2524 Express	9 (9 per port)

The RAID controllers listed in Table 11 are supported and connect to external expansion enclosures.

Table 11. 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

* Note: The Advanced Feature Key and Performance Accelerator Key cannot be used at the same time. Only one key can be installed onto the RAID controller.

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 about the M5025, 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 hard disk drives listed in Table 12 are supported inside the above-supported external expansion enclosures.

Table 12. 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 6Gbps SAS 3.5" Hot-Swap HDD	12
44W2244	IBM 600 GB 15K 6Gbps SAS 3.5" Hot-Swap HDD	12
EXP2512 Hot-Swap SAS 3.5" Hard Drives		
49Y1899	300 GB 15,000 rpm 6 Gb SAS 3.5" HDD	12
49Y1900	450 GB 15,000 rpm 6 Gb SAS 3.5" HDD	12
49Y1901	600 GB 15,000 rpm 6 Gb SAS 3.5" HDD	12
49Y1903	1 TB 7,200 rpm 6 Gb SAS NL 3.5" HDD	12
49Y1902	2 TB 7,200 rpm 6 Gb SAS NL 3.5" HDD	12
EXP2524 Hot-Swap SAS 2.5" Hard Drives		
49Y1896	146 GB 15,000 rpm 6 Gb SAS 2.5” HDD	24
49Y1895	300 GB 10,000 rpm 6 Gb SAS 2.5” HDD	24
81Y9596	600 GB 10,000 rpm 6 Gb SAS 2.5” HDD	24
49Y1898	500 GB 7,200 rpm 6 Gb SAS NL 2.5” HDD	24

The external SAS cables listed in Table 13 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 and EX2500 series can be chained with each other. In such a case, one cable is used to connect first EXP25xx or EXP3000 to the RAID controller, and every consecutive EXP unit is connected to the previous one by one cable.

External tape backup

The server supports the external tape attachment options listed in Table 14.

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
40K2599	SAS Enclosure Adapter Kit
Internal tape drives supported by external tape enclosures	
46C5364	IBM RDX Removable Hard Disk Storage System - Internal USB 160 GB Bundle
46C5387	IBM RDX Removable Hard Disk Storage System - Internal USB 320 GB Bundle
46C5388	IBM RDX Removable Hard Disk Storage System - Internal USB 500 GB Bundle
39M5636	IBM DDS Generation 6 USB Tape Drive
43W8478	IBM 400/800 GB HH LTO3 SAS Tape Drive
44E8895	IBM Half High LTO Gen 4 SAS Tape Drive
49Y9898	IBM Internal Half High LTO Gen 5 SAS Tape Drive
External tape drives	
362516X	IBM RDX Removable Hard Disk Storage System - External USB 160 GB Bundle
362532X	IBM RDX Removable Hard Disk Storage System - External USB 320 GB Bundle
362550X	IBM RDX Removable Hard Disk Storage System - External USB 500 GB Bundle
3628L5X	IBM External Half High LTO Gen 5 SAS Tape Drive (with US linecord)
3628N5X	IBM External Half High LTO Gen 5 SAS Tape Drive (no US linecord)
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 Enclosure Adapter Kit is required per one

tape drive (USB Kit for USB tape drives and SAS Kit for SAS tape drives). Enclosure Kits include an external 3 m cable (USB or SAS, depending on the kit) to connect the enclosure to the server's USB port or to the SAS HBA. See the Storage Host Bus Adapters section for a list of supported SAS HBAs.

I/O expansion options

The server supports up to two PCI Express slots with different riser cards installed into two riser sockets on the system planar (one riser socket supports installation of one riser card). The slot form factors are as follows:

- Slot 1: Low-profile
- Slot 2: Full-height, half-length

Riser 1 supplies slot 1. Riser 2 supplies slot 2. Standard models have two riser cards installed, which provide a total of two PCI Express 2.0 x16 slots (one PCI Express x16 Gen 2 slot per riser card).

You can replace each standard riser with one of the following (or configure one of these riser cards instead of the standard riser using a special bid or configure-to-order):

- Riser with one PCI Express x16 Gen 2 slot
- Riser with two PCI-X 64-bit/133 MHz slots

Table 15 lists the PCI riser card options.

Table 15. PCI riser card options

Part number	Description	Maximum quantity supported
46M1070	IBM System x3550 M2 PCI-Express (1x16) Riser Card	2 (2 riser cards come with standard models)
46M1071	IBM System x3550 M2 PCI-X Riser Card (two PCI-X 1.0a 64-bit 133 MHz slots)	2

The server has an additional PCI Express slot dedicated to the RAID controller.

Network adapters

x3550 M3 supports up to four integrated Gigabit Ethernet ports. Two ports are standard, and two ports can be added by installing an optional Dual-port Gigabit Ethernet Daughter card. This card uses a dedicated connector on the motherboard and does not consume a PCI expansion slot.

Integrated NICs have the following features:

- Broadcom BCM5709 chip
- TCP Offload Engine (TOE) support
- Wake on LAN support
- 802.1Q VLAN tagging support
- NIC Teaming (Load Balancing and Failover)

Table 16 lists additional supported network adapters.

Table 16. Network adapters

Part number	Description	Maximum quantity supported
10Gb Ethernet		
42C1790	NetXtreme II 10 GigE Express Fiber SR Adapter	2
49Y4250	Emulex 10GbE Virtual Fabric Adapter for IBM System x	2
Gigabit Ethernet		
46M1076	Dual Port 1 Gb Ethernet Daughter Card	1
39Y6066	NetXtreme II 1000 Express Ethernet Adapter	2
39Y6126	PRO/1000 PT Dual Port Server Adapter by Intel	2
39Y6136	PRO/1000 PT Quad Port Server Adapter by Intel	2
42C1750	PRO/1000 PF 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

Table 17 lists storage adapters supported by x3550 M3 server.

Table 17. Storage adapters

Part number	Description	Maximum quantity supported
Fibre Channel		
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
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
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
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
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
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
iSCSI	iSCSI	
39Y6146	QLogic iSCSI Single-Port PCIe HBA for IBM System x	2
42C1770	QLogic iSCSI Dual-Port PCIe HBA for IBM System x	2
SAS		
46M0907	IBM 6 Gb SAS HBA Controller	2
44E8700	IBM 3 Gb SAS HBA v2	2

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

PCIe SSD adapters

The server supports the High IOPS SSD adapters listed in Table 18.

Table 18. SSD adapters

Part number	Description	Maximum quantity supported
46M0877	IBM 160GB High IOPS SS Class SSD PCIe Adapter	2
46M0878	IBM 320 GB High IOPS SD Class SSD PCIe Adapter	1
46M0898	IBM 320 GB High IOPS MS Class SSD PCIe Adapter	2
81Y4519	640GB High IOPS MLC Duo Adapter for IBM System x	1

Power supplies

The server supports up to two redundant power supplies, providing N+N redundancy. Standard models come with one or two power supplies (model dependent). -48V DC models are only available through CTO. The following table lists the power supplies.

Table 19. Power supplies

Part number	Description	Maximum quantity supported	Standard models where used
46M1075	IBM 675 W Redundant Power Supply	2*	A2x, B2x, C2x, D2x, F2x, G2x, H2x, J2x, M2x, N2x, J4x, 72x
69Y1510	IBM -48V DC Input 675 W Redundant Power Supply	2	-
81Y6557	IBM 675W High Efficiency Redundant AC Power Supply	2*	54x, 82x
81Y6558	IBM 460W Redundant AC Power Supply	2*	12x, 22x, 32x, D4x, H4x, 52x

* At least 1 power supply comes standard with some models.

An AC power supply ships standard with one 2.8 m C13 - C14 power cord. A DC power supply ships without power cords.

Remote management

The server contains IBM Integrated Management Module (IMM), which provides advanced service-processor control, monitoring, and an alerting function. 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. 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. Table 20 lists the remote management option.

Table 20. Remote management option

Part number	Description	Maximum quantity supported
46C7526	IBM Virtual Media Key	1

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 21 lists the virtualization options.

Table 21. 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 22.

Table 22. Uninterruptible power supply units

Part number	Description
Rack-mounted UPS	
21304RX	IBM UPS 10000XHV
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 (100 V/120 V)
53953JX	IBM 3000VA LCD 3U Rack UPS (200 V/208 V)
53956AX	IBM 6000VA LCD 4U Rack UPS (200 V/208 V)
53956KX	IBM 6000VA LCD 4U Rack UPS (230 V)

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

- *IBM 3000VA LCD 3U Rack Uninterruptible Power Supply for IBM System x* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0782.html?Open
- *IBM 6000VA LCD 4U Rack UPS* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0793.html?Open

Power distribution units

The server supports attachments to the power distribution units (PDUs) listed in Table 23.

Table 23. 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 with 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
Universal PDUs	
39Y8951	DPI Universal Rack PDU w/ US LV and HV line cords
39Y8952	DPI Universal Rack PDU w/ CEE7-VII Europe LC
39Y8953	DPI Universal Rack PDU w/ Denmark LC
39Y8954	DPI Universal Rack PDU w/ Israel LC

Table 23. Power distribution units (part 2)

Part number	Description
39Y8955	DPI Universal Rack PDU w/Italy LC
39Y8956	DPI Universal Rack PDU w/South Africa LC
39Y8957	DPI Universal Rack PDU w/UK LC
39Y8958	DPI Universal Rack PDU with AS/NZ LC
39Y8959	DPI Universal Rack PDU w/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

Racks cabinets

The server supports the rack cabinets listed in Table 24.

Table 24. Rack cabinets

Part number	Description
201886X	IBM 11U Office Enablement Kit
93061RX	NetBAY11 Standard Rack Cabinet
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 25.

Table 25. 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)

For more information, see the following 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
- *IBM 1U 17-inch and 19-inch Flat Panel Console Kits*
  http://www.redbooks.ibm.com/abstracts/tips0731.html?Open

Warranty options

The IBM System x3550 M3 has a 3-year onsite warranty with 9x5/next business day terms. IBM offers the following 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 might 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 as follows:

- Warranty and maintenance service upgrades
  - 1, 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 year or 2 years of warranty extension
- Remote technical support services
  - One year 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 26 explains warranty service definitions in more detail.

Table 26. 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 their 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 their local time zone, Monday through Friday, excluding IBM holidays.

Physical and electrical specifications

Dimensions:

- Height: 43 mm (1.7 in)
- Width: 440 mm (17.3 in)
- Depth: 711 mm (28.0 in)
- Weight:
  - Minimum configuration 12.7 kg (28 lb)
  - Maximum configuration 15.9 kg (35.1 lb)

Supported environment:

- Air temperature:
  - Server on: 10 to 35° C (50.0 to 95.0° F); altitude: 0 to 914.4 m (3,000 ft).
- Decrease system temperature by 0.75° C for every 1,000-foot increase in altitude.
  - Server off: 5 to 45° C (41.0 to 113° F);
  - Shipment: -40 to +60° C (-40 to 140° F);
- Humidity:
  - Server on: 20 to 80% , maximum dew point 21° C, maximum rate of change 5° C/hr
  - Server off: 8 to 80%, maximum dew point 27° C

Electrical:

- Models with 675 W power supply
  - 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 supply
  - 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 heat output:

- Minimum configuration: 307 Btu/hr (90 watts)
- Maximum configuration: 2660 Btu/hr (780 watts)

Acoustical noise level emission level:

- 6.1 bels (idling)
- 6.1 bels (operating)

Regulatory compliance

The server conforms 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 22:2006, 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 Windows HPC Server 2008
- Microsoft Windows Server 2003 Compute Cluster Edition
- Microsoft Windows Server 2003 R2 x64 Datacenter Edition Unlimited Virtualization
- Microsoft Windows Server 2003, Web Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- 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 2008 R2
- Microsoft Windows Server 2008, Datacenter x64 Edition

- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Premium Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Standard Edition
- Microsoft Windows Small Business Server 2008 Premium Edition
- Microsoft Windows Small Business Server 2008 Standard Edition
- Red Hat Enterprise Linux 4 AS for x86
- Red Hat Enterprise Linux 4 ES for x86
- Red Hat Enterprise Linux 4 WS/HPC for x86
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- Red Hat Enterprise MRG 1.0 Realtime (x64)
- Solaris 10 Operating System
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 for x86
- SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- VMware ESX 4.0
- VMware ESX 4.1
- VMware ESXi 4.0
- VMware ESXi 4.1

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 x3550 M3 product page
  http://www.ibm.com/systems/x/hardware/rack/x3550m3/index.html
- *IBM System x 3550 M3 Installation and User's Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5083597
- *IBM System x 3550 M3 Problem Determination and Service Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5083598
- ServerProven hardware compatibility page for the x3550 M3
  http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/7944.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_x3550_M3

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