

IBM System x3250 M4

IBM System x at-a-glance guide

The System x3250 M4 single-socket 1U rack server is designed for small businesses and first-time server buyers looking for a solution to improve business efficiency. It delivers several IBM® innovative features in a compact 1U form factor with a competitive price. The IBM System x3250 M4 provides next-generation performance in an innovative and compact design with flexible configuration options, built-in security, and systems management capabilities. This server is designed for infrastructure applications such as firewall, security, disaster recovery, name server, authentication, credit card processing, email, domain controller, and more. It leverages the next-generation dual-core and quad-core Intel Xeon processor technology.



Figure 1. IBM System x3250 M4

Did you know

The System x3250 M4 server is a compact, cost-effective, single-processor 1U rack server that has been optimized to provide outstanding availability, manageability, and performance features to small-to-medium-sized businesses, retail stores, or distributed enterprises. It supports the latest Xeon processors for applications that require performance and stability, and Core i3 processors for applications that require lower cost.

The system includes features not typically seen in this class of system, such as standard, embedded RAID-0/1 for simple-swap models, remote control capabilities even when the machine is powered off, and Predictive Failure Analysis (PFA) on processor and memory. This flexible 1U rack-mountable server is also highly upgradable and expandable, scaling from low-cost, fixed-function models to feature-rich, highly available models.

Locations of key components and connectors

Figure 2 shows the front of the server.

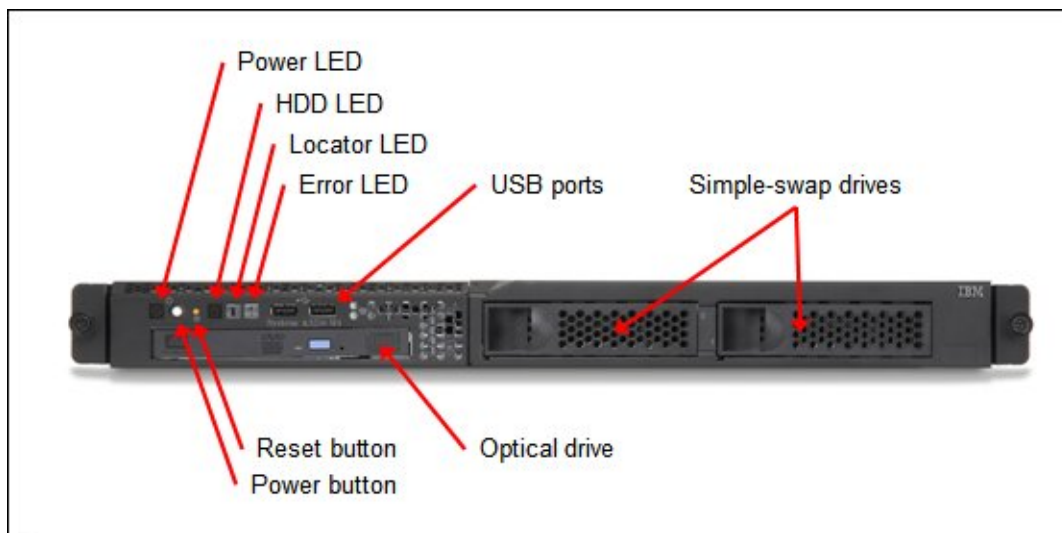


Figure 2. IBM System x3250 M4 rack server (front view)

Figure 3 shows the rear of the server.

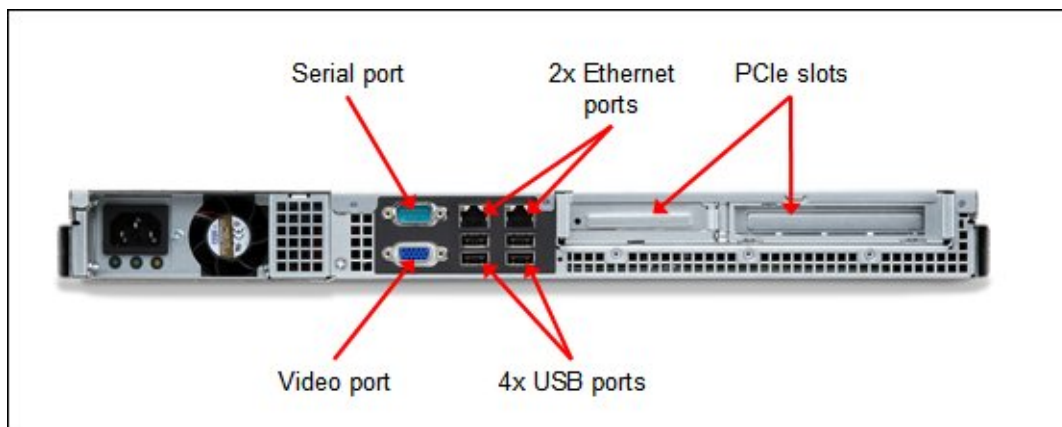


Figure 3. IBM System x3250 M4 rack server (rear view)

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

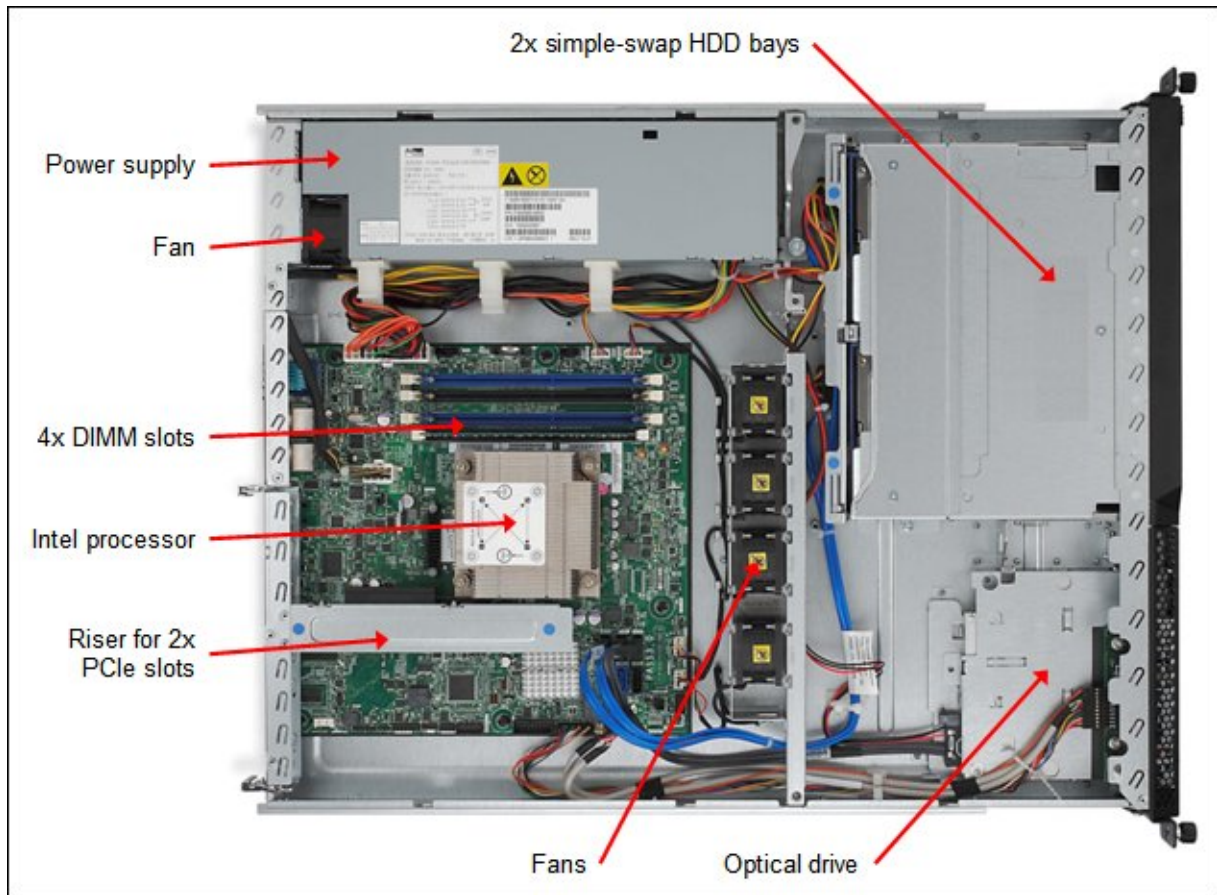


Figure 4. IBM System x3250 M4 rack server (inside view)

Standard specifications

Table 1. Standard specifications (part 1)

Components	Specification
Form factor	1U Rack.
Processor	One quad-core Intel Xeon E3-1200 series processor (up to 3.5 GHz/8 MB) or one dual-core Intel Core i3 2100 series processor (up to 3.3 GHz/3 MB) with up to 1333 MHz memory speed. Supports specific quad-core and dual-core processors via Configure-To-Order (CTO).
Memory cache	Up to 8 MB L3 for Intel Xeon E3-1200 series processors. Up to 3 MB L3 for Intel Core i3 2100 series processors.
Chipset	Intel C202.
Memory DIMM slots	4.
Memory capacity	Up to 32 GB with 8 GB DDR3 UDIMMs and four populated DIMM slots. RDIMMs are not supported.
Memory protection	ECC.
Disk drive bays	Three configurations: <ul style="list-style-type: none"> • Up to two 3.5" simple-swap SATA HDDs (some models) • Up to four 2.5" hot-swap SAS HDDs (some models) • Up to four 2.5" simple-swap SAS HDDs (CTO only)
Maximum internal storage	Up to 2.4 TB with 600 GB SAS HDDs, or up to 4.0 TB with 2 TB SATA HDDs. Intermix of SAS/SATA is not supported.
RAID Support	Software RAID 0, 1 with ServeRAID C100 controller. Optional hardware RAID 0, 1, 1E with ServeRAID-BR10il v2 or M1015. Optional upgrade to RAID 5 is available for M1015 and C100. Optional RAID 5, 50 with ServeRAID M5014.
Optical drive bays	One, support for DVD-ROM or multiburner.
Tape drive bays	No internal tape drive support.
Network interfaces	Integrated 2 port Gigabit Ethernet/1 port is shared with IMM.
PCI Expansion slots	Two PCI Express 2.0 slots: <ul style="list-style-type: none"> • One PCI Express 2.0 x4 (for use only by the optional BR10il v2 controller) • One PCI Express 2.0 x8, full-height, half-length
External ports	Two USB 2.0 ports on front. Four USB 2.0, one DB-15 video, one DB-9 serial, two RJ-45 Gigabit Ethernet network ports (one is dedicated, one is shared with IMM) on rear.
Cooling	IBM Calibrated Vectored Cooling™ with 4 fans and N+1 redundancy.
Power supply	One fixed 300 W AC power supply; or up to two redundant 460 W AC power supplies (model dependent)
Hot-swap components	Hot-swap SAS drives (some models)
Systems management	UEFI, IBM Integrated Management Module II (IMM2), Predictive Failure Analysis, Automatic Server Restart, IBM Systems Director and IBM Systems Director Active Energy Manager™, IBM ServerGuide.

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 1600x1200 at 85 Hz with 64 K colors.
Operating systems supported	Microsoft Windows Server 2008 R2 and 2008, Red Hat Enterprise Linux 5, SUSE Linux Enterprise Server 11.
Limited warranty	Three-year (2583) 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/NBD or four 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.
Dimensions	Height: 43 mm (1.7 in), width: 439 mm (17.3 in), depth: 576 mm (22.7 in)
Weight	Minimum configuration: 9.3 kg (20.4 lb), maximum configuration: 10.7 kg (23.5 lb)

The x3250 M4 server ships 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
- Rack Mount Kit
- One 2.8 m C13 - C14 power cord

Standard models

The following table lists the standard models.

Table 2. Standard models

Model†	Intel Processor (one maximum)*	Memory	Disk adapter	HDD bays	Disks	GbE	DVD	PS
2583-32x	1x Pentium G850 2.9GHz 2C 3MB 1333MHz	1x 2GB	C100	2x3.5" SS	Open	2	Open	300W
2583-42x	1x Corei3-2100 3.1GHz 2C 3MB 1333MHz	1x 2GB	C100	2 3.5" SS	Open	2	Open	300W
2583-62x	1x Xeon E3-1220 3.1GHz 4C 8MB 1333MHz	1x 2GB	C100	2x3.5" SS	Open	2	Open	300W
2583-72x	1x Xeon E3-1270 3.4GHz 4C 8MB 1333MHz	1x 4GB	BR10ilv2	4x2.5" HS	Open	2	Open	460W

* Processor detail: Processor quantity, processor model, core speed, number of cores, L3 cache, front-side bus speed

Express models

The following table 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

Model	Processor* (one maximum)	Memory	RAID controller	HDD bays	Disks	Network	Optical	Power supply
NA & LA								
2583-EAU	1x Xeon E3-1230 3.2GHz 4C 8 MB 1333 MHz	1x 2 GB	C100	2x 3.5" SS	2x 250 GB	2x GbE	Multi	1x 300 W
2583-EBU	1x Xeon E3-1270 3.4GHz 4C 8 MB 1333 MHz	1x 4 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 460 W redundant
NE & SW								
2583-E1G	1x Corei3-2100 3.1GHz 2C 3 MB 1333 MHz	1x 2 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 300 W
2583-E2G	1x Xeon E3-1220 3.1GHz 4C 8 MB 1333 MHz	1x 2 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 300 W
2583-E3G	1x Xeon E3-1230 3.2GHz 4C 8 MB 1333 MHz	1x 4 GB	C100	2x 3.5" SS	1x 250 GB	2x GbE	Multi	1x 300 W
CEE & MEA								
2583-E2G	1x Xeon E3-1220 3.1GHz 4C 8 MB 1333 MHz	1x 2 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 300 W
RCIS								
2583-E2G	1x Xeon E3-1220 3.1GHz 4C 8 MB 1333 MHz	1x 2 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 300 W
2583-E4G	1x Xeon E3-1240 3.3GHz 4C 8 MB 1333 MHz	1x 4 GB	C100	2x 3.5" SS	Optional	2x GbE	Multi	1x 300 W

* Processor detail: Processor quantity, processor model, core speed, number of cores, L3 cache, front-side bus (FSB) speed.

Processor options

The server supports only one processor, which is already installed in all standard and Express models. No additional processor options are available. The following table lists all processors available in standard models of x3250 M4 or via CTO. 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	Standard models where used
None*	Intel Pentium G840 2.8 GHz 2C 3 MB 1333 MHz DDR3 65W	-
None*	Intel Pentium G850 2.9 GHz 2C 3 MB 1333 MHz DDR3 65W	32x
None*	Intel Pentium G860 3.0 GHz 2C 3 MB 1333 MHz DDR3 65W	-
None*	Intel Pentium G620 2.6 GHz 2C 3 MB 1066 MHz DDR3 65W	-
None*	Intel Pentium G630 2.7 GHz 2C 3 MB 1066 MHz DDR3 65W	-
None*	Intel Corei3-2100, 3.1 GHz 2C 3 M cache 1333 MHz DDR3 65 W	42x
None*	Intel Corei3-2120, 3.3 GHz 2C 3 M cache 1333 MHz DDR3 65 W	-
None*	Intel Core i3-2130 3.4GHz 2C 3MB cache 1333MHz 65W	-
None*	Intel Xeon E3-1220 3.1 GHz 4C 8 MB cache 1333 MHz DDR3 80 W	62x
None*	Intel Xeon E3-1220L 2.2 GHz 2C 3 MB cache 1333 MHz DDR3 20 W	-
None*	Intel Xeon E3-1230 3.2 GHz 4C 8 MB cache 1333 MHz DDR3 80 W	-
None*	Intel Xeon E3-1240 3.3 GHz 4C 8 MB cache 1333 MHz DDR3 80 W	-
None*	Intel Xeon E3-1260L 2.3 GHz 4C 8 MB cache 1333 MHz DDR3 45 W	-
None*	Intel Xeon E3-1270 3.4 GHz 4C 8 MB cache 1333 MHz DDR3 80 W	72x
None*	Intel Xeon E3-1280 3.5 GHz 4C 8 MB cache 1333 MHz DDR3 95 W	-

* No additional processor options are available. The server supports only one processor, which is already included in a standard or custom configuration.

Memory options

The x3250 M4 has four DIMM slots, and only DDR3 ECC UDIMMs are supported. The CPU has two memory channels and there are two DIMMs per channel. If more than one DIMM is planned to be installed, then DIMMs must be installed in a pair, and both DIMMs in a pair must be identical in type and size. The following table lists the memory options supported by the server.

Table 5. Memory options

Part number	Description	Maximum supported	Standard models where used
44T1568	1 GB (1x 1 GB, 1Rx8) PC3-10600 CL9 ECC 1333 LP UDIMM	4	-
44T1570	2 GB (1x 2 GB, 1Rx8) PC3-10600 CL9 ECC 1333 LP UDIMM	4	32x, 42x, 62x
44T1571	4 GB (1x 4 GB, 2Rx8) PC3-10600 CL9 ECC 1333 LP UDIMM	4	72x
90Y3165	8GB (4Gb, 2Rx8) PC3-10600 DDR3-1333 LP UDIMM	4	-

Internal disk storage options

The IBM System x3250 M4 supports the following internal disk storage configurations:

- Two 3.5" Simple-Swap SATA hard drive bays
- Four 2.5" SFF simple-swap SAS hard drive bays (CTO only)

The following table lists the hard drive options available for internal disk storage in the x3250 M4 server. Intermixing SAS and SATA drives is not supported.

Table 6. Disk drive options

Part number	Description	Maximum supported
3.5" Simple-Swap SATA HDDs		
43W7750	IBM 250 GB 7.2K SATA 3.5" Simple-Swap HDD	2
39M4514	500 GB 7200 RPM 3.5" Simple-Swap SATA II	2
43W7622	IBM Server 1 TB 7200 SATA 3.5" Simple Swap HDD	2
42D0787	IBM 2 TB 7200 NL SATA 3.5" SS HDD	2
81Y9778	IBM 3TB 7.2K 6Gbps NL SATA 3.5" SS HDD	2
2.5" Simple-Swap SAS HDDs		
49Y1991	IBM 300 GB 10K 6 Gbps SAS 2.5" SFF SS HDD	4
49Y2027	IBM 600 GB 10K 6 Gbps SAS 2.5" SFF SS HDD	4
49Y1996	IBM 146 GB 15K 6 Gbps SAS 2.5" SFF SS HDD	4
2.5" Simple-Swap SATA HDDs		
81Y9734	IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	4
81Y9738	IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	4
81Y9742	IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF SS HDD	4
2.5" Hot-Swap SAS HDDs		
42D0677	IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	4
42D0637	IBM 300GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	4
42D0707	IBM 500GB 7200 6Gbps NL SAS 2.5" SFF Slim-HS HDD	4
49Y2003	IBM 600GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	4
81Y9670	IBM 300GB 15K 6Gbps SAS 2.5" Slim-HS HDD	4
81Y9690	IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD	4
2.5" Hot-Swap SATA HDDs		
81Y9726	IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	4
81Y9722	IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	4
81Y9730	IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	4

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

The following table lists the RAID controllers and additional options used for internal disk storage of x3250 M4 server. Either a ServeRAID BR10il v2, ServeRAID M1015, or ServeRAID M5014 is required for models with 2.5" simple-swap SAS drive bays or 2.5" hot-swap SAS drive bays.

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	72x
46M0831	ServeRAID M1015 SAS/SATA Controller	1	-
46M0832	ServeRAID M1000 Series Advance Feature Key	1	-
46M0916	ServeRAID M5014 SAS/SATA Controller	1	-

If the BR10il v2 controller is used, it is installed in slot 1 (PCIe x4). Other RAID controllers are installed in slot 2 (PCIe x8), and slot 1 is left vacant. Only one RAID controller can be used with the server to support internal HDDs. Features of the supported RAID controllers are discussed below.

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: <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
- 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

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>

Internal tape drives

The server does not support internal tape drive options.

Optical drives

The server supports the optical drive options listed in the following table.

Table 8. 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	-

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

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

Currently, the server does not support external disk storage expansion (JBOD).

External tape backup

The server supports the external tape attachment options listed in the following table.

Table 9. 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)	
40K2599	SAS Enclosure Adapter Kit
44E8869	USB Enclosure Adapter Kit
40K2599	SAS Kit for Tape Enclosures
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
43W8478	IBM 400/800GB HH LTO3 SAS Tape Drive
44E8895	IBM Half High LTO Gen 4 SAS Tape Drive
39M5636	IBM DDS Generation 6 USB Tape Drive
46C5399	IBM DDS Generation 5 USB 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)

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. (x3250 M4 only supports USB connections for internal USB tape drives in external tape enclosures.)

I/O expansion options

Standard models offers two PCI Express 2.0 slots (one x4 and one x8). The slot form-factors are:

- Slot 1: PCIe x4 Gen 2 (for use only by the optional BR10il v2 controller)
- Slot 2: PCIe x8 Gen 2, full-height, half-length

Network adapters

The x3250 M4 offers two integrated Gigabit Ethernet ports. One port is shared with Integrated Management Module (IMM).

The Integrated NICs have the following features:

- Intel 82574L 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

The following table lists additional supported network adapters.

Table 10. Network adapters

Part number	Description	Maximum quantity supported
10 Gb Ethernet		
49Y4250	Emulex 10GbE Virtual Fabric Adapter for IBM System x	1
Gigabit Ethernet		
42C1780	NetXtreme II 1000 Express Dual Port Ethernet Adapter	1
49Y4220	NetXtreme II 1000 Express Quad Port Ethernet Adapter	1
49Y4230	Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	1
49Y4240	Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	1
Converged Network Adapters (CNA)*		
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	1
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	1

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

Storage host bus adapters

The following table lists the storage host bus adapters (HBAs) supported by x3250 M4 server.

Table 11. Storage adapters

Part number	Description	Maximum quantity supported
Fibre Channel		
46M6049	Brocade 8 Gb FC Single-port HBA for IBM System x	1
46M6050	Brocade 8 Gb FC Dual-port HBA for IBM System x	1
42D0485	Emulex 8 Gb FC Single-port HBA for IBM System x	1
42D0494	Emulex 8 Gb FC Dual-port HBA for IBM System x	1
42D0501	QLogic 8 Gb FC Single-port HBA for IBM System x	1
42D0510	QLogic 8 Gb FC Dual-port HBA for IBM System x	1
Converged Network Adapters (CNA)*		
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	1
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	1
SAS		
46M0907	IBM 6 Gb SAS HBA Controller	1

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

PCIe SSD adapters

The server does not support the High IOPS SSD adapters.

Power supplies

Some models include one fixed 300 W AC 80 PLUS-certified power supply. This 300 W unit cannot be upgraded. Some models include one IBM 460W hot-swap power supply. With the addition of a second power supply, the two form a redundant pair. The following table lists the option for the second power supply.

Table 12. Power supply option

Part number	Description
94Y6236	IBM 460W Redundant Power Supply

Both the 300W and 460W power supply units support maximum configurations and support auto restart that minimizes operator intervention after a temporary power outage.

One 2.8-m C13 - C14 power cord is shipped for each included power supply.

Remote management

The server contains IBM IMM v2 hardware with basic level functionality (IMM2 Basic), which provides 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.

The IMM2 Basic provides remote server management through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Common Information Model (CIM)

Integrated virtualization

The x3250 M4 currently does not support VMware ESXi embedded virtualization.

Top-of-rack Ethernet switches

The server supports the top-of-rack Ethernet switches from IBM System Networking listed in the following table.

Table 13. IBM System Networking - Top-of-rack switches

Part number	Description
IBM System Networking - 1 Gb top-of-rack switches	
0446013	IBM System Networking RackSwitch G8000R
7309CFC	IBM System Networking RackSwitch G8000F
7309CD8	IBM System Networking RackSwitch G8000DC
7309G52	IBM System Networking RackSwitch G8052R
730952F	IBM System Networking RackSwitch G8052F
427348E	IBM Ethernet Switch J48E
6630010	Juniper Networks EX2200 24 Port
6630011	Juniper Networks EX2200 24 Port with PoE
6630012	Juniper Networks EX2200 48 Port
6630013	Juniper Networks EX2200 48 Port with PoE
IBM System Networking - 10 Gb top-of-rack switches	
7309BD5	IBM System Networking RackSwitch G8124DC
7309BR6	IBM System Networking RackSwitch G8124ER
7309BF7	IBM System Networking RackSwitch G8124EF
7309G64	IBM System Networking RackSwitch G8264R
730964F	IBM System Networking RackSwitch G8264F
0719-410	Juniper Networks EX4500 - Front to Back Airflow
0719-420	Juniper Networks EX4500 - Back to Front Airflow

Uninterruptible power supply units

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

Table 14. 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>

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Power distribution units

The server supports attachments to the power distribution units (PDUs) listed in the following table.

Table 15. 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

Table 15. Power distribution units (part 2)

Part number	Description
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
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 the following table.

Table 16. 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
14102RX	IBM eServer Cluster 25U Rack
14104RX	IBM Linux Cluster Rack
201886X	IBM 11U Office Enablement Kit

Rack options

The server supports the rack console switches and monitor kits listed in the following table.

Table 17. Rack options

Part number	Description
Monitor kits and keyboard trays	
172317X	17" 1U Flat Panel Console Kit
172319X	19" 1U Flat Panel Console Kit
40K5372	IBM Rack Mountable Keyboard & Pointing Device - 3m Cable - Black - USB - US English 103P
40K9584	IBM Preferred Pro Keyboard- Full Width - 2m Cable - Black - USB - US English 103P
40K9200	IBM 2 Button Optical Wheel Mouse - Black - USB
Console switches	
17353LX	IBM 1 x 8 Console Switch
1754A1X	IBM Local 1x8 Console Manager (LCM8)
17351GX	IBM 2x8 Local Console Manager
17354LX	IBM 2 x 16 Console Switch
17352GX	IBM Global 2x16 Console Manager
1754A2X	IBM Local 2x16 Console Manager (LCM16)
1754D1X	IBM Global 2x2x16 Console Manager (GCM16)
1754D2X	IBM Global 4x2x32 Console Manager (GCM32)
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® publication 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 x3250 M4 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 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 the following web page:

<https://www-304.ibm.com/sales/gss/download/spst/servicepac>

Warranty service definitions are explained in more detail in the following table.

Table 18. 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.

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 two years of warranty extension
- Remote technical support services
 - One or three 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

Physical and electrical specifications

Dimensions:

- Height: 43 mm (1.7 in)
- Width: 439 mm (17.3 in)
- Depth: 576 mm (22.7 in)
- Weight:
 - Minimum configuration: 9.3 kg (20.4 lb)
 - Maximum configuration: 10.7 kg (23.5 lb)

Supported environment::

- Air temperature:
 - Server powered on
 - 10.0 to 35.0 °C (50 to 95 degrees F); altitude: 0 to 914.4 m (3,000 ft)
 - 10.0 to 32.0 °C (50 to 89.6 degrees F); altitude: 914.4 m (3,000 ft) to 2,133.6 m (7,000 ft)
 - Server powered off
 - 10.0 to 43.0 °C (50 to 109.4 degrees F); maximum altitude: 2,133.6 m (7,000 ft)
 - Shipping
 - -40 to 60 °C (-40 to 140 degrees F)
 - Relative humidity: 8 to 80%
- Electrical
 - 300-watt power supply
 - 100 to 127 (nominal) V ac; 50 to 60 Hz; 6.0 A (maximum)
 - 200 to 240 (nominal) V ac; 50 to 60 Hz; 3.0 A (maximum)
 - Redundant 460-watt power supplies
 - 100 to 127 (nominal) V ac; 50 to 60 Hz; 5.3 A (maximum)
 - 200 to 240 (nominal) V ac; 50 to 60 Hz; 2.6 A (maximum)
 - Input kilovolt-amperes (kVA) (approximately)
 - Minimum configuration: 0.085 kVA
 - Maximum configuration: 0.326 kVA
 - Btu output
 - Ship configuration: 267 Btu/hr (78 watts)
 - Full configuration: 1058 Btu/hr (310 watts)
 - Acoustical noise emission level: Sound power levels
 - 6.5 bels (idling)
 - 6.5 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 22:2009, 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

Operating systems supported by the product are:

- Microsoft Windows Server 2008 Foundation
- Microsoft Windows Server 2008 R2
- 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
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- VMware ESX 4.1

Related publications

For more information see the following documents:

- IBM System x3250 M4 product page
<http://www.ibm.com/systems/x/hardware/rack/x3250m4/>
- *IBM System x3250 M4 Installation and User's Guide*
<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5088763>
- *IBM System x3250 M4 Problem Determination and Service Guide*
<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5088764>
- ServerProven® hardware compatibility page for the x3250 M4
<http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/2583.html>
- At-a-glance guides for IBM System x servers and options
<http://www.redbooks.ibm.com/portals/systemx?Open&page=atagance>
- 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_x3250_M4

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