

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.

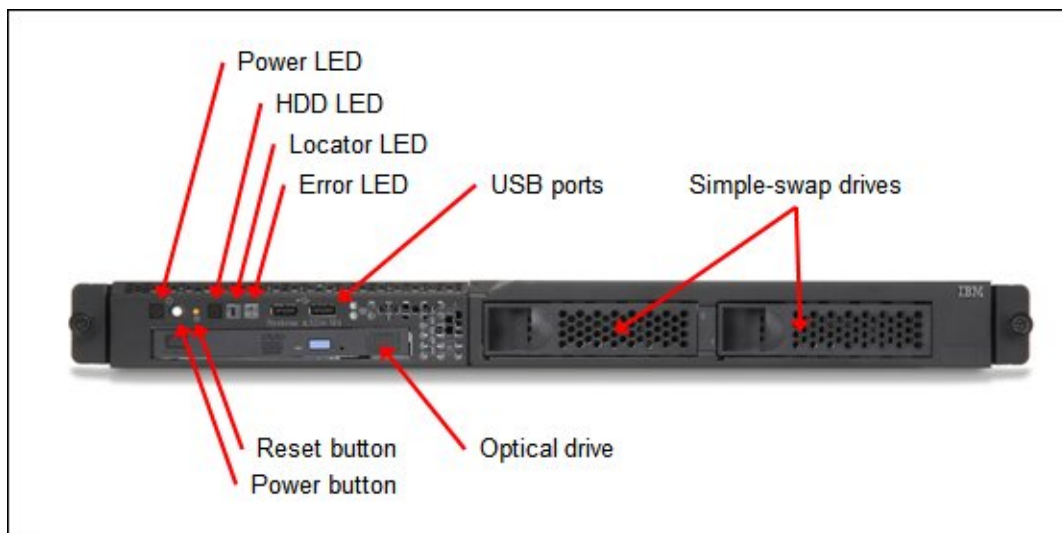


Figure 2. IBM System x3250 M4 rack server (front view)

Figure 3 shows the rear of the server.

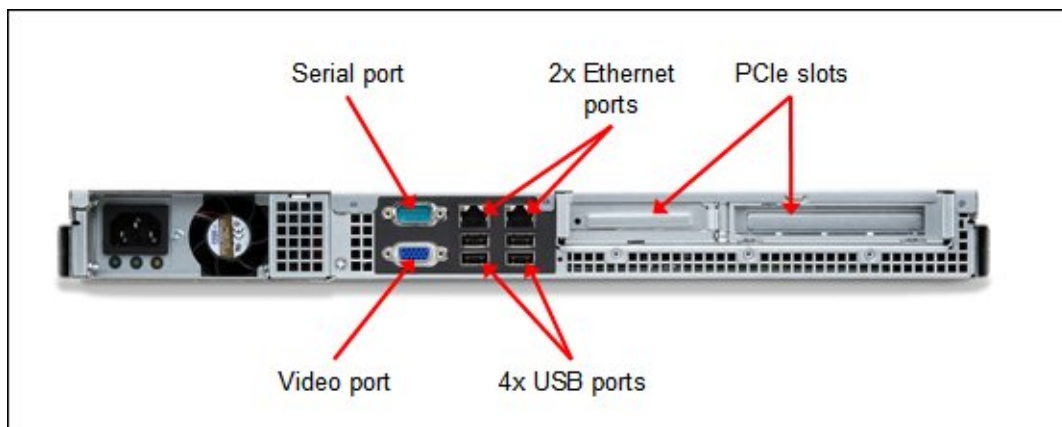


Figure 3. IBM System x3250 M4 rack server (rear view)

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

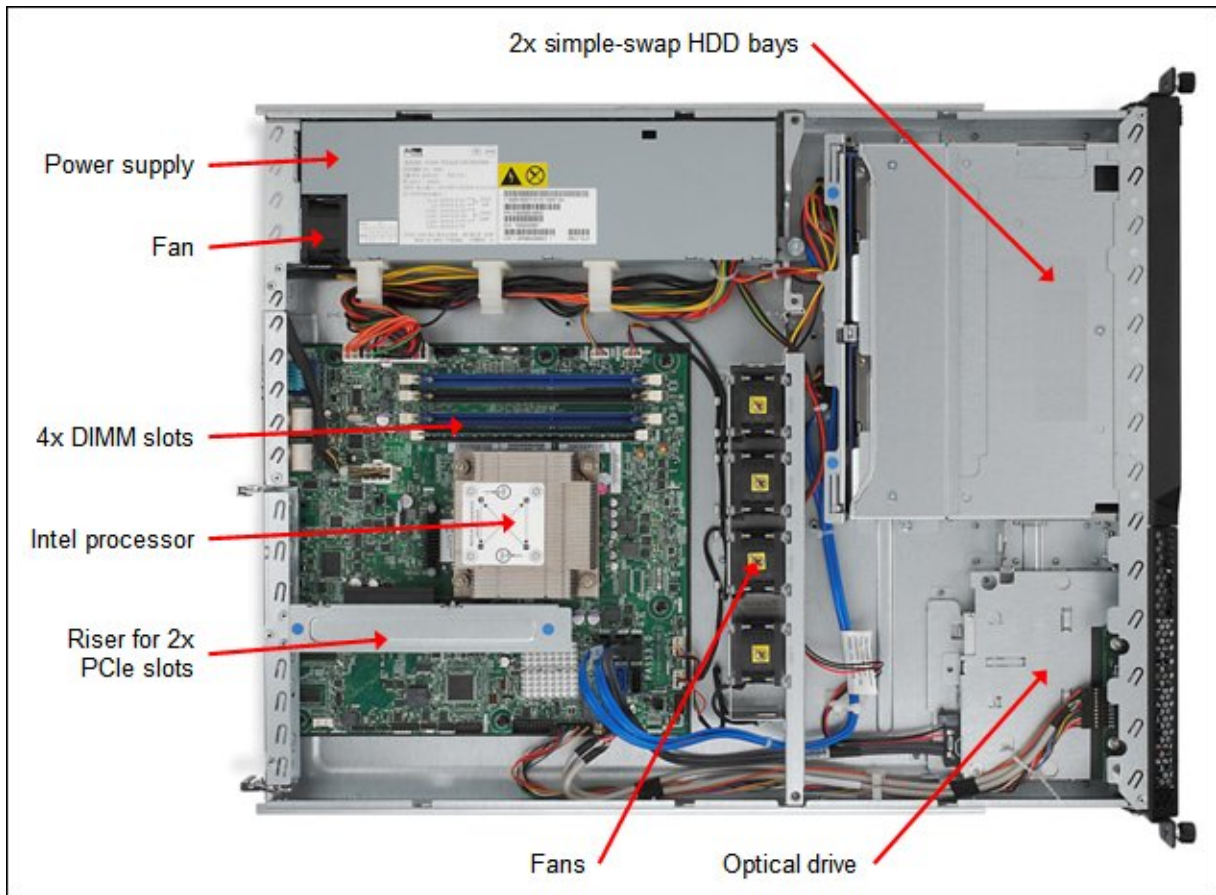


Figure 4. IBM System x3250 M4 rack server (inside view)

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 |
| 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 redundant 460 W AC power supply (model dependent) |
| Hot-swap components | Hot-swap SAS drives (some models) |
| Systems management | UEFI, IBM Integrated Management Module (IMM), 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. |

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

Table 2 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

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

| Model | Intel Processor (one maximum)* | Memory | Disk adapter | HDD bays | Disks | GbE | DVD |
|-------------|---------------------------------------|--------|--------------|------------|--------|-----|-------|
| NA & LA | | | | | | | |
| 2583-EAU | 1x Xeon E3-1230 3.2GHz 4C 8MB 1333MHz | 1x 2GB | C100 | 2x 3.5" SS | 2x250† | 2 | Multi |
| 2583-EBU | 1x Xeon E3-1270 3.4GHz 4C 8MB 1333MHz | 1x 4GB | C100 | 2x 3.5" SS | Open | 2 | Multi |
| NE & SW IOT | | | | | | | |
| 2583-E1G | 1x Corei3-2100 3.1GHz 2C 3MB 1333MHz | 1x 2GB | C100 | 2x 3.5" SS | Open | 2 | Multi |
| 2583-E2G | 1x Xeon E3-1220 3.1GHz 4C 8MB 1333MHz | 1x 2GB | C100 | 2x 3.5" SS | Open | 2 | Multi |
| 2583-E3G | 1x Xeon E3-1230 3.2GHz 4C 8MB 1333MHz | 1x 4GB | C100 | 2x 3.5" SS | 1x250† | 2 | Multi |
| CEE & MEA | | | | | | | |
| 2583-E2G | 1x Xeon E3-1220 3.1GHz 4C 8MB 1333MHz | 1x 2GB | C100 | 2x 3.5" SS | Open | 2 | Multi |
| RCIS | | | | | | | |
| 2583-E2G | 1x Xeon E3-1220 3.1GHz 4C 8MB 1333MHz | 1x 2GB | C100 | 2x 3.5" SS | Open | 2 | Multi |
| 2583-E4G | 1x Xeon E3-1240 3.3GHz 4C 8MB 1333MHz | 1x 4GB | C100 | 2x 3.5" SS | Open | 2 | Multi |

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

† These models have either one or two 250 GB SATA drives, as indicated.

Processor options

The server supports only one processor, which is already installed in all standard and Express models. No additional processor options are available. Table 4 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 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. Table 5 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)

Table 6 lists the hard drive options available for internal disk storage in the x3250 M4 server. The intermixing of SAS and SATA drives is not 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 | 2 |
| 39M4514 | 500 GB 7200 RPM 3.5" Simple-Swap SATA II | 2 |
| 43W7750 | IBM 250 GB 7.2K SATA 3.5" Simple-Swap HDD | 2 |
| None* | IBM Server 1 TB 7200 SATA 3.5" Simple Swap HDD | 2 |
| 42D0787 | IBM 2 TB 7200 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 |
| 49Y1996 | IBM 146 GB 15K 6 Gbps SAS 2.5" SFF SS HDD | 4 |
| 49Y2027 | IBM 600 GB 10K 6 Gbps SAS 2.5" SFF SS HDD | 4 |
| 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 | | |
| 42D0707 | IBM 500GB 7200 6Gbps NL SAS 2.5" SFF Slim-HS HDD | 4 |
| 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 |
| 49Y2003 | IBM 600GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD | 4 |

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

Table 7 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 Table 8.

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 Table 9.

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 |
| 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 |
| 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: PCI-E x4 Gen 2 (for use only by the optional BR10il v2 controller)
- Slot 2: PCI-E 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

Table 10 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 |

Storage host bus adapters

Table 11 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

The server supports one fixed 300 W AC power supply. Standard models ship with one 2.8-m C13 - C14 power cord.

Remote management

The server contains IBM 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

Integrated virtualization

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

Uninterruptible power supply units

The server supports the attachments to the uninterruptible power supply (UPS) units listed in Table 12.

Table 12. Uninterruptible power supply units

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

Power distribution units

The server supports attachments to the power distribution units (PDUs) listed in Table 13.

Table 13. 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) |

Table 13. Power distribution units (part 2)

| Part number | Description |
|----------------|---|
| 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 32 amp/250 V Front-end PDU with IEC 309 2P+Gnd connector |
| 39Y8935 | DPI 63 amp/250 V Front-end PDU with IEC 309 2P+Gnd connector |
| 39Y8938 | 30 amp/125 V Front-end PDU with NEMA L5-30P connector |
| 39Y8939 | 30 amp/250 V Front-end PDU with NEMA L6-30P connector |
| 39Y8940 | 60 amp/250 V Front-end PDU with IEC 309 60A 2P+N+Gnd connector |
| 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 |

Racks cabinets

The server supports the rack cabinets listed in Table 14.

Table 14. 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 15.

Table 15. 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® 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 Table 16.

Table 16. 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

- Microsoft Windows Server 2008 R2
- 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 Small Business Server 2008 Premium Edition
- Windows Small Business Server 2008 Standard 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

Red Hat

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

VMware

- 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/index.html>
- *IBM System x3250 M4 Installation and User's Guide*
<http://ibm.com/support>
- *IBM System x3250 M4 Problem Determination and Service Guide*
<http://ibm.com/support>
- 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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