IBM System x3100 M4

IBM System x at-a-glance guide

The System x3100 M4 single socket tower 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 mini 4U form factor with a competitive price. The IBM System x3100 M4 provides next-generation performance in an innovative and compact design with flexible configuration options, built-in security, and systems management capabilities. It leverages the next-generation dual-core and quad-core Intel Xeon processor technology.

Figure 1. The IBM System x3100 M4

Did you know

The System x3100 M4 server is a compact, cost-effective, single-processor tower or rack-mountable 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, remote control capabilities even when the machine is powered off, and Predictive Failure Analysis (PFA) on processor and memory.

Locations of key components

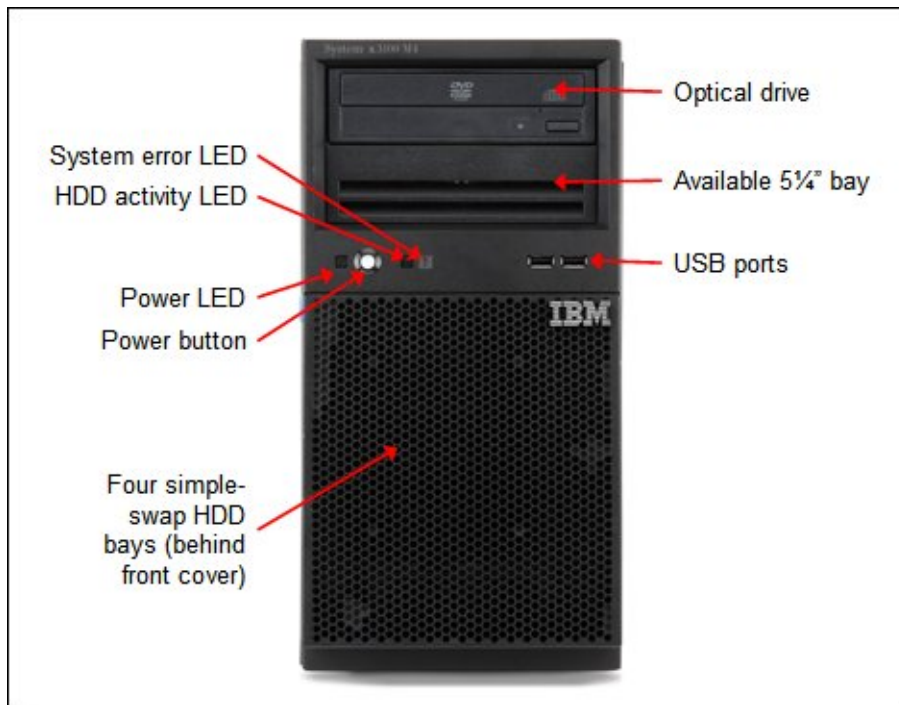Figures 2 and 3 show the front and rear of the server.

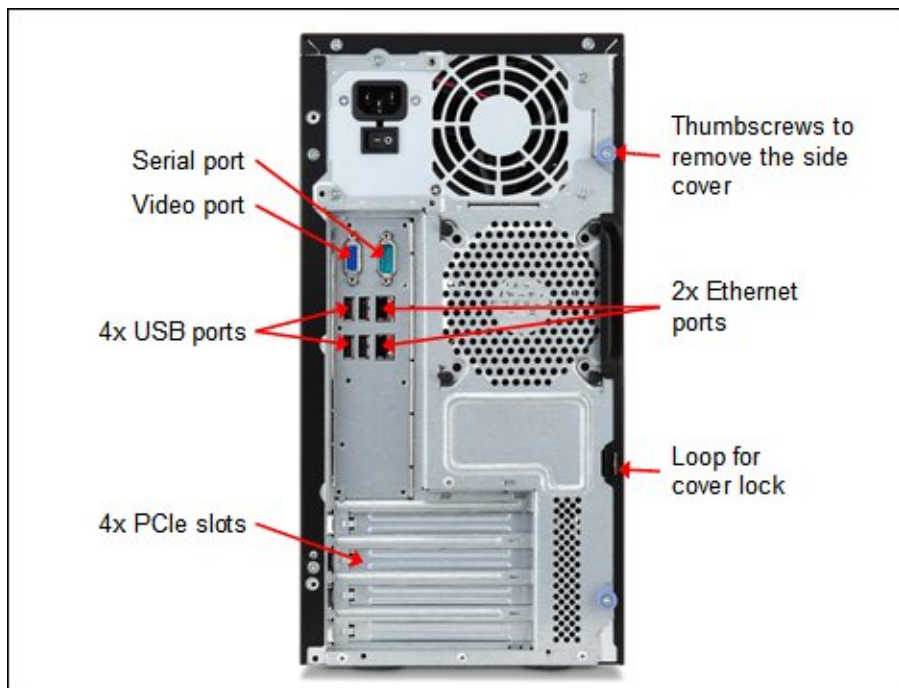Figure 2. Front view of the System x3100 M4

Figure 3. Rear view of the System x3100 M4

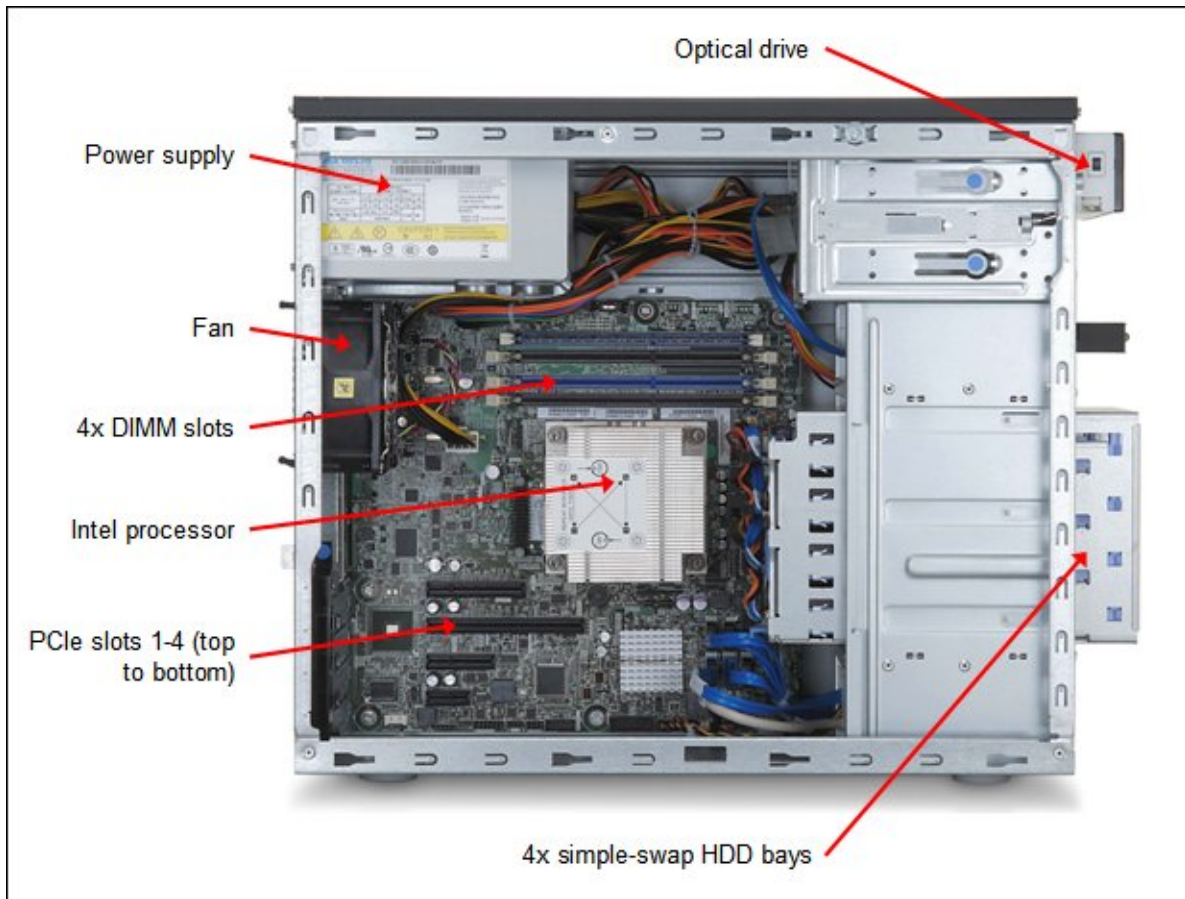Figure 4 shows the locations of key components inside the server.

Figure 4. Inside view of System x3100 M4

Standard specifications

Table 1. Standard specifications (part 1)

Components	Specification
Form factor	Tower (can be a 4U rack form factor using the optional Tower-to-Rack conversion kit).
Processor	One quad-core Intel Xeon E3-1200 series processor (up to 3.5 GHz/8 MB/1333 MHz) or one dual-core Intel Core i3 2100 series processor (up to 3.3 GHz/3 MB/1333 MHz), or Pentium (dual-core) (up to 3.0 GHz/3 MB/1333 Mhz) and low-cost Celeron. 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 DDR3 DIMM slots.
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	Up to four 3.5" Simple Swap SATA HDDs.
Maximum internal storage	Up to 12 TB with 3 TB 3.5" SATA HDDs.
RAID support	Software RAID 0, 1, 10 with ServeRAID C100 controller; hardware RAID 0, 1, 1E with ServeRAID-BR10il v2 or M1015. Optional RAID 5, 50 with ServeRAID M5014. Optional upgrade to RAID 5 is available for M1015 and C100.
Optical drive bay	One 5.25" HH bay, support for DVD-ROM or Multiburner. Half-High SATA DVD-ROM standard in standard models.
Tape drive bays	One 5.25 HH bay, support for DDS, RDX, or LTO.
Network interfaces	Integrated 2 port Gigabit Ethernet (Intel 82574L) / 1 port is shared with IMM.
PCI Expansion slots	Four PCI Express slots: ● Slot 1, PCIe x8 Gen 2, full-height, half-length ● Slot 2, PCIe x16 (x8 wired) Gen 2, full-height, half-length ● Slot 3, PCIe x4 Gen 2, full-height, half-length ● Slot 4, PCIe x1 Gen 2, 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. One internal USB port for internal USB tape drive.
Cooling	One speed-controlled non-redundant fan.
Power supply	One fixed 350 W AC or 300 W AC 80Plus Bronze power supply (model dependent)
Hot-swap components	None.
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	One-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/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: 360 mm (14.2 in); width: 180 mm (7.1 in); depth: 480 mm (18.9 in)
Weight	Minimum configuration: 10 kg (22.0 lb), Maximum configuration: 13 kg (28.7 lb)

The x3100 M4 servers are shipped with the following items:

- Statement of Limited Warranty.
- Important Notices.
- Documentation CD that contains the *Installation and User's Guide.*
- IBM Systems Director 6.2 Base for x86 DVD-ROM.
- Country-specific models might have one country-specific line 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	Power supply
2582-32x	1x Pentium G850 2.9GHz 2C 3MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	Open	2	DVD	1x 350W
2582-42x	1x Corei3-2100 3.1GHz 2C 3MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	Open	2	DVD	1x 350W
2582-62x	1x Xeon E3-1220 3.1GHz 4C 8MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	Open	2	DVD	1x 350W
2582-82x	1x Xeon E3-1270 3.4GHz 4C 8MB 1333MHz	1x 4 GB	C100	4x 3.5" SS	Open	2	DVD	1x 300W

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

Express models

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

Table 3. Express models

Model	Intel Processor* (one maximum)	RAM	Disk adapter	HDD bays	Disks	Gb	DVD	Power
Region:	NA & LA							
2582-EAU	Corei3-2100 3.1GHz 2C 3MB 1333MHz	1x 1 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
2582-EBU	Corei3-2120 3.3GHz 2C 3MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
2582-ECU	Xeon E3-1220 3.1GHz 4C 8MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
2582-EDU	Xeon E3-1230 3.2GHz 4C 8MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
Region:	NE & SW & CEE & MEA							
2582-E1U	Corei3-2100 3.1GHz 2C 3MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
2582-E2U	Xeon E3-1220 3.1GHz 4C 8MB 1333MHz	1x 2 GB	C100	4x 3.5" SS	1x 250	2	DVD	1x 350W
2582-E3U	Xeon E3-1230 3.2GHz 4C 8MB 1333MHz	1x 4 GB	C100	4x 3.5" SS	1x 250	2	Multi	1x 350W

* Processor detail: Processor quantity, processor model, core speed, number of cores, L3 cache, front-side bus 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 x3100 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 MB 1333 MHz DDR3 65 W	42x
None*	Intel Corei3-2120, 3.3 GHz 2C 3 MB 1333 MHz DDR3 65 W	-
None*	Intel Core i3-2130 3.4GHz 2C 3MB cache 1333MHz 65W	A2X
None*	Intel Xeon E3-1220 3.1 GHz 4C 8 MB 1333 MHz DDR3 80 W	62x
None*	Intel Xeon E3-1220L 2.2 GHz 2C 3 MB 1333 MHz DDR3 20 W	-
None*	Intel Xeon E3-1230 3.2 GHz 4C 8 MB 1333 MHz DDR3 80 W	-
None*	Intel Xeon E3-1240 3.3 GHz 4C 8 MB 1333 MHz DDR3 80 W	-
None*	Intel Xeon E3-1260L 2.3 GHz 4C 8 MB 1333 MHz DDR3 45 W	-
None*	Intel Xeon E3-1270 3.4 GHz 4C 8 MB 1333 MHz DDR3 80 W	82x
None*	Intel Xeon E3-1280 3.5 GHz 4C 8 MB 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 x3100 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, 1.5 V) 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	82x
90Y3165	8GB (4Gb, 2Rx8, 1.5V) PC3-10600 DDR3-1333 LP UDIMM	4	-

Internal disk storage options

The IBM System x3100 M4 server supports up to four 3.5" simple-swap SATA hard drives. The following table lists the supported hard drive options.

Table 6. 3.5" Simple-Swap SATA disk drive options

Part number	Description	Maximum quantity supported
39M4514	500 GB 7200 RPM 3.5" Simple-Swap SATA II	4
43W7750	IBM 250GB 7.2K SATA 3.5" Simple-Swap HDD	4
43W7622	IBM 1TB 7200 SATA 3.5" Simple Swap HDD	4
42D0787	IBM 2 TB 7200 NL SATA 3.5" SS HDD	4
81Y9778	IBM 3TB 7.2K 6Gbps SATA 3.5" SS HDD	4

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

The Integrated ServeRAID C100 disk controller offers RAID 0, 1, and 10 standard. RAID 5 is optional. The following table lists the RAID controller additional options supported by the server.

Table 7. RAID controllers for internal storage

Part number	Description	Maximum quantity supported	Standard models where used
49Y4731	ServeRAID-BR10il SAS/SATA Controller v2	1	-
46M0831	ServeRAID M1015 SAS/SATA Controller	1	-
46M0832	ServeRAID M1000 Series Advance Feature Key	1	-
46M0916	ServeRAID M5014 SAS/SATA Controller	1	-

Only one RAID controller can be used with the server to support internal HDDs. Features of the supported RAID controllers are listed 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 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 supports the internal tape drive options listed in the following table. Internal tape drives are installed in a 5.25" HH bay. A maximum of one tape drive is supported. SAS tape drives require SAS HBA to be installed in server. USB tape drives are connected to the dedicated USB tape drive connector on the system board.

Table 8. Internal tape drives

Part number	Description	Maximum quantity supported
46C5399	IBM DDS Generation 5 USB Tape Drive	1
39M5636	IBM DDS Generation 6 USB Tape Drive	1
43W8478	IBM Half High LTO Gen 3 SAS Tape Drive	1
44E8895	IBM Half High LTO Gen 4 SAS Tape Drive	1
46C5364	IBM RDX Removable Hard Disk System - Internal USB 160 GB Bundle	1
46C5387	IBM RDX Removable Hard Disk System - Internal USB 320 GB Bundle	1
46C5388	IBM RDX Removable Hard Disk System - Internal USB 500 GB Bundle	1

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

- *IBM RDX Removable Disk Backup Solution* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0726.html?Open

- *IBM DDS Generation 5 USB Tape Drive* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0755.html?Open

- *IBM DDS Generation 6 USB Tape Drive* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0725.html?Open

Optical drives

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

Table 9. Optical drives

Part number	Description	Maximum quantity supported	Standard models where used
None*	Half-High SATA DVD-ROM	1	32x, 42x, 62x, 82x
None*	Half-High SATA Multi-Burner	1	-

* This option is only available via CTO or is already installed in standard models.

The Half-High SATA DVD-ROM supports the following media and speeds for reading:

- CD-ROM 48X
- CD-DA (DAE) 40X
- CD-R 48X
- CD-RW 40X
- DVD-ROM (single layer) 16X
- DVD-ROM (dual layer) 12X
- DVD-R (4.7 GB) 16X
- DVD-R DL 12X
- DVD+R 16X
- DVD+R DL 12X
- DVD-RW (4.7 GB) 12X
- DVD+RW 12X
- DVD-RAM (4.7/9.4 GB) 6X

The Half-High SATA Multi-Burner supports the same media and speeds for reading as HH DVD-ROM. 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
- DVD-R 8X
- DVD-R DL 8X
- DVD+R 8X
- DVD+R DL 8X
- DVD-RW 6X
- DVD+RW 8X
- DVD-RAM 3X

External disk storage expansion

The x3100 M4 server currently does not support external disk storage expansion.

External tape backup

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

Table 10. 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 Line Cord)
8767HNX	Half High Tape Drive Enclosure (with Nema 5-15P Line Cord)
Tape enclosure adapters (with cables)	
44E8869	USB Enclosure Adapter Kit
40K2599	SAS Enclosure Adapter Kit
Internal tape drives supported by external tape enclosures	
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
46C5399	IBM DDS Generation 5 USB Tape Drive
39M5636	IBM DDS Generation 6 USB Tape Drive
43W8478	IBM Half High LTO Gen 3 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	
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)

I/O expansion options

The server offers four PCI Express 2.0 expansion slots. The form-factors of available slots are:

- Slot 1, PCIe x8 Gen 2, full-height, half-length
- Slot 2, PCIe x16 (x8 wired) Gen 2, full-height, half-length
- Slot 3, PCIe x4 Gen 2, full-height, half-length
- Slot 4, PCIe x1 Gen 2, full-height, half-length

Network adapters

The x3100 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 11. Network adapters

Part number	Description	Maximum quantity supported
Gigabit Ethernet		
42C1780	NetXtreme II 1000 Express Dual Port Ethernet Adapter	3
49Y4220	NetXtreme II 1000 Express Quad Port Ethernet Adapter	3
49Y4230	Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	3
49Y4240	Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	3
10 Gigabit Ethernet		
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	3
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	3

Storage host bus adapters

The following table lists the storage host bus adapters (HBAs) supported by x3100 M4 server.

Table 12. Storage adapters

Part number	Description	Maximum quantity supported
Fibre Channel		
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
Converged Network Adapters (CNA)*		
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	2
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	2
SAS		
46M0907	IBM 6 Gb SAS HBA Controller	2

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

PCIe SSD adapters

The server does not support High IOPS SSD adapters.

Power supplies

Models of the x3100 M4 include one fixed 350 W AC power supply or one fixed 300 W AC *80 Plus Bronze* power supply, as listed in Tables 2 and 3.

Integrated virtualization

The x3100 M4 currently does not support VMware ESXi embedded virtualization.

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)

Top-of-rack Ethernet switches

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

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

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. Tower-to-Rack Conversion Kit (part number 69Y5182, 4U Tower to Rack Conversion Kit for x3100 M4) is required for the server to be installed in the rack.

Table 16. Rack cabinets

Part number	Description
69Y5182	Tower to 4U Rack Conversion Kit for IBM System x3100 M4
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

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
40K9584	IBM Preferred Pro Keyboard USB - US English 103P
40K5372	IBM Rack Mountable Keyboard & Pointing Device - 3m Cable - Black - USB - US English 103P
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 x3100 M4, machine type 2582, has a 1-year onsite warranty with 9x5/NBD 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:
https://www-304.ibm.com/sales/gss/download/spst/servicepac

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/NBD 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

The following table explains warranty service definitions in more detail.

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.

Physical and electrical specifications

Dimensions and weight:

- Height: 360 mm (14.2 in)
- Width: 180 mm (7.1 in)
- Depth: 480 mm (18.9 in)
- Weight::
  - Minimum ship configuration: 10 kg (22.0 lb)
  - Maximum ship configuration: 13 kg (28.7 lb)

Supported environment:

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

Electrical:

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 7.0 A
- 200 - 240 (nominal) V ac; 50 - 60 Hz; 3.5 A
- Input kilovolt-amperes (kVA) (approximately)
  - Minimum configuration: 0.095 kVA
  - Maximum configuration: 0.435 kVA
- Btu output
  - Ship configuration: 324 Btu/hr (95 watts)
  - Full configuration: 1484 Btu/hr (435 watts)
- Noise level
  - 4.5 bels (idle)
  - 4.8 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

The server supports the following operating systems:

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

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 x3100 M4 product page
  http://www.ibm.com/systems/x/hardware/tower/x3100m4/index.html

- *IBM System x3100 M4 Installation and User's Guide*
  http://ibm.com/support

- *IBM System x3100 M4 Problem Determination and Service Guide*
  http://ibm.com/support

- ServerProven® hardware compatibility page for the x3100 M4
  http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/2582.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_x3100_M4

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