Lenovo System x3100 M5
Product Guide

The System x3100 M5 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 innovative features with a competitive price, either in a compact mini-tower form factor, or standard tower form factor with hot-swap power supplies and disk drives. The System x3100 M5 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.

Suggested uses: Retail/kiosks, and SMBs, looking for file and printer servers, web serving, small business infrastructure, and virtual desktops for small workgroups.

Figure 1. The System x3100 M5 server (compact mini-tower shown)

Did you know?

The System x3100 M5 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 Intel Xeon E3-1200 v3 "Haswell" family of processors for applications that require performance and stability, and Core i3, Pentium, and Celeron processors for applications that require lower cost.

The system includes features that are not typically seen in this class of system, such as standard, embedded RAID 0 and RAID 1, remote control capabilities even when the machine is powered off, and Predictive Failure Analysis (PFA) on processor and memory. Some models also support hot-swap redundant power supplies and hot-swap disk drives.

Key features

Often, small-to-medium sized businesses (SMBs) have limited IT budget and resources, and rely on partners or multitalented employees to help manage the company's network. Business needs for efficiency improvement and retention of critical data require the usage of a server that is easy to get up and running quickly and is dependable. You need to squeeze as much as possible out of your IT dollars while saving costs on features that are not needed in an SMB environment. The System x3100 M5 is an ideal first server to meet those business needs. It was built for speed, yet eliminates costly design features that are found in general-purpose servers that are unnecessary for smaller businesses.

Scalability and performance

The x3100 M5 offers numerous features to boost performance, improve scalability, and reduce costs:

- The single-socket x3100 M5 supports the quad-core Intel Xeon Processor E3-1200 v3 ("Haswell") family of processors, which offer impressive computing power in a space-saving mini-tower design.
- Choice of processors with up to four cores to enable the effective usage of multi-threaded applications.
- Intel Xeon E3-1200 v3 processors supported by the server (with the exception of E3-1220 v3) support Intel Hyper-Threading Technology and Intel Turbo Boost Technology 2.0 to maximize performance.
- Up to 32 GB of high-speed DDR3 system memory with four DIMM sockets.
- Memory speeds up to 1600 MHz.
- Four available high-performance PCI Express 3.0 or 2.0 slots.
- Up to four internal 3.5-inch simple-swap or hot-swap SATA II HDDs on some models offer low-cost/high-capacity storage.
- Up to eight internal 2.5-inch hot-swap SAS/SATA HDDs on some models offers maximum scalability and performance.
- Integrated ServeRAID-C100 software RAID controller supports RAID 0, 1, and 10. Hardware RAID options are available.
- Integrated dual-port Gigabit Ethernet provides increased network throughput and redundancy with efficient slot-saving integration.
- An available 5.25-inch drive bay supports either a half-high tape drive or an RDX Removable Disk Cartridge drive, for cost-effective data backup. A DVD-ROM drive is standard in a dedicated bay.
- Seven USB ports, two USB 3.0 on the front and four USB 2.0 on the back. In addition, there is one internal port for use with a tape drive or RDX Removable Disk Cartridge drive.

Availability and serviceability

The x3100 M5 provides many features to simplify serviceability and increase system uptime:

- ECC memory provides error correction that is not available in PC-class "servers" that use parity memory. Avoiding system crashes (and data loss) because of soft memory errors can mean greater system uptime.
- Tool-less cover removal provides easy access to upgrades and serviceable parts, such as CPU, memory, and adapters.
- Hot-swap drive bays that are available on some models combined with RAID capabilities offer the potential of no downtime in the event of a drive failure.
- The Predictive Failure Analysis (PFA) detects when system components (for example, processors, memory, and hard disk drives) operate outside of standard thresholds and generates pro-active alerts in advance of possible failure, therefore increasing uptime.
- Built-in Integrated Management Module Version II (IMM2) continuously monitors system health, triggers alerts, and performs recovering actions in case of failures to minimize downtime.

- Built-in diagnostic tests using Dynamic Systems Analysis (DSA) Preboot speeds up troubleshooting tasks to reduce service time.
- A DVD-ROM drive is standard in a dedicated bay for easy software installation.
- Redundant hot-swap power supports on some models helps keep the server always running
- One-year customer replaceable unit and onsite limited warranty, next business day 9x5. Optional service upgrades are available.

Manageability and security

Powerful systems management features simplify local and remote management of the x3100 M5:

- The server includes an Integrated Management Module II (IMM2) to monitor server availability and perform remote management (some features require optional license upgrades).
- Integrated industry-standard Unified Extensible Firmware Interface (UEFI) enables improved setup, configuration, and updates, and simplifies error handling.
- Integrated Trusted Platform Module (TPM) 1.2 support enables advanced cryptographic functions, such as digital signatures and remote attestation.
- Intel Xeon Processor E3-1200 v3 family supports Industry-standard Advanced Encryption Standard (AES) NI support for faster, stronger encryption.
- IBM Systems Director is included for proactive systems management. It offers comprehensive systems management tools that help to increase up-time, reduce costs, and improve productivity through advanced server management capabilities.
- The Intel Execute Disable Bit function can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system.

Energy efficiency

The x3100 M5 offers the following energy-efficiency features to save energy, reduce operational costs, increase energy availability, and contribute to a green environment:

- Energy-efficient planar components help lower operational costs.
- Available 350 W power supply, 300 W 80 PLUS Bronze certified power supply, or 430 W hot-swap 80 PLUS Silver certified power supply.
- With the addition of the Operating Temperature Enhancement Kit, the server supports the ASHRAE A3 standard, which means the server can operate in temperatures as high as 40°C. This means potential savings in environmental cooling costs.
- The Intel Xeon processor E3-1200 v3 product family offers significantly better performance over the previous generation while fitting into the same thermal design power (TDP) limits.
- Low-voltage Intel Xeon processors draw less energy to satisfy demands of power and thermally constrained data centers and telecommunication environments.
- The server uses hexagonal ventilation holes, a part of Calibrated Vectored Cooling™ technology. Hexagonal holes can be grouped more densely than round holes, providing more efficient airflow through the system.

Locations of key components

The x3100 M5 is available in two different tower designs: a compact tower with a fixed power supply and simple-swap drive bays, or a standard tower with hot-swap power supplies and hot-swap drive bays. Figures 2 and 3 show the front and rear of the x3100 M5.
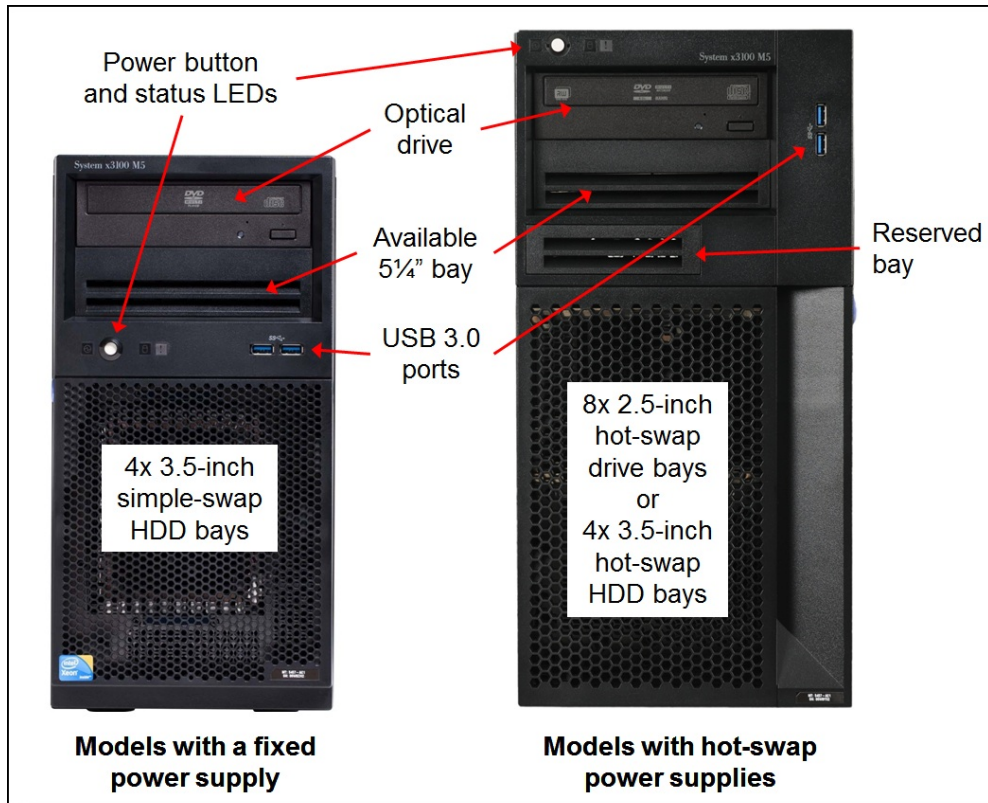
Figure 2. Front view of the System x3100 M5 - compact tower and standard tower
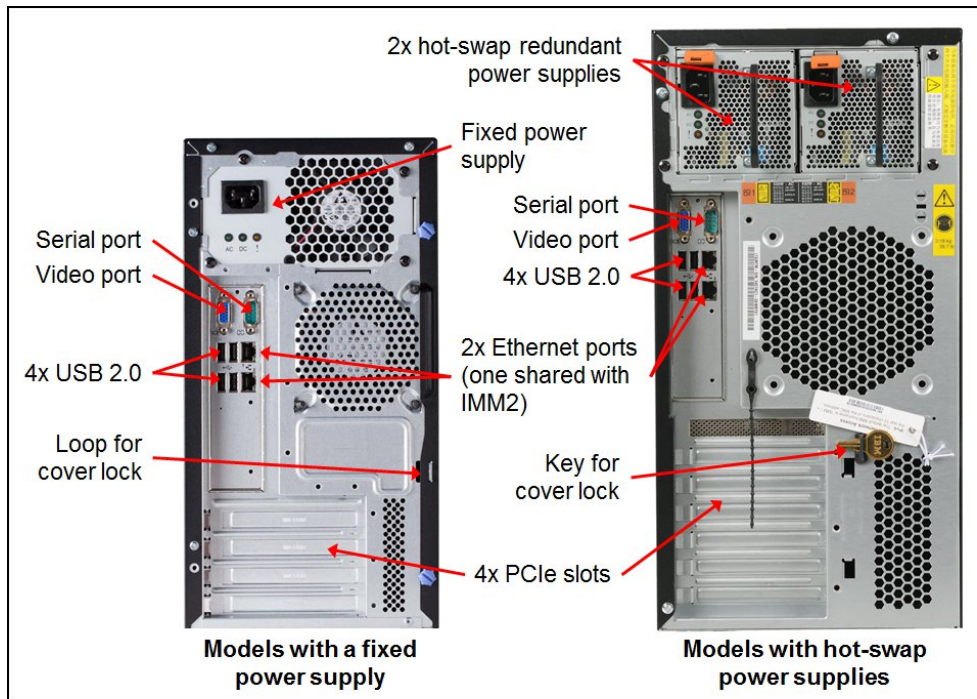

Figure 3. Rear view of the System x3100 M5 - compact tower and standard tower

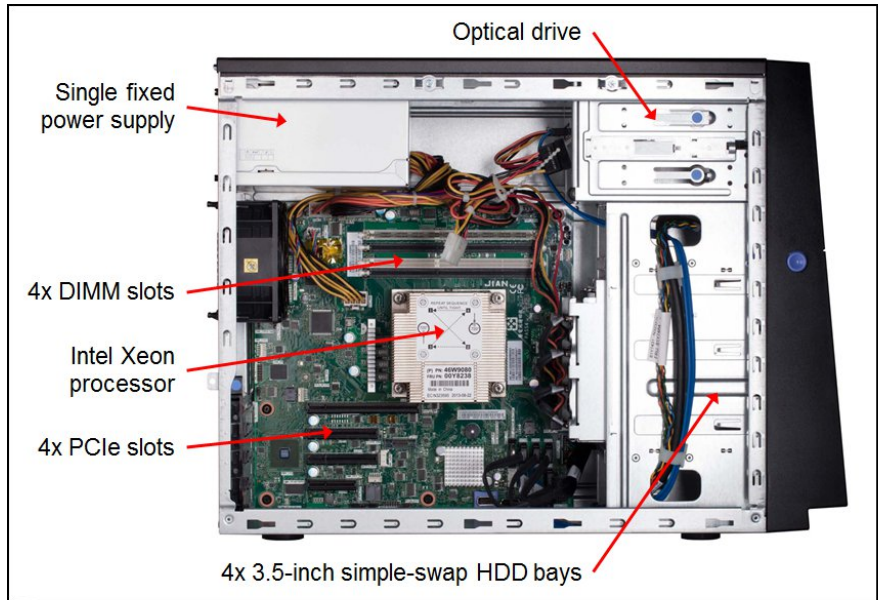Figures 4 and 5 show the locations of key components inside the server.

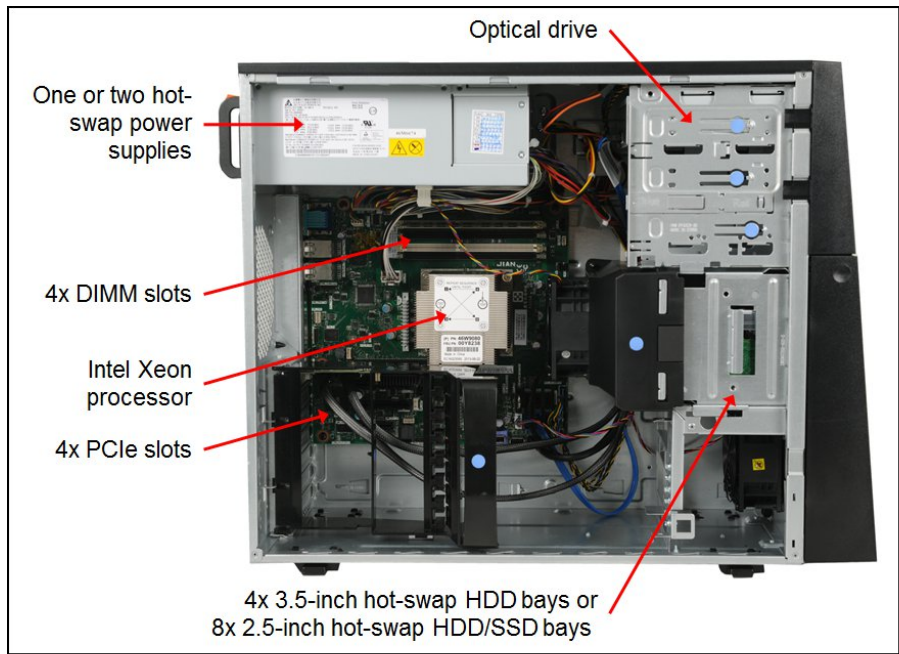Figure 4. Inside view of System x3100 M5 - compact tower configuration

Figure 5. Inside view of System x3100 M5 - standard tower configuration

Standard specifications

The following table lists the standard specifications.

Table 1. Standard specifications

Components	Specification
Machine type	5457
Form factor	Two designs: • Compact tower (can be a 4U rack form factor using the optional Tower-to-Rack Conversion Kit, 69Y5182). • Standard Tower (can be a 5U rack form factor using the optional Tower-to-Rack Conversion Kit, 00J6353).
Processor	One Intel "Haswell" processor as listed in model table or available CTO: • One 2-core Intel Celeron Processor 2.8 GHz and 1333 MHz memory. • One 2-core Intel Pentium Processor up to 3.4 GHz and 1600 MHz memory. • One 2-core Intel Core i3 Processor up to 3.7 GHz and 1600 MHz memory. • One 2 or 4-core Intel Xeon E3-1200 v3 up to 3.7 GHz & 1600 MHz memory. Supports EM64T for 32-bit and 64-bit operating systems and applications.
L3 cache	Integrated in the processor: • Up to 2 MB for Intel Celeron processors. • Up to 3 MB L3 for Intel Pentium processors. • Up to 4 MB L3 for Intel Core i3 processors. • Up to 8 MB L3 for Intel Xeon E3-1200 v3 processors.
Chip set	Intel C222, formerly known as Intel Lynx Point PCH and Intel Denlow platform.
Memory DIMM slots	Four DDR3 DIMM slots supporting UDIMMs. RDIMMs are not supported.
Memory capacity	Up to 32 GB with 8 GB DDR3 UDIMMs and four populated DIMM slots.
Memory protection	ECC.
Disk drive bays	Compact tower: Up to four 3.5" simple-swap bays Standard tower: Up to four 3.5" hot-swap bays (HDDs) or eight 2.5" hot-swap bays (HDDs or SSDs)
Maximum internal storage	Compact tower: Up to 8 TB with 2 TB 3.5" simple-swap NL SATA HDDs. Standard tower: Up to 24 TB with 6 TB 3.5" hot-swap NL SATA HDDs or up to 8 TB with 1 TB 2.5" hot-swap NL SAS HDDs or upto 12.8 TB with 1.6 TB 2.5" hot-swap SSDs
RAID support	Software RAID 0, 1, or 10 with ServeRAID C100 controller, upgradeable to RAID 5. Optional hardware RAID with ServeRAID H1110 (RAID 0, 1, 1E, or 10) or M1115 (RAID 0, 1, 10, optional RAID 5, or 50) or M5110 (RAID 0, 1, 10, optional 5, 50, 6, or 60, and optional cache with flash backup). Additional upgrades for M5110. *For compact tower*: using the hardware RAID adapter also requires a RAID upgrade kit (00J6352).
Optical drive bays	One 5.25" HH bay, support for DVD-ROM or multiburner. Half-High SATA DVD-ROM or multiburner included in standard models (model specific).
Tape drive bays	One 5.25" HH bay, support for DDS, RDX, or LTO drive.
Network interfaces	Integrated two-port Gigabit Ethernet (Broadcom BCM5717). One port is shared with the Integrated Management Module (IMM).

Components	Specification
PCI expansion slots	Four PCI Express slots: • Slot 1, PCIe 3.0 x16 (x8 wired), full-height, half-length. • Slot 2, PCIe 3.0 x8 (x8 wired), full-height, half-length. • Slot 2, PCIe 2.0 x8 (x4 wired), full-height, half-length. • Slot 4, PCIe 2.0 x4 (x1 wired), full-height, half-length.
Ports	*Front*: Two USB 3.0 ports. *Rear*: Four USB 2.0, one DB-15 video, one DB-9 serial, two RJ-45 Gigabit Ethernet network ports (one dedicated and one shared with the IMM2 management processor). *Internal*: One USB 2.0 port for internal USB tape drive.
Cooling	*Compact tower*: Up to two speed-controlled non-redundant fans. A second fan is required if two or more adapters are installed (Thermal Solution Fan kit, 46W9177, optional). Optional Operating Temperature Enhancement Kit, 00Y8197, to enable the server to operate in a 40°C environment. *Standard tower*: Up to two speed-controlled non-redundant fans. A second fan is required if two or more adapters are installed (Thermal Solution Fan kit, 00Y8200, included in standard models). Optional Operating Temperature Enhancement Kit, 00FK940, to enable the server to operate in a 40°C environment.
Power supply	*Compact tower*: One fixed (non-hot-swap) power supply, model dependent: Either 300 W ac 80 PLUS Bronze power supply or 350 W ac power supply. *Standard tower*: Up to two 430 W hot-swap 80 PLUS Silver redundant power supplies.
Hot-swap parts	*Compact tower*: None. *Standard tower*: Disk drive bays and power supplies.
Systems management	UEFI, Integrated Management Module II (IMM2), basic light path diagnostic tests, Automatic Server Restart, IBM Systems Director, and ServerGuide. Optional IMM Advanced FoD Upgrade for remote presence (graphics, keyboard and mouse, and virtual media).
Video	Matrox G200eR2 with 16 MB memory that is integrated into the IMM2. Maximum resolution is 1600x1200 at 75 Hz with 16 M colors.
Security features	Power-on password, administrator password, and Trusted Platform Module.
Operating systems supported	Microsoft Windows Server 2008 R2, 2012, 2012 R2; RHEL 5, 6 & 7; SLES 11 & 12; VMware ESX 5.1, 5.5 & 6.0
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 available through ServicePac offerings: 24x7/NBD or four hours onsite repair, 1-year or 2-year warranty extension, remote technical support for Lenovo hardware and selected Lenovo and third-party (Microsoft, Linux, VMware) software.
Dimensions	Compact tower: Height: 360 mm (14.2"), width: 180 mm (7.1"), depth: 480 mm (18.9") Standard tower: Height: 439 mm (17.3"), width: 217 mm (8.6"), depth: 569 mm (22.4")
Weight	Compact tower: Minimum configuration: 10 kg (22.0 lb), maximum: 13 kg (28.7 lb) Standard tower: Minimum configuration: 19.6 kg (43 lb), maximum: 22 kg (48.5 lb)

Standard models

The following table lists the standard models.

Table 2. Standard models

Model	Intel Processor** (one maximum)	Memory	RAID controller	Disk bays	Disks	Network	Optical	Power supply	Fans
Compact tower form factor - simple-swap drives and fixed power supply									
5457-A3x	Pentium G3440 3.3GHz 3MB 1600MHz 2C (54W)	1x 4 GB 1600 MHz	ServeRAID C100	4x 3.5" SS	Open	2x GbE	DVD	1x 350W fixed	1 / 2
5457-B3x	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 4 GB 1600 MHz	ServeRAID C100	4x 3.5" SS	Open	2x GbE	DVD	1x 350W fixed	1 / 2
5457-C3x	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 4 GB 1600 MHz	ServeRAID C100	4x 3.5" SS	Open	2x GbE	DVD	1x 300W fixed	1 / 2
5457-A5G EMEA only*	Pentium G3440 3.3GHz 3MB 1600MHz 2C (53W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	DVD	1x fixed 300W	1 / 2
5457-B5G EMEA only*	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	DVD	1x fixed 300W	1 / 2
Standard tower form factor - hot-swap drives and power supplies									
5457-C5x	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 4 GB 1600 MHz	ServeRAID H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x 430W hot-swap	2 / 2
5457-F3x	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	1x 4 GB 1600 MHz	ServeRAID M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	1x 430W hot-swap	2 / 2

* Models A5G and B5G are only for certain countries in Europe
** Processor detail: Processor quantity, processor model, core speed, number of cores, L3 cache, memory speed, and thermal design power (TDP) rating

Models include the following items:

- 2.8m power cord, country specific (except for models A5G and B5G, where no power cords are included and must be ordered separately)
- Important Notices Flyer
- Warranty Flyer
- Documentation CD

Express and TopSeller models

TopSeller and 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 tables list the Express and TopSeller models that are available in certain regions:

- Table 3: Compact tower form factor models
- Table 4: Standard tower form factor models

Table 3. Express and TopSeller models with compact tower form factor

Model	Processor (one maximum)	Memory	RAID	Disk bays	Disks	Network	Optical	Power supply	Fans
North America (NA)									
5457-EAx	Core i3 4150 3.5GHz 3MB 1600MHz 2C (54W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	DVD	1x fixed 350W	1 / 2
5457-EBx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	2x 8 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	Multi-burner	1x fixed 350W	1 / 2

Model	Processor (one maximum)	Memory	RAID	Disk bays	Disks	Network	Optical	Power supply	Fans
5457-ECx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-EDx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	2x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-EFx	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	Multi-burner	1x fixed 350W	1 / 2
Latin America (LA)									
5457-EAx	Core i3 4150 3.5GHz 3MB 1600MHz 2C (54W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	DVD	1x fixed 350W	1 / 2
5457-EBx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	2x 8 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-ECx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-EDx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	2x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-EFx	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	Open	2x GbE	Multi-burner	1x fixed 350W	1 / 2
Europe									
5457-K1G	Core i3 4150 3.5GHz 3MB 1600MHz 2C (54W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	DVD	1x fixed 350W	1 / 2
5457-K2G	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-K4G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 300W	1 / 2
Middle East & Africa (MEA)									
5457-K3G	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	2x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-K4G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 300W	1 / 2
Russia/Commonwealth of Independent States (CIS)									
5457-K1G	Core i3 4150 3.5GHz 3MB 1600MHz 2C (54W)	1x 4 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	DVD	1x fixed 350W	1 / 2
5457-K2G	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 350W	1 / 2
5457-K4G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	C100	4x 3.5" SS	1x 1TB NL SATA	2x GbE	Multi-burner	1x fixed 300W	1 / 2

The following table lists the Express and TopSeller models with standard tower form factor (hot-swap HDDs and power supplies) that are available in certain regions.

Table 4. Express and TopSeller models with standard tower form factor

Model	Processor (one maximum)	Memory	RAID	Disk bays	Disks	Network	Optical	Power supply	Fans
North America (NA)									
5457-EEx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EGx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	1x 300GB 10K SAS	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EHx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2

Model	Processor (one maximum)	Memory	RAID	Disk bays	Disks	Network	Optical	Power supply	Fans
5457-EJx	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EKx	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	2x 8 GB 1600 MHz	M5110	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
Latin America (LA)									
5457-EEx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EGx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	1x 300GB 10K SAS	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EHx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-EJx	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EKx	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	2x 8 GB 1600 MHz	M5110*	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
Europe									
5457-EEx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EHx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K5G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-K6G	Xeon E3-1241 v3 3.5GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-K7G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K8G	Xeon E3-1241 v3 3.5GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K9G	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
Russia/Commonwealth of Independent States (CIS)									
5457-EEx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	8x 2.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-EHx	Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K5G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-K6G	Xeon E3-1241 v3 3.5GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	H1110	4x 3.5" HS	Open	2x GbE	Multi-burner	1x HS 430W	2 / 2
5457-K7G	Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K8G	Xeon E3-1241 v3 3.5GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2
5457-K9G	Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	1x 8 GB 1600 MHz	M1115	8x 2.5" HS	Open	2x GbE	Multi-burner	2x HS 430W	2 / 2

* Model EKx includes M5100 Series 512MB Flash/RAID 5 Upgrade for System x (81Y4487) and System x3100 Hardware RAID Remote Battery/Cap Mechanical kit (00J6455)

Models include the following items:

- 2.8m power cord, country specific, one for each power supply (except for the following models, where no power cords are included and must be ordered separately: EEG, EHG, K2G-K9G)
- Important Notices Flyer

- Warranty Flyer
- Documentation CD

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 that are available in standard models of x3100 M5 or through configure-to-order (CTO). If there is no corresponding *where-used* model for a particular processor, then that processor is only available through the CTO process or special bid.

Table 5. Processor options (HT=Hyper-Threading, TB=Turbo Boost, VT=Virtualization Technology)

Feature code†	Description**	Models where used	HT	TB	VT-x	VT-d
Intel Celeron Processor						
A58S	Intel Celeron G1840 2.8GHz 2MB 1333MHz 2C (53W)	-	N	N	Y	N
Intel Core i3 Processor						
A58D	Intel Core i3 4150 3.5GHz 3MB 1600MHz 2C (54W)	EAx	Y	N	Y	N
A58E	Intel Core i3 4150T 3.0GHz 3MB 1600MHz 2C (35W)	-	Y	N	Y	N
A58C	Intel Core i3 4350 3.6GHz 4MB 1600MHz 2C (54W)	-	Y	N	Y	N
A58B	Intel Core i3 4360 3.7GHz 4MB 1600MHz 2C (54W)	-	Y	N	Y	N
Intel Pentium Processor						
A58R*	Intel Pentium G3220 3.0GHz 3MB 1333MHz 2C (53W)	-	N	N	Y	N
A58G	Intel Pentium G3240 3.1GHz 3MB 1333MHz 2C (53W)	-	N	N	Y	N
A58H*	Intel Pentium G3240T 2.7GHz 3MB 1333MHz 2C (35W)	-	N	N	Y	N
A58J	Intel Pentium G3440 3.3GHz 3MB 1600MHz 2C (53W)	A3x	N	N	Y	N
A58F	Intel Pentium G3450 3.4GHz 3MB 1600MHz 2C (53W)	-	N	N	Y	N
Intel Xeon Processor						
A3QT	Intel Xeon E3-1220 v3 3.1GHz 8MB 1600MHz 4C (80W)	B3x, EBx, ECx, EDx, EEx, EGx, EHx	N	Y	Y	Y
A4VZ	Intel Xeon E3-1220L v3 1.1GHz 4MB 1600MHz 2C (13W)	-	Y	Y	Y	Y
A58K	Intel Xeon E3-1231 v3 3.4GHz 8MB 1600MHz 4C (80W)	C3x, C5x, EFx	Y	Y	Y	Y
A58Q	Intel Xeon E3-1240L v3 2.0GHz 8MB 1600MHz 4C (25W)	-	Y	Y	Y	Y
A58L	Intel Xeon E3-1241 v3 3.5GHz 8MB 1600MHz 4C (80W)	-	Y	Y	Y	Y
A58M	Intel Xeon E3-1271 v3 3.6GHz 8MB 1600MHz 4C (80W)	EJx, EKx, F3x	Y	Y	Y	Y
A58P	Intel Xeon E3-1275L v3 2.7GHz 8MB 1600MHz 4C (45W)	-	Y	Y	Y	Y
A58N	Intel Xeon E3-1281 v3 3.7GHz 8MB 1600MHz 4C (82W)	-	Y	Y	Y	Y

* Withdrawn from marketing
† No additional processor options are available. The server supports only one processor, which is already included in a standard or custom configuration.
** Processor detail: Processor model, core speed, L3 cache, memory speed, number of cores, and thermal design power (TDP) rating

Memory options

Lenovo DDR3 memory is compatibility tested and tuned for optimal System x performance and throughput. Lenovo memory specifications are integrated into the light path diagnostics for immediate system performance feedback and optimum system uptime. From a service and support standpoint, Lenovo memory automatically assumes the system warranty, and Lenovo provides service and support worldwide.

The x3100 M5 has four DIMM slots, and only DDR3 ECC UDIMMs are supported. The CPU has two memory channels, and there are two DIMMs per channel.

Configuration rules: If you plan to install more than one DIMM, then the 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 that are supported by the server.

Table 6. Memory options

Part number	Feature code	Description	Maximum supported	Standard models where used
00D5012	A3QB	4GB (1x4GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM	4	A3x, B3x, C3x, C5x, EAx, F3x
00D5016	A3QC	8GB (1x8GB, 2Rx8, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP UDIMM	4	All other models

Internal storage

Models of the x3100 M5 with the compact tower form factor (and either a 300 W or a 350 W fixed power supply) support up to four 3.5-inch simple-swap SATA hard disk drives, as shown in the following figure.

Figure 6. Simple-swap drive bays of the compact tower models (accessible with the front bezel removed)

Models of the x3100 M5 using the standard tower chassis (and with hot-swap 430 W power supplies) support either up to eight 2.5-inch hot-swap drives or four 3.5-inch hot-swap drives, as shown in the following figure.

Figure 7. Hot-swap drives that are supported in standard tower models with hot-swap power supplies (front bezel removed) - 4x 3.5-inch (left) or 8x 2.5-inch (right)

Controllers for internal storage

The Integrated ServeRAID C100 disk controller offers RAID 0, 1, and 10 standard. The ServeRAID C100 is an integrated SATA controller with software RAID capabilities. It is a cost-effective way to provide reliability, performance, and fault-tolerant disk subsystem management to help safeguard your valuable data and enhance availability. The ServeRAID C100 has the following specifications:

- Supports RAID levels 0, 1, and 10
- Supports RAID 5 with optional license upgrade
- Onboard SATA controller with software RAID capabilities
- Supports up to six SATA drives, two at 6 Gbps and four at 3 Gbps
- Support for up to two virtual drives

- Support for virtual drive sizes greater than 2 TB
- Fixed stripe unit size of 64 KB
- Support for MegaRAID Storage Manager management software

The following table lists the RAID controller and internal HBAs that are supported by the server.

Table 7. RAID controllers and HBAs for internal storage

Part number	Feature code	Description	Maximum supported	Standard models where used
Integrated	None	ServeRAID C100 for System x	1	All other models
81Y4492	A1XL	ServeRAID H1110 SAS/SATA Controller	1	C5x, EEx
81Y4448	A1MZ	ServeRAID M1115 SAS/SATA Controller	1	F3x, EGx, EHx, EJx
81Y4481	A347	ServeRAID M5110 SAS/SATA Controller	1	EKx
46C8988	A3MW	N2115 SAS/SATA HBA for System x	1	-
46M0907	5982	6Gb SAS HBA	1	-

The following table lists the supported upgrades to the internal RAID controllers and HBAs.

Table 8. Upgrades for internal storage controllers

Part number	Feature code	Description	Maximum supported	Models where used
Upgrades for the ServeRAID C100				
81Y4406	A17U	ServeRAID C100 Series RAID 5 Upgrade for System x-FoD	1	-
Upgrades for the ServeRAID M1115 SAS/SATA Controller				
81Y4542	A1X1	ServeRAID M1100 Series Zero Cache/RAID 5 Upgrade for System x	1	-
Upgrades for the ServeRAID M5110 SAS/SATA Controller				
81Y4508	A22E	ServeRAID M5100 Series Battery Kit** (Supported only with 512MB cache option, 81Y4484)	1	-
81Y4544	A1X2	ServeRAID M5100 Series Zero Cache/RAID 5 Upgrade for System x	1	-
81Y4484	A1J3	ServeRAID M5100 Series 512MB Cache/RAID 5 Upgrade for System x	1	-
81Y4487	A1J4	ServeRAID M5100 Series 512MB Flash/RAID 5 Upgrade for System x**	1	EKx
81Y4559	A1WY	ServeRAID M5100 Series 1GB Flash/RAID 5 Upgrade for System x**	1	-
81Y4546	A1X3	ServeRAID M5100 Series RAID 6 Upgrade for System x	1*	-
90Y4273	A2MC	ServeRAID M5100 Series SSD Performance Key for System x	1*	-
90Y4318	A2MD	ServeRAID M5100 Series SSD Caching Enabler for System x	1*	-

* A cache option (81Y4484, 81Y4487, or 81Y4559) must be selected.
** For the standard tower chassis only (hot-swap power supplies). Not supported in the compact tower chassis.

The following table lists chassis upgrades for RAID controllers.

Table 9. Chassis upgrades

Part number	Feature code	Description	Maximum supported	Models where used
00J6352	A49A	System x3100 3.5" Simple Swap HDD Hardware RAID upgrade kit For the compact tower chassis only (fixed power supply) to enable support of RAID controllers; if selected then one of the following controllers is required: ServeRAID M1115, ServeRAID H1110, or N2115 HBA. Not supported the standard tower chassis.	1	-
00J6455	A3SE	System x3100 Hardware RAID Remote Battery/Cap Mechanical kit For the standard tower chassis only (hot-swap power supplies) to provide a housing for a battery or flash backup unit; required if the battery upgrade (81Y4508) or a flash upgrade is selected. Not supported in the compact tower chassis.	1	EKx

For more information, see the list of Lenovo Press Product Guides in the RAID adapters category:
https://lenovopress.com/servers/options/raid

Internal drives options

The drives supported depend on the chassis selected.

Compact tower chassis

The x3100 M5 with the compact tower form factor (and either a 300 W or a 350 W fixed power supply) supports 3.5-inch simple-swap hard disk drive options that are listed in the following table.

Table 10. 3.5-inch simple-swap 6 Gb SAS/SATA HDDs

Part number	Feature	Description	Maximum supported
3.5-inch simple-swap HDDs - 6 Gb NL SATA			
81Y9802	A22U	500GB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	4
81Y9806	A22X	1TB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	4
81Y9810	A22W	2TB 7.2K 6Gbps NL SATA 3.5" G2SS HDD	4

Standard tower chassis

The standard tower chassis (and with hot-swap 430 W power supplies) supports the 2.5-inch and 3.5-inch drive options drives listed in the following two tables. Hot-swap SATA HDDs and hot-swap SAS HDDs can be intermixed, but not in the same array.

The following tables list the supported 2.5-inch hot-swap HDDs and SSDs.

Table 11. 2.5-inch hot-swap 6 Gb SAS/SATA HDDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap HDDs - 6 Gb SAS 10K			
90Y8877	A2XC	300GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	8
90Y8872	A2XD	600GB 10K 6Gbps SAS 2.5" SFF G2HS HDD	8
00AD075	A48S	1.2TB 10K 6Gbps SAS 2.5" G2HS HDD	8
2.5-inch hot-swap HDDs - 6 Gb SAS 15K			
81Y9670	A283	300GB 15K 6Gbps SAS 2.5" G2HS HDD	8
2.5-inch hot-swap HDDs - 6 Gb NL SAS			
81Y9690	A1P3	1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD	8
2.5-inch hot-swap HDDs - 6 Gb NL SATA			
81Y9726	A1NZ	500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	8
81Y9730	A1AV	1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	8
2.5-inch hot-swap SED HDDs - 6 Gb SAS 10K			
90Y8908	A3EF	600GB 10K 6Gbps SAS 2.5" SFF G2HS SED	8

Table 12. 2.5-inch hot-swap 6 Gb SAS/SATA SSDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap SSDs - 6 Gb SAS - Enterprise Performance (10+ DWPD)			
49Y6129	A3EW	200GB SAS 2.5" MLC HS Enterprise SSD	8
49Y6134	A3EY	400GB SAS 2.5" MLC HS Enterprise SSD	8
49Y6139	A3F0	800GB SAS 2.5" MLC HS Enterprise SSD	8
2.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Mainstream (3-5 DWPD)			
00AJ355	A56Z	120GB SATA 2.5" MLC HS Enterprise Value SSD	8
00AJ360	A570	240GB SATA 2.5" MLC HS Enterprise Value SSD	8
00AJ365	A571	480GB SATA 2.5" MLC HS Enterprise Value SSD	8
00AJ370	A572	800GB SATA 2.5" MLC HS Enterprise Value SSD	8
2.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Entry (<3 DWPD)			
00AJ005	A4KN	S3500 240GB SATA 2.5" MLC HS Enterprise Value SSD	8
00AJ015	A4KQ	S3500 800GB SATA 2.5" MLC HS Enterprise Value SSD	8

The following tables list the supported 3.5-inch hot-swap HDDs and SSDs.

Table 13. 3.5-inch hot-swap 6 Gb SAS/SATA HDDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap HDDs - 6 Gb NL SAS			
00ML213	AS78	6TB 7.2K 6Gbps NL SAS 3.5" G2HS 512e HDD	4
3.5-inch hot-swap HDDs - 6 Gb NL SATA			
81Y9786	A22Y	500GB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	4
81Y9790	A22P	1TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	4
81Y9794	A22T	2TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	4
49Y6002	A3W9	4TB 7.2K 6Gbps NL SATA 3.5" G2HS HDD	4
00FN173	A5VM	6TB 7.2K 6Gbps NL SATA 3.5" G2HS 512e HDD	4

Table 14. 3.5-inch hot-swap 6 Gb SAS/SATA SSDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Performance (10+ DWPD)			
00YC340	AT9G	Intel S3710 400GB Enterprise Performance SATA HS 3.5" SSD	4
00YC345	AT9H	Intel S3710 800GB Enterprise Performance SATA HS 3.5" SSD	4
3.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Mainstream (3-5 DWPD)			
00YK237	AU3H	Intel S3610 480GB Enterprise Mainstream SATA HS 3.5" SSD	4
00YK242	AU3J	Intel S3610 800GB Enterprise Mainstream SATA HS 3.5" SSD	4
00YK247	AU3K	Intel S3610 1.2TB Enterprise Mainstream SATA HS 3.5" SSD	4
00YK252	AU3L	Intel S3610 1.6TB Enterprise Mainstream SATA HS 3.5" SSD	4
3.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Entry (<3 DWPD)			
00WG780	AT99	Intel S3510 480GB Enterprise Entry SATA HS 3.5" SSD	4
00YC420	AT8Y	960GB Enterprise Entry SATA HS 3.5" SSD	4

Internal backup units

The server supports the internal tape drive options that are listed in the following table. Internal tape drives are installed in a 5.25-inch HH bay. A maximum of one tape drive is supported. SAS tape drives require an internal SAS HBA to be installed in server. USB tape drives are connected to the dedicated USB tape drive connector on the system board.

Table 15. Internal tape drives

Part number	Feature code	Description	Maximum supported
00MW711	AUBQ	Half High LTO Gen 6 Internal SAS Tape Drive*	1
00D2786	A2VE	RDX Internal USB 3.0 Dock with 320GB Cartridge	1
00D2787	A2VF	RDX Internal USB 3.0 Dock with 500GB Cartridge	1
00D2788	A2VG	RDX Internal USB 3.0 Dock with 1TB Cartridge	1

* Requires N2115 SAS/SATA HBA for System x (46C8988) or 6Gb SAS HBA (46M0907)

For more information, see the list of Lenovo Press Product Guides in the Backup units category:
https://lenovopress.com/servers/options/backup

Optical drives

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

Table 16. Optical drives

Part number	Feature code	Description	Maximum supported	Standard models where used
None*	4154	Half-High SATA DVD-ROM	1	A3x, B3x, C3x, EAx
81Y6404	4155	Half-High SATA Multi-Burner	1	All other models

* This option is only available through 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

I/O expansion options

The server offers four PCI Express expansion slots. The form-factors of available slots are as follows. This applies to both the compact tower chassis and the standard tower chassis.

- Slot 1, PCIe 3.0 x16 (x8 wired), full-height, half-length
- Slot 2, PCIe 3.0 x8 (x8 wired), full-height, half-length
- Slot 3, PCIe 2.0 x8 (x4 wired), full-height, half-length
- Slot 4, PCIe 2.0 x4 (x1 wired), full-height, half-length

Network adapters

The x3100 M5 offers two integrated Gigabit Ethernet ports. One port is shared with Integrated Management Module II (IMM2), implementing Network Controller-Sideband Interface (NC-SI). The integrated NICs have the following features:

- Broadcom BCM5717 chip
- TCP/IP Offload Engine (TOE) support
- Wake on LAN support, Jumbo frame support
- Receive side Scaling (RSS) and Transmit side Scaling (TSS) support
- MSI and MSI-X capability- up to five MSI-X vectors
- VLAN tag support (IEEE 802.1Q), Layer 2 priority encoding (IEEE 802.1p)
- Link aggregation (IEEE 802.3ad) and Full-duplex flow control (IEEE 802.3x)
- IP, TCP, and UDP checksum offload (hardware based) on Tx/Rx over IPv4/IPv6
- Hardware TCP segmentation offload over IPv4/IPv6
- NIC Teaming (Load Balancing and Failover)

The following table lists additional supported network adapters.

Table 17. Network adapters

Part number	Feature code	Description	Maximum supported
Gigabit Ethernet			
90Y9370	A2V4	Broadcom NetXtreme I Dual Port GbE Adapter for System x	2
90Y9352	A2V3	Broadcom NetXtreme I Quad Port GbE Adapter for System x	3
49Y4230	5767	Intel Ethernet Dual Port Server Adapter I340-T2 for System x	3
49Y4240	5768	Intel Ethernet Quad Port Server Adapter I340-T4 for System x	3
00AG500	A56K	Intel I350-F1 1xGbE Fiber Adapter for System x	4
00AG510	A56L	Intel I350-T2 2xGbE BaseT Adapter for System x	4
00AG520	A56M	Intel I350-T4 4xGbE BaseT Adapter for System x	4
42C1750	2975	PRO/1000 PF Server Adapter	3
10 Gigabit Ethernet			
49Y7910	A18Y	Broadcom NetXtreme II Dual Port 10GBaseT Adapter for System x	3
00D8540	A4XH	Emulex Dual Port 10GbE SFP+ VFA IIIr for System x*	3
49Y7960	A2EC	Intel X520 Dual Port 10GbE SFP+ Adapter for System x*	3
49Y7970	A2ED	Intel X540-T2 Dual Port 10GBaseT Adapter for System x	3
00D9690	A3PM	Mellanox ConnectX-3 10 GbE Adapter for System x*	3
90Y4600	A3MR	QLogic 8200 Dual Port 10GbE SFP+ VFA for System x*	3

* Require SFP+ optical transceivers or DAC cables that must be purchased separately. See the following table.

For more information, see the list of Lenovo Press Product Guides in the Networking adapters category: https://lenovopress.com/servers/options/ethernet

The following table lists the supported 10Gb Ethernet SFP+ optical transceivers and DAC cables.

Table 18. Supported optical transceivers and DAC cables - 10 Gb Ethernet

Part number	Feature code	Description	Maximum supported
10 GbE SFP+ transceivers (for 10 GbE SFP+ adapters)			
46C3447	5053	Lenovo 10GBASE-SR SFP+ Transceiver	Per adapter port*
49Y4216	0069	Brocade 10Gb SFP+ SR Optical Transceiver	Per adapter port*
49Y4218	0064	QLogic 10Gb SFP+ SR Optical Transceiver	Per adapter port*
10 GbE SFP+ DAC cables (for 10 GbE SFP+ adapters)			
00D6288	A3RG	Lenovo 0.5m Passive SFP+ DAC Cable	Per adapter port*
90Y9427	A1PH	Lenovo 1m Passive SFP+ DAC Cable	Per adapter port*
00AY764	A51N	Lenovo 1.5m Passive SFP+ DAC Cable	Per adapter port*
00AY765	A51P	Lenovo 2m Passive SFP+ DAC Cable	Per adapter port*
90Y9430	A1PJ	Lenovo 3m Passive SFP+ DAC Cable	Per adapter port*
90Y9433	A1PK	Lenovo 5m Passive SFP+ DAC Cable	Per adapter port*
00D6151	A3RH	Lenovo 7m Passive SFP+ DAC Cable	Per adapter port*

* One transceiver or cable is supported per adapter port. All adapter ports must have the same type of transceiver or DAC cable selected.

SAS adapters for external storage

The following table lists the supported SAS HBAs and RAID adapters.

Table 19. Supported SAS HBAs and RAID adapters

Part number	Feature code	Description	Maximum supported
SAS HBAs for external storage			
46C9010	A3MV	N2125 SAS/SATA HBA for System x	3
46M0907	5982	6 Gb SAS HBA Controller	3
RAID controllers for external storage			
00AE938	A5ND	ServeRAID M5225-2GB SAS/SATA Controller for System x	1
81Y4478	A1WX	ServeRAID M5120 SAS/SATA Controller	3
Hardware upgrades for the ServeRAID M5120			
81Y4508	A22E	ServeRAID M5100 Series Battery Kit** (Supported only with 512MB cache option, 81Y4484)	1*
00J6455	A3SE	System x3100 Hardware RAID Remote Battery/Cap Mechanical kit**	1
81Y4484	A1J3	ServeRAID M5100 Series 512MB Cache/RAID 5 Upgrade	3
81Y4487	A1J4	ServeRAID M5100 Series 512MB Flash/RAID 5 Upgrade**	1
81Y4559	A1WY	ServeRAID M5100 Series 1GB Flash/RAID 5 Upgrade**	1
Feature on Demand upgrades for the ServeRAID M5120			
81Y4544	A1X2	ServeRAID M5100 Series Zero Cache/RAID 5 Upgrade	1
90Y4318	A2MD	ServeRAID M5100 Series SSD Caching Enabler	1
90Y4273	A2MC	ServeRAID M5100 Series SSD Performance Key	1
81Y4546	A1X3	ServeRAID M5100 Series RAID 6 Upgrade	1†

* The ServeRAID M5100 Series Battery Kit (81Y4508) is supported only with ServeRAID M5100 Series 512MB Cache/RAID 5 Upgrade (81Y4484).
† The ServeRAID M5100 Series RAID 6 Upgrade (81Y4546) requires a cache upgrade (either 81Y4484, 81Y4487, or 81Y4559).
** For the standard tower chassis only (hot-swap power supplies). Not supported in the compact tower chassis.

The following table compares the supported adapters.

Table 20. Features of the supported adapters

Feature	6Gb SAS HBA	N2125	ServeRAID M5120	ServeRAID M5225
Adapter type	SAS HBA	SAS HBA	RAID adapter	RAID adapter
Part number	46M0907	46C9010	81Y4478	00AE938
Form factor	Low profile	Low profile	Low profile	Low profile
Controller chip	LSI SAS2008	LSI SAS2308	LSI SAS2208	LSI SAS3108
Host interface	PCIe 2.0 x8	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	6 Gbps SAS	6 Gbps SAS	6 Gbps SAS	12 Gbps SAS
Number of external ports	4	8	8	8
External port connectors	1x Mini-SAS (SFF-8088)	2x Mini-SAS (SFF-8088)	2x Mini-SAS (SFF-8088)	2x Mini-SAS HD (SFF-8644)
Drive interface	SAS, SATA	SAS, SATA	SAS, SATA	SAS, SATA
Drive type	HDD, SSD	HDD, SSD	HDD, SED, SSD	HDD, SED, SSD
Maximum number of devices	512	1024	240	240
RAID levels	None	None	0/1/10; Optional 5/50 and 6/60	0/1/10/5/50
JBOD mode	Yes	Yes	No	No
Cache	None	None	512MB Cache/RAID 5 (81Y4484) / 512MB Flash/RAID 5 (81Y4487) / 1GB Flash/RAID 5 (81Y4559)	2 GB (included)
CacheVault cache protection	None	None	Flash (with cache upgrades)	Flash (included)
FastPath	None	None	Optional (90Y4273)	Not supported
CacheCade Pro 2.0	None	None	Optional (90Y4318)	Not supported

Fibre Channel host bus adapters

The following table lists the Fibre Channel host bus adapters (HBAs) supported by x3100 M5 server.

Table 21. Fibre Channel host bus adapters

Part number	Feature code	Description	Maximum supported
Fibre Channel - 16 Gb			
81Y1655	A2W5	Emulex 16Gb FC Single-port HBA for System x	3
81Y1662	A2W6	Emulex 16Gb FC Dual-port HBA for System x	3
81Y1668	A2XU	Brocade 16Gb FC Single-port HBA for System x	3
81Y1675	A2XV	Brocade 16Gb FC Dual-port HBA for System x	3
00Y3337	A3KW	QLogic 16Gb FC Single-port HBA for System x	3
00Y3341	A3KX	QLogic 16Gb FC Dual-port HBA for System x	3
Fibre Channel - 8 Gb			
42D0485	3580	Emulex 8 Gb FC Single-port HBA for System x	3
42D0494	3581	Emulex 8 Gb FC Dual-port HBA for System x	3
42D0501	3578	QLogic 8 Gb FC Single-port HBA for System x	3
42D0510	3579	QLogic 8 Gb FC Dual-port HBA for System x	3
46M6049	3589	Brocade 8 Gb FC Single-port HBA for System x	3
46M6050	3591	Brocade 8 Gb FC Dual-port HBA for System x	3

For more information, see the list of Lenovo Press Product Guides in the Host bus adapters category: https://lenovopress.com/servers/options/hba

PCIe Flash Storage adapters

The server does not support PCIe Flash Storage Adapters.

Power supplies and cables

Compact tower models either come with a single fixed 350 W ac power supply or a single fixed 80 PLUS Bronze 300 W ac power supply. There are no additional power supply options.

Standard tower models offer one or two hot-swap 430 W ac power supplies, which are 80 PLUS Silver certified. For models with only one power supply, the part number to order a second power supply is listed in the following table. Two power supplies that are installed form a redundant pair.

Table 22. Hot-swap power supply option

Part number	Feature code	Description	Maximum supported
00D3821	A2Z0	430W Redundant Power Supply	1

The above option does not ship with a power cord. Standard models and some TopSeller models ship with power cords but some TopSeller models do not ship with power cords. See the Express and TopSeller models section for details.

The following table lists country-specific line cords and rack power cables that can be ordered, if needed.

Table 23. Power cables

Part number	Feature code	Description
Rack power cables		
39Y7937	6201	1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
None*	6316	Rack power cable - 2.0m, 125-250V, C13 to IEC 320-C14 (WW)
None*	6311	2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
39Y7938	6204	2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable
39Y7932	6263	4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
Country-specific line cords		
39Y7930	6222	2.8m, 10A/250V, C13 to IRAM 2073 (Argentina)
39Y7924	6211	2.8m, 10A/250V, C13 to AS/NZ 3112 (Australia/NZ)
39Y7929	6223	2.8m, 250V, C13 to NBR 14136 (Brazil)
69Y1988	6532	Brazil 10A/250V C13 to NBR 14136 2.8m line cord
39Y7928	6210	2.8m, 220-240V, C13 to GB 2099.1 (China)
None*	6377	2.8m, 10A/230V, C13 to IEC 309 P+N+G (Den/Sws)
39Y7918	6213	2.8m, 10A/250V, C13 to DK2-5a (Denmark)
None*	6212	2.8m, 10A/230V, C13 to CEE7-VII (Europe)
39Y7927	6269	2.8M 10A/250V C13(2P+Gnd) (India)
39Y7920	6218	2.8m, 10A/250V, C13 to SI 32 (Israel)
39Y7921	6217	2.8m, 220-240V, C13 to CEI 23-16 (Italy/Chile)
None*	6314	2.8m, 100V, C13 to JIS C-8303 (Japan)
39Y7922	6214	2.8m, 10A/250V, C13 to SABS 164 (S Africa)
39Y7925	6219	2.8m, 220-240V, C13 to KETI (S Korea)
39Y7919	6216	2.8m, 10A/250V, C13 to SEV 1011-S24507 (Swiss)
23R7158	6386	2.8m, 10A/125V, C13 to CNS 10917-3 (Taiwan)
None*	6496	1.8m, 10 AMP/125 VAC - IEC 320 C13 Inline (Thailand)
None*	6215	2.8m, 10A/250V, C13 to BS 1363/A (UK)
None*	6369	1.8M, 10A/125V, C13 to NEMA 5-15P (US)
None*	6351	1.8m, 10A/250V, C13 to NEMA 6-15P (US)
None*	6313	2.8m, 10A/120V, C13 to NEMA 5-15P (US) Line Cord
None*	6372	2.8m, 10A/250V, C13 to NEMA 6-15P (US)
39Y7931	6207	4.3M, 10A/125V, C13 to NEMA 5-15P (US)
None*	6370	4.3M, 10A/125V, C13 to NEMA 5-15P (US)
None*	6373	4.3m, 10A/250V, C13 to NEMA 6-15P (US)

* These power cords are available configure-to-order (CTO) only

Fans and cooling

Both the compact tower design (with a single fixed power supply) and the standard tower design (with hot-swap power supplies) come with one or two speed-controlled non-redundant fans, model dependent (see Table 2). The second fan is required if two or more adapters are installed, and the fan is configured by selecting the appropriate Thermal Solution Fan Kit, as listed in the following table.

If you want to operate the server in an environment up to 40°C (104°F), use the optional Operating Temperature Enhancement Kit that is listed in the table. This kit contains an additional thermal sensor.

Table 24. Cooling options

Part number	Feature code	Description	Maximum supported
For compact tower systems (with a fixed power supply)			
46W9177	A3SF	System x3100 Thermal Solution Fan kit for 4U Tower	1
00Y8197	A49B	System x3100 Operating Temperature Enhancement Kit for 4U Tower	1
For standard tower systems (with hot-swap power supplies)			
00Y8200	A49D	System x3100 Thermal Solution Fan kit for 5U Tower	1
00FK940	A49C	System x3100 Operating Temperature Enhancement Kit for 5U Tower	1

Integrated virtualization

The server supports VMware ESXi installed on a USB memory key. The key is installed in a USB socket inside the server. The following table lists the virtualization options.

Table 25. Hot-swap power supply option

Part number	Feature code	Description	Maximum supported
00WH140	ATRM	Blank USB Memory Key 4G SLC for VMware ESXi Downloads	1
41Y8298	A2G0	Blank USB Memory Key for VMware ESXi Downloads	1
41Y8385*	A584	USB Memory Key for VMware ESXi 5.5	1
00WH138	ATRL	USB Memory Key 4G for VMware ESXi 6.0 Update 1A	1

* Withdrawn from marketing

Remote management

The server contains Integrated Management Module II (IMM2), which provides advanced service-processor control, monitoring, and an alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM2 lights LEDs to help you diagnose the problem, records the error in the event log, and alerts you to the problem. Optionally, the IMM2 also provides a virtual presence capability for remote server management capabilities.

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

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

The optional Integrated Management Module Advanced Upgrade is required to enable the remote presence and blue-screen capture features. The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1600x1200 at 75 Hz with up to 23 bits per pixel colors, regardless of the system state
- Remotely accessing the server using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

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

Table 26. Remote management option

Part number	Feature code	Description	Maximum supported	Models where used
90Y3901	A1ML	Integrated Management Module Advanced Upgrade	1	-

Supported operating systems

The server supports the following operating systems:

- 4690 Operating System V6
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- Red Hat Enterprise Linux 7
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE Linux Enterprise Server 12
- SUSE Linux Enterprise Server 12 with XEN
- Toshiba 4690 Operating System V6
- VMware vSphere 5.1 (ESXi)
- VMware vSphere 5.5 (ESXi)
- VMware vSphere 6.0 (ESXi)

Important: The onboard ServeRAID C100 RAID controller is not supported by virtualization hypervisors, including VMware vSphere (ESXi), Linux KVM, Xen, and Microsoft Hyper-V.

For the latest information about the specific versions and service levels that are supported and any other prerequisites, see the Operating System Interoperability Guide:
https://lenovopress.com/redposig-operating-system-interoperability-guide

Physical and electrical specifications

Dimensions and weight - compact tower systems with a fixed power supply:

- 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)

Dimensions and weight - standard tower systems with redundant hot-swap power supplies:

- Height: 439 mm (17.3 in.)

- Width: 217 mm (8.6 in.)

- Depth: 569 mm (22.4 in.)

- Weight
    - Minimum ship configuration: 19.6 kg (43 lb)
    - Maximum ship configuration: 22.0 kg (48.5 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)
    - Supports up to 40° C (104° F) when the Operating Temperature Enhancement Kit is installed
- 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:

430 watt power supply:

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 6.0 A (maximum)

- 200 - 240 (nominal) V ac; 50 - 60 Hz; 3.0 A (maximum)

- Input kilovolt-amperes (kVA) (approximately)
    - Minimum configuration: 0.100 kVA
    - Maximum configuration: 0.506 kVA

350 watt power supply:

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 7.0 A (maximum)

- 200 - 240 (nominal) V ac; 50 - 60 Hz; 3.5 A (maximum)

- Input kilovolt-amperes:
    - Minimum configuration: 0.035 kVA
    - Maximum configuration: 0.350 kVA

300 watt power supply:

- 100 - 127 (nominal) V ac; 50 - 60 Hz; 7.0 A (maximum)

- 200 - 240 (nominal) V ac; 50 - 60 Hz; 3.5 A (maximum)

- Input kilovolt-amperes:
    - Minimum configuration: 0.035 kVA
    - Maximum configuration: 0.350 kVA

Environmental data:

- BTU output
    - Ship configuration: 341 Btu/hr (100 watts)
    - Full configuration: 1726 Btu/hr (506 watts)
- Noise level
    - Model with fixed power supply: 5.0 bels (idle), 5.0 bels (operating)
    - Model with hot-swap power supply: 5.0 bels (idle), 5.0 bels (operating)

Warranty options

The server has a one-year warranty with 24x7 standard call center support and 9x5 Next Business Day onsite coverage. Also available are Lenovo Services 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.

Lenovo warranty service upgrade offerings are country-specific. Not all warranty service upgrades are available in every country.

For more information about Lenovo warranty service upgrade offerings that are available in your country, go to the Data Center Advisor and Configurator (formerly known as LESC) website http://lesc.lenovo.com, then do the following:

1. In the Customize a Model box in the middle of the page, select the **Services** option in the Customization Option dropdown menu
2. Enter in the machine type & model of the system
3. From the search results, you can click either **Deployment Services** or **Support Services** to view the offerings

The following table explains warranty service definitions in more detail.

Table 27. Warranty service definitions

Term	Description
On-site service	A service technician will arrive at the client's location for equipment service.
24x7x2 hour	A service technician is scheduled to arrive at the client's location within two hours after remote problem determination is completed. Lenovo provides service around the clock, every day, including Lenovo holidays.
24x7x4 hour	A service technician is scheduled to arrive at the client's location within four hours after remote problem determination is completed. Lenovo provides service around the clock, every day, including Lenovo holidays.
9x5x4 hour	A service technician is scheduled to arrive at the client's location within four business hours after remote problem determination is completed. Lenovo provides service 8:00 am - 5:00 pm in the client's local time zone, Monday-Friday, excluding Lenovo holidays. For example, if a customer reports an incident at 3:00 pm on Friday, the technician will arrive by 10:00 am the following Monday.
9x5 next business day	A service technician is scheduled to arrive at the client's location on the business day after remote problem determination is completed. Lenovo provides service 8:00 am - 5:00 pm in the client's local time zone, Monday - Friday, excluding Lenovo holidays. Calls received after 4:00 pm local time require an extra business day for service dispatch. Next business day service is not guaranteed.
Committed Repair	Problems receive priority handling so that repairs are completed within the committed time of 6, 8, or 24 hours. Lenovo provides service 24 hours/day, every day, including Lenovo holidays.

The following Lenovo warranty service upgrades are available:

- Warranty and maintenance service upgrades:
    - Three, four, or five years of 9x5 or 24x7 service coverage
    - Onsite response from next business day to 2 or 4 hours
    - Committed repair service
    - Warranty extension of up to 5 years
    - Post warranty extensions

- Committed Repair Service
  Committed Repair Services enhances the level of Warranty Service Upgrade or Post Warranty/Maintenance Service offering associated with the selected systems. Offerings vary and are available in select countries.

    - Priority handling to meet defined time frames to restore the failing machine to good working condition
    - Committed repair service levels are measured within the following coverage hours:
        - 24x7x6: Service performed 24 hours per day, 7 days per week, within 6 hours
        - 24x7x8: Service performed 24 hours per day, 7 days per week, within 8 hours
        - 24x7x24: Service performed 24 hours per day, 7 days per week, within 24 hours

- Hard Disk Drive Retention
Lenovo's Hard Disk Drive Retention (HDDR) service is a multi-drive hard drive retention offering that ensures your data is always under your control, regardless of the number of hard drives that are installed in your Lenovo server. In the unlikely event of a hard drive failure, you retain possession of your hard drive while Lenovo replaces the failed drive part. Your data stays safely on your premises, in your hands. The Hard Drive Retention service can be purchased in convenient bundles with our warranty upgrades and extensions.

- Microcode Support
Keeping microcode current helps prevent hardware failures and security exposure. There are two levels of service: analysis of the installed base and analysis and update where required. Offerings vary by country and can be bundled with other warranty upgrades and extensions.

- Remote Technical Support Services (RTS)
RTS provides comprehensive technical call center support for covered servers, storage, operating systems, and applications. Providing a single source for support of hardware and software issues, RTS can reduce problem resolution time, decreasing the cost to address technical problems and increasing uptime. Offerings are available for Windows, Linux, IBM Systems Director, VMware, Microsoft business applications, and Lenovo System x storage devices, and IBM OEM storage devices.

Regulatory compliance

The server conforms to the following international standards:

- ASHRAE A3
- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES003, issue 5, Class A
- UL/IEC 60950-1
- CSA C22.2 No. 60950-1
- NOM-019
- Argentina IEC60950-1
- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 22, Class A; AS/NZS 60950.1
- IEC-60950-1 (CB Certificate and CB Test Report)
- China CCC GB4943.1, GB9254 Class A, and GB17625.1
- Taiwan BSMI CNS13438, Class A); CNS14336-1
- Korea KN22, Class A; KN24
- Russia, Belorussia and Kazakhstan, TR CU 020/2011 (for EMC) and TR CU004/2011 (for safety)
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, and EN61000-3-3)
- CISPR 22, Class A
- TUV-GS (EN60950-1 /IEC60950-1, EK1-ITB2000)

External drive enclosures

The server supports attachment to external drive enclosures using a RAID controller with external ports or a SAS host bus adapter. Adapters supported by the server are listed in the SAS adapters for external storage section.

The following table lists the 6 Gbps SAS external drive enclosures that are offered by Lenovo that can be used with the server for storage expansion.

Table 28. E1012 and E1024 external drive enclosure models

Part number	Description
64111B1	Lenovo Storage E1012 LFF Disk Expansion Single SAS IO Module, Rail Kit, 9x5 NBD
64111B2	Lenovo Storage E1012 LFF Disk Expansion Dual SAS IO Module, Rail Kit, 9x5 NBD
64111B3	Lenovo Storage E1024 SFF Disk Expansion Single SAS IO Module, Rail Kit, 9x5 NBD
64111B4	Lenovo Storage E1024 SFF Disk Expansion Dual SAS IO Module, Rail Kit, 9x5 NBD

For details about supported drives and cables for the Lenovo Storage E1012 and E1024, see the Lenovo Press Product Guide:
http://lenovopress.com/lp0043

The following table lists the relationship models of the 12 Gbps SAS external drive enclosures that are offered by Lenovo that can be used with the server for storage expansion.

Table 29. D1212 and D1224 relationship models

Part number	Description
LFF models	
4587A11*	D1212 LFF Chassis, Dual 3-port ESMs (US English documentation)
4587A1C^	D1212 LFF Chassis, Dual 3-port ESMs (Simplified Chinese documentation)
4587A1J**	D1212 LFF Chassis, Dual 3-port ESMs (Japanese documentation)
SFF models	
4587A31*	D1224 SFF Chassis, Dual 3-port ESMs (US English documentation)
4587A3C^	D1224 SFF Chassis, Dual 3-port ESMs (Simplified Chinese documentation)
4587A3J**	D1224 SFF Chassis, Dual 3-port ESMs (Japanese documentation)

** Available worldwide (except China and Japan)
^ Available only in China
** Available only in Japan

The following table lists the TopSeller models of the 12 Gbps SAS external drive enclosures that are offered by Lenovo that can be used with the server for storage expansion.

Table 30. D1212 and D1224 TopSeller models

Part number	Description
Brazil and Latin America - LFF models	
4587EAU	D1212 LFF Chassis, Dual 3-port ESMs, 4x 2TB 3.5" HDDs, 4x 0.5m SAS cables
4587EBU	D1212 LFF Chassis, Dual 3-port ESMs, 4x 4TB 3.5" HDDs, 4x 0.5m SAS cables
4587ECU	D1212 LFF Chassis, Dual 3-port ESMs, 4x 6TB 3.5" HDDs, 4x 0.5m SAS cables
4587EDU	D1212 LFF Chassis, Dual 3-port ESMs, 4x 8TB 3.5" HDDs, 4x 0.5m SAS cables
4587EEU	D1212 LFF Chassis, Dual 3-port ESMs, 8x 2TB 3.5" HDDs, 4x 0.5m SAS cables
4587EFU	D1212 LFF Chassis, Dual 3-port ESMs, 8x 4TB 3.5" HDDs, 4x 0.5m SAS cables
4587EGU	D1212 LFF Chassis, Dual 3-port ESMs, 8x 6TB 3.5" HDDs, 4x 0.5m SAS cables
4587EHU	D1212 LFF Chassis, Dual 3-port ESMs, 8x 8TB 3.5" HDDs, 4x 0.5m SAS cables
4587EIU	D1212 LFF Chassis, Dual 3-port ESMs, 12x 2TB 3.5" HDDs, 4x 0.5m SAS cables
4587EJU	D1212 LFF Chassis, Dual 3-port ESMs, 12x 4TB 3.5" HDDs, 4x 0.5m SAS cables
4587EKU	D1212 LFF Chassis, Dual 3-port ESMs, 12x 6TB 3.5" HDDs, 4x 0.5m SAS cables
4587ELU	D1212 LFF Chassis, Dual 3-port ESMs, 12x 8TB 3.5" HDDs, 4x 0.5m SAS cables
Brazil and Latin America - SFF models	
4587E6U	D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 4x 0.5m SAS cables
4587E2U	D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 2x 400GB SSDs, 4x 0.5m SAS cables
4587E4U	D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 4x 400GB SSDs, 4x 0.5m SAS cables
4587E5U	D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 1x 0.5m SAS cable
4587E1U	D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 2x 400GB SSDs, 4x 0.5m SAS cables
4587E3U	D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 4x 400GB SSDs, 4x 0.5m SAS cables

For details about supported drives and cables for the Lenovo Storage D1212 and D1224, see the Lenovo Press Product Guide:
http://lenovopress.com/lp0512

The following table lists the relationship models of the 12 Gbps SAS external high density drive enclosures that are offered by Lenovo.

Table 31. D3284 relationship models

Description	Part number
Lenovo Storage D3284 4TB x 84 HD Expansion Enclosure	641311F
Lenovo Storage D3284 6TB x 84 HD Expansion Enclosure	641312F
Lenovo Storage D3284 8TB x 84 HD Expansion Enclosure	641313F
Lenovo Storage D3284 10TB x 84 HD Expansion Enclosure	641314F

The following table lists the TopSeller models of the 12 Gbps SAS external high density drive enclosures that are offered by Lenovo.

Table 32. D3284 TopSeller models

Description	Part number
Lenovo Storage D3284 High Density Expansion Enclosure	6413E5F
Lenovo Storage D3284 4TB x 42 HD Expansion Enclosure	6413E1H
Lenovo Storage D3284 4TB x 84 HD Expansion Enclosure	6413E1F
Lenovo Storage D3284 6TB x 42 HD Expansion Enclosure	6413E2H
Lenovo Storage D3284 6TB x 84 HD Expansion Enclosure	6413E2F
Lenovo Storage D3284 8TB x 42 HD Expansion Enclosure	6413E3H
Lenovo Storage D3284 8TB x 84 HD Expansion Enclosure	6413E3F
Lenovo Storage D3284 10TB x 42 HD Expansion Enclosure	6413E4H
Lenovo Storage D3284 10TB x 84 HD Expansion Enclosure	6413E4F

For details about supported drives, adapters, and cables for the Lenovo Storage D3284, see the Lenovo Press Product Guide:
http://lenovopress.com/lp0513

External disk storage systems

The following table lists the NAS and SAN external storage systems that are offered by Lenovo.

Table 33. External disk storage systems

Part number	Description
Lenovo Network-Attached Storage (NAS connectivity)	
70FX / 70FY*	Lenovo Storage N3310
70G0 / 70G1*	Lenovo Storage N4610
Lenovo Storage S2200 (SAS, iSCSI, or FC host connectivity)	
64112B1	Lenovo Storage S2200 LFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64112B2	Lenovo Storage S2200 LFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64114B1	Lenovo Storage S2200 LFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD
64114B2	Lenovo Storage S2200 LFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD
64112B3	Lenovo Storage S2200 SFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64112B4	Lenovo Storage S2200 SFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64114B3	Lenovo Storage S2200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD
64114B4	Lenovo Storage S2200 SFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD
Lenovo Storage S3200 (SAS, iSCSI, or FC host connectivity)	
64113B1	Lenovo Storage S3200 LFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64113B2	Lenovo Storage S3200 LFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64116B1	Lenovo Storage S3200 LFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD
64116B2	Lenovo Storage S3200 LFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD
64113B3	Lenovo Storage S3200 SFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64113B4	Lenovo Storage S3200 SFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64116B3	Lenovo Storage S3200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD

Part number	Description
64116B4	Lenovo Storage S3200 SFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD
Lenovo Storage V Series (SAS, iSCSI, FC, or FCoE host connectivity)	
6535C1D	Lenovo Storage V3700 V2 LFF Control Enclosure
6535EC1	Lenovo Storage V3700 V2 LFF Control Enclosure (Top Seller)
6535C2D	Lenovo Storage V3700 V2 SFF Control Enclosure
6535EC2	Lenovo Storage V3700 V2 SFF Control Enclosure (Top Seller)
6535C3D	Lenovo Storage V3700 V2 XP LFF Control Enclosure
6535EC3	Lenovo Storage V3700 V2 XP LFF Control Enclosure (Top Seller)
6535C4D	Lenovo Storage V3700 V2 XP SFF Control Enclosure
6535EC4	Lenovo Storage V3700 V2 XP SFF Control Enclosure (Top Seller)
6536C12	Lenovo Storage V5030 LFF Control Enclosure 3Yr S&S
6536C32	Lenovo Storage V5030 LFF Control Enclosure 5Yr S&S
6536C22	Lenovo Storage V5030 SFF Control Enclosure 3Yr S&S
6536C42	Lenovo Storage V5030 SFF Control Enclosure 5Yr S&S
6536B1F	Lenovo Storage V5030F SFF Control Enclosure 3Yr S&S
6536B2F	Lenovo Storage V5030F SFF Control Enclosure 5Yr S&S
IBM Storwize for Lenovo (SAS [except V7000], iSCSI, FC, or FCoE host connectivity)	
6096CU2**	IBM Storwize V3500 3.5-inch Dual Control Storage Controller Unit
6096CU3**	IBM Storwize V3500 2.5-inch Dual Control Storage Controller Unit
6099L2C	IBM Storwize V3700 3.5-inch Storage Controller Unit
6099S2C	IBM Storwize V3700 2.5-inch Storage Controller Unit
6099T2C	IBM Storwize V3700 2.5-inch DC Storage Controller Unit
6194L2C†	IBM Storwize V5000 LFF Control Enclosure, w/3 Yr S&S
6194L2L‡	IBM Storwize V5000 LFF Control Enclosure, w/3 Yr S&S (LA)
61941A1†	IBM Storwize V5000 LFF Control Enclosure, w/5 Yr S&S
61941AL‡	IBM Storwize V5000 LFF Control Enclosure, w/5 Yr S&S (LA)
6194S2C†	IBM Storwize V5000 SFF Control Enclosure, w/3 Yr S&S
6194S2L‡	IBM Storwize V5000 SFF Control Enclosure, w/3 Yr S&S (LA)
61941C1†	IBM Storwize V5000 SFF Control Enclosure, w/5 Yr S&S
61941CL‡	IBM Storwize V5000 SFF Control Enclosure, w/5 Yr S&S (LA)
6195SC5†	IBM Storwize V7000 2.5-inch Storage Controller Unit, w/3 Yr S&S (Model 524)
6195SCL‡	IBM Storwize V7000 2.5-inch Storage Controller Unit, w/3 Yr S&S (LA) (Model 524)
61951F1†	IBM Storwize V7000 2.5-inch Storage Controller Unit, w/5 Yr S&S (Model 524)
61951FL‡	IBM Storwize V7000 2.5-inch Storage Controller Unit, w/5 Yr S&S (LA) (Model 524)
6195C32†	IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA (Model HC1 [Gen2+])
6195C3L‡	IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA, LA (Model HC1 [Gen2+])
6195C52†	IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA (Model HC1 [Gen2+])
6195C5L‡	IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA, LA (Model HC1 [Gen2+])

* Machine Type; see the respective Product Guide in the NAS Storage category for models:
http://lenovopress.com/storage/nas
** Available only in China.
† Available worldwide except Latin America.
‡ Available only in Latin America.

For more information, see the list of Product Guides in the following categories:

- Lenovo Network-Attached Storage: http://lenovopress.com/storage/nas
- Lenovo SAN Storage: https://lenovopress.com/storage/san/lenovo
- IBM Storwize: https://lenovopress.com/storage/san/ibm

External backup units

The following table lists the external backup options that are offered by Lenovo.

Table 34. External backup options

Part number	Description
External RDX USB drives (System x, Flex System, NeXtScale, BladeCenter)	
362532Y	RDX External USB 3.0 Dock with 320GB Cartridge
362550Y	RDX External USB 3.0 Dock with 500GB Cartridge
36251TY	RDX External USB 3.0 Dock with 1TB Cartridge
External RDX USB drives (ThinkServer)	
4XF0G88929	Lenovo ThinkServer External RDX Tape Drive
External SAS tape backup drives	
6160S5E	IBM TS2250 Tape Drive Model H5S
6160S6E	IBM TS2260 Tape Drive Model H6S
6160S7E	IBM TS2270 Tape Drive Model H7S
External SAS tape backup autoloaders	
6171S5R	IBM TS2900 Tape Autoloader w/LTO5 HH SAS
6171S6R	IBM TS2900 Tape Autoloader w/LTO6 HH SAS
6171S7R	IBM TS2900 Tape Autoloader w/LTO7 HH SAS
External tape backup libraries	
61732UL	IBM TS3100 Tape Library Model L2U
61734UL	IBM TS3200 Tape Library Model L4U
Fibre Channel backup drives for TS3100 and TS3200 Tape Libraries	
00NA107	6173 LTO Ultrium 5 Fibre Channel Drive
00NA113	6173 LTO Ultrium 5 Half High Fibre Drive Sled
00NA115	6173 LTO Ultrium 6 Fibre Channel Drive
00NA119	6173 LTO Ultrium 6 Half High Fibre Drive Sled
00WF765	6173 LTO Ultrium 7 Fibre Channel Drive
00WF769	6173 LTO Ultrium 7 Half High Fibre Drive Sled
SAS backup drives for TS3100 and TS3200 Tape Libraries	
00NA109	6173 LTO Ultrium 5 SAS Drive Sled
00NA111	6173 LTO Ultrium 5 Half High SAS Drive Sled
00NA117	6173 LTO Ultrium 6 Half High SAS Drive Sled
00WF767	6173 LTO Ultrium 7 Half High SAS Drive Sled

For more information, see the list of Product Guides in the Backup units category:
https://lenovopress.com/servers/options/backup

Top-of-rack Ethernet switches

The following table lists the Ethernet LAN switches that are offered by Lenovo.

Table 35. Ethernet LAN switches

Part number	Description
1 Gb Ethernet switches	
7165H1X	Juniper EX2300-C PoE Switch
7165H2X	Juniper EX2300-24p PoE Switch
7159BAX	Lenovo RackSwitch G7028 (Rear to Front)
7159CAX	Lenovo RackSwitch G7052 (Rear to Front)
7159G52	Lenovo RackSwitch G8052 (Rear to Front)
10 Gb Ethernet switches	
7159BR6	Lenovo RackSwitch G8124E (Rear to Front)
7159G64	Lenovo RackSwitch G8264 (Rear to Front)
7159DRX	Lenovo RackSwitch G8264CS (Rear to Front)
7159CRW	Lenovo RackSwitch G8272 (Rear to Front)
7159GR6	Lenovo RackSwitch G8296 (Rear to Front)
40 Gb Ethernet switches	
7159BRX	Lenovo RackSwitch G8332 (Rear to Front)

For more information, see the list of Product Guides in the following switch categories:

- 1 Gb Ethernet switches: http://lenovopress.com/networking/tor/1gb?rt=product-guide
- 10 Gb Ethernet switches: http://lenovopress.com/networking/tor/10gb?rt=product-guide
- 40 Gb Ethernet switches: http://lenovopress.com/networking/tor/40gb?rt=product-guide

Fibre Channel SAN switches

The following table lists the Fibre Channel SAN switches that are offered by Lenovo and can be used with this system.

Table 36. Fibre Channel SAN switches

Part number	Description
8 Gb Fibre Channel	
3873AR3	Lenovo B300, 8 ports activated w/ 8Gb SWL SFPs, 1 PS, Rail Kit
3873AR4	Lenovo B6505, 12 ports activated w/ 8Gb SWL SFPs, 1 PS, Rail Kit
3873BR2	Lenovo B6510, 24 ports activated w/ 8Gb SWL SFPs, 2 PS, Rail Kit
3873AR1*	Brocade 300 FC SAN Switch
16 Gb Fibre Channel	
3873AR5	Lenovo B6505, 12 ports activated w/ 16Gb SWL SFPs, 1 PS, Rail Kit
3873BR3	Lenovo B6510, 24 ports activated w/ 16Gb SWL SFPs, 2 PS, Rail Kit
3873AR2*	Brocade 6505 FC SAN Switch
3873BR1*	Brocade 6510 FC SAN Switch

* Withdrawn from marketing

For more information, see the list of Product Guides in the Rack SAN Switches category: http://lenovopress.com/storage/switches/rack

Uninterruptible power supply units

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

Table 37. Uninterruptible power supply units

Part number	Description
Tower UPS units	
55951AX	T1kVA Tower UPS (100-125VAC)
55951KX	T1kVA Tower UPS (200-240VAC)
55952AX	T1.5kVA Tower UPS (100-125VAC)
55952KX	T1.5kVA Tower UPS (200-240VAC)
Rack-mounted or tower UPS units	
55941AX	RT1.5kVA 2U Rack or Tower UPS (100-125VAC)
55941KX	RT1.5kVA 2U Rack or Tower UPS (200-240VAC)
55942AX	RT2.2kVA 2U Rack or Tower UPS (100-125VAC)
55942KX	RT2.2kVA 2U Rack or Tower UPS (200-240VAC)
55943AX	RT3kVA 2U Rack or Tower UPS (100-125VAC)
55943KX	RT3kVA 2U Rack or Tower UPS (200-240VAC)
55945KX	RT5kVA 3U Rack or Tower UPS (200-240VAC)
55946KX	RT6kVA 3U Rack or Tower UPS (200-240VAC)
55948KX	RT8kVA 6U Rack or Tower UPS (200-240VAC)
55949KX	RT11kVA 6U Rack or Tower UPS (200-240VAC)
55948PX	RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)
55949PX	RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)

For more information, see the list of Product Guides in the UPS category:
https://lenovopress.com/servers/options/ups

Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo.

Table 38. Power distribution units

Part number	Description
0U Basic PDUs	
00YJ776	0U 36 C13/6 C19 24A/200-240V 1 Phase PDU with NEMA L6-30P line cord
00YJ777	0U 36 C13/6 C19 32A/200-240V 1 Phase PDU with IEC60309 332P6 line cord
00YJ778	0U 21 C13/12 C19 32A/200-240V/346-415V 3 Phase PDU with IEC60309 532P6 line cord
00YJ779	0U 21 C13/12 C19 48A/200-240V 3 Phase PDU with IEC60309 460P9 line cord
Switched and Monitored PDUs	
00YJ780	0U 20 C13/4 C19 Switched and Monitored 32A/200-240V/1Ph PDU w/ IEC60309 332P6 line cord
00YJ781	0U 20 C13/4 C19 Switched and Monitored 24A/200-240V/1Ph PDU w/ NEMA L6-30P line cord
00YJ782	0U 18 C13/6 C19 Switched / Monitored 32A/200-240V/346-415V/3Ph PDU w/ IEC60309 532P6 cord
00YJ783	0U 12 C13/12 C19 Switched and Monitored 48A/200-240V/3Ph PDU w/ IEC60309 460P9 line cord
46M4002	1U 9 C19/3 C13 Switched and Monitored DPI PDU (without line cord)
46M4003	1U 9 C19/3 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord
46M4004	1U 12 C13 Switched and Monitored DPI PDU (without line cord)
46M4005	1U 12 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord
Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)	
71762NX	Ultra Density Enterprise C19/C13 PDU Module (without line cord)
71763NU	Ultra Density Enterprise C19/C13 PDU 60A/208V/3ph with IEC 309 3P+Gnd line cord
C13 Enterprise PDUs (12x IEC 320 C13 outlets)	
39M2816	DPI C13 Enterprise PDU+ (without line cord)
39Y8941	DPI Single Phase C13 Enterprise PDU (without line cord)
C19 Enterprise PDUs (6x IEC 320 C19 outlets)	
39Y8948	DPI Single Phase C19 Enterprise PDU (without line cord)
39Y8923	DPI 60A 3 Phase C19 Enterprise PDU with IEC 309 3P+G (208 V) fixed line cord
Front-end PDUs (3x IEC 320 C19 outlets)	
39Y8938	DPI 30amp/125V Front-end PDU with NEMA L5-30P line cord
39Y8939	DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord
39Y8934	DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord
39Y8940	DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord
39Y8935	DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord
NEMA PDUs (6x NEMA 5-15R outlets)	
39Y8905	DPI 100-127V PDU with Fixed NEMA L5-15P line cord
Line cords for PDUs that ship without a line cord	
40K9611	DPI 32a Line Cord (IEC 309 3P+N+G)
40K9612	DPI 32a Line Cord (IEC 309 P+N+G)
40K9613	DPI 63a Cord (IEC 309 P+N+G)
40K9614	DPI 30a Line Cord (NEMA L6-30P)
40K9615	DPI 60a Cord (IEC 309 2P+G)
40K9617	DPI Australian/NZ 3112 Line Cord
40K9618	DPI Korean 8305 Line Cord

For more information, see the Lenovo Press documents in the PDU category:
https://lenovopress.com/servers/options/pdu

Racks cabinets

The server supports the rack cabinets that are listed in the following table. One of the tower-to-rack conversion kits is required for the server to be installed in the rack.

Table 39. Rack cabinets

Part number	Description
00J6353	Tower to 5U Rack Conversion Kit for System x3100 M5 (for systems with hot-swap power supplies)
69Y5182	Tower to 4U Rack Conversion Kit for System x3100 M5 (for systems with fixed power supplies)
93072PX	25U Static S2 Standard Rack
93072RX	25U Standard Rack
93074RX	42U Standard Rack
93074XX	42U Standard Rack Extension
93084EX	42U Enterprise Expansion Rack
93084PX	42U Enterprise Rack
93604EX	42U 1200 mm Deep Dynamic Expansion Rack
93604PX	42U 1200 mm Deep Dynamic Rack
93614EX	42U 1200 mm Deep Static Expansion Rack
93614PX	42U 1200 mm Deep Static Rack
93624EX	47U 1200 mm Deep Static Expansion Rack
93624PX	47U 1200 mm Deep Static Rack

For more information, see the list of Lenovo Press Product Guides in the Rack cabinets and options category:
https://lenovopress.com/servers/options/racks

KVM console options

The following table lists the supported KVM console, keyboards and KVM switches.

Table 40. Console keyboards

Part number	Description
Consoles	
17238BX	1U 18.5" Standard Console (without keyboard)
Console keyboards	
00MW310	Lenovo UltraNav Keyboard USB - US Eng
46W6713	Keyboard w/ Int. Pointing Device USB - Arabic 253 RoHS v2
46W6714	Keyboard w/ Int. Pointing Device USB - Belg/UK 120 RoHS v2
46W6715	Keyboard w/ Int. Pointing Device USB - Chinese/US 467 RoHS v2
46W6716	Keyboard w/ Int. Pointing Device USB - Czech 489 RoHS v2
46W6717	Keyboard w/ Int. Pointing Device USB - Danish 159 RoHS v2
46W6718	Keyboard w/ Int. Pointing Device USB - Dutch 143 RoHS v2

Part number	Description
46W6719	Keyboard w/ Int. Pointing Device USB - French 189 RoHS v2
46W6720	Keyboard w/ Int. Pointing Device USB - Fr/Canada 445 RoHS v2
46W6721	Keyboard w/ Int. Pointing Device USB - German 129 RoHS v2
46W6722	Keyboard w/ Int. Pointing Device USB - Greek 219 RoHS v2
46W6723	Keyboard w/ Int. Pointing Device USB - Hebrew 212 RoHS v2
46W6724	Keyboard w/ Int. Pointing Device USB - Hungarian 208 RoHS v2
46W6725	Keyboard w/ Int. Pointing Device USB - Italian 141 RoHS v2
46W6726	Keyboard w/ Int. Pointing Device USB - Japanese 194 RoHS v2
46W6727	Keyboard w/ Int. Pointing Device USB - Korean 413 RoHS v2
46W6728	Keyboard w/ Int. Pointing Device USB - LA Span 171 RoHS v2
46W6729	Keyboard w/ Int. Pointing Device USB - Norwegian 155 RoHS v2
46W6730	Keyboard w/ Int. Pointing Device USB - Polish 214 RoHS v2
46W6731	Keyboard w/ Int. Pointing Device USB - Portugese 163 RoHS v2
46W6732	Keyboard w/ Int. Pointing Device USB - Russian 441 RoHS v2
46W6733	Keyboard w/ Int. Pointing Device USB - Slovak 245 RoHS v2
46W6734	Keyboard w/ Int. Pointing Device USB - Spanish 172 RoHS v2
46W6735	Keyboard w/ Int. Pointing Device USB - Swed/Finn 153 RoHS v2
46W6736	Keyboard w/ Int. Pointing Device USB - Swiss F/G 150 RoHS v2
46W6737	Keyboard w/ Int. Pointing Device USB - Thai 191 RoHS v2
46W6738	Keyboard w/ Int. Pointing Device USB - Turkish 179 RoHS v2
46W6739	Keyboard w/ Int. Pointing Device USB - UK Eng 166 RoHS v2
46W6740	Keyboard w/ Int. Pointing Device USB - US Euro 103P RoHS v2
46W6741	Keyboard w/ Int. Pointing Device USB - Slovenian 234 RoHS v2
Console switches	
1754D2X	Global 4x2x32 Console Manager (GCM32)
1754D1X	Global 2x2x16 Console Manager (GCM16)
1754A2X	Local 2x16 Console Manager (LCM16)
1754A1X	Local 1x8 Console Manager (LCM8)
Console switch cables	
43V6147	Single Cable USB Conversion Option (UCO)
39M2895	USB Conversion Option (4 Pack UCO)
46M5383	Virtual Media Conversion Option Gen2 (VCO2)
46M5382	Serial Conversion Option (SCO)

For more information, see the list of Product Guides in the KVM Switches and Consoles category:
http://lenovopress.com/servers/options/kvm

Lenovo Financial Services

Lenovo Financial Services reinforces Lenovo's commitment to deliver pioneering products and services that are recognized for their quality, excellence, and trustworthiness. Lenovo Financial Services offers financing solutions and services that complement your technology solution anywhere in the world.

We are dedicated to delivering a positive finance experience for customers like you who want to maximize your purchase power by obtaining the technology you need today, protect against technology obsolescence, and preserve your capital for other uses.

We work with businesses, non-profit organizations, governments and educational institutions to finance their entire technology solution. We focus on making it easy to do business with us. Our highly experienced team of finance professionals operates in a work culture that emphasizes the importance of providing outstanding customer service. Our systems, processes and flexible policies support our goal of providing customers with a positive experience.

We finance your entire solution. Unlike others, we allow you to bundle everything you need from hardware and software to service contracts, installation costs, training fees, and sales tax. If you decide weeks or months later to add to your solution, we can consolidate everything into a single invoice.

Our Premier Client services provide large accounts with special handling services to ensure these complex transactions are serviced properly. As a premier client, you have a dedicated finance specialist who manages your account through its life, from first invoice through asset return or purchase. This specialist develops an in-depth understanding of your invoice and payment requirements. For you, this dedication provides a high-quality, easy, and positive financing experience.

For your region specific offers please ask your Lenovo sales representative or your technology provider about the use of Lenovo Financial Services. For more information, see the following Lenovo website:

http://www.lenovofs.com

Related publications and links

For more information, see the following documents:

- System x3100 M5 product page
  http://shop.lenovo.com/us/en/systems/servers/towers/systemx/x3100-m5/
- *System x3100 M5 Installation and Service Guide*
  http://systemx.lenovofiles.com/help/index.jsp?
  topic=%2Fcom.lenovo.sysx.5457.doc%2Fprintable_doc.html
- System x Information Center
  http://systemx.lenovofiles.com/help/index.jsp
- ServerProven hardware compatibility page for the x3100 M5
  http://www.lenovo.com/us/en/serverproven/xseries/5457.shtml
- xREF: System x Reference
  http://lenovopress.com/xref
- Support Portal for x3100 M5
  http://support.lenovo.com/products/Servers/Lenovo-x86-servers/Lenovo-System-x3100-M5/5457

Related product families

Product families related to this document are the following:

- 1-Socket Tower Servers

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

This document, TIPS1165, was created or updated on April 21, 2017.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
  http://lenovopress.com/TIPS1165

- Send your comments in an e-mail to:
  comments@lenovopress.com

This document is available online at http://lenovopress.com/TIPS1165.

Trademarks

Lenovo, the Lenovo logo, and For Those Who Do are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at http://www.lenovo.com/legal/copytrade.html.

The following terms are trademarks of Lenovo in the United States, other countries, or both:
Lenovo®
Lenovo Services™
ThinkServer®
TopSeller™
UltraNav®
BladeCenter®
ServerProven®
System x®
Flex System™
NeXtScale™
RackSwitch™
ServeRAID™
ServerGuide™

The following terms are trademarks of other companies:

Intel®, Celeron®, Pentium®, and Intel Xeon® are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux® is a trademark of Linus Torvalds in the United States, other countries, or both.

Microsoft® and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.