Lenovo System x3100 M5
Product Guide (withdrawn product)

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 has a 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.

Withdrawn from marketing: The models covered in this product guide are now withdrawn from marketing. The replacement system is the Lenovo ThinkServer TS460 (E3-1200 v6) which is described in https://lenovopress.com/LP0602.

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.

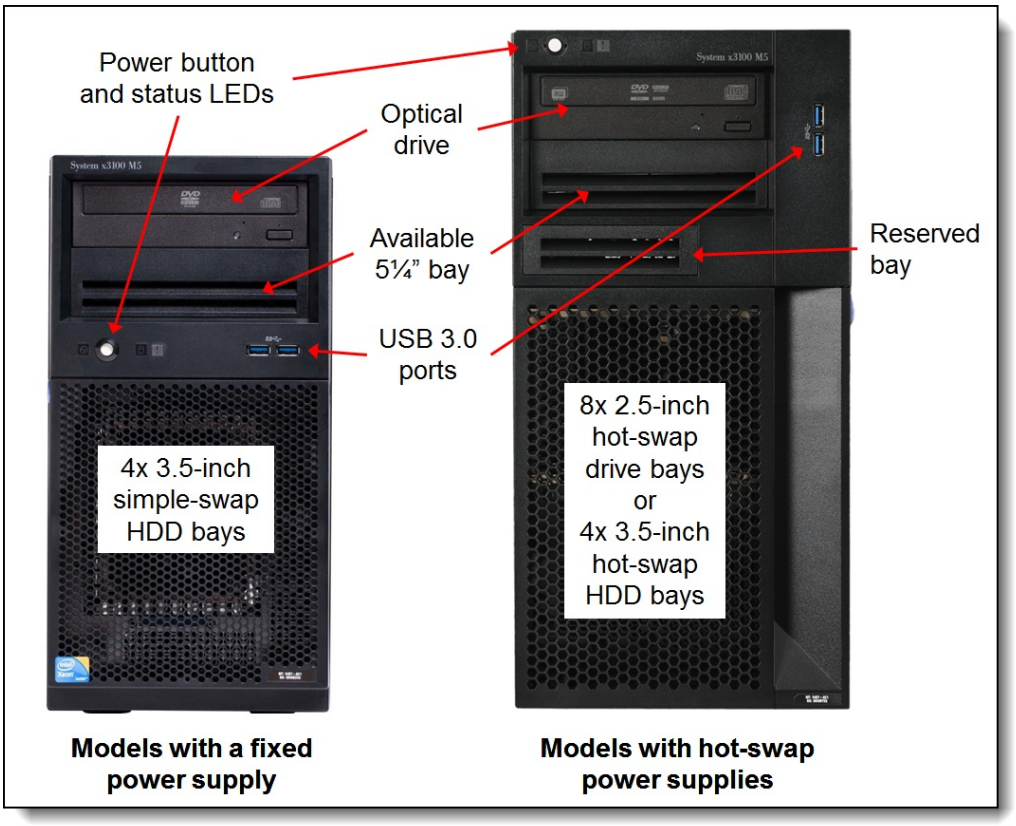

Figure 2. Front view of the System x3100 M5 - compact tower and standard tower

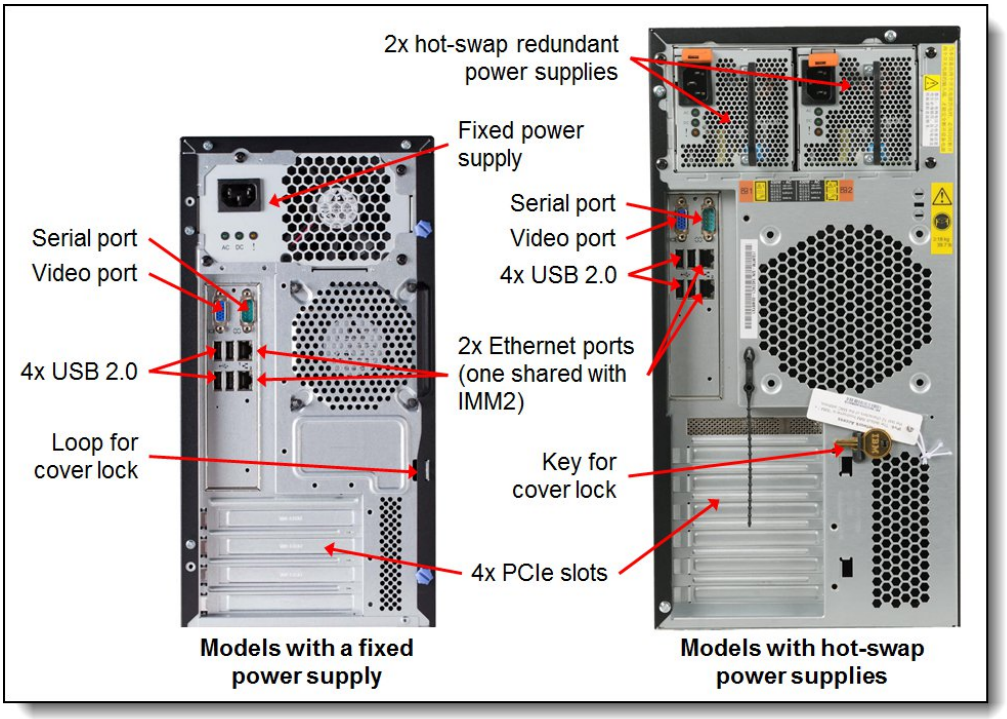

Figure 3. Rear view of the System x3100 M5 - compact tower and standard tower

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

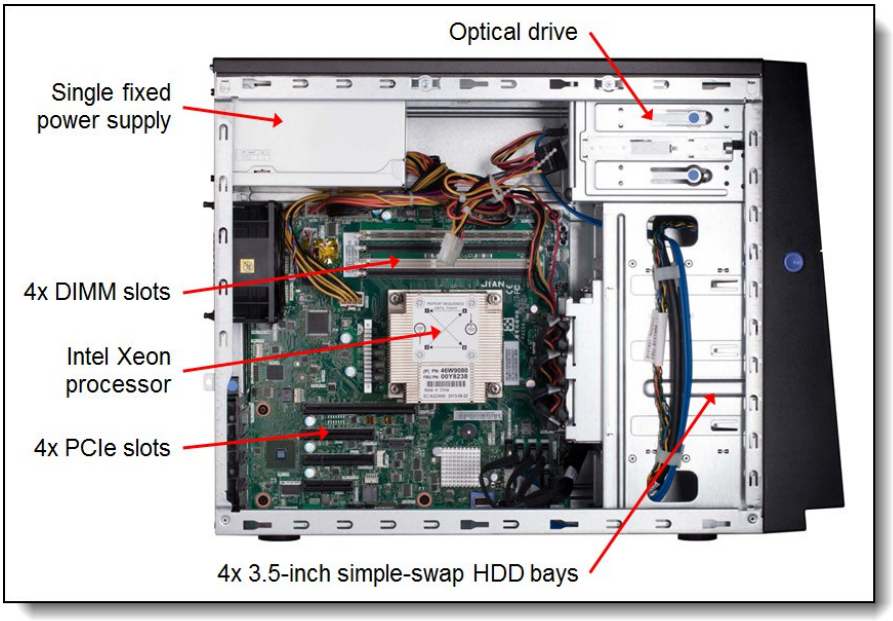

Figure 4. Inside view of System x3100 M5 - compact tower configuration

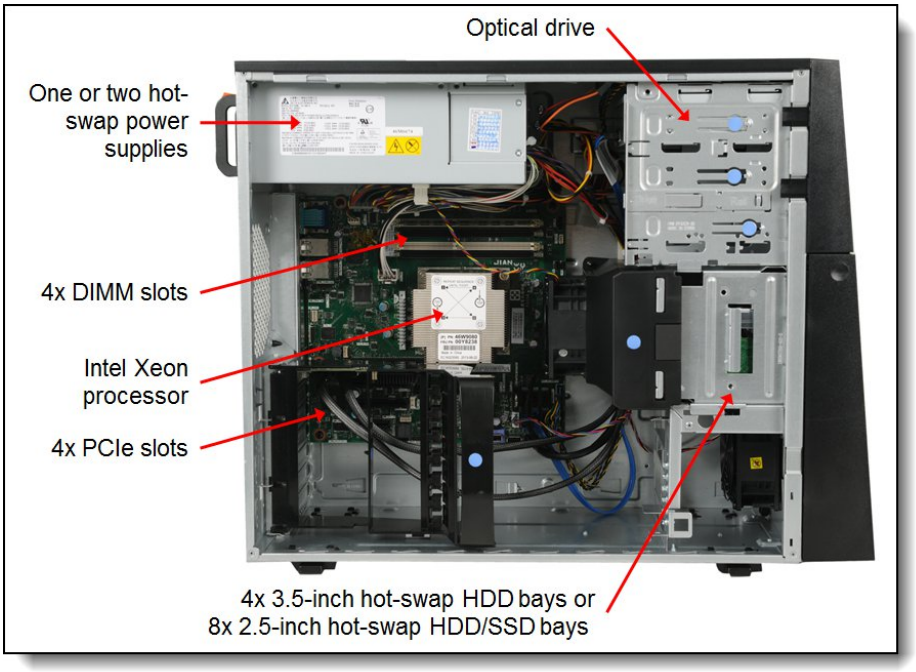

Figure 5. Inside view of System x3100 M5 - standard tower configuration

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, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware ESXi. See the Operating system support section for specifics.
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 Lenovo Services: 4-hour or 2-hour response time, 8-hour fix time, 1-year or 2-year warranty extension, remote technical support for hardware and some Lenovo and OEM 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 regions 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, region/region 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/region 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 10 Gb Ethernet SFP+ optical transceivers and DAC cables. For multi-port adapters, all adapter ports must have the same type of transceiver or DAC cable selected.

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

Part number	Feature code	Description
10 GbE SFP+ LR transceivers (for SFP+ adapters)		
00FE331	B0RJ	Lenovo 10GBASE-LR SFP+ Transceiver
90Y9412	A1PM	Lenovo 10Gb/s LR SFP+ XCVR
10 GbE SFP+ SR transceivers (for SFP+ adapters)		
46C3447	5053	Lenovo 10GBASE-SR SFP+ Transceiver
49Y4216	0069	Brocade 10Gb SFP+ SR Optical Transceiver
49Y4218	0064	QLogic 10Gb SFP+ SR Optical Transceiver
10 GbE SFP+ DAC cables (for SFP+ adapters)		
00D6288	A3RG	Lenovo 0.5m Passive SFP+ DAC Cable
90Y9427	A1PH	Lenovo 1m Passive SFP+ DAC Cable
00AY764	A51N	Lenovo 1.5m Passive SFP+ DAC Cable
00AY765	A51P	Lenovo 2m Passive SFP+ DAC Cable
90Y9430	A1PJ	Lenovo 3m Passive SFP+ DAC Cable
90Y9433	A1PK	Lenovo 5m Passive SFP+ DAC Cable
00D6151	A3RH	Lenovo 7m Passive SFP+ DAC Cable

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 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
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	-

Operating system support

The server supports the following operating systems:

- IBM 4690 OS V6
- Microsoft Windows Server 2008 R2 SP1
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016
- Red Hat Enterprise Linux 5.10 32-bit
- Red Hat Enterprise Linux 5.10 Xen x64
- Red Hat Enterprise Linux 5.10 x64
- Red Hat Enterprise Linux 6.5 32-bit
- Red Hat Enterprise Linux 6.5 x64
- Red Hat Enterprise Linux 6.6 32-bit
- Red Hat Enterprise Linux 6.6 x64
- Red Hat Enterprise Linux 6.7 32-bit
- Red Hat Enterprise Linux 6.7 x64
- Red Hat Enterprise Linux 6.8 32-bit
- Red Hat Enterprise Linux 6.8 x64

- Red Hat Enterprise Linux 6.10 x64
- Red Hat Enterprise Linux 7.0
- Red Hat Enterprise Linux 7.1
- Red Hat Enterprise Linux 7.2
- Red Hat Enterprise Linux 7.3
- Red Hat Enterprise Linux 7.4
- Red Hat Enterprise Linux 7.5
- Red Hat Enterprise Linux 7.6
- Red Hat Enterprise Linux 7.7
- SUSE Linux Enterprise Server 11 x64 SP3
- SUSE Linux Enterprise Server 11 x64 SP4
- SUSE Linux Enterprise Server 11 x86 SP3
- SUSE Linux Enterprise Server 11 x86 SP4
- SUSE Linux Enterprise Server 12
- SUSE Linux Enterprise Server 12 SP1
- SUSE Linux Enterprise Server 12 SP2
- SUSE Linux Enterprise Server 12 SP3
- SUSE Linux Enterprise Server 12 SP4
- SUSE Linux Enterprise Server 12 Xen
- SUSE Linux Enterprise Server 12 Xen SP1
- SUSE Linux Enterprise Server 12 Xen SP2
- SUSE Linux Enterprise Server 12 Xen SP3
- SUSE Linux Enterprise Server 12 Xen SP4
- Toshiba 4690 OS V6
- VMware ESXi 5.1 U2
- VMware ESXi 5.1 U3
- VMware ESXi 5.5
- VMware ESXi 5.5 U1
- VMware ESXi 5.5 U2
- VMware ESXi 5.5 U3
- VMware ESXi 6.0
- VMware ESXi 6.0 U1
- VMware ESXi 6.0 U2
- VMware ESXi 6.0 U3
- VMware ESXi 6.5
- VMware ESXi 6.5 U1
- VMware ESXi 6.5 U2
- VMware ESXi 6.5 U3

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 a complete list of supported, certified and tested operating systems, plus additional details and links to relevant web sites, see the Operating System Interoperability Guide:
https://lenovopress.com/osig#servers=x3100-m5-5457

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 region-specific. Not all warranty service upgrades are available in every region.

For more information about Lenovo warranty service upgrade offerings that are available in your region, go to the Data Center Advisor and Configurator website http://dcsc.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 region 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 12 Gbps SAS external drive enclosures offered by Lenovo that can be used with the server for storage expansion.

Note: Information provided in this section is for ordering reference purposes only. For the operating system and adapter support details, refer to the interoperability matrix for a particular storage enclosure that can be found on the Lenovo Data Center Support web site:
http://datacentersupport.lenovo.com

Table 29. External drive enclosures

Description	Part number		
	Worldwide	Japan	PRC
Lenovo Storage D1212 LFF Disk Expansion with Dual SAS IO Modules	4587A11	4587A1J	4587A1C
Lenovo Storage D1224 SFF Disk Expansion with Dual SAS IO Modules	4587A31	4587A3J	4587A3C
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		

For details about supported drives, adapters, and cables, see the following Lenovo Press Product Guides:

- Lenovo Storage D1212 and D1224
  http://lenovopress.com/lp0512
- Lenovo Storage D3284
  http://lenovopress.com/lp0513

External disk storage systems

Lenovo offers the ThinkSystem DE Series, ThinkSystem DG Series and ThinkSystem DM Series external storage systems for high-performance storage. See the DE Series, DG Series and DM Series product guides for specific controller models, expansion enclosures and configuration options:

- ThinkSystem DE Series Storage
  https://lenovopress.com/storage/thinksystem/de-series#rt=product-guide
- ThinkSystem DM Series Storage
  https://lenovopress.com/storage/thinksystem/dm-series#rt=product-guide
- ThinkSystem DG Series Storage
  https://lenovopress.com/storage/thinksystem/dg-series#rt=product-guide

External backup units

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

Table 30. External backup options

Part number	Description
External RDX USB drives	
4T27A10725	ThinkSystem RDX External USB 3.0 Dock
External SAS tape backup drives	
6160S6E	IBM TS2260 Tape Drive Model H6S
6160S7E	IBM TS2270 Tape Drive Model H7S
6160S8E	IBM TS2280 Tape Drive Model H8S
6160S9E	IBM TS2290 Tape Drive Model H9S
External SAS tape backup autoloaders	
6171S6R	IBM TS2900 Tape Autoloader w/LTO6 HH SAS
6171S7R	IBM TS2900 Tape Autoloader w/LTO7 HH SAS
6171S8R	IBM TS2900 Tape Autoloader w/LTO8 HH SAS
6171S9R	IBM TS2900 Tape Autoloader w/LTO9 HH SAS
External tape backup libraries	
6741A1F	IBM TS4300 3U Tape Library Base Unit
6741B1F	IBM TS4300 3U Tape Library Base Unit - Max 48U
6741A3F	TS4300 Tape Library Expansion Unit
6741B3F	IBM TS4300 3U Tape Library Expansion Unit - Max 48U
SAS backup drives for TS4300 Tape Library	
01KP934	LTO 6 HH SAS Drive
01KP937	LTO 7 HH SAS Drive
01KP953	LTO 8 HH SAS Drive
02JH836	LTO 9 HH SAS Drive
Full High 8 Gb Fibre Channel for TS4300	
01KP938	LTO 7 FH Fibre Channel Drive
01KP954	LTO 8 FH Fibre Channel Drive
02JH837	LTO 9 FH Fibre Channel Drive
Half High 8 Gb Fibre Channel for TS4300	
01KP936	LTO 7 HH Fibre Channel Drive
01KP952	LTO 8 HH Fibre Channel Drive
02JH835	LTO 9 HH Fibre Channel Drive
Half High 6 Gb SAS for TS4300	
01KP937	LTO 7 HH SAS Drive
01KP953	LTO 8 HH SAS Drive
02JH836	LTO 9 HH SAS Drive

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 31. Ethernet LAN switches

Part number	Description
1 Gb Ethernet Rack switches	
7Y810011WW	Lenovo ThinkSystem NE0152T RackSwitch (Rear to Front)
7Z320O11WW	Lenovo ThinkSystem NE0152TO RackSwitch (Rear to Front, ONIE)
7159BAX	Lenovo RackSwitch G7028 (Rear to Front)
7159CAX	Lenovo RackSwitch G7052 (Rear to Front)
7159G52	Lenovo RackSwitch G8052 (Rear to Front)
7165H1X	Juniper EX2300-C PoE Switch
7165H2X	Juniper EX2300-24p PoE Switch
1 Gb Ethernet Campus switches	
7Z340011WW	Lenovo CE0128TB Switch (3-Year Warranty)
7Z360011WW	Lenovo CE0128TB Switch (Limited Lifetime Warranty)
7Z340012WW	Lenovo CE0128PB Switch (3-Year Warranty)
7Z360012WW	Lenovo CE0128PB Switch (Limited Lifetime Warranty)
7Z350021WW	Lenovo CE0152TB Switch (3-Year Warranty)
7Z370021WW	Lenovo CE0152TB Switch (Limited Lifetime Warranty)
7Z350022WW	Lenovo CE0152PB Switch (3-Year Warranty)
7Z370022WW	Lenovo CE0152PB Switch (Limited Lifetime Warranty)
10 Gb Ethernet switches	
7159A1X	Lenovo ThinkSystem NE1032 RackSwitch (Rear to Front)
7159B1X	Lenovo ThinkSystem NE1032T RackSwitch (Rear to Front)
7Z330O11WW	Lenovo ThinkSystem NE1064TO RackSwitch (Rear to Front, ONIE)
7159C1X	Lenovo ThinkSystem NE1072T RackSwitch (Rear to Front)
7159CRW	Lenovo RackSwitch G8272 (Rear to Front)
7159GR6	Lenovo RackSwitch G8296 (Rear to Front)
7159BR6	Lenovo RackSwitch G8124E (Rear to Front)
25 Gb Ethernet switches	
7159E1X	Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)
7Z210O21WW	Lenovo ThinkSystem NE2572O RackSwitch (Rear to Front, ONIE)
7Z330O21WW	Lenovo ThinkSystem NE2580O RackSwitch (Rear to Front, ONIE)
100 Gb Ethernet switches	
7159D1X	Lenovo ThinkSystem NE10032 RackSwitch (Rear to Front)
7Z210O11WW	Lenovo ThinkSystem NE10032O RackSwitch (Rear to Front, ONIE)

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
- 25 Gb Ethernet switches: http://lenovopress.com/networking/tor/25gb?rt=product-guide
- 40 Gb Ethernet switches: http://lenovopress.com/networking/tor/40gb?rt=product-guide
- 100 Gb Ethernet switches: https://lenovopress.com/networking/tor/100Gb?rt=product-guide

Fibre Channel SAN switches

Lenovo offers the ThinkSystem DB Series of Fibre Channel SAN switches for high-performance storage expansion. See the DB Series product guides for models and configuration options:

- ThinkSystem DB Series SAN Switches: https://lenovopress.com/storage/switches/rack#rt=product-guide

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo.

Table 32. Uninterruptible power supply units

Part number	Description
Tower UPS units - 100-125VAC	
7DD6A000WW	T1kVA Tower UPS-G2 (100-125VAC)
55951AX	T1kVA Tower UPS (100-125VAC)
7DD6A002WW	T1.5kVA Tower UPS-G2 (100-125VAC)
55952AX	T1.5kVA Tower UPS (100-125VAC)
Tower UPS units - 200-240VAC	
7DD6A001WW	T1kVA Tower UPS-G2 (200-240VAC)
55951KX	T1kVA Tower UPS (200-240VAC)
7DD6A003WW	T1.5kVA Tower UPS-G2 (200-240VAC)
55952KX	T1.5kVA Tower UPS (200-240VAC)
Rack-mounted or tower UPS units - 100-125VAC	
7DD5A001WW	RT1.5kVA 2U Rack or Tower UPS-G2 (100-125VAC)
55941AX	RT1.5kVA 2U Rack or Tower UPS (100-125VAC)
55942AX	RT2.2kVA 2U Rack or Tower UPS (100-125VAC)
7DD5A003WW	RT3kVA 2U Rack or Tower UPS-G2 (100-125VAC)
55943AX	RT3kVA 2U Rack or Tower UPS (100-125VAC)
Rack-mounted or tower UPS units - 200-240VAC	
7DD5A002WW	RT1.5kVA 2U Rack or Tower UPS-G2 (200-240VAC)
55941KX	RT1.5kVA 2U Rack or Tower UPS (200-240VAC)
55942KX	RT2.2kVA 2U Rack or Tower UPS (200-240VAC)
7DD5A005WW	RT3kVA 2U Rack or Tower UPS-G2 (200-240VAC)
55943KX	RT3kVA 2U Rack or Tower UPS (200-240VAC)
7DD5A007WW	RT5kVA 3U Rack or Tower UPS-G2 (200-240VAC)
55945KX	RT5kVA 3U Rack or Tower UPS (200-240VAC)
7DD5A008WW	RT6kVA 3U Rack or Tower UPS-G2 (200-240VAC)
55946KX	RT6kVA 3U Rack or Tower UPS (200-240VAC)
55948KX	RT8kVA 6U Rack or Tower UPS (200-240VAC)
7DD5A00AWW	RT11kVA 6U Rack or Tower UPS-G2 (200-240VAC)
55949KX	RT11kVA 6U Rack or Tower UPS (200-240VAC)
55943KT†	ThinkSystem RT3kVA 2U Standard UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)
55943LT†	ThinkSystem RT3kVA 2U Long Backup UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)
55946KT†	ThinkSystem RT6kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)
5594XKT†	ThinkSystem RT10kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)
Rack-mounted or tower UPS units - 380-415VAC	
55948PX	RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)
55949PX	RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)

† Only available in China and the Asia Pacific market.

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 33. Power distribution units

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
0U Basic PDUs															
4PU7A93176	C0QH	0U 36 C13 and 6 C19 Basic 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93169	C0DA	0U 36 C13 and 6 C19 Basic 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93177	C0QJ	0U 24 C13/C15 and 24 C13/C15/C19 Basic 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93170	C0D9	0U 24 C13/C15 and 24 C13/C15/C19 Basic 32A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
00YJ776	ATZY	0U 36 C13/6 C19 24A 1 Phase PDU	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	N
00YJ779	ATZX	0U 21 C13/12 C19 48A 3 Phase PDU	N	N	Y	N	N	N	Y	N	N	Y	Y	Y	N
00YJ777	ATZZ	0U 36 C13/6 C19 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
00YJ778	AU00	0U 21 C13/12 C19 32A 3 Phase PDU	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y
0U Switched and Monitored PDUs															
4PU7A93181	C0QN	0U 21 C13/C15 and 21 C13/C15/C19 Switched and Monitored 48A 3 Phase Delta PDU v2 (60A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
4PU7A93174	C0D5	0U 21 C13/C15 and 21 C13/C15/C19 Switched and Monitored 48A 3 Phase Delta PDU (60A derated)	N	Y	N	N	N	N	N	Y	N	N	N	Y	N
4PU7A93178	C0QK	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93171	C0D8	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93182	C0QP	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93175	C0CS	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93180	C0QM	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93173	C0D6	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 32A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
4PU7A93179	C0QL	0U 16 C13/C15 and 16 C13/C15/C19 Switched and Monitored 24A 1 Phase PDU v2 (30A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
4PU7A93172	C0D7	0U 16 C13/C15 and 16 C13/C15/C19 Switched and Monitored 24A 1 Phase PDU(30A derated)	N	Y	N	N	N	N	N	Y	N	N	N	Y	N
00YJ783	AU04	0U 12 C13/12 C19 Switched and Monitored 48A 3 Phase PDU	N	N	Y	N	N	N	Y	N	N	Y	Y	Y	N
00YJ781	AU03	0U 20 C13/4 C19 Switched and Monitored 24A 1 Phase PDU	N	N	Y	N	Y	N	Y	N	N	Y	Y	Y	N
00YJ782	AU02	0U 18 C13/6 C19 Switched and Monitored 32A 3 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y
00YJ780	AU01	0U 20 C13/4 C19 Switched and Monitored 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y
1U Switched and Monitored PDUs															
4PU7A90808	C0D4	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 ETL	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
4PU7A81117	BNDV	1U 18 C19/C13 switched and monitored 48A 3P WYE PDU - ETL	N	N	N	N	N	N	N	N	N	N	N	Y	N
4PU7A90809	C0DE	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 CE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
4PU7A81118	BNDW	1U 18 C19/C13 switched and monitored 48A 3P WYE PDU – CE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
4PU7A90810	C0DD	1U 18 C19/C13 Switched and monitored 80A 3P Delta PDU V2	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
4PU7A77467	BLC4	1U 18 C19/C13 Switched and Monitored 80A 3P Delta PDU	N	N	N	N	N	N	N	N	N	Y	N	Y	N
4PU7A90811	C0DC	1U 12 C19/C13 Switched and monitored 32A 3P WYE PDU V2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A77468	BLC5	1U 12 C19/C13 switched and monitored 32A 3P WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A90812	C0DB	1U 12 C19/C13 Switched and monitored 60A 3P Delta PDU V2	N	N	N	N	N	N	N	Y	N	Y	Y	Y	N
4PU7A77469	BLC6	1U 12 C19/C13 switched and monitored 60A 3P Delta PDU	N	N	N	N	N	N	N	N	N	N	N	Y	N
46M4002	5896	1U 9 C19/3 C13 Switched and Monitored DPI PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
46M4004	5894	1U 12 C13 Switched and Monitored DPI PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
46M4003	5897	1U 9 C19/3 C13 Switched and Monitored 60A 3 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
46M4005	5895	1U 12 C13 Switched and Monitored 60A 3 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)															
71763NU	6051	Ultra Density Enterprise C19/C13 PDU 60A/208V/3PH	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
71762NX	6091	Ultra Density Enterprise C19/C13 PDU Module	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U C13 Enterprise PDUs (12x IEC 320 C13 outlets)															
39M2816	6030	DPI C13 PDU+	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8941	6010	Enterprise C13 PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U C19 Enterprise PDUs (6x IEC 320 C19 outlets)															
39Y8948	6060	Enterprise C19 PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8923	6061	Enterprise C19 3 phase PDU (60a)	N	N	Y	N	N	N	Y	N	N	N	Y	Y	N
1U Front-end PDUs (3x IEC 320 C19 outlets)															
39Y8938	6002	DPI 30amp/125V Front-end PDU with NEMA L5-30P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8939	6003	DPI 30amp/250V Front-end PDU with NEMA L6-30P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8934	6005	DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8940	6004	DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd connector	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N
39Y8935	6006	DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd connector	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U NEMA PDUs (6x NEMA 5-15R outlets)															
39Y8905	5900	DPI 100-127v PDU with Fixed Nema L5-15P line cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Line cords for 1U PDUs that ship without a line cord															
40K9611	6504	DPI 32a Cord (IEC 309 3P+N+G)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9612	6502	DPI 32a Cord (IEC 309 P+N+G)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9613	6503	DPI 63a Cord (IEC 309 P+N+G)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9614	6500	DPI 30a Cord (NEMA L6-30P)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9615	6501	DPI 60a Cord (IEC 309 2P+G)	N	N	Y	N	N	N	Y	N	N	Y	Y	Y	N
40K9617	6505	4.3m, 32A/230V, Souriau UTG to AS/NZS 3112 (Aus/NZ) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9618	6506	4.3m, 32A/250V, Souriau UTG Female to KSC 8305 (S. Korea) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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 34. 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 consoles, keyboards, and KVM switches.

Table 35. 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
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

Part number	Description
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 - Portuguese 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

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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

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