



Lenovo ThinkSystem ST550 Server Product Guide

The Lenovo ThinkSystem ST550 2-socket 4U rack-mountable tower server provides outstanding performance and industry-leading reliability. It is ideal for small-to-medium businesses, distributed enterprises, retail, educational institutions, and remote/branch offices. The server supports two Intel Xeon Processor Scalable Family processors and up to 768 GB of TruDDR4 system memory.

Suggested uses: business workloads such as e-mail, workgroup applications, file & print, system management, web serving, and point-of-sale applications

Figure 1 shows the Lenovo ThinkSystem ST550.



Figure 1. Lenovo ThinkSystem ST550

Did you know?

The ThinkSystem ST550 is an enterprise-grade server with support for hot-swap power supplies, fans, and drives. It also offers full support of Lenovo XClarity Administrator for comprehensive systems management and includes the next generation UEFI-based Lenovo XClarity Provisioning Manager for system setup and diagnosis, and the Lenovo XClarity Controller management processor for ongoing systems management and alerting. These tools make the ST550 easy to deploy, integrate, service, and manage.

Key features

The ThinkSystem ST550 is a high-performance dual-socket tower server based on the new Intel Xeon Processor Scalable Family, supporting a wide range of processors to suit a wide range of budgets and application requirements.

Scalability and performance

The ST550 offers the following features to boost performance, improve scalability, and reduce costs:

- Improves productivity by offering superior system performance with up to two processors, each with up to 20 cores, and core speeds up to 3.6 GHz.
- Hyper-Threading Technology to maximize the concurrent execution of multithreaded applications, available with most processors.
- Intelligent and adaptive system performance with energy-efficient Intel Turbo Boost Technology, available with most processors, allows CPU cores to run at maximum speeds during peak workloads by temporarily going beyond processor thermal design power (TDP).
- Intel Virtualization Technology integrates hardware-level virtualization hooks that allow operating system vendors to better use the hardware for virtualization workloads.
- Intel Advanced Vector Extensions 512 (AVX-512) enable acceleration of enterprise-class workloads, including databases and enterprise resource planning (ERP).
- Each processor has six memory channels with memory speeds of up to 2666 MHz to help maximize system performance.
- Up to 768 GB of memory capacity with 64 GB load-reduced DIMMs (LRDIMMs)
- The 12 Gbps SAS internal storage connectivity doubles the data transfer rate compared to 6 Gb SAS solutions to maximize performance of storage I/O-intensive applications.
- Flexible storage configurations support either 2.5-inch or 3.5-inch hot-swap drive bays or a combination of the two (hybrid configuration). Configurations with 3.5-inch simple-swap drive bays are also available.
 - Up to 16x 2.5-inch drive bays with two 5.25-inch media drive bays available
 - Up to 20x 2.5-inch drive bays with the media bays converted to 4x 2.5-inch drive bays
 - Up to 8x 3.5-inch drive bays with two 5.25-inch media drive bays available
 - Up to 8x 3.5-inch + 4x 2.5-inch drive bays with the media bay conversion
 - Up to 8x 3.5-inch simple-swap drive bays
- 3.5-inch drive bays support SAS and SATA HDDs and SSDs. 2.5-inch drive bays support SAS and SATA HDDs and SSDs, as well as NVMe drives.
- Support for up to four NVMe PCIe SSDs in a 2.5-inch form factor maximizes drive I/O performance, in terms of throughput, bandwidth, and latency.
- Scalable internal storage configurations provide for up to 95.4 TB of storage capacity using 8x 10TB 3.5-inch HDDs and 4x 3.84TB 2.5-inch SSDs.
- The use of solid-state drives (SSDs) instead of, or along with, traditional hard disk drives (HDDs) can significantly improve I/O performance. An SSD can support up to 100 times more I/O operations per second (IOPS) than a typical HDD.
- New high-speed RAID controllers from Broadcom provide 12 Gb SAS connectivity to the drive backplanes. A variety of RAID adapters are available, with cache up to 4 TB and support for 20 drives on a single controller.
- Supports a new Lenovo patented-design M.2 adapter for convenient operating system boot functions. Available M.2 adapters support either one M.2 drive or two M.2 drives in a RAID 1 configuration for greater boot drive performance and reliability.
- The server has two integrated Gigabit Ethernet ports.

- The server offers PCI Express 3.0 I/O expansion capabilities that improve the theoretical maximum bandwidth by almost 100% (8 GT/ps per link using 128b/130b encoding) compared to the previous generation of PCI Express 2.0 (5 GT/s per link using 8b/10b encoding).
- The server offers up to six PCIe 3.0 I/O expansion slots plus one slot reserved for the M.2 adapter
- Support for up to two NVIDIA graphics processing units (GPUs) to maximize computing power.

Availability and serviceability

The ST550 provides the following features to simplify serviceability and increase system uptime:

- The server offers Single Device Data Correction (SDDC, also known as Chipkill), Adaptive Double-Device Data Correction (ADDDC, also known as Redundant Bit Steering or RBS), memory mirroring, and memory rank sparing for redundancy in the event of a non-correctable memory failure.
- The server offers hot-swap (HS) SSDs and HDDs, and supports RAID redundancy for data protection and greater system uptime.
- Much like HS drives, simple-swap drives are mounted on an easy-to-remove tray and work with the same RAID options. Simple-swap require a system power-down before adding or replacing, however simple-swap drives are less expensive than hot-swap drives.
- The Dual M.2 Boot Adapter supports RAID-1 which enables two installed M.2 drives to be configured as a redundant pair.
- The server supports hot-swap power supplies; with two installed, they form a redundant pair to provide availability for business-critical applications. The server also offers an optional 4th fan which offers redundancy in most server configurations.
- Toolless cover removal provides easy access to upgrades and serviceable parts, such as CPU, memory, and adapter cards.
- Proactive Platform Alerts (including PFA and SMART alerts) for: processors, voltage regulators, memory, internal storage (SAS/SATA HDDs and SSDs), fans, power supplies, RAID controllers, and server ambient and sub-component temperatures. Alerts can be surfaced through the system IMM to managers such as Lenovo XClarity Administrator, VMware vCenter, and Microsoft System Center. These proactive alerts let you take appropriate actions in advance of possible failure, thereby increasing server uptime and application availability.
- SSDs, with no moving parts, offer significantly better reliability than mechanical HDDs, for greater uptime.
- The built-in XClarity Controller continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failures to minimize downtime.
- Built-in diagnostics in UEFI, using Lenovo XClarity Provisioning Manager, speed up troubleshooting tasks to reduce service time.
- Lenovo XClarity Provisioning Manager supports diagnostics and can save service data to a USB key drive or remote CIFS share folder for troubleshooting and reduce service time.
- Auto restart in the event of a momentary loss of AC power (based on power policy setting in the XClarity Controller service processor)
- Support for the XClarity Administrator Mobile app running on a supported smartphone and connected to the server through the service-enabled USB port, enables additional local systems management functions.
- Three-year or one-year customer-replaceable unit and onsite limited warranty, 9 x 5 next business day. Optional service upgrades are available.

Manageability and security

The following powerful systems management features simplify local and remote management of the ST550:

- The server includes an XClarity Controller (XCC) to monitor server availability. Optional upgrade to XCC Advanced to provide remote control (keyboard video mouse) functions. Optional upgrade to XCC Enterprise enables the additional support for the mounting of remote media files (ISO and IMG image files), boot capture, and power capping.
- Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.
- New UEFI-based Lenovo XClarity Provisioning Manager, accessible from F1 during boot, provides system inventory information, graphical UEFI Setup, platform update function, RAID Setup wizard, operating system installation function, and diagnostic functions.
- Support for Lenovo XClarity Energy Manager which captures real-time power and temperature data from the server and provides automated controls to lower energy costs.
- Integrated Trusted Platform Module (TPM) 2.0 support enables advanced cryptographic functionality, such as digital signatures and remote attestation.
- Supports Secure Boot to ensure that only a digitally signed operating system can be used. Supported with HDDs and SSDs as well as M.2 drives in the M.2 Adapter.
- Industry-standard Advanced Encryption Standard (AES) NI support for faster, stronger encryption.
- Intel Execute Disable Bit functionality can prevent certain classes of malicious buffer overflow attacks when combined with a supported operating system.
- Intel Trusted Execution Technology provides enhanced security through hardware-based resistance to malicious software attacks, allowing an application to run in its own isolated space, protected from all other software running on a system.
- Optional physical security measures to prevent unauthorized access: Lockable side cover to prevent access to internal components, a slot at the rear of the server for a Kensington Cable, an optional chassis intrusion switch (configure-to-order only), and an optional lockable front security door.

Energy efficiency

The ST550 offers the following energy-efficiency features to save energy, reduce operational costs, increase energy availability, and contribute to the green environment:

- Energy-efficient planar components help lower operational costs.
- High-efficiency power supplies with 80 PLUS Platinum and Titanium certifications. Energy Star 2.1 certified.
- Intel Intelligent Power Capability powers individual processor elements on and off as needed to reduce power draw.
- Low-voltage 1.2 V DDR4 memory DIMMs use up to 20% less energy compared to 1.35 V DDR3 DIMMs.
- SSDs use as much as 80% less power than traditional spinning 2.5-inch HDDs.
- The server uses hexagonal ventilation holes, which can be grouped more densely than round holes, providing more efficient airflow through the system.
- Optional Lenovo XClarity Energy Manager provides advanced data center power notification, analysis, and policy-based management to help achieve lower heat output and reduced cooling needs.

Components and connectors

The following figure shows the front of the server.

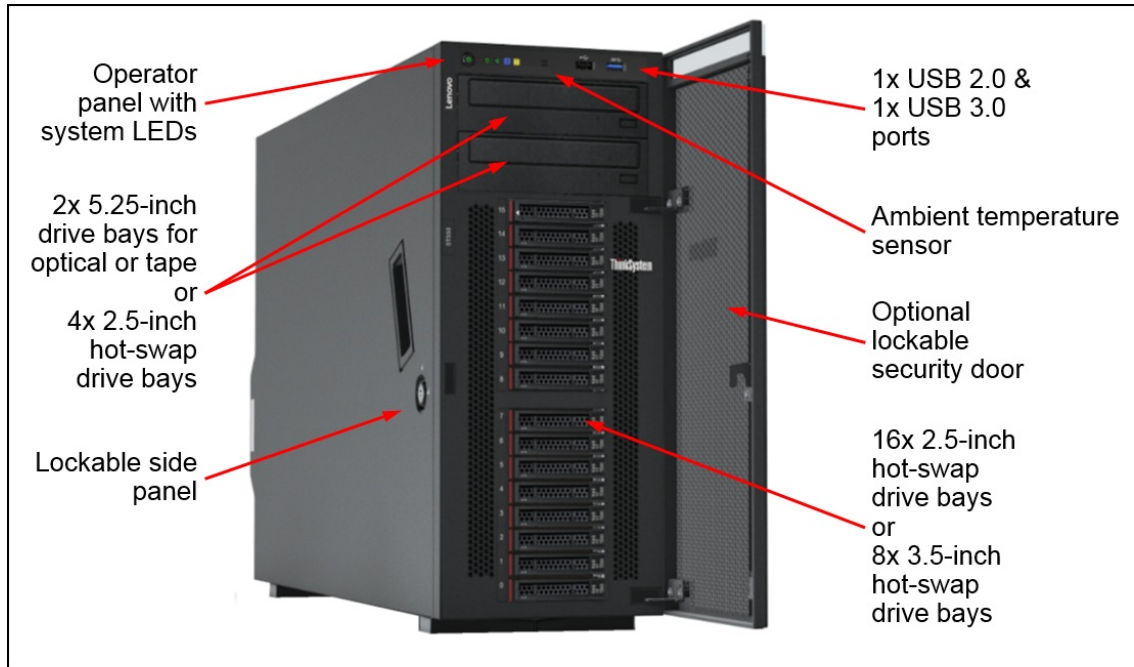


Figure 2. Front view of the ThinkSystem ST550 server

The following figure shows the rear of the server.

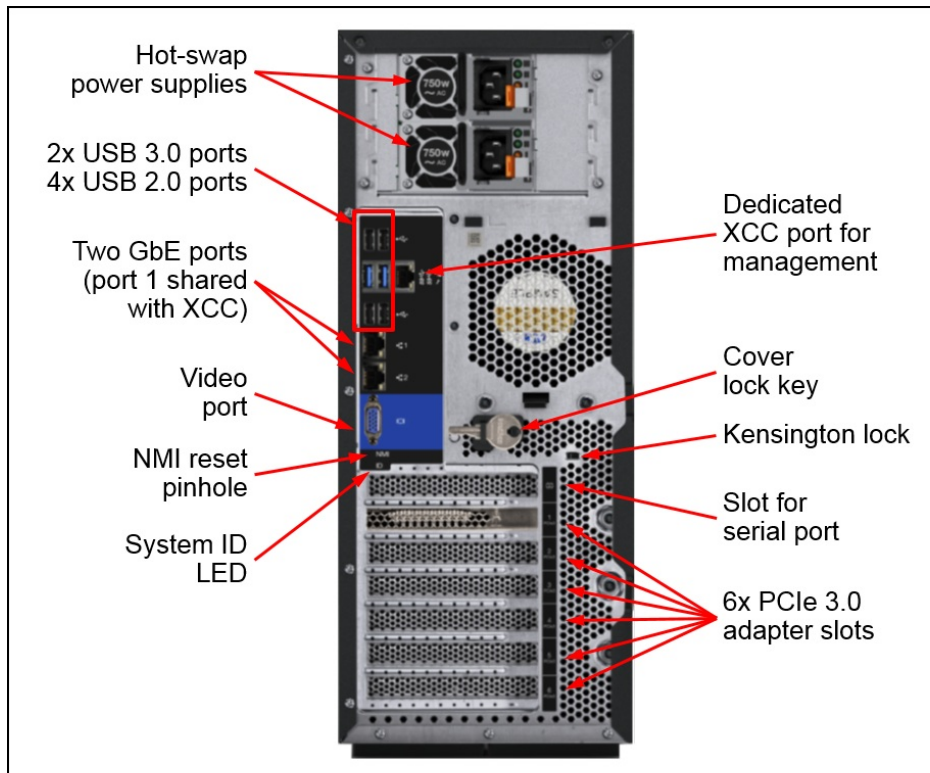


Figure 3. Rear view of the ThinkSystem ST550 server

The following figure shows the locations of key components inside the server.

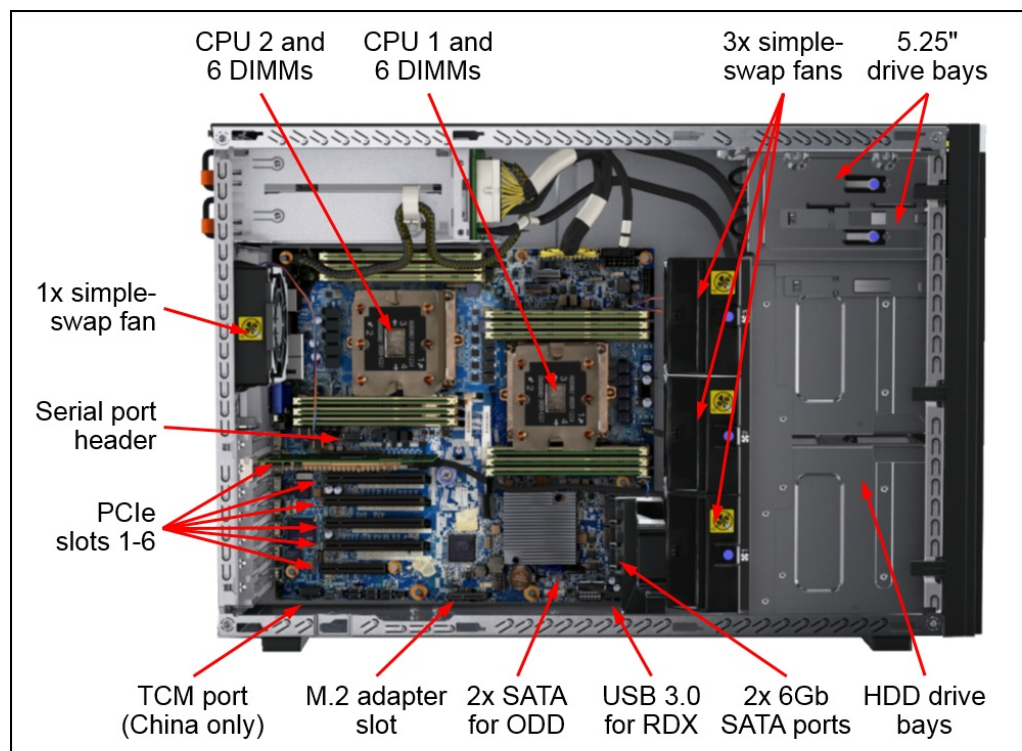


Figure 4. Internal view of the ThinkSystem ST550 server

Standard specifications

The following table lists the standard specifications.

Table 1. Standard specifications

Components	Specification
Machine type	7X09 - 1 year warranty 7X10 - 3 year warranty
Form factor	Tower or 4U Rack.
Processor	One or two Intel Xeon Processor Scalable Family of processors, either Bronze, Silver, Gold or Platinum-level processors (formerly codename "Skylake"). Supports processors up to 20 cores, core speeds up to 3.6 GHz, and TDP ratings up to 125W. Two Intel Ultra Path Interconnect (UPI) links at 10.4 GT/s each.
Chipset	Intel C624 "Lewisburg" chipset
Memory	Up to 12 DIMM sockets (6 DIMMs per processor) supporting Lenovo TruDDR4 DIMMs at up to 2666 MHz. RDIMMs and LRDIMMs (Load Reduced DIMMs) are supported, but memory types cannot be intermixed.
Memory maximums	With RDIMMs: Up to 384 GB with 12x 32 GB RDIMMs and two processors With LRDIMMs: Up to 768 GB with 12x 64 GB LRDIMMs and two processors
Memory protection	ECC, Chipkill (for x4-based memory DIMMs), memory mirroring, and memory sparing.

Components	Specification
Disk drive bays	<p>Available configurations:</p> <ul style="list-style-type: none"> • 8, 16, or 20x 2.5-inch SAS/SATA hot-swap (optional support for NVMe drives) • 4 or 8x 3.5-inch SAS/SATA hot-swap • Both 8x 3.5-inch + 4x 2.5-inch SAS/SATA hot-swap • 4 or 8x 3.5-inch SATA simple-swap <p>Additional drive bays (except for 20-bay and hybrid configurations):</p> <ul style="list-style-type: none"> • Two 5.25-inch drive bays for optical drives
Maximum internal storage	<ul style="list-style-type: none"> • 95.4 TB with 8x 10TB 3.5-inch HDDs + 4x 3.84TB 2.5-inch SSDs • 80 TB with 8x 10TB 3.5-inch NL SAS or NL SATA hot-swap HDDs • 76.8 TB with 20x 3.84TB 2.5-inch SAS hot-swap SSDs • 80 TB with 8x 10TB 3.5-inch NL SAS or NL SATA simple-swap HDDs • Intermix of SAS and SATA is supported.
Storage controller	<ul style="list-style-type: none"> • Onboard 6 Gb SATA for simple-swap drive configurations, using embedded Intel RSTe software RAID, supporting RAID 0, 1, 10, 5, 50 • 12 Gb SAS/SATA RAID for hot-swap drive configurations: <ul style="list-style-type: none"> ◦ RAID 530i (cacheless) supports RAID 0, 1, 10, 5, 50 ◦ RAID 730-8i (China only) with 1GB cache supports RAID 0, 1, 10, 5, 50 ◦ RAID 930-8i with 2GB flash-backed cache supports RAID 0, 1, 10, 5, 50, 6, 60 ◦ RAID 930-16i and 24i with 4GB flash-backed cache supports RAID 0, 1, 10, 5, 50, 6, 60 • 12 Gb SAS/SATA non-RAID: 430-8i and 430-16i HBAs
Optical drive bays	Two half-height 5.25-inch bays for optical or tape drives. Supports DVD-ROM or Multiburner. Hot-swap bays can be converted to 4x 2.5-inch hot-swap drive bays. (Not available with simple-swap drive configurations.)
Tape drive bays	Two half-height 5.25-inch bays for optical or tape drives. Support for one RDX internal USB tape drive.
Network interfaces	Two integrated Gigabit Ethernet 1000BASE-T ports (RJ-45) based on Intel X722 embedded controller
PCI Expansion slots	<p>Up to 7 PCIe slots: 6 general purpose PCIe 3.0 slots plus one slot reserved for the M.2 adapter. General purpose slots are as follows:</p> <ul style="list-style-type: none"> • Slot 1: PCIe 3.0 x8 (25W) FHHL • Slot 2: PCIe 3.0 x16 (75W); FHHL • Slot 3: PCIe 3.0 x16 (75W); FHFL • Slot 4: PCIe 3.0 x16 (x8 wired) (25W); FHFL (requires second processor) • Slot 5: PCIe 3.0 x16 (75W); FHFL (requires second processor) • Slot 6: PCIe 3.0 x8 (x4 wired) (25W); FHFL <p>Slots 3 and 5 support double-wide GPUs</p>
Ports	<ul style="list-style-type: none"> • Front: Two USB ports (one USB 3.0, one USB 2.0 port) • Rear: Four USB ports (four USB 2.0, two USB 3.0), one DB-15 video, one RJ-45 systems management, two RJ-45 GbE network ports, optional serial port. • Internal: One internal USB 3.0 port for RDX drive
Cooling	Supports ASHRAE A2 environments as well as A3/A4 with some limitations. Up to four simple-swap fans: two fans shipped standard on single processor models and three fans shipped on dual processor models. The fourth fan is N+1 redundant, except for certain configurations.

Components	Specification
Power supply	Up to two redundant hot-swap 550 W, 750 W or 1100 W High Efficiency Platinum AC power supplies, or 750 W High Efficiency Titanium AC power supplies. Also available is a 450 W fixed (non-hot-swap) power supply. In China only, all hot-swap power supplies also support 240V DC.
Hot-swap parts	Hard drives, power supplies, and fans
Systems management	Operator panel with status LEDs. XClarity Controller embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XClarity Controller Advanced to enable remote control functions.
Security features	Power-on password, administrator's password, Trusted Platform Module (TPM), supporting TPM 1.1 or TPM 2.0. In China only, optional Trusted Cryptographic Module (TCM). Kensington cable slot. Lockable side cover. Optional lockable front security door. Optional chassis intrusion switch.
Video	G200 graphics with 16 MB memory with 2D hardware accelerator, integrated into the XClarity Controller. Maximum resolution is 1920x1200 32bpp at 60Hz.
Operating systems supported	Microsoft Windows Server 2012 R2, 2016; RHEL 6 & 7 x64; SLES 11 & 12 x64; VMware ESXi 6.0, 6.5
Limited warranty	Three-year or one-year (model dependent) customer-replaceable unit and onsite limited warranty with 9x5 next business day (NBD).
Service and support	Optional service upgrades are available through Lenovo Services: 4-hour or 2-hour response time, 6-hour fix time, 1-year or 2-year warranty extension, software support for Lenovo hardware and some third-party applications.
Dimensions	<i>Tower</i> : width, without foot stands: 176 mm (6.9 in), width, with foot stands: 272 mm (10.7 in), depth: 670 mm (26.4 in), height: 438 mm (17.2 in). <i>With rack conversion kit</i> Width: 482 mm (18.97 inches), depth: 670 mm (26.4 in), height: 176 mm (6.9 in)
Weight	Fully configured: 36 kg (79.36 lb)

The ST550 server is shipped with the following items:

- Documentation flyer
- Power cords (model and region dependent)

Models

The following tables list the available models, grouped by region.

- [Models for Australia and New Zealand](#)
- [Models for South East Asian countries \(ASEAN\)](#)
- [Models for Brazil](#)
- [Models for EMEA countries](#)
- [Models for Hong Kong, Taiwan, Korea \(HTK\)](#)
- [Models for India](#)
- [Models for Japan](#)
- [Models for Latin American countries \(except Brazil\)](#)
- [Models for USA and Canada](#)

Refer to the Specifications section for information about standard features of the server.

Common to all models:

- All models include the chassis intrusion switch.
- All models indicated as having the 750W power supply are using the Platinum power supply.

Models for Australia and New Zealand

Table 2. Models for Australia and New Zealand

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A02AAU	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02FAU	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02MAU	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02NAU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03DAU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02LAU	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03RAU	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02ZAU	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A005AU	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	Onboard RSTe	4x 3.5" SS / 8	Open	8 / 11	1x 550W HS	No	Standard	Yes
7X10 A00AAU	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A00TAU	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	Yes
7X10 A02RAU	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A00KAU	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03LAU	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A00MAU	1x Gold 6126T 12C 125W 2.6GHz	1x 32GB	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A011AU	1x Gold 6130T 16C 125W 2.1GHz	1x 32GB	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
TopSeller models										
7X10 A02TAU	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03EAU	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03MAU	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A029AU	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes

Model	Intel Xeon processor†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
7X10 A03GAU	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02VAU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A032AU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 300GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A03HAU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03NAU	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A02GAU	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 300GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A036AU	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03FAU	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03QAU	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02DAU	1x Silver 4110 8C 85W 2.1GHz	4x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	2x 2.5" 600GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A02EAU	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02JAU	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A038AU	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03AAU	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02BAU	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A03UAU	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for South East Asian countries (ASEAN)

Table 3. Models for South East Asian countries (ASEAN)

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A01ZSG	1x Bronze 3104 6C 85W 1.7GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A021SG	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A020SG	1x Silver 4110 8C 85W 2.1GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A026SG	1x Silver 4112 4C 85W 2.6GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A022SG	1x Silver 4114 10C 85W 2.2GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A023SG	1x Silver 4114 10C 85W 2.2GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A024SG	1x Silver 4116 12C 85W 2.1GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A025SG	1x Silver 4116 12C 85W 2.1GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A003SG	1x Gold 5115 10C 85W 2.4GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A004SG	1x Gold 5118 12C 105W 2.3GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A00ESG	1x Gold 5118 12C 105W 2.3GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A00DSG	1x Gold 5120 14C 105W 2.2GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A00GSG	1x Gold 5122 4C 105W 3.6GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A00BSG	1x Gold 6130 16C 125W 2.1GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	No

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for Brazil

Table 4. Models for Brazil

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A040BR	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A041BR	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A042BR	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A03YBR	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for EMEA countries

Table 5. Models for EMEA countries

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A01UEA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01XEA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01REA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01TEA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01VEA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01YEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01WEA	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01SEA	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02UEA	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A00VEA	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
TopSeller models										
7X10 A01HEA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01NEA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01QEA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes

Model	Intel Xeon processor†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
7X10 A01DEA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01FEA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A039EA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8*	2x 3.5" 1TB 7.2K SATA	8 / 11	1x 550W HS	No	Standard	Yes
7X10 A03KEA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	Yes
7X10 A018EA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A019EA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 300GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A01CEA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A01LEA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A017EA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01AEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 300GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A01EEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01JEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02YEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	Yes
7X10 A03VEA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	2x 2.5" 300GB 10K SAS	8 / 11	2x 550W HS	No	Standard	Yes
7X10 A01KEA	1x Silver 4110 8C 85W 2.1GHz	4x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	2x 2.5" 600GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A03ZEA	1x Silver 4110 8C 85W 2.1GHz	4x 32GB	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 900GB 10K SAS	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A01MEA	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01PEA	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01BEA	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A01GEA	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A00HEA	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	2x 750W HS	No	Standard	Yes
7X10 A013EA	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A02HEA	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A006EA	1x Gold 5122 4C 105W 3.6GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes

† Processor detail: Quantity, model, core count, TDP, core frequency
 ** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion
 * Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for Hong Kong, Taiwan, Korea (HTK)

Table 6. Models for Hong Kong, Taiwan, Korea (HTK)

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A010CN	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00YCN	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00RCN	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00WCN	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00SCN	1x Gold 5122 4C 105W 3.6GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A014CN	1x Gold 5122 4C 105W 3.6GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00QCN	1x Gold 6126 12C 125W 2.6GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00ZCN	1x Gold 6126 12C 125W 2.6GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A012CN	1x Gold 6126 12C 125W 2.6GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00PCN	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A00XCN	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 20**	Open	8 / 11	1x 750W HS	Yes	Standard	No

† Processor detail: Quantity, model, core count, TDP, core frequency
 ** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion
 * Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for India

Table 7. Models for India

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A03SSG	1x Bronze 3104 6C 85W 1.7GHz	1x 8GB	Onboard RSTe	4x 3.5" SS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A03BSG	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A03TSG	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02CSG	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02SSG	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	Onboard RSTe	4x 3.5" SS / 8	Open	8 / 11	1x 550W HS	No	Standard	No

Model	Intel Xeon processor†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
7X10 A033SG	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A027SG	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A03WSG	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A034SG	1x Silver 4108 8C 85W 1.8GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A037SG	1x Silver 4110 8C 85W 2.1GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02QSG	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02WSG	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A03CSG	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02KSG	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A030SG	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A03XSG	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A02XSG	1x Silver 4116 12C 85W 2.1GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A015SG	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A016SG	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A001SG	1x Gold 5115 10C 85W 2.4GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A00FSG	1x Gold 5115 10C 85W 2.4GHz	1x 8GB	Onboard RSTe	4x 3.5" SS / 8	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A00LSG	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A008SG	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 550W HS	No	Standard	No
7X10 A00USG	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A007SG	1x Gold 6126 12C 125W 2.6GHz	1x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A002SG	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	No
7X10 A00NSG	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	No

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for Japan

Table 8. Models for Japan

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A009JP	1x Gold 6130 16C 125W 2.1GHz	2x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 1100W HS	No	Advanced	Yes
7X10 A044JP	1x Bronze 3104 6C 85W 1.7GHz	2x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	Open	8 / 11	1x 550W HS	No	Advanced	Yes
7X10 A045JP	1x Bronze 3106 8C 85W 1.7GHz	2x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Advanced	Yes
7X10 A043JP	1x Silver 4110 8C 85W 2.1GHz	2x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 1100W HS	No	Advanced	Yes
7X10 A046JP	1x Silver 4110 8C 85W 2.1GHz	2x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	Open	8 / 11	1x 1100W HS	No	Advanced	Yes
7X10 A047JP	1x Silver 4114 10C 85W 2.2GHz	2x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	Open	8 / 11	1x 750W HS	No	Advanced	Yes
7X10 A048JP	1x Gold 6130 16C 125W 2.1GHz	2x 16GB 1Rx4	RAID 930-24i	Other	Open	8 / 11	1x 1100W HS	No	Advanced	Yes
7X10 A049JP	1x Gold 6130 16C 125W 2.1GHz	2x 16GB 1Rx4	RAID 930-16i	16x 2.5" HS / 16	Open	8 / 11	1x 1100W HS	No	Advanced	Yes

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for Latin American countries (except Brazil)

Table 9. Models for Latin American countries (except Brazil)

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A05HLA	1x Silver 4114 10C 85W 2.2GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05LLA	1x Silver 4114 10C 85W 2.2GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04RLA	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05FLA	1x Gold 5115 10C 85W 2.4GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04XLA	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05ALA	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05GLA	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05KLA	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04KLA	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A056LA	1x Gold 6130 16C 125W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No

Model	Intel Xeon processor†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
7X10 A054LA	1x Gold 6138 20C 125W 2.0GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A059LA	1x Gold 6138 20C 125W 2.0GHz	1x 16GB 1Rx4	RAID 930-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
TopSeller models										
7X10 A057LA	1x Bronze 3104 6C 85W 1.7GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05CLA	1x Bronze 3104 6C 85W 1.7GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04SLA	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A055LA	1x Bronze 3106 8C 85W 1.7GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04GLA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 2TB 7.2K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A04JLA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 600GB 15K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A051LA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 2TB 7.2K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A053LA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 600GB 15K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A05BLA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 4TB 7.2K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A04WLA	1x Silver 4108 8C 85W 1.8GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A052LA	1x Silver 4108 8C 85W 1.8GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A04LLA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	2x 2.5" 900GB 10K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A04QLA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	2x 3.5" 2TB 7.2K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A04ELA	1x Silver 4110 8C 85W 2.1GHz	1x 8GB	RAID 530-8i	4x 3.5" HS / 8	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A05JLA	1x Silver 4110 8C 85W 2.1GHz	1x 8GB	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	Yes	Standard	No
7X10 A058LA	1x Silver 4110 8C 85W 2.1GHz	2x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	3x 3.5" 4TB 7.2K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A05ELA	1x Silver 4110 8C 85W 2.1GHz	2x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	3x 2.5" 900GB 10K SAS	8 / 11	2x 750W HS	Yes	Advanced	No
7X10 A05DLA	1x Silver 4114 10C 85W 2.2GHz	2x 16GB 1Rx4	RAID 930-8i	8x 3.5" HS / 8	3x 3.5" 600GB 15K SAS	8 / 11	2x 750W HS	Yes	Advanced	No

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Models for USA and Canada

Table 10. Models for USA and Canada

Model	Intel Xeon processors†	Memory	RAID	Drive bays	Drives	Slots	Power supplies	Power cords	XCC Level	Secure door
Standard models										
7X10 A04NNA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04UNA	1x Bronze 3104 6C 85W 1.7GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04PNA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04DNA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04VNA	1x Silver 4108 8C 85W 1.8GHz	1x 16GB 1Rx4	Onboard RSTe	8x 3.5" SS / 8	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04FNA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04HNA	1x Silver 4114 10C 85W 2.2GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04TNA	1x Silver 4116 12C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04YNA	1x Gold 5118 12C 105W 2.3GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
7X10 A04ZNA	1x Gold 5120 14C 105W 2.2GHz	1x 16GB 1Rx4	RAID 930-8i	8x 2.5" HS / 16	Open	8 / 11	1x 750W HS	No	Standard	Yes
TopSeller models										
7X10 A03PNA	1x Bronze 3106 8C 85W 1.7GHz	1x 16GB 1Rx4	RAID 530-8i	4x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Advanced	No
7X10 A028NA	1x Silver 4110 8C 85W 2.1GHz	1x 16GB 1Rx4	RAID 530-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Advanced	No
7X10 A02PNA	1x Silver 4116 12C 85W 2.1GHz	1x 32GB	RAID 930-8i	8x 3.5" HS / 8*	Open	8 / 11	1x 750W HS	Yes	Advanced	No

† Processor detail: Quantity, model, core count, TDP, core frequency

** 20 drive bays includes 4x 2.5" HS drive bays with media bay conversion

* Additionally supports 4x 2.5" HS drive bays with media bay conversion

Processor options

The ST550 supports the Bronze, Silver, Gold, and Platinum level processors in the Intel Xeon Processor Scalable Family. The server supports the processor options that are listed in the following table. The server supports up to two processors.

All supported processors have the following characteristics:

- 14 nm process technology
- Six DDR4 memory channels
- 48 PCIe 3.0 I/O lanes
- 1 MB L2 cache
- 1.375 MB L3 cache per core (except where larger, as noted with ** in the table below)
- Intel Hyper-Threading Technology (except Bronze processors)
- Intel Turbo Boost Technology 2.0 (except Bronze processors)
- Intel Advanced Vector Extensions 512 (AVX-512)
- Two Intel Ultra Path Interconnect (UPI) links at up to 10.4 GT/s (replaces QPI)

Processors with the T suffix are those that have more robust thermal characteristics (higher T-case).

Table 11. Processor options

Part number	Feature code	Description	Memory speed	L3 cache**	UPI speed	HT	TB
4XG7A07219	B0QW	Intel Xeon Bronze 3104 6C 85W 1.7GHz	2133 MHz	8.25 MB	9.6 GT/s	No	No
4XG7A07218	B0QV	Intel Xeon Bronze 3106 8C 85W 1.7GHz	2133 MHz	11 MB	9.6 GT/s	No	No
4XG7A07217	B0QQ	Intel Xeon Silver 4108 8C 85W 1.8GHz	2400 MHz	11 MB	9.6 GT/s	Yes	Yes
4XG7A07216	B0QY	Intel Xeon Silver 4109T 8C 70W 2.0GHz	2400 MHz	11 MB	9.6 GT/s	Yes	Yes
4XG7A07215	B0QT	Intel Xeon Silver 4110 8C 85W 2.1GHz	2400 MHz	11 MB	9.6 GT/s	Yes	Yes
4XG7A07214	B0QP	Intel Xeon Silver 4112 4C 85W 2.6GHz	2400 MHz	8.5 MB**	9.6 GT/s	Yes	Yes
4XG7A07213	B0QR	Intel Xeon Silver 4114 10C 85W 2.2GHz	2400 MHz	13.75 MB	9.6 GT/s	Yes	Yes
4XG7A07212	B0QU	Intel Xeon Silver 4116 12C 85W 2.1GHz	2400 MHz	16.5 MB	9.6 GT/s	Yes	Yes
7XG7A05790	AXSZ	Intel Xeon Gold 5115 10C 85W 2.4GHz	2400 MHz	13.75 MB	10.4 GT/s	Yes	Yes
7XG7A05789	AXT0	Intel Xeon Gold 5118 12C 105W 2.3GHz	2400 MHz	16.5 MB	10.4 GT/s	Yes	Yes
7XG7A05788	AXT1	Intel Xeon Gold 5120 14C 105W 2.2GHz	2400 MHz	19.25 MB	10.4 GT/s	Yes	Yes
7XG7A05787	AXT2	Intel Xeon Gold 5120T 14C 105W 2.2GHz	2400 MHz	19.25 MB	10.4 GT/s	Yes	Yes
7XG7A05786	AXT3	Intel Xeon Gold 5122 4C 105W 3.6GHz	2666 MHz*	16.5 MB**	10.4 GT/s	Yes	Yes
7XG7A05785	AXT4	Intel Xeon Gold 6126 12C 125W 2.6GHz	2666 MHz	19.25 MB**	10.4 GT/s	Yes	Yes
7XG7A05784	AXT5	Intel Xeon Gold 6126T 12C 125W 2.6GHz	2666 MHz	19.25 MB**	10.4 GT/s	Yes	Yes
7XG7A05783	AXT6	Intel Xeon Gold 6130 16C 125W 2.1GHz	2666 MHz	22 MB	10.4 GT/s	Yes	Yes
7XG7A05782	AXT7	Intel Xeon Gold 6130T 16C 125W 2.1GHz	2666 MHz	22 MB	10.4 GT/s	Yes	Yes
4XG7A07211	B0QS	Intel Xeon Gold 6138 20C 125W 2.0GHz	2666 MHz	27.5 MB	10.4 GT/s	Yes	Yes
4XG7A07210	B0QX	Intel Xeon Gold 6138T 20C 125W 2.0GHz	2666 MHz	27.5 MB	10.4 GT/s	Yes	Yes
4XG7A07209	B0QZ	Intel Xeon Platinum 8153 16C 125W 2.0GHz	2666 MHz	22 MB	10.4 GT/s	Yes	Yes
4XG7A07208	B0QN	Intel Xeon Platinum 8156 4C 105W 3.6GHz	2666 MHz	16.5 MB**	10.4 GT/s	Yes	Yes

* All Gold 5000-level processors, except the 5122, support 2400 MHz memory speed. The 5122 processor supports 2666 MHz.

** L3 cache is 1.375 MB per core except with the processor indicated with **, where the cache size is larger

Memory options

The ST550 server supports Lenovo TruDDR4 memory. TruDDR4 memory uses the highest-quality components sourced from Tier 1 DRAM suppliers and only memory that meets strict requirements is selected. It is compatibility-tested and tuned to maximize performance and reliability.

TruDDR4 memory has a unique signature programmed into the DIMM, which enables ThinkSystem servers to verify whether the memory installed is qualified and supported. From a service and support standpoint, TruDDR4 memory automatically assumes the system's warranty, and service and support provided worldwide.

The ST550 supports up to 6 DIMMs per processor, for a total of 12 DIMMs when two processors are installed. Each processor has six memory channels, and supports one DIMM per channel.

All DIMMs operate at a speed of 2666 MHz. However, if the processor selected has a lower memory bus speed (eg 2400 MHz or 2133 MHz - see the [Processor options](#) table), then all DIMMs will operate at that lower speed.

The following table lists the memory options that are available for the ST550 server.

Table 12. Memory options

Part number	Feature code	Description	Maximum supported
RDIMMs			
7X77A01301	AUU1	ThinkSystem 8GB TruDDR4 2666 MHz (1Rx8 1.2V) RDIMM	12 (6 per processor)
7X77A01302	AUNB	ThinkSystem 16GB TruDDR4 2666 MHz (1Rx4 1.2V) RDIMM	12 (6 per processor)
7X77A01304	AUND	ThinkSystem 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM	12 (6 per processor)
LRDIMMs			
7X77A01305	AUNE	ThinkSystem 64GB TruDDR4 2666 MHz (4Rx4 1.2V) LRDIMM	12 (6 per processor)

The following rules apply when selecting the memory configuration:

- The server supports RDIMMs and LRDIMMs.
- Mixing RDIMMs and LRDIMMs *is not* supported.
- Mixing x4 and x8 DIMMs *is* supported.
- For best performance, populate memory DIMMs in quantities of 6 per processor, so that all memory channels are used.

The following memory protection technologies are supported:

- ECC
- Chipkill (for x4-based memory DIMMs; look for "x4" in the DIMM description)
- Memory channel mirroring
- Memory rank sparing

If memory channel mirroring is used, then DIMMs must be installed in pairs (minimum of one pair per processor), and both DIMMs in a pair must be identical in type and size. 50% of the installed capacity is available to the operating system.

If memory rank sparing is used, then a minimum of one quad-rank DIMM or two single-rank or dual-rank DIMMs must be installed per populated channel (the DIMMs do not need to be identical). In rank sparing mode, one rank of a DIMM in each populated channel is reserved as spare memory. The largest rank in the channel will be automatically selected as the spare rank. The amount of memory available to the operating system depends on the number, capacity and rank counts of the DIMMs installed.

Internal storage

The ST550 supports 2.5-inch hot-swap, 3.5-inch hot-swap, and 3.5-inch simple-swap drives in a variety of drive bay configurations.

In this section:

- [Backplanes and drive bays](#)
- [Adapters and cabling](#)
- [Field upgrades](#)
- [M.2 drives](#)

Drive bays and backplanes

The server supports up to 20 drive bays: It can support up to 16x 2.5-inch drives or 8x 3.5-inch drives, plus an additional 4x 2.5-inch drive bays installed in the space occupied by the two 5.25-inch media bays. Hot-swap (HS) drive configurations support SAS & SATA drives, and with an AnyBay backplane, can support up to four NVMe drives. Simple-swap (SS) drive configurations support SATA drives only. The server also supports one or two M.2 drives, installed in an M.2 adapter. The dual-M.2 adapter provides RAID 0 and 1 support.

The different drive bay configurations supported are shown in the following figure.

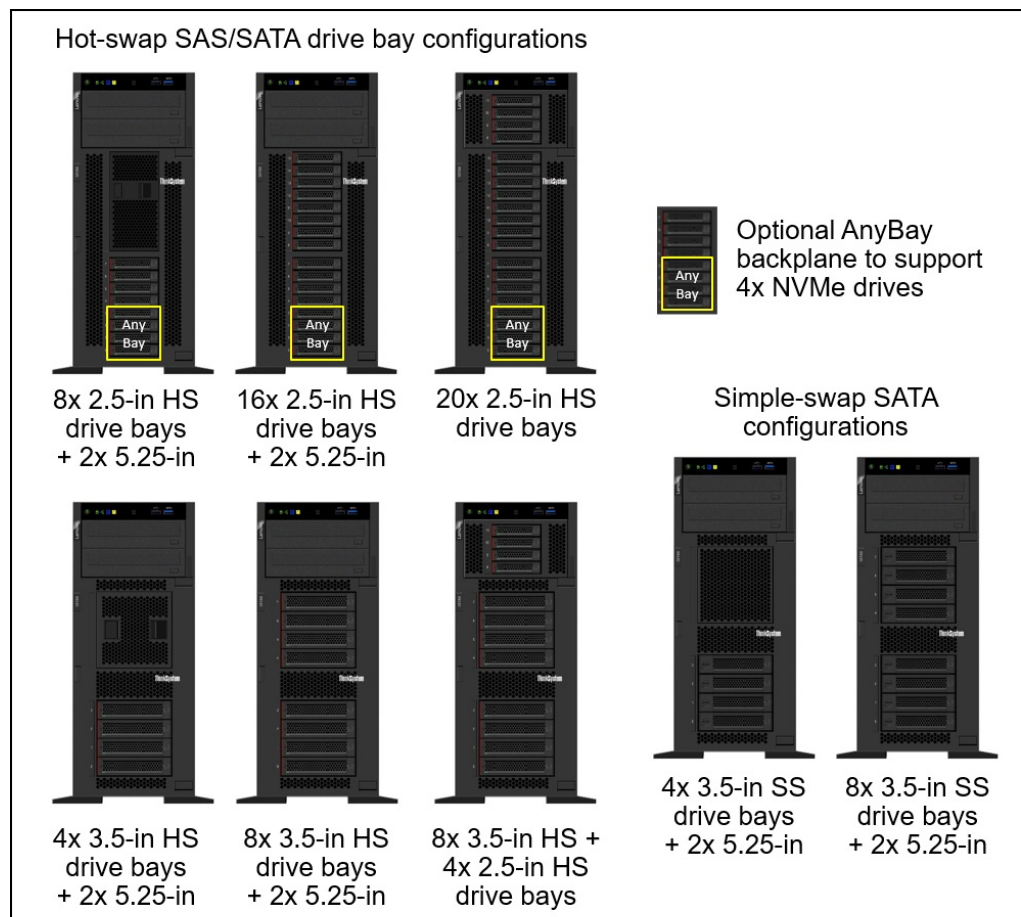


Figure 5. Internal drive bay configurations

The following table lists all available drive configurations.

Table 13. Drive configurations

Configuration	Backplane	5.25-inch media bays
2.5-inch hot-swap drive bay configurations		
8x 2.5-inch SAS/SATA	One 8x2.5-inch SAS/SATA	Available
8x 2.5-inch SAS/SATA, 4 bays supporting NVMe	One 8x2.5-inch AnyBay	Available
16x 2.5-inch SAS/SATA	Two 8x2.5-inch SAS/SATA	Available
16x 2.5-inch SAS/SATA, 4 bays supporting NVMe	One 8x2.5-inch SAS/SATA + One 8x2.5-inch AnyBay	Available
20x 2.5-inch SAS/SATA	Two 8x2.5-inch SAS/SATA + 4x2.5-inch Media Bay conversion	Converted to 2.5-inch drive bays
20x 2.5-inch SAS/SATA, 4 bays supporting NVMe	One 8x2.5-inch SAS/SATA + One 8x2.5-inch AnyBay + 4x2.5-inch Media Bay conversion	Converted to 2.5-inch drive bays
3.5-inch and 3.5+2.5-inch hot-swap drive bay hybrid configurations		
4x 3.5-inch SAS/SATA	One 4x3.5-inch SAS/SATA	Available
8x 3.5-inch SAS/SATA	One 8x3.5-inch SAS/SATA	Available
8x 3.5-inch SAS/SATA + 4x 2.5-inch SAS/SATA	One 8x3.5-inch SAS/SATA + 4x2.5-inch Media Bay conversion	Converted to 2.5-inch drive bays
3.5-inch simple-swap drive bay configurations		
4x 3.5-inch SATA	One Simple-swap bracket plate	Available
8x 3.5-inch SATA	Two Simple-swap bracket plates	Available

The drive backplanes used with these configurations are listed in the following table.

Table 14. Drive backplanes

Part number	Feature	Description	Purpose
None*	AVRN	Lenovo ThinkSystem 2.5" SATA/SAS 8-Bay Backplane Kit	2.5-inch SAS/SATA
None*	AUR5	Lenovo ThinkSystem SR590/SR650 2.5" AnyBay 8-Bay Backplane Kit	2.5-inch AnyBay
None*	AVRQ	Lenovo ThinkSystem ST550 4x3.5" Backplane	3.5-inch SAS/SATA
None*	AVRM	Lenovo ThinkSystem 2.5" SATA/SAS 4-Bay BP Kit	Media bay conversion
None*	AVRY	Lenovo ThinkSystem ST550 4x3.5" Simple Swap Bracket Plate	Simple-swap drives

* Backplanes are configure-to-order only, however upgrade kits are available that include backplanes, as described in the [Field upgrades](#) section below.

Adapters and cabling

This section describes the adapter and cabling requirements for each drive bay configuration.

Notes:

- For configurations with 16x 2.5-inch drive bays (i.e., two backplanes), you can select either one 16-port SAS/SATA adapter or two 8-port SAS/SATA adapters
- For configurations with 20x 2.5-inch drive bays, a single 24-port SAS/SATA adapter is used.
- For the use of AnyBay drive bays, a NVMe Switch adapter is used to provide the NVMe ports. The adapter is installed in slot 2 (which connects to processor 1).

The drive bay configurations are shown in the subsections below. Where there are different adapter and cabling options, they are shown by the letters A, B, C, D. These configuration numbers are also referenced later in the [Field upgrades section](#).

1. 8x 2.5-inch hot-swap drive bays, all SAS/SATA
2. 8x 2.5-inch hot-swap drive bays, where 4 of the bays are AnyBay
3. 16x 2.5-inch hot-swap drive bays, all SAS/SATA
4. 16x 2.5-inch hot-swap drive bays, where 4 of the bays are AnyBay
5. 20x 2.5-inch hot-swap drive bays, all SAS/SATA
6. 20x 2.5-inch hot-swap drive bays, where 4 of the bays are AnyBay
7. 4x 3.5-inch drive bays, all SAS/SATA
8. 8x 3.5-inch hot-swap drive bays, all SAS/SATA
9. 8x 3.5-inch + 4x 2.5-in hot-swap drive bays, all SAS/SATA
10. 4x 3.5-inch simple-swap drive bays, SATA only
11. 8x 3.5-inch simple-swap drive bays, SATA only

Tip: The adapters are described in detail in the [Controllers for internal storage](#) section.

1. 8x 2.5-inch hot-swap drive bays, all SAS/SATA

In this drive bay configuration, all eight 2.5-inch hot-swap drives are connected to one 8-port SAS/SATA RAID adapter or HBA using two backplane cables, as shown in the following figure.

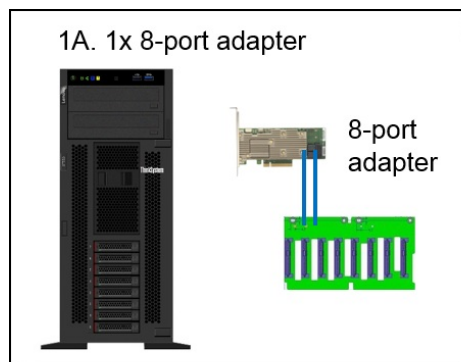


Figure 6. Adapter and cabling for 8x 2.5-inch drive bays, all SAS/SATA

2. 8x 2.5-inch hot-swap drive bays, where four of the bays are AnyBay

In 8x 2.5-inch drive-bay configurations where four of those bays are AnyBay drive bays, an 8-port SAS/SATA RAID adapter or HBA is needed plus an NVMe Switch Adapter to provide the four needed NVMe ports.

In this configuration you can have either up to eight SAS or SATA drives, or you can have up to four NVMe drives in the four AnyBay drive bays along with four SAS or SATA drives in the other bays.

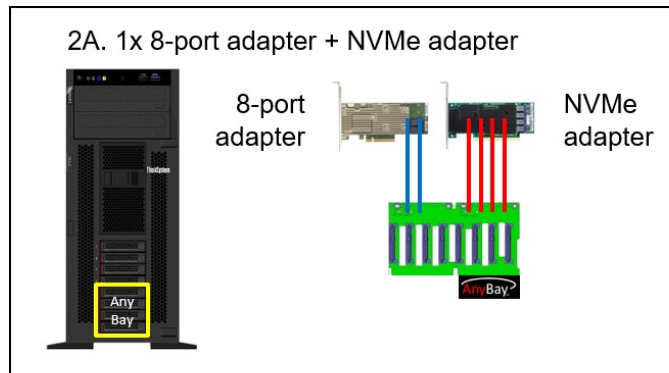


Figure 7. Adapter and cabling for 8x 2.5-inch drive bays, where 4 of the bays are AnyBay

3. 16x 2.5-inch hot-swap drive bays, all SAS/SATA

In 16-bay configurations where all 16 2.5-inch drive bays are SAS/SATA drives, you can use either two 8-port SAS/SATA RAID adapters or HBAs or one 16-port SAS/SATA RAID adapter or HBA. These choices are shown in the following figure.

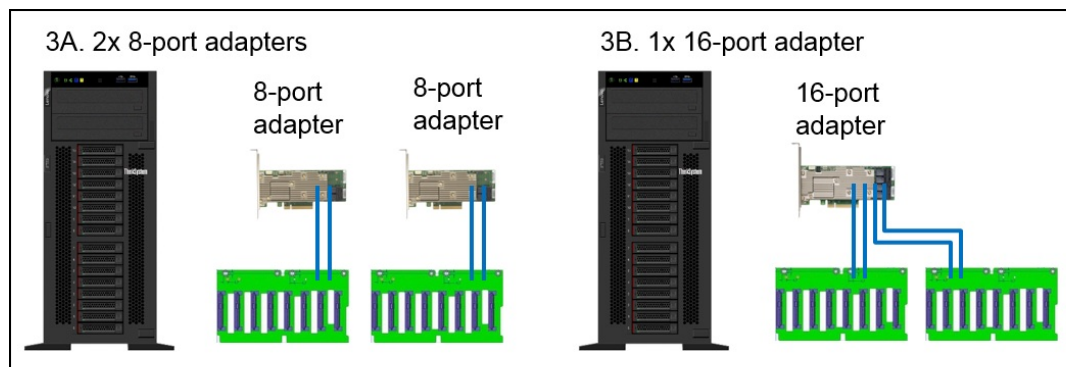


Figure 8. Adapter and cabling for 16 drive bays, all SAS/SATA

4. 16x 2.5-inch hot-swap drive bays, where four of the bays are AnyBay

In 16-drive configurations where four of the 2.5-inch bays are AnyBay drive bays, a 16-port SAS/SATA RAID adapter or HBA is needed plus an NVMe Switch Adapter to provide the four needed NVMe ports. The configurations are shown in the following figure.

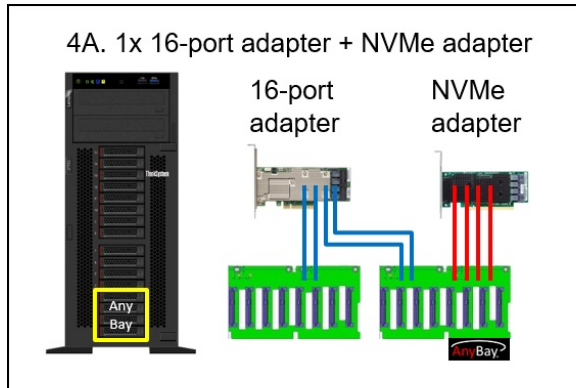


Figure 9. Adapter and cabling for 16 drive bays, where 4 of the bays are AnyBay

5. 20x 2.5-inch hot-swap drive bays, all SAS/SATA

In a 20-drive configuration, where all drives are SAS or SATA, all connectivity is provided by a single 24-port SAS/SATA RAID adapter. The top four drive bays are in place of the two 5.25" media bays. > Connectivity is shown in the following figure.

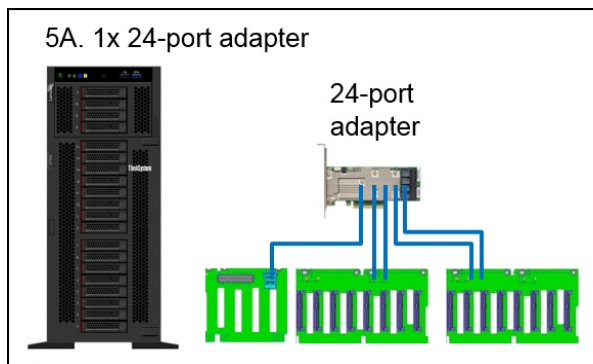


Figure 10. Adapter and cabling for 20 drive bays, all SAS/SATA

6. 20x 2.5-inch hot-swap drive bays, where four of the bays are AnyBay

In this 20-drive configuration, all drives can be SAS or SATA drives, or four can be NVMe drives. SAS/SATA connectivity is provided by a single 24-port SAS/SATA RAID adapter. NVMe connectivity is provided by the NVMe Switch Adapter. The top four drive bays are in place of the two 5.25" media bays. Connectivity is shown in the following figure.

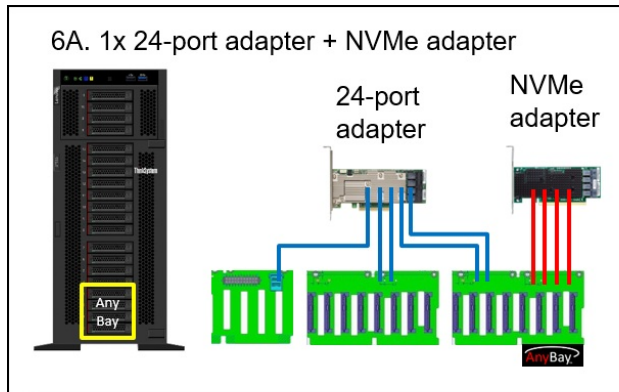


Figure 11. Adapter and cabling for 20 drive bays, where 4 of the bays are AnyBay

7. 4x 3.5-inch hot-swap drive bays, all SAS/SATA

In this drive bay configuration, four 3.5-inch hot-swap drives are connected to one 8-port SAS/SATA RAID adapter or HBA using a single backplane cable, as shown in the following figure.

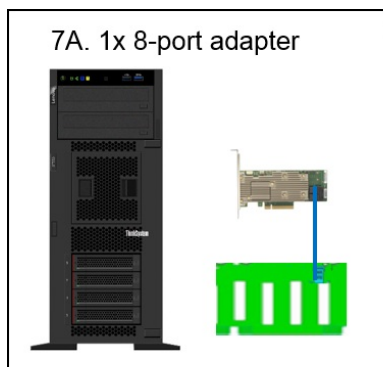


Figure 12. Adapter and cabling for 4x 3.5-inch drive bays, all SAS/SATA

8. 8x 3.5-inch hot-swap drive bays, all SAS/SATA

In this drive bay configuration, eight 3.5-inch hot-swap drives are connected to one 8-port SAS/SATA RAID adapter or HBA using two backplane cables, as shown in the following figure.

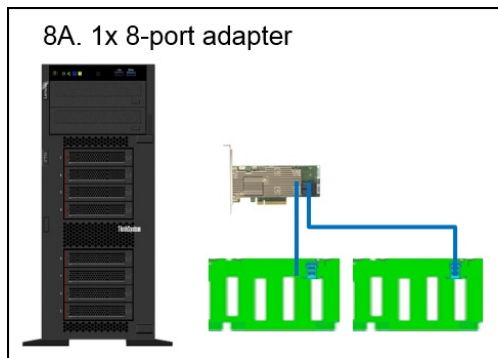


Figure 13. Adapter and cabling for 8x 3.5-inch drive bays, all SAS/SATA

9. 8x 3.5-inch + 4x 2.5-inch hot-swap drive bays, all SAS/SATA

In this combination drive configuration, eight 3.5-in drives and four 2.5-inch drives are supported. The top four drive bays are in place of the two 5.25" media bays. All connectivity can be provided by a single 16-port adapter or two 8-port adapters. Connectivity options are shown in the following figure.

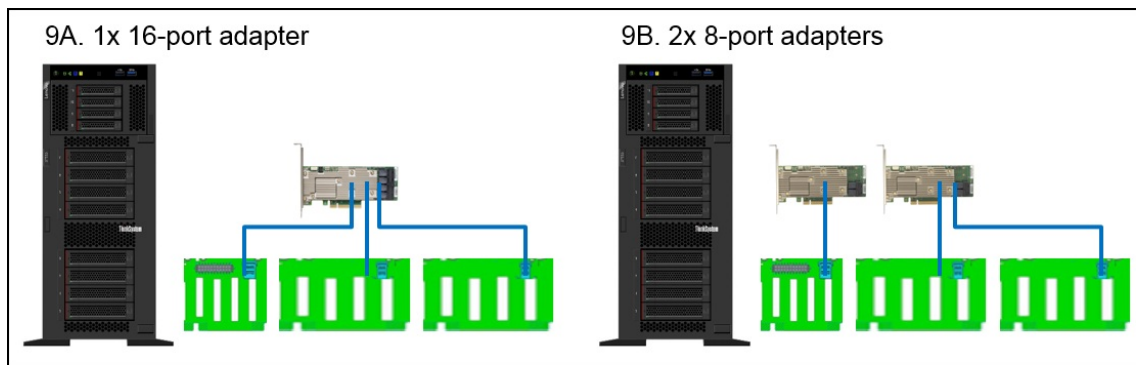


Figure 14. Adapter and cabling for 8x 3.5-inch + 4x 2.5-inch drive bays, all SAS/SATA

10. 4x 3.5-inch simple-swap drive bays, SATA only

In this configuration, the server supports four 3.5-inch simple-swap (SS) drive bays, which support only SATA HDDs and SSDs. The drives connect to a single simple-swap bracket plate, which in turn plugs into a mini-SAS HD connector on the system board.

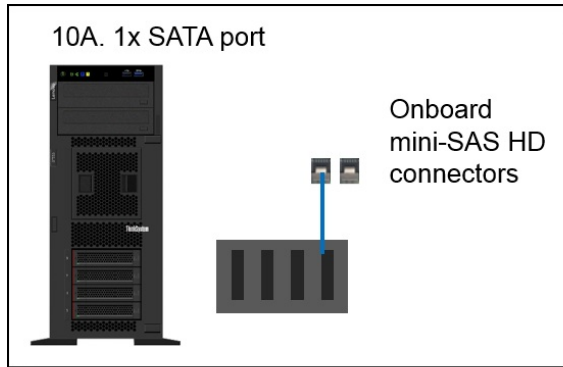


Figure 15. Adapter and cabling for 4x 3.5-inch simple-swap drive bays; SATA only

11. 8x 3.5-inch simple-swap drive bays, SATA only

In this configuration, the server supports eight 3.5-inch simple-swap drives bays, which support only SATA HDDs and SSDs. The drives connect to two simple-swap bracket plates, which in turn each plug into a mini-SAS HD connector on the system board.

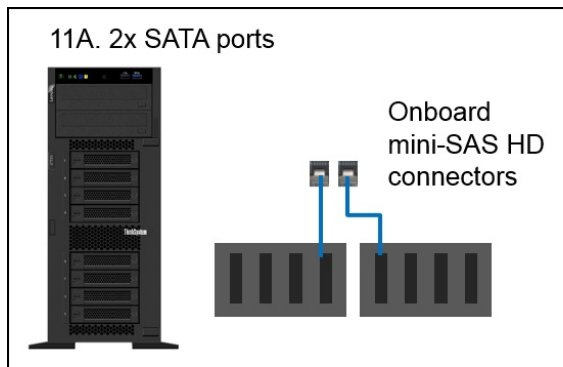


Figure 16. Adapter and cabling for 8x 3.5-inch simple-swap drive bays; SATA only

Field upgrades

The following table shows the backplane kits you can use after the initial purchase to upgrade the server to add additional drive bays.

Table 15. Drive backplane upgrades

Part number	Feature	Description	Purpose
7XH7A05906	AVRN	ThinkSystem ST550 2.5" 8-Bay Backplane Kit	Add 8x 2.5-inch SAS/SATA
7XH7A05907	B0M8	ThinkSystem ST550 2.5" Anybay 8-Bay Backplane Kit	Add 8x 2.5-inch AnyBay
7XH7A05908	AVRM	ThinkSystem ST550 2.5" SATA/SAS 4-Bay Backplane Kit	Add 4x 2.5-inch to media bay (replace existing 5.25" bays)
7XH7A05905	AVRQ	ThinkSystem ST550 3.5" SATA/SAS 4-Bay Backplane	Add 4x 3.5-inch HS SAS/SATA
7XH7A05904	AVRY	ThinkSystem ST550 3.5" Simple Swap Bracket Plate	Add 4x 3.5-inch simple-swap

Each kit contains the backplane and the necessary cables (including PCIe cables for the AnyBay backplane). The 2.5" SATA/SAS 4-Bay Backplane Kit also includes the necessary 4x 2.5-inch drive-bay cage.

In addition to the backplane kits, you will need a RAID adapter or HBA, and if you are adding an AnyBay backplane, you'll also need an NVMe Switch adapter. The adapters are described in the [Controllers for internal storage](#) section.

M.2 drives

The server supports one or two M.2 form-factor SATA drives for use as an operating system boot solution. With two M.2 drives configured, the drives are configured by default as a RAID-1 mirrored pair for redundancy.

The M.2 drives install into an M.2 adapter which in turn is installed in a dedicated slot on the system board. See the internal view of the server in the [Components and connectors](#) section for the location of the M.2 slot.

There are two M.2 adapters supported:

- Single M.2 Boot Adapter, which supports one M.2 drive; available as ThinkSystem M.2 Enablement Kit, 7Y37A01092
- Dual M.2 Boot Adapter, which supports one or two M.2 drives; available as ThinkSystem M.2 with Mirroring Enablement Kit, 7Y37A01093

A Dual M.2 Boot Adapter with one 128GB M.2 drive partially inserted is shown in the following figure. The second M.2 drive is installed on the other side of the adapter.



Figure 17. Dual M.2 Boot Adapter and a 128 GB M.2 drive

Features of the Dual M.2 Boot Adapter:

- PCIe 2.0 x2 host interface (connects to the PCH)
- Based on the Marvell 88SE9230 6 Gbps SATA controller
- Supports two 6 Gbps SATA M.2 drives (it is not supported to have only one drive installed)
- Supports 3 different physical sizes of M.2 drives: 42mm (2242), 60mm (2260) and 80mm (2280)*
- RAID functionality provided by the M.2 adapter
- RAID 1 by default; also supports RAID 0 and JBOD
- UEFI-based settings to enable/disable RAID mode and to review inventory
- Adapter and drive firmware update using Lenovo firmware tools
- Management via I2C interface

* 2242, 2260 and 2280 are the industry terms for the M.2 drive dimensions. For example, 2280 corresponds to a drive that is 22mm wide and 80mm long.

Features of the Single M.2 Boot Adapter:

- 6 Gbps SATA host interface (connects to the PCH)
- Supports one 6 Gbps SATA M.2 drive
- Supports 3 different physical sizes of M.2 drives: 42mm (2242), 60mm (2260) and 80mm (2280)

- Drive firmware update using Lenovo firmware tools
- Management via I2C interface
- VPD reporting of adapter inventory

The Single M.2 Boot Adapter is shown in the following photo, with the 32GB M.2 drive installed.



Figure 18. Single M.2 Boot Adapter and a 32 GB M.2 drive

The M.2 components are listed in the following table.

Table 16. M.2 components

Part number	Feature code	Description	Maximum Supported
7Y37A01092	AUMU	ThinkSystem M.2 Enablement Kit (contains the Single M.2 Boot Adapter; supports 1 drive)	1
7Y37A01093	AUMV	ThinkSystem M.2 with Mirroring Enablement Kit (contains the Dual M.2 Boot Adapter, supports 1 or 2 drives)	1
7N47A00129	AUUL	ThinkSystem M.2 CV1 32GB SATA 6Gbps Non-Hot-Swap SSD	1 / 2*
7N47A00130	AUUV	ThinkSystem M.2 CV3 128GB SATA 6Gbps Non-Hot-Swap SSD	1 / 2*

* 7Y37A01092 supports a maximum of one M.2 drive; 7Y37A01093 supports a maximum of two M.2 drives; drives must be identical.

The following table lists the specifications of the M.2 drives.

Table 17. M.2 drive specifications

Specification	32 GB M.2	128 GB M.2
Part number	7N47A00129	7N47A00130
Recommended use	Boot drive*	Boot drive*
Interface	6Gb SATA	6Gb SATA
Flash Type	MLC NAND	TLC NAND
4KB Random Read/Write Performance	25,000 IOPS	72,000 IOPS
4KB Random Write Performance	10,500 IOPS	32,000 IOPS
Sequential Read Performance	260 MB/s	530 MB/s
Sequential Write Performance	40 MB/s	470 MB/s
Endurance (total bytes written / drive writes per day)	37.92TB / 0.66 DWPD	63.9 TB / 0.28 DWPD
Vendor model	LiteOn CV1	LiteOn CV3
Dimensions	42 x 22 mm	80 x 22 mm

* These drive options do not have power-loss capacitors, which means they do not have protection against a potential loss of data when a write operation is underway just as a power outage occurs. As a result, these drives are not recommended for general purpose storage functions.

Controllers for internal storage

The ST550 with hot-swap drives supports internal SAS and SATA drives with the addition of a RAID adapter or HBA. For NVMe support, the server supports the use of an NVMe Switch Adapter installed in a PCIe slot.

For simple-swap drive support, the ST550 uses two onboard 6Gb SATA ports to connect the four or eight simple-swap drives. These ports enable Intel RSTe for RAID functionality.

Virtualization support: The SATA ports can be used with virtualization hypervisors, including VMware ESXi, Linux KVM, Xen, and Microsoft Hyper-V, however support is limited to AHCI (non-RAID) mode. RSTe mode is not supported with virtualization hypervisors.

The following table lists the adapters used for the internal disk storage of the ST550 server.

Table 18. Controllers for internal storage - hot-swap drive support

Part number	Feature code	Description	Number of ports	Maximum supported
SAS/SATA HBA				
7Y37A01088	AUNL	ThinkSystem 430-8i SAS/SATA 12Gb HBA	8	2
7Y37A01089	AUNM	ThinkSystem 430-16i SAS/SATA 12Gb HBA	16	1
RAID adapters				
7Y37A01082	AUNG	ThinkSystem RAID 530-8i PCIe 12Gb Adapter	8	2
7Y37A01083*	AUNH*	ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter	8	2
7Y37A01084	AUNJ	ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter	8	2
7Y37A01085	AUNK	ThinkSystem RAID 930-16i 4GB Flash PCIe 12Gb Adapter	16	1
7Y37A01086	AUV1	ThinkSystem RAID 930-24i 4GB Flash PCIe 12Gb Adapter	24	1
NVMe adapter				
7Y37A01081	AUV2	ThinkSystem 1610-4P NVMe Switch Adapter	4	1

* The RAID 730-8i adapter is available in China only

The following two tables compare the functions of the storage adapters and the onboard SATA.

Table 19. Comparison of internal storage controllers - RAID controllers

Feature	RAID 530-8i	RAID 730-8i*	RAID 930-8i	RAID 930-16i	RAID 930-24i
Adapter type	RAID controller	RAID controller	RAID controller	RAID controller	RAID controller
Part number	7Y37A01082	7Y37A01083	7Y37A01084	7Y37A01085	7Y37A01086
Form factor	PCIe HHHL	PCIe low profile	PCIe HHHL	PCIe HHHL	PCIe HHHL
Controller chip	LSI SAS3408	LSI SAS3108	LSI SAS3508	LSI SAS3516	LSI SAS3508 + LSI SAS35x36R
Broadcom equivalent	MegaRAID 9440-8i	MegaRAID 9361-8i	MegaRAID 9460-8i	MegaRAID 9460-16i	MegaRAID 9460-24i
Host interface	PCIe 3.0x8	PCIe 3.0x8	PCIe 3.0x8	PCIe 3.0x8	PCIe 3.0x8
Port interface	12 Gb SAS	12 Gb SAS	12 Gb SAS	12 Gb SAS	12 Gb SAS
Number of ports	8	8	8	16	24
Port connectors	2x Mini-SAS HD x4 (SFF-8643)	2x Mini-SAS HD x4 (SFF-8643)	2x Mini-SAS HD x4 (SFF-8643)	4x Mini-SAS HD x4 (SFF-8643)	6x Mini-SAS HD x4 (SFF-8643)
Drive interface	SAS, SATA	SAS, SATA	SAS, SATA	SAS, SATA	SAS, SATA
Drive type	HDD, SED, SSD	HDD, SED, SSD	HDD, SED, SSD	HDD, SED, SSD	HDD, SED, SSD
Hot-swap drives	Yes	Yes	Yes	Yes	Yes
Max devices	8	8	8	16	24**
RAID levels	0, 1, 10, 5, 50	0, 1, 10, 5, 50	0, 1, 10, 5, 50, 6, 60	0, 1, 10, 5, 50, 6, 60	0, 1, 10, 5, 50, 6, 60
JBOD mode	Yes	Yes	Yes	Yes	Yes
Cache	None	1GB (Standard)	2GB (Standard)	4GB (Standard)	4GB (Standard)
CacheVault cache protection	No	No	Yes (Flash)	Yes (Flash)	Yes (Flash)
Performance Accelerator (FastPath)	Yes	No	Yes	Yes	Yes
SSD Caching (CacheCade Pro 2.0)	No	No	No	No	No
SED support†	Yes	Yes	Yes	Yes	Yes

* The RAID 730-8i adapter is available in China only

† SED support by RAID controllers is provided using the built-in MegaRAID SafeStore functionality of the adapter.

** With the ST550, the RAID 930-24i supports up to 20 drives.

Table 20. Comparison of internal storage controllers - HBAs and NVMe Switch Adapter

Feature	Intel RSTe	430-8i	430-16i	1610-4P NVMe
Adapter type	Software RAID	HBA	HBA	NVMe switch
Part number	None	7Y37A01088	7Y37A01089	7Y37A01081
Form factor	Onboard	PCIe low profile	PCIe low profile	PCIe HHHL
Controller chip	Intel PCH (RSTe)	LSI SAS3408	LSI SAS3416	Broadcom PEX9733
Broadcom equivalent	Not applicable	HBA 9400-8i	HBA 9400-16i	P310W-4P
Host interface	Not applicable	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	6 Gb SATA	12 Gb SAS	12 Gb SAS	PCIe
Number of ports	Varies	8	16	4
Port connectors	Onboard	2x Mini-SAS HD x4 (SFF-8643)	4x Mini-SAS HD x4 (SFF-8643)	4x Mini-SAS HD x4 (SFF-8643)
Drive interface	SATA	SAS, SATA	SAS, SATA	PCIe NVMe
Drive type	HDD, SSD	HDD, SSD, SED**	HDD, SSD, SED**	SSD
Hot-swap drives	No	Yes	Yes	No
Max devices	Varies	8	16	4
RAID levels	0, 1, 10, 5	No RAID	No RAID	No RAID
JBOD mode	Yes	Yes	Yes	Yes
Cache	None	No	No	None
CacheVault cache protection	No	No	No	No
Performance Accelerator (FastPath)	No	No	No	No
SSD Caching (CacheCade Pro 2.0)	No	No	No	No
SED support	No	Yes**	Yes**	No

** SED support of the SAS HBAs is by using software on the server (SED commands are passed through the HBA to the drives).

Internal drive options

The following tables list the hard disk drive and solid-state drive options for the internal disk storage of the server.

- [Table 21: 2.5-inch hot-swap 12 Gb SAS HDDs](#)
- [Table 22: 2.5-inch hot-swap 6 Gb SAS/SATA HDDs](#)
- [Table 23: 2.5-inch hot-swap 12 Gb SAS SSDs](#)
- [Table 24: 2.5-inch hot-swap 6 Gb SAS/SATA SSDs](#)
- [Table 25: 2.5-inch U.2 NVMe SSDs](#)
- [Table 26: 3.5-inch hot-swap 12 Gb SAS HDDs](#)
- [Table 27: 3.5-inch hot-swap 6 Gb SAS/SATA HDDs](#)
- [Table 28: 3.5-inch hot-swap 6 Gb SAS/SATA SSDs](#)
- [Table 29: 3.5-inch simple-swap 6 Gb SAS/SATA HDDs](#)

Tip: The server also supports M.2 drives as described in the [M.2 drives](#) subsection.

Table 21. 2.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap HDDs - 12 Gb SAS 10K			
7XB7A00024	AULY	ThinkSystem 2.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00026	AUM0	ThinkSystem 2.5" 900GB 10K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	20
2.5-inch hot-swap HDDs - 12 Gb SAS 15K			
7XB7A00021	AULV	ThinkSystem 2.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00022	AULW	ThinkSystem 2.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00023	AULX	ThinkSystem 2.5" 900GB 15K SAS 12Gb Hot Swap 512e HDD	20
2.5-inch hot-swap HDDs - 12 Gb NL SAS			
7XB7A00034	AUM6	ThinkSystem 2.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	20
7XB7A00035	AUM7	ThinkSystem 2.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	20

Table 22. 2.5-inch hot-swap 6 Gb SAS/SATA HDDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap HDDs - 6 Gb NL SATA			
7XB7A00036	AUUE	ThinkSystem 2.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	20
7XB7A00037	AUUJ	ThinkSystem 2.5" 2TB 7.2K SATA 6Gb Hot Swap 512e HDD	20

Table 23. 2.5-inch hot-swap 12 Gb SAS SSDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap SSDs - 12 Gb SAS - Enterprise Capacity			
7N47A00121	AUMK	ThinkSystem 2.5" PM1633a 3.84TB Capacity SAS 12Gb Hot Swap SSD	20
2.5-inch hot-swap SSDs - 12 Gb SAS - Enterprise Mainstream (3-5 DWPD)			
7N47A00117	AUMC	ThinkSystem 2.5" PM1635a 400GB Mainstream SAS 12Gb Hot Swap SSD	20
7N47A00118	AUMD	ThinkSystem 2.5" PM1635a 800GB Mainstream SAS 12Gb Hot Swap SSD	20

Table 24. 2.5-inch hot-swap 6 Gb SAS/SATA SSDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap SSDs - 6 Gb SATA - Enterprise Entry (<3 DWPD)			
7N47A00099	AUM8	ThinkSystem 2.5" Intel S3520 240GB Entry SATA 6Gb Hot Swap SSD	20
7N47A00100	AUUZ	ThinkSystem 2.5" Intel S3520 480GB Entry SATA 6Gb Hot Swap SSD	20
7N47A00111	AUUQ	ThinkSystem 2.5" PM863a 240GB Entry SATA 6Gb Hot Swap SSD	20
7N47A00112	AUM9	ThinkSystem 2.5" PM863a 480GB Entry SATA 6Gb Hot Swap SSD	20

Table 25. 2.5-inch U.2 NVMe SSDs

Part number	Feature	Description	Maximum supported
2.5-inch SSDs - NVMe - Enterprise Entry (<3 DWPD)			
7N47A00984	AUV0	ThinkSystem U.2 PM963 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	4
7N47A00985	AUUU	ThinkSystem U.2 PM963 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	4

Note: NVMe PCIe SSDs support informed hot removal and hot insertion, provided the operating system supports PCIe SSD hot-swap.

Table 26. 3.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap HDDs - 12 Gb SAS 15K			
7XB7A00038	AUU2	ThinkSystem 3.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	8
7XB7A00039	AUU3	ThinkSystem 3.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	8
3.5-inch hot-swap HDDs - 12 Gb NL SAS			
7XB7A00041	AUU4	ThinkSystem 3.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	8
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	8
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	8
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	8
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	8

Table 27. 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 SATA			
7XB7A00049	AUUF	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	8
7XB7A00050	AUUD	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Hot Swap 512n HDD	8
7XB7A00051	AUU8	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Hot Swap 512n HDD	8
7XB7A00053	AUU9	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	8
7XB7A00054	AUUB	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Hot Swap 512e HDD	8

Table 28. 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 Entry (<3 DWPD)			
7N47A00115	AUUS	ThinkSystem 3.5" PM863a 240GB Entry SATA 6Gb Hot Swap SSD	8
7N47A00116	AUUN	ThinkSystem 3.5" PM863a 480GB Entry SATA 6Gb Hot Swap SSD	8
7N47A00106	AUUT	ThinkSystem 3.5" Intel S3520 480GB Entry SATA 6Gb Hot Swap SSD	8
7N47A00105	AUUW	ThinkSystem 3.5" Intel S3520 240GB Entry SATA 6Gb Hot Swap SSD	8

Table 29. 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			
7XB7A00055	AUZS	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	8
7XB7A00056	AUZT	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	8
7XB7A00057	AUZU	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	8
7XB7A00058	AUUA	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Non-Hot Swap 512e HDD	8
7XB7A00059	AXC6	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Non-Hot Swap 512e HDD	8
7XB7A00052	AXC7	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Hot Swap 512e HDD	8
7XB7A00060	AXC8	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Non-Hot Swap 512e HDD	8

Internal backup units

The server supports the internal backup unit options that are listed in the following table.

Table 30. Internal backup units

Part number	Feature code	Description	Maximum supported
Drives			
7T27A01502	AVF2	ThinkSystem Internal Half High LTO Gen6 SAS Tape Drive	1
7T27A01503	AVF5	ThinkSystem Internal Half High LTO Gen7 SAS Tape Drive	1
7T27A01501	AVF6	ThinkSystem Internal RDX USB 3.0 Dock	1
LTO Media			
7TP7A01604	AVF4	ThinkSystem LTO Gen6 2.5TB Tape	Not applicable
7TP7A01606	AVF7	ThinkSystem LTO Gen7 6TB Tape	Not applicable
RDX Media			
7TP7A01601	AVF8	ThinkSystem RDX 500GB Cartridge	Not applicable
7TP7A01602	AVF1	ThinkSystem RDX 1TB Cartridge	Not applicable
7TP7A01603	AVF0	ThinkSystem RDX 2TB Cartridge	Not applicable
7TP7A04318	AXD1	ThinkSystem RDX 4TB Cartridge	Not applicable

The RDX drive is attached via the USB 3.0 port on the system board.

The use of an LTO tape drive requires a SAS HBA, either the 430-8i or 430-16i SAS/SATA 12Gb HBA.

For more information about RDX drive and LTO tape drives, see the Backup Units page on the Lenovo Press site: <https://lenovopress.com/servers/options/backup>

Optical drives

The ST550 supports the optical drive options listed in the following table.

Table 31. Optical drives

Part number	Feature code	Description	Maximum supported
Internal optical drives			
7XA7A01204	AVEZ	ThinkSystem Half High SATA DVD-ROM Optical Disk Drive	2
7XA7A01202	AVEY	ThinkSystem Half High SATA DVD-RW Optical Disk Drive	2
External optical drives			
7XA7A05926	AVV8	ThinkSystem External USB DVD RW Optical Disk Drive	2

The internal optical drives in the table can be installed in any open 5.25-inch drive bay.

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

- CD-ROM 48X
- CD-DA (DAE) 48X
- 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 8X
- DVD+R 16X
- DVD+R DL 8X
- DVD-RW (4.7 GB) 8X
- DVD+RW 8X
- DVD-RAM (4.7/9.4 GB) 5X

The Half High SATA DVD-RW drive 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 5X

The ThinkSystem External USB DVD RW Optical Disk Drive is based on the Lenovo Slim DVD Burner DB65 drive and has the following specifications:

- Read:
 - CD-ROM 24X
 - CD-DA (DAE) 24X
 - CD-R 24X
 - CD-RW 24X
 - DVD-ROM (single layer) 8X
 - DVD-ROM (dual layer) 8X
 - DVD-R (4.7 GB) 8X
 - DVD-R DL 8X
 - DVD+R 8X
 - DVD+R DL 8X
 - DVD-RW (4.7 GB) 8X
 - DVD+RW 8X
 - DVD-RAM (4.7/9.4 GB) 6X
- Write:
 - CD-R 10X (CLV), 24X (PCAV)
 - CD-RW 4X
 - High Speed CD-RW 10X
 - Ultra Speed CD-RW 24X
 - DVD-R 8X
 - DVD-R DL 6X
 - DVD+R 8X
 - DVD+R DL 6X
 - DVD-RW 6X
 - DVD+RW 8X
 - DVD-RAM 5X

I/O expansion options

The ST550 server supports up to six PCIe 3.0 slots: Four slots (1, 2, 3 and 6) are supported when only one CPU is installed. Slots 4 and 5 require the second processor. The slot lane widths, available power, and supported adapter height and length are as follows:

- Slot 1: PCIe 3.0 x8 (25W); full-height, half-length
- Slot 2: PCIe 3.0 x16 (75W); full-height, half-length
- Slot 3: PCIe 3.0 x16 (75W); full-height, full-length
- Slot 4: PCIe 3.0 x16 (x8 wired) (25W); full-height, full-length (requires second processor)
- Slot 5: PCIe 3.0 x16 (75W); full-height, full-length (requires second processor)
- Slot 6: PCIe 3.0 x8 (x4 wired) (25W); full-height, full-length

Slots 3 and 5 support double-wide GPUs. When double-wide adapters are used slots 4 and 6 cannot be used.

The following figure shows the locations of the PCIe slots.

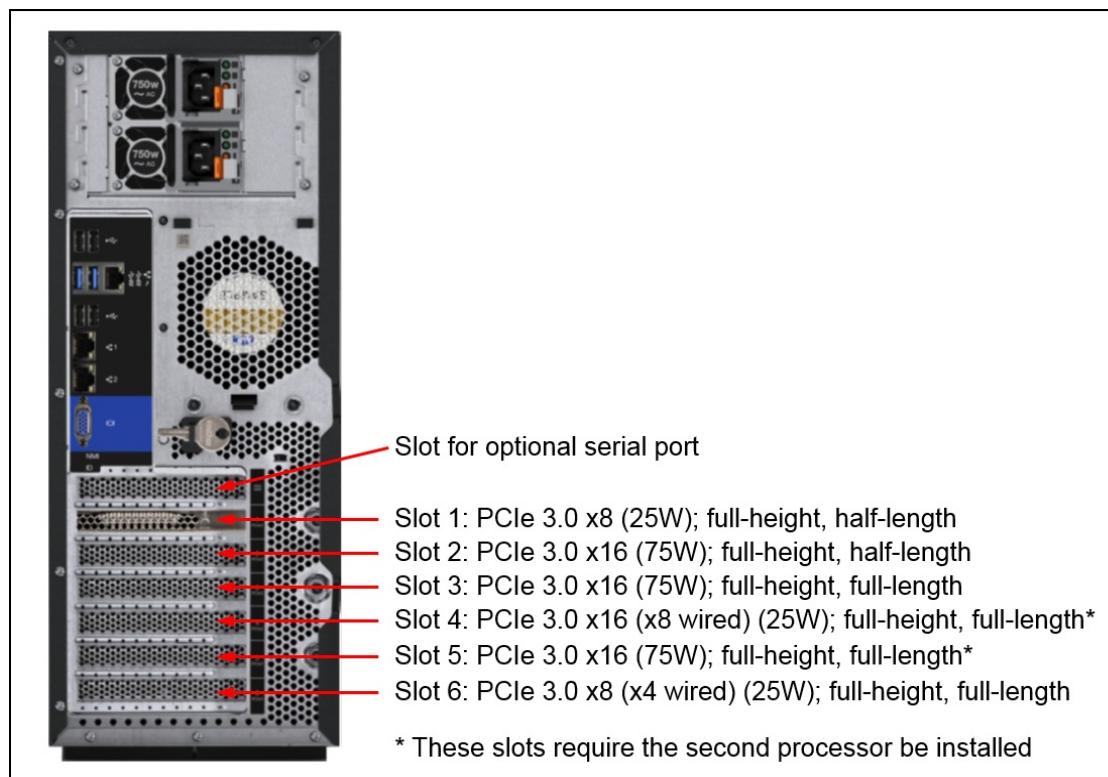


Figure 19. ThinkSystem ST550 PCIe slots

Above the PCIe slots is a space for a COM Port Bracket which is used for making an external serial port available at the rear of the server. The following table lists the ordering information.

Table 32. ThinkSystem ST550 COM Port Upgrade Kit ordering information

Part number	Feature code	Description	Maximum Supported
7Z17A02577	ARZ0	ThinkSystem ST550 COM Port Upgrade Kit	1

Network adapters

The ST550 has two onboard Gigabit Ethernet ports, connected to the integrated Intel Ethernet Connection X722 controller.

The following table lists other supported network adapters. The maximum supported column indicates which slots each adapter is supported in. For slot locations see the [I/O expansion options](#) section.

Table 33. Network adapters

Part number	Feature code	Description	Slots supported	Maximum supported
Gigabit Ethernet				
7ZT7A00482	AUZX	ThinkSystem NetXtreme PCIe 1Gb 2-Port RJ45 Ethernet Adapter By Broadcom	All slots	6
7ZT7A00484	AUZV	ThinkSystem NetXtreme PCIe 1Gb 4-Port RJ45 Ethernet Adapter By Broadcom	All slots	6
7ZT7A00533	AUZZ	ThinkSystem I350-F1 PCIe 1Gb 1-Port SFP Ethernet Adapter By Intel	All slots	6
7ZT7A00534	AUZY	ThinkSystem I350-T2 PCIe 1Gb 2-Port RJ45 Ethernet Adapter By Intel	All slots	6
7ZT7A00535	AUZW	ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter By Intel	All slots	6
10 Gb Ethernet				
00MM850	ATRY	Intel X550-T1 Single Port 10GBase-T Adapter	All slots	6
00MM860	ATPX	Intel X550-T2 Dual Port 10GBase-T Adapter	All slots	6
7ZT7A00496	AUKP	ThinkSystem Broadcom NX-E PCIe 10Gb 2-Port Base-T Ethernet Adapter	All slots	6
7ZT7A00537	AUKX	ThinkSystem X710-DA2 PCIe 10Gb 2-Port SFP+ Ethernet Adapter	All slots	6*

* Requires SFP+ 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 Ethernet 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 34. Supported optical transceivers and DAC cables - 10 Gb Ethernet

Part number	Feature code	Description
10 GbE SFP+ transceivers (for 10 GbE 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 10 GbE 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 SAS HBAs and RAID adapters suitable for connectivity to external storage.

Table 35. Supported SAS HBAs and RAID adapters

Part number	Feature code	Description	Slots supported	Maximum supported
12 Gb SAS HBA				
7Y37A01090	AUNR	ThinkSystem 430-8e SAS/SATA 12Gb HBA	All slots	6
12 Gb RAID Adapter				
7Y37A01087	AUNQ	ThinkSystem RAID 930-8e 4GB Flash PCIe 12Gb Adapter	All slots	4*

* Limited by the number of supercap mounts in the server

The following table summarizes the features of supported adapters.

Table 36. Comparison of features

Feature	430-8e	RAID 930-8e
Adapter type	HBA	External RAID
Part number	7Y37A01090	7Y37A01087
Controller chip	LSI SAS3408	LSI SAS3508
Broadcom equivalent	HBA 9400-8e	MegaRAID 9480-8e
Host interface	PCIe 3.0x8	PCIe 3.0x8
Port interface	12 Gb SAS	12 Gb SAS
Number of ports	8	8
Port connectors	2x Mini-SAS HD SFF8644	2x Mini-SAS HD SFF8644
Drive interface	SAS/SATA	SAS,SATA
Drive type	HDD/SSD/SED*	HDD,SED,SSD
Hot-swap drives	Yes	Yes
Maximum devices	512 (planned: 1024)	64 (planned: 216)
RAID levels	None	0/1/10/5/50/6/60
JBOD mode	Yes	Yes
Cache	None	4GB (Standard)
CacheVault cache protection	None	Yes (Flash)
Performance Accelerator (FastPath)	No	Yes
SSD Caching (CacheCade Pro 2.0)	No	No
SED support*	Yes*	Yes

* SED (self-encrypting drive) support of the SAS HBA is by using software on the server (SED commands are passed through the HBA to the drives).

Fibre Channel host bus adapters

The following table lists the Fibre Channel HBAs supported by the server.

Table 37. Fibre Channel adapters

Part number	Feature code	Description	Slots supported	Maximum supported
16 Gb Fibre Channel				
01CV840	ATZV	Emulex 16Gb Gen6 FC Dual-port HBA	All slots	6
01CV830	ATZU	Emulex 16Gb Gen6 FC Single-port HBA	All slots	6
01CV760	ATZC	QLogic 16Gb Enhanced Gen5 FC Dual-port HBA	All slots	6
01CV750	ATZB	QLogic 16Gb Enhanced Gen5 FC Single-port HBA	All slots	6

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

Flash Storage adapters

The server currently does not support Flash Storage adapters.

GPU adapters

The ST550 server supports the graphics processing units (GPUs) listed in the following table. Up to two GPUs are supported when two processors are installed in a server (or one GPU with only one processor).

Table 38.

Part number	Feature code	Description	Slots supported	Maximum supported
7C57A02877	AUW6	ThinkSystem NVIDIA Quadro P2000 5GB PCIe Active GPU	3, 5	2
7C57A02895	AVRK	ThinkSystem NVIDIA Quadro P6000 24GB PCIe Active GPU	3, 5*	2

* The P6000 is a double-width adapter: When installed in slot 3, slot 4 is no longer available. When installed in slot 5, slot 6 is no longer available.

The following other rules apply:

- If two GPUs are installed, they *must* be identical
- The first GPU is installed in slot 3; the second GPU is installed in slot 5 and requires the second processor to be installed.
- The number of GPUs that can be installed depends on the type of power supply that is installed and the drive bay configuration selected. For more information, see the [Power Supplies](#) section.
- Cooling requirements and limitations in fan redundancy exist for some configurations as described in the [Fans and cooling](#) section
- The use of a GPU requires that Fan 4 (rear fan) be installed.

Tip: NVIDIA Pxxxx GPUs do not have the 1TB system memory limit that previous NVIDIA adapters had

Fans and cooling

The server can operate in environments up to ASHRAE A4 (45°C and 90% humidity). Details and restrictions are described in the [Physical and electrical specifications](#) section.

The server supports up to four simple-swap fans, three in the front of the server, just behind the drive bays and one installed at the rear of the server. See the Inside view in the [Components and connectors](#) section for locations.

Use of these fans is as follows:

- Single processor systems require 2 fans, installed in the area behind drive bays
- The third fan installed behind the drive bays (part number is 7XH7A06781) is required if either:
 - The server has two processors
 - The server has four 2.5-inch hot-swap drives bays installed in place of the two 5.25-inch media bays converted
- Fan 4 (the fan at the rear of the server) can be installed as an N+1 redundant fan if desired. The part number is 7XH7A05900.
- If a GPU is installed, Fan 4 is required and is non-redundant in most configurations. The following table indicates the cooling restrictions that apply when supported GPUs are installed:
 - Whether or not Fan 4 is redundant
 - Limits to ambient temperatures

Table 39. Cooling restrictions with GPUs installed

GPU configuration	NVIDIA P2000 selected	NVIDIA P6000 selected
One GPU installed	Fan 4 is redundant System is limited to ASHRAE A2 (35°C)	Fan 4 is non-redundant System is limited to ASHRAE A2 (35°C)
Two GPUs installed	Fan 4 is non-redundant System is limited to ASHRAE A2 (35°C)	Fan 4 is non-redundant System is limited to 30°C ambient

The table below lists the fan upgrades.

Table 40. Fan upgrades

Part number	Feature code	Description
7XH7A06781	AVS3	ThinkSystem ST550 Front Mid Fan Module for 4x2.5" ODD conversion
7XH7A05900	AVS4	ThinkSystem ST550 Rear Fan Module

Power supplies

The server supports either a single fixed power supply or one or two hot-swap power supplies. When two hot-swap power supplies are installed, they form a redundant pair. The following table lists the supported power supplies.

Table 41. Power supply options

Part number	Feature code	Description	Maximum supported	110V AC	220V AC	240V DC China only
None*	AVS1	450W (230V/115V) Gold AC Fixed (Cabled) Power Supply	1	Yes	Yes	No
7N67A00882	AUSD	550W (230V/115V) Platinum Hot-Swap Power Supply	2	Yes	Yes	Yes
7N67A00883	AUSC	750W (230/115V) Platinum Hot-Swap Power Supply	2	Yes	Yes	Yes
7N67A00884	AUSB	750W (230V) Titanium Hot-Swap Power Supply	2	No	Yes	Yes
7N67A00885	AUN9	1100W (230V/115V) Platinum Hot-Swap Power Supply	2	Yes	Yes	Yes

* Configure-to-order only

550W, 750W and 1100W Platinum power supplies are auto-sensing and support both 110V AC (100-127V 50/60 Hz) and 220V AC (200-240V 50/60 Hz) power. The 750W Titanium power supply only supports 220V AC power. In China only, all four hot-swap power supplies also support 240V DC.

Power supply options do not include a line cord.

For server configurations, the inclusion of a power supply is model dependent. Configure-to-order models can be configured without a power cord if desired.

Configuration rules

The following table shows the power supplies supported with and without GPUs and with the various supported drive bay configurations.

For further power configuration of the server, use the Lenovo Power Configurator, available at: <https://support.lenovo.com/us/en/documents/LNVO-PWRCONF>

Additional rules:

- 550W, 750W, 1100W power supplies can be used all processors supported by the server
- 450W power supply can only be used with processors that have a TDP of 85W or lower
- 1100W power supply supports GPUs, however limitations on cooling fan redundancy exist for some configurations as described in the [Fans and cooling](#) section

Table 42. Power supply support for drive and GPU configurations

Power supply	4x 3.5 SS	8x 3.5 HS	8x 2.5 HS	16x 2.5 HS	8x 2.5 HS AnyBay	8x 3.5 + 4x 2.5 HS	16x 2.5 HS AnyBay	20x 2.5 HS AnyBay	20x 2.5 HS
Without any GPUs									
450W	Y*	Y*	Y*	N	N	N	N	N	N
550W	Y	Y	Y	N	N	N	N	N	N
750W	Y	Y	Y	Y	Y	Y	Y	Y	Y
1100W	Y	Y	Y	Y	Y	Y	Y	Y	Y
With 1 or 2 GPUs**									
450W	N	N	N	N	N	N	N	N	N
550W	N	N	N	N	N	N	N	N	N
750W	N	N	N	N	N	N	N	N	N
1100W	Y	Y	Y	Y	Y	Y	Y	Y	Y

* Only with processors that have a TDP of 85W or lower

** See the [Fans and cooling](#) section for cooling restrictions with GPUs

Power cords

Country-specific line cords and rack power cables can be ordered as listed in the following table.

Table 43. Power cords

Part number	Feature code	Description
Rack cables		
00Y3043	A4VP	1.0m, 10A/100-250V, C13 to C14 Jumper Cord
39Y7937	6201	1.5m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08369	6570	2.0m, 13A/100-250V, C13 to C14 Jumper Cord
4L67A08366	6311	2.8m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08370	6400	2.8m, 13A/100-250V, C13 to C14 Jumper Cord
39Y7932	6263	4.3m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08371	6583	4.3m, 13A/100-250V, C13 to C14 Jumper Cord
Country-specific cables		
39Y7930	6222	2.8m, 10A/250V, C13 to IRAM 2073 (Argentina) Line Cord
81Y2384	6492	4.3m, 10A/250V, C13 to IRAM 2073 (Argentina) Line Cord
39Y7924	6211	2.8m, 10A/250V, C13 to AS/NZS 3112 (Australia/NZ) Line Cord
81Y2383	6574	4.3m, 10A/250V, C13 to AS/NZS 3112 (Australia/NZ) Line Cord
69Y1988	6532	2.8m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
81Y2387	6404	4.3m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
39Y7928	6210	2.8m, 10A/220V, C13 to GB 2099.1 (China) Line Cord
81Y2378	6580	4.3m, 10A/250V, C13 to GB 2099.1 (China) Line Cord
39Y7918	6213	2.8m, 10A/250V, C13 to DK2-5a (Denmark) Line Cord
81Y2382	6575	4.3m, 10A/250V, C13 to DK2-5a (Denmark) Line Cord
39Y7917	6212	2.8m, 10A/250V, C13 to CEE 7/7 (Europe) Line Cord

Part number	Feature code	Description
81Y2376	6572	4.3m, 10A/250V, C13 to CEE 7/7 (Europe) Line Cord
39Y7927	6269	2.8m, 10A/250V, C13 to IS 6538 (India) Line Cord
81Y2386	6567	4.3m, 10A/250V, C13 to IS 6538 (India) Line Cord
39Y7920	6218	2.8m, 10A/250V, C13 to SI 32 (Israel) Line Cord
81Y2381	6579	4.3m, 10A/250V, C13 to SI 32 (Israel) Line Cord
39Y7921	6217	2.8m, 10A/250V, C13 to CEI 23-16 (Italy) Line Cord
81Y2380	6493	4.3m, 10A/250V, C13 to CEI 23-16 (Italy) Line Cord
4L67A08362	6495	4.3m, 12A/200V, C13 to JIS C-8303 (Japan) Line Cord
39Y7922	6214	2.8m, 10A/250V, C13 to SABS 164-1 (South Africa) Line Cord
81Y2379	6576	4.3m, 10A/250V, C13 to SANS 164-1 (South Africa) Line Cord
39Y7926	6335	4.3m, 12A/100V, C13 to JIS C-8303 (Japan) Line Cord
39Y7925	6219	2.8m, 12A/220V, C13 to KSC 8305 (S. Korea) Line Cord
81Y2385	6494	4.3m, 12A/250V, C13 to KSC 8305 (S. Korea) Line Cord
39Y7919	6216	2.8m, 10A/250V, C13 to SEV 1011-S24507 (Swiss) Line Cord
81Y2390	6578	4.3m, 10A/250V, C13 to SEV 1011-S24507 (Swiss) Line Cord
23R7158	6386	2.8m, 10A/125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2375	6317	2.8m, 10A/250V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2374	6402	2.8m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord
4L67A08363	AX8B	4.3m, 10A/125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2389	6531	4.3m, 10A/250V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2388	6530	4.3m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord
39Y7923	6215	2.8m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
81Y2377	6577	4.3m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
90Y3016	6313	2.8M, 10A/125V, C13 to NEMA 5-15P (US) Line Cord
46M2592	A1RF	2.8m, 10A/250V, C13 to NEMA 6-15P (US) Line Cord
00WH545	6401	2.8M, 13A/125V, C13 to NEMA 5-15P (US) Line Cord
4L67A08359	6370	4.3m, 10A/125V, C13 to NEMA 5-15P (US) Line Cord
4L67A08361	6373	4.3m, 10A/250V, C13 to NEMA 6-15P (US) Line Cord
4L67A08360	AX8A	4.3m, 13A/125V, C13 to NEMA 5-15P (US) Line Cord

110V customers: If you plan to use the ThinkSystem 1100W power supply with a 110V power source, select a power cable that is rated above 10A. Power cables that are rated at 10A or below are not supported with 110V power.

The ST550 also supports the following two-up cables.

Table 44. Power cables for ST550

Part number	Feature code	Description
47C2491	A3SW	1.2m, 10A/100-250V, (2X) C13 to C20 Jumper Cord
47C2492	A3SX	2.5m, 10A/100-250V, (2X) C13 to C20 Jumper Cord
47C2493	A3SY	2.8m, 10A/100-250V, (2X) C13 to C20 Jumper Cord
47C2494	A3SZ	4.1m, 10A/100-250V, (2X) C13 to C20 Jumper Cord

Integrated virtualization

The server supports booting from an operating system or hypervisor installed on an M.2 solid-state drive. See the [M.2 drives section](#) for details and the list of available options.

You can download supported VMware vSphere hypervisor images from the following web page and load it on the M.2 drive using the instructions provided:

http://shop.lenovo.com/us/en/systems/solutions/alliances/vmware/#tab-vmware_vsphere_esxi

Systems management

The server contains an integrated service processor, XClarity Controller (XCC), which provides advanced service-processor control, monitoring, and alerting functions. The XCC is based on the Pilot4 XE401 baseboard management controller (BMC) using a dual-core ARM Cortex A9 service processor.

Local management

The ST550 offers a front operator panel showing key LED status indicators, as shown in the following figure.

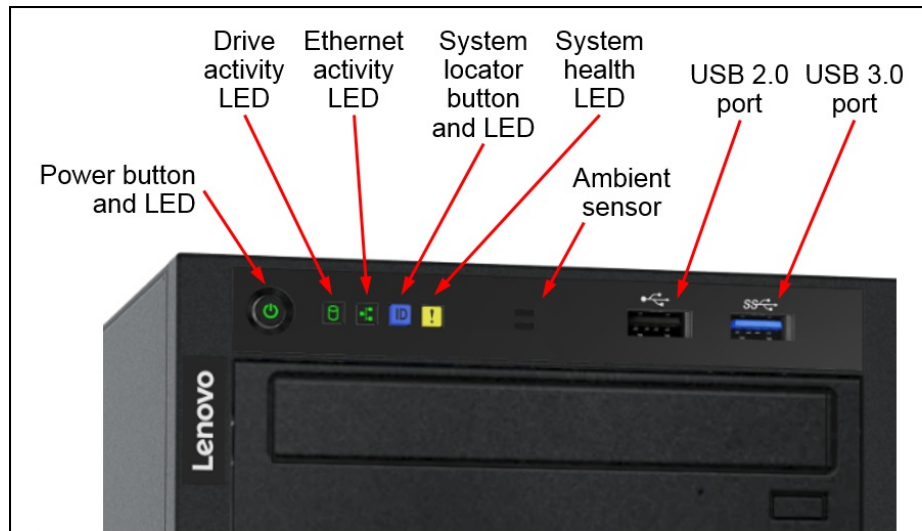



Figure 20. Front operator panel

When you press the ID button on the front panel, the blue system ID LEDs on both the front and rear of the server are lit to help you locate the server among other servers. You also can turn on the system ID LEDs using a remote management program for server presence detection.

System status with XClarity Mobile

The XClarity Mobile app now includes a tethering function where you can connect your Android or iOS device to the server via USB to see the status of the server.

The steps to connect the mobile device are as follows:

1. Enable USB Management on the server, by holding down the ID button for 3 seconds (or pressing the dedicated USB management button if one is present)
2. Connect the mobile device via a USB cable to the server's USB port with the management symbol 

3. In iOS or Android settings, enable Personal Hotspot or USB Tethering

4. Launch the Lenovo XClarity Mobile app

Once connected you can see the following information:

- Server status including error logs (read only, no login required)
- Server management functions (XClarity login credentials required)

Remote management

Remote server management is provided through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Simple Network Management Protocol (SNMP) Version 3 (no SET commands; no SNMP v1)
- Common Information Model (CIM-XML)
- Representational State Transfer (REST) support
- Redfish support (DMTF compliant)
- Web browser - HTML 5-based browser interface (Java and ActiveX not required) using a responsive design (content optimized for device being used - laptop, tablet, phone) with NLS support

There are two XClarity Controller upgrades available for the server, Advanced and Enterprise.

Lenovo XClarity Controller Advanced adds the following remote control functions:

- Remotely viewing video with graphics resolutions up to 1600x1200 at 75 Hz with up to 23 bits per pixel, regardless of the system state
- Remotely accessing the server using the keyboard and mouse from a remote client
- Capturing blue-screen errors
- International keyboard mapping support
- LDAP-based authentication

Lenovo XClarity Controller Enterprise enables the following additional features:

- Boot Capture
- Remote mounting of CD-ROM (ISO) and diskette (IMG) files as virtual drives
- Virtual console collaboration
- Power capping
- License for XClarity Energy Manager

Preconfigured models come with either XClarity Controller Standard, Advanced or Enterprise, depending on the model. See the [Models](#) section for details. The following table shows the field upgrades available for preconfigured models.

Table 45. XClarity Controller field upgrades

Part number	Feature code	Description
4L47A09132	AVUT	ThinkSystem XClarity Controller Standard to Advanced Upgrade (for servers that have XCC Standard)
4L47A09133	AVUU	ThinkSystem XClarity Controller Advanced to Enterprise Upgrade (for servers that have XCC Advanced)

For configure-to-order (CTO) models, you can elect to have one of the following XCC functionality by selecting the appropriate XCC feature codes as listed in the following table:

- XCC Standard - select neither feature listed in the table
- XCC Advanced - select feature AVUT
- XCC Enterprise - select feature AUPW

Table 46. XClarity Controller Upgrades for configure-to-order

Feature code	Description
AVUT	ThinkSystem XClarity Controller Standard to Advanced Upgrade
AUPW	ThinkSystem XClarity Controller Standard to Enterprise Upgrade

Lenovo XClarity Provisioning Manager

Lenovo XClarity Provisioning Manager is a UEFI-based application embedded in ThinkSystem servers and accessible via the F1 key during system boot.

Lenovo XClarity Provisioning Manager provides the following functions:

- Graphical UEFI Setup
- System inventory information and VPD update
- System firmware updates (UEFI and XCC)
- RAID setup wizard
- OS installation wizard (including unattended OS installation)
- Diagnostics functions

Lenovo XClarity Administrator

Lenovo XClarity Administrator is a centralized resource management solution designed to reduce complexity, speed response, and enhance the availability of Lenovo systems and solutions.

Lenovo XClarity Administrator provides agent-free hardware management for ThinkSystem servers, in addition to ThinkServer, System x, and Flex System servers. The administration dashboard is based on HTML 5 and allows fast location of resources so tasks can be run quickly.

Because Lenovo XClarity Administrator does not require any agent software to be installed on the managed endpoints, there are no CPU cycles spent on agent execution, and no memory is used, which means that up to 1GB of RAM and 1 - 2% CPU usage is saved, compared to a typical managed system where an agent is required.

Lenovo XClarity Administrator provides full management function to ThinkSystem servers, including the following:

- Discovery
- Inventory
- Monitoring and alerting
- Call home
- Centralized user management
- Cryptography modes, server certificates, and encapsulation
- Configuration patterns
- Operating system deployment
- Firmware updates

For more information about Lenovo XClarity Administrator, including ordering part numbers, see the Lenovo XClarity Administrator Product Guide:

<https://lenovopress.com/tips1200-lenovo-xclarity-administrator>

Lenovo XClarity Essentials

Lenovo offers the following XClarity Essentials software tools that can help you set up, use, and maintain the server at no additional cost:

- **Lenovo Essentials OneCLI**
OneCLI is a collection of server management tools that uses a command line interface program to manage firmware, hardware, and operating systems. It provides functions to collect full system health information (including health status), configure system setting, and update system firmware and drivers.
- **Lenovo Essentials UpdateXpress**
The UpdateXpress tool is a standalone GUI application for firmware and device driver updates that enables you to maintain your server firmware and device drivers up-to-date and help you avoid unnecessary server outages. The tool acquires and deploys individual updates and UpdateXpress System Packs (UXSPs) which are integration-tested bundles.
- **Lenovo Essentials Bootable Media Creator**
The Bootable Media Creator (BOMC) tool is used to create bootable media for offline firmware update.

For more information and downloads, visit the Lenovo XClarity Essentials web page:
<http://support.lenovo.com/us/en/documents/LNVO-center>

Lenovo XClarity Energy Manager

Lenovo XClarity Energy Manager is an agent-free, web-based console that provides power management for ThinkSystem servers as well as System x and ThinkServer systems. It enables server density and data center capacity to be increased through the use of power capping.

Lenovo XClarity Energy Manager is a licensed product. A single-node XClarity Energy Manager license is included with the XClarity Controller Enterprise (XCC Enterprise) upgrade as described in the [Remote Management](#) section. If your server does not have the XCC Enterprise upgrade, Energy Manager licenses can be ordered as shown in the following table.

Table 47. Lenovo XClarity Energy Manager

Description	Part number	Maximum supported
4L40E51621	Lenovo XClarity Energy Manager Node License	1 node
4L40E51622	Lenovo XClarity Energy Manager Node License Pack	5 nodes
4L40E51623	Lenovo XClarity Energy Manager Node License Pack	50 nodes

Security

The server offers the following security features:

- Electronic security measures:
 - Administrator and power-on passwords
 - Trusted Platform Module (TPM) supporting both TPM 1.2 and TPM 2.0
 - Optional Trusted Cryptographic Module (TCM), available only in China
- Mechanical security measures
 - Lockable side cover to help prevent access to internal components
 - Slot at the rear of the server for a Kensington Cable Lock
 - Optional chassis intrusion switch (configure-to-order only)
 - Optional lockable front security door

The TCM module, available only for China customers, is installed in a dedicated socket on the system board, as shown in [Figure 4](#).

The optional lockable front door includes a key that enables you to secure access to the drive bays and system controls, thereby reducing the possibility of unauthorized or accidental access to the server.

The following table lists the security options for the server.

Table 48. Security features

Part number	Feature code	Description
7XH7A05903	AVRR	ThinkSystem ST550 Security Door
None*	AVKE	ThinkSystem Trusted Cryptographic Module (China customers only)
None*	AVSD	ThinkSystem ST550 Intrusion Switch and Cable

* Available via configure-to-order or in preconfigured models only

Rack installation

The server can be installed in the rack with the Tower to Rack Conversion Kit. The resulting server is a 4U rack-mountable server, as shown in the following figure.



Figure 21. ThinkSystem ST550 with Rack Conversion Kit installed

The part numbers are summarized in the following table.

Table 49. Rack installation options

Part number	Feature code	Description
7XH7A05901	AVRZ	ThinkSystem ST550 4U Tower to Rack Conversion Kit
7XH7A05902	AVRX	ThinkSystem ST550 CMA Kit

The rail kit has the specifications listed in the following table.

Table 50. Rail kit specifications

Feature	ThinkSystem ST550 4U Tower to Rack Conversion Kit
Part number	7XH7A05901
Rail type	Full-out slide rail (ball bearing)
Toolless installation	Yes
Cable Management Arm (CMA) support	Optional (7XH7A05902)
In-rack server maintenance	Yes
1U PDU support	Yes
0U PDU support	Limited*
Rack type	Lenovo and IBM 4-post, IEC standard-compliant
Mounting holes	Square or round
Mounting flange thickness	2 mm - 3.3 mm (0.08 - 0.13 in.)
Distance between front and rear mounting flanges	537 mm - 810 mm (21.1 - 31.9 in.)
Rail length***	792 mm (31.2 in.)

* For 0U PDU support, the rack must be at least 1100 mm (43.31 in.) deep without a CMA, or at least 1200 mm (47.24 in.) deep if a CMA is used.

*** Measured when mounted on the rack, from the front surface of the front mounting flange to the rearmost point of the rail.

Supported rack cabinets are listed in the [Rack cabinets](#) section.

Operating system support

The server supports the following operating systems:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016
- SUSE Linux Enterprise Server 11 SP4
- SUSE Linux Enterprise Server 12 SP2
- Red Hat Enterprise Linux 6.9
- Red Hat Enterprise Linux 7.3
- VMware ESXi 6.0 U3
- VMware ESXi 6.5

For details about the specific versions and service levels supported and any other prerequisites, see the Operating System Interoperability Guide: <http://lenovopress.com/osig>

Virtualization support: The onboard SATA ports of the server can be used with virtualization hypervisors, including VMware ESXi, Linux KVM, Xen, and Microsoft Hyper-V, however support is limited to AHCI (non-RAID) mode. RSTe mode is not supported with virtualization hypervisors.

For configure-to-order configurations, the server can be preloaded with VMware ESXi installed on M.2 cards. Ordering information is listed in the following table.

Table 51. VMware ESXi preload

Part number	Feature code	Description
CTO only	AXFT	VMware ESXi 6.5 (factory installed)
CTO only	AXFS	VMware ESXi 6.0 U3 (factory installed)

Physical and electrical specifications

The server features the following dimensions and weight:

- Tower:
 - Width with stabilizer feet extended: 272 mm (10.7 in)
 - Width with stabilizer feet retracted: 176 mm (6.9 in)
 - Depth: 670 mm (26.4 in)
 - Height: 438 mm (17.2 in)
- With rack conversion kit:
 - Width: 482 mm (18.97 inches)
 - Depth: 670 mm (26.4 in)
 - Height: 176 mm (6.9 in)

Weight:

- Fully configured: 36 kg (79.36 lb)

A note about the stabilizer feet : The ST550 includes stabilizer foot stands that are used when the server is in the tower configuration. The stabilizer feet can be installed in a retracted position or in an open position. For safety reasons, it is recommended the feet be used in the open position to help prevent the server from tipping over, however if needed, the feet can be positioned so that they do not extend beyond the width of the server enclosure. When the ST550 is converted to a rack configuration, the feet are removed.

Electrical requirements are as follows:

- Models with 550 W AC power supplies:
 - 100-127 (nominal) V ac; 50 Hz or 60 Hz; 6.2 A
 - 200 - 240 (nominal) V ac; 50 Hz or 60 Hz; 3.0 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.16 kVA
 - Maximum configuration: 0.722 kVA
- Models with 750 W Platinum AC power supplies:
 - 100 - 127 (nominal) V ac; 50 Hz or 60 Hz; 8.4 A
 - 200 - 240 (nominal) V ac; 50 Hz or 60 Hz; 4.1 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.15 kVA
 - Maximum configuration: 0.954 kVA
- Models with 750 W Titanium AC power supplies:
 - 200 - 240 (nominal) V ac; 50 Hz or 60 Hz; 4.1 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.15 kVA
 - Maximum configuration: 0.906 kVA
- Models with 1100 W Platinum AC power supplies:
 - 100 - 127 (nominal) V ac; 50 Hz or 60 Hz; 12.0 A
 - 200 - 240 (nominal) V ac; 50 Hz or 60 Hz; 6.0 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.12 kVA
 - Maximum configuration: 1.406 kVA

For China customers using 240V DC input power:

- Models with 550 W 240V DC power supplies:
 - 200 - 240 (nominal) V dc; 2.5 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.16 kVA
 - Maximum configuration: 0.70 kVA
- Models with 750 W Platinum 240V DC power supplies:
 - 200 - 240 (nominal) V dc; 3.5 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.15 kVA
 - Maximum configuration: 0.958 kVA
- Models with 750 W Titanium 240V DC power supplies:
 - 200 - 240 (nominal) V dc; 3.5 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.15 kVA
 - Maximum configuration: 0.948 kVA
- Models with 1100 W Platinum 240V DC power supplies:
 - 200 - 240 (nominal) V dc; 5.1 A
 - Input kilovolt-amperes (kVA) (approximately):
 - Minimum configuration: 0.12 kVA
 - Maximum configuration: 1.408 kVA

Operating environment

The ThinkSystem ST550 server complies with ASHRAE Class A2 specifications, and depending on the hardware configuration, also complies with ASHRAE Class A3 and Class A4 specifications. System performance may be impacted when operating temperature is outside ASHRAE A2 specification.

The following restrictions apply with ASHRAE A4 and A3 support:

- No support for processors with TDP rating of 125 W or higher
- Two power supplies must be installed; fixed (cabled) power supply not supported
- The rear fan must be installed
- No support for NVMe drives
- No support for GPUs
- If the media bay conversion kit is installed (adding 4x 2.5-inch drive bays), those drive bays cannot support SAS drives (HDD or SSD) that are 2TB or larger. SATA drives are fully supported.

In addition, CPU core speed may be reduced depending on the processor selected.

The server is supported operating in the following environments:

- ASHRAE A2:
 - Temperature: 10°C to 35°C
 - Humidity: 20% to 80%
 - Altitude 0-3000 m (10,000 ft), derated 1°C per 300 m above 950 m
- ASHRAE A3:
 - Temperature: 5°C to 40°C
 - Humidity: 8% to 85%
 - Altitude 0-3000 m (10,000 ft), derated 1°C per 175 m above 950 m
- ASHRAE A4:
 - Temperature: 5°C to 45°C
 - Humidity: 8% to 90%
 - Altitude 0-3000 m (10,000 ft), derated 1°C per 125 m above 950 m

Non-operating environment support:

- Without packaging:
 - Temperature: -10 °C to 60 °C
 - Humidity: 8 to 90%
- Storage with packaging:
 - Temperature: -40 °C to 70 °C
 - Humidity: 8 to 90%

Thermal (heat) output:

- Maximum configuration: 4074 Btu/hr (1194 watts)

Acoustical noise emissions:

- Sound power levels (bels):
 - Base configuration: 4.0 bels (idle), 4.1 bels (operating)
 - Maximum configuration: 5.3 bels (idle), 5.3 bels (operating)
- Sound pressure levels (dBA):
 - Base configuration: 33 dBA (idle), 33 dBA (operating)
 - Maximum configuration: 43 dBA (idle), 43 dBA (operating)

Warranty options

The ST550 has a 1-year or 3-year warranty, based on the machine type of the system:

- 7X09: 1 year warranty
- 7X10: 3 year warranty

The standard warranty terms are customer-replaceable unit (CRU) and onsite (for field-replaceable units, FRUs, only) with standard call center support during normal business hours and 9x5 Next Business Day Parts Delivered.

Also available are Lenovo Services warranty maintenance upgrades and post-warranty maintenance agreements, with a predefined 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 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 52. Warranty service definitions

Term	Description
Onsite Service	If a problem with your product cannot be resolved via telephone, a Service Technician will be dispatched to arrive at your location.
Parts Delivered	If a problem with your product cannot be resolved via telephone and a CRU part is required, Lenovo will send a replacement CRU to arrive at your location. If a problem with your product cannot be resolved via telephone and a FRU part is required, a Service Technician will be dispatched to arrive at your location.
Technician Installed Parts	If a problem with your product cannot be resolved via telephone, a Service Technician will be dispatched to arrive at your location.
Hours of coverage	<ul style="list-style-type: none"> • 9x5: 9 hours/day, 5 days/week, during normal business hours, excluding local public & national holidays • 24x7: 24 hours per day, 7 days per week, 365 days per year.
Response time target	2 hours, 4 hours, or Next Business Day: The time period from when the telephone based troubleshooting is completed and logged, to the delivery of the CRU or arrival of a Service Technician and part at the Customer's location for repair.
Committed Repair	6 hours: The time period between the service request registration in Lenovo's call management system and the restoration of the product to conformance with its specification by a Service Technician.

The following Lenovo warranty service upgrades are available:

- Warranty and maintenance service upgrades:
 - Three, four, or five years of 9x5 or 24x7 service coverage
 - Parts delivered or technician installed parts from next business day to 4 or 2 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
- 24x7x6 committed repair: Service performed 24 hours per day, 7 days per week, within 6 hours

- YourDrive YourData

Lenovo's YourDrive YourData service is a multi-drive retention offering that ensures your data is always under your control, regardless of the number of drives that are installed in your Lenovo server. In the unlikely event of a drive failure, you retain possession of your drive while Lenovo replaces the failed drive part. Your data stays safely on your premises, in your hands. The YourDrive YourData service can be purchased in convenient bundles with Lenovo 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.

- Enterprise Software Support

Lenovo Enterprise Server Software Support can help you troubleshoot your entire server software stack. Choose support for server operating systems from Microsoft, Red Hat, SUSE, and VMware; Microsoft server applications; or both operating systems and applications. Support staff can help answer troubleshooting and diagnostic questions, address product compatibility and interoperability issues, isolate causes of problems, report defects to software vendors, and more.

In addition, you can access hardware "how to" support for ThinkSystem servers. Staff can help resolve hardware problems not covered under warranty, refer you to the right documentation and publications, provide corrective service information for known defects, and transfer you to a hardware support call center if needed.

- Hardware Installation Services

Lenovo experts can seamlessly manage the physical installation of your server, storage, or networking hardware. Working at a time convenient for you (business hours or off shift), the technician will unpack and inspect the systems on your site, install options, mount in a rack cabinet, connect to power and network, check and update firmware to the latest levels, verify operation, and dispose of the packaging, allowing your team to focus on other priorities. Your new systems will be configured and ready for your software installation.

Regulatory compliance

The ST550 server conforms to the following standards:

- Energy Star 2.1
- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 6, Class A
- UL/IEC 60950-1
- CSA C22.2 No. 60950-1
- IEC 62368-1:2014 (CB Certificate and CB Test Report)
- NOM-019
- Argentina IEC60950-1
- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 32, Class A; AS/NZS 60950.1
- China CCC GB4943.1, GB9254 Class A, GB17625.1
- Taiwan BSMI CNS13438, Class A; CNS14336-1; CNS15663
- Korea KN32, Class A; KN35
- Russia, Belorussia and Kazakhstan, TR CU 020/2011 (for EMC) and TR CU 004/2011 (for safety)
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55032 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- CISPR 32, Class A
- TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)
- RoHS Directive
- ErP lot3
- JESL

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 53. 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 standard models of the 12 Gbps SAS external drive enclosures offered by Lenovo that can be used with the server for storage expansion.

Table 54. D1212 and D1224 standard 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 offered by Lenovo that can be used with the server for storage expansion.

Table 55. 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 standard models of the 12 Gbps SAS external high density drive enclosures offered by Lenovo.

Table 56. D3284 standard 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 offered by Lenovo.

Table 57. 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 storage systems

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

Table 58. External storage systems

Part number	Description
Lenovo ThinkSystem DS Series Storage (SAS host connectivity)	
4599A41*	Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (US English documentation)
4599A4C^	Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (Simplified Chinese documentation)
4599A4J**	Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (Japanese documentation)
4599A21*	Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (US English documentation)
4599A2C^	Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)
4599A2J**	Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (Japanese documentation)

Part number	Description
4617A41*	Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (US English documentation)
4617A4C^	Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (Simplified Chinese documentation)
4617A4J**	Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (Japanese documentation)
4617A21*	Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (US English documentation)
4617A2C^	Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)
4617A2J**	Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (Japanese documentation)
4619A21*	Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (US English documentation)
4619A2C^	Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)
4619A2J**	Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (Japanese documentation)
Lenovo ThinkSystem DS Series Storage (iSCSI or FC host connectivity)	
4599A31*	Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (US English documentation)
4599A3C^	Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)
4599A3J**	Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)
4599A11*	Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (US English documentation)
4599A1C^	Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)
4599A1J**	Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)
4617A31*	Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (US English documentation)
4617A3C^	Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)
4617A3J**	Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)
4617A11*	Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (US English documentation)
4617A1C^	Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)
4617A1J**	Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)
4619A11*	Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (US English documentation)
4619A1C^	Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)
Lenovo Storage S Series (SAS 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
64112B3	Lenovo Storage S2200 SFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64112B4	Lenovo Storage S2200 SFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64113B1	Lenovo Storage S3200 LFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64113B2	Lenovo Storage S3200 LFF Chassis SAS 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
Lenovo Storage S Series (iSCSI or FC host connectivity)	
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
64114B3	Lenovo Storage S2200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD

Part number	Description
64114B4	Lenovo Storage S2200 SFF Chassis FC/iSCSI 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
64116B3	Lenovo Storage S3200 SFF Chassis FC/iSCSI Single Controller, Rack Kit, 9x5NBD
64116B4	Lenovo Storage S3200 SFF Chassis FC/iSCSI Dual Controller, Rack Kit, 9x5NBD
Lenovo Storage V Series (iSCSI, FC, or FCoE host connectivity)	
6535C1D	Lenovo Storage V3700 V2 LFF Control Enclosure
6535EC1	Lenovo Storage V3700 V2 LFF Control Enclosure (TopSeller)
6535C2D	Lenovo Storage V3700 V2 SFF Control Enclosure
6535EC2	Lenovo Storage V3700 V2 SFF Control Enclosure (TopSeller)
6535C3D	Lenovo Storage V3700 V2 XP LFF Control Enclosure
6535EC3	Lenovo Storage V3700 V2 XP LFF Control Enclosure (TopSeller)
6535C4D	Lenovo Storage V3700 V2 XP SFF Control Enclosure
6535EC4	Lenovo Storage V3700 V2 XP SFF Control Enclosure (TopSeller)
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 (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
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+])
Lenovo Storage DX8200 Series (S3 cloud storage)	
5120C1x	Lenovo Storage DX8200C with 14x 4TB 3.5" HDDs and 2x 240GB SSDs
5120C3x	Lenovo Storage DX8200C with 14x 6TB 3.5" HDDs and 2x 480GB SSDs
5120C2x	Lenovo Storage DX8200C with 14x 8TB 3.5" HDDs and 2x 480GB SSDs
Lenovo Storage DX8200 Series (NAS, iSCSI connectivity; optional FC connectivity)	
5135A2x	Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 3yr SW S&S
5135J2x	Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 4yr SW S&S
51351Vx	Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 5yr SW S&S

Part number	Description
5135B2x	Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 3yr SW S&S
5135L2x	Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 4yr SW S&S
51352Vx	Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 5yr SW S&S
5135C2x	Lenovo Storage DX8200D Storage Virtualization High, 64TB, 3yr SW S&S
5135M2x	Lenovo Storage DX8200D Storage Virtualization High, 64TB, 4yr SW S&S
51353Vx	Lenovo Storage DX8200D Storage Virtualization High, 64TB, 5yr SW S&S
5135D2x	Lenovo Storage DX8200D ServerSAN Entry, 8TB, 3yr SW S&S
5135N2x	Lenovo Storage DX8200D ServerSAN Entry, 8TB, 4yr SW S&S
51354Vx	Lenovo Storage DX8200D ServerSAN Entry, 8TB, 5yr SW S&S
5135F2x	Lenovo Storage DX8200D ServerSAN Mid, 16TB, 3yr SW S&S
5135P2x	Lenovo Storage DX8200D ServerSAN Mid, 16TB, 4yr SW S&S
51355Vx	Lenovo Storage DX8200D ServerSAN Mid, 16TB, 5yr SW S&S
5135G2x	Lenovo Storage DX8200D ServerSAN High, 32TB, 3yr SW S&S
5135Q2x	Lenovo Storage DX8200D ServerSAN High, 32TB, 4yr SW S&S
51356Vx	Lenovo Storage DX8200D ServerSAN High, 32TB, 5yr SW S&S
5128A1x	Lenovo Storage DX8200N with 1x N2226 HBA
5128A2x	Lenovo Storage DX8200N with 2x N2226 HBAs

* Available worldwide (except China and Japan).

^ Available only in China.

** Available only in Japan.

† Available worldwide except Latin America.

‡ Available only in Latin America.

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

- Lenovo DS Series, S Series, and V Series storage:
<http://lenovopress.com/storage/san/lenovo?rt=product-guide>
- IBM Storwize for Lenovo storage:
<http://lenovopress.com/storage/san/ibm?rt=product-guide>
- Lenovo Cloud storage:
<http://lenovopress.com/storage/cloud>
- Lenovo NAS storage:
<http://lenovopress.com/storage/nas>

Top-of-rack Ethernet switches

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

Table 59. 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	
7159A1X	Lenovo ThinkSystem NE1032 RackSwitch (Rear to Front)
7159B1X	Lenovo ThinkSystem NE1032T RackSwitch (Rear to Front)
7159C1X	Lenovo ThinkSystem NE1072T RackSwitch (Rear to Front)
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)
100 Gb Ethernet switches	
7159D1X	Lenovo ThinkSystem NE10032 RackSwitch (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>
- 100 Gb Ethernet switches: <https://lenovopress.com/networking/tor/100Gb?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 60. Fibre Channel SAN switches

Part number	Description
8 Gb FC	
3873AR3	Lenovo B300, 8 ports activated, 8x 8Gb SWL SFPs, 1 PS, Rail Kit
3873AR4	Lenovo B6505, 12 ports activated, 12x 8Gb SWL SFPs, 1 PS, Rail Kit
3873BR2	Lenovo B6510, 24 ports activated, 24x 8Gb SWL SFPs, 2 PS, Rail Kit
16 Gb FC	
6559D2Y	Lenovo ThinkSystem DB610S, 8 ports activated, 8x 16Gb SWL SFPs, 1 PS, Rail Kit
6559D1Y	Lenovo ThinkSystem DB610S, 24 ports activated, 24x 16Gb SWL SFP, Enterprise SW, 1 PS, Rail Kit
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
32 Gb FC	
6559D3Y	Lenovo ThinkSystem DB610S, 8 ports activated, 1 PS, Rail Kit
6415G11	Lenovo ThinkSystem DB620S, 24 Ports Activated, 24x 32Gb SWL SFPs, 2 PS, Rail Kit
6415G2A	Lenovo ThinkSystem DB620S, 48 Ports Activated, 48x 32Gb SWL SFPs, 2 PS, Rail Kit
6684B2A	Lenovo ThinkSystem DB400D 32Gb FC Director, up to 192 ports, 8U, Enterprise SW
6682B1A	Lenovo ThinkSystem DB800D 32Gb FC Director, up to 384 ports, 14U, Enterprise SW

For more information, see the list of Product Guides in the Rack SAN Switches category:
<http://lenovopress.com/storage/switches/rack?rt=product-guide>

Uninterruptible power supply units

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

Table 61. 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 62. 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

Part number	Description
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>

Rack cabinets

Rack installation kits are described in the [Rack installation](#) section.

The following table lists the supported rack cabinets.

Table 63. Rack cabinets

Part number	Description
93072RX	25U Standard Rack
93072PX	25U Static S2 Standard Rack
93634PX	42U 1100mm Dynamic Rack
93634EX	42U 1100mm Dynamic Expansion Rack
93604PX	42U 1200mm Deep Dynamic Rack
93614PX	42U 1200mm Deep Static Rack
93084EX	42U Enterprise Expansion Rack
93084PX	42U Enterprise Rack
93074RX	42U Standard Rack
Withdrawn rack cabinets	
201886X*	11U Office Enablement Kit
93604EX*	42U 1200mm Deep Dynamic Expansion Rack
93614EX*	42U 1200mm Deep Static Expansion Rack
93074XX*	42U Standard Rack Extension
93624PX*	47U 1200mm Deep Static Rack
93624EX*	47U 1200mm Deep Static Expansion Rack
93634BX*	PureFlex System 42U Expansion Rack
93634DX*	PureFlex System 42U Expansion Rack
93634AX*	PureFlex System 42U Rack
93634CX*	PureFlex System 42U Rack

* Withdrawn from marketing

For specifications about these racks, see the Lenovo Rack Cabinet Reference, available from: <https://lenovopress.com/lp0658-lenovo-rack-cabinet-reference>

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

KVM console options

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

Table 64. 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

Part number	Description
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
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>

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Related publications and links

For more information, see these resources:

- Lenovo ThinkSystem ST550 product page:
<http://www3.lenovo.com/us/en/p/77XX7TRST50>
- Interactive 3D Tour of the ThinkSystem ST550:
<http://lenovopress.com/LP0675>
- Lenovo ThinkSystem ST550 product publications:
<http://thinksystem.lenovofiles.com/help/index.jsp>
 - Quick Start
 - Rack Installation Guide
 - Setup Guide
 - Hardware Maintenance Manual
 - Messages and Codes Reference
 - Memory Population Reference
- ServerProven hardware compatibility:
<http://www.lenovo.com/us/en/serverproven>

Related product families

Product families related to this document are the following:

- [2-Socket Tower Servers](#)

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