Lenovo ThinkSystem SR250 V3 Server
Product Guide

The Lenovo ThinkSystem SR250 V3 is a high-value single-socket 1U rack server for growing businesses that need optimized performance and flexibility for future growth, along with enterprise-class reliability, management, and security. The server supports one Intel Xeon E-2400 Series processor (formerly codenamed "Raptor Lake-E (RPL-E)") or Intel Pentium ("Alder Lake (ADL)") and up to 128 GB of 4800 MHz TruDDR5 ECC memory.

Flexible and scalable internal storage configurations include up to ten 2.5-inch or four 3.5-inch drives with affordable software RAID or advanced hardware RAID protection and a wide selection of drive sizes and types, including NVMe PCIe SSDs, SATA SSDs, and SAS/SATA HDDs. Also, it features integrated dual-port 1 Gb Ethernet NIC and additional PCIe expansion slots for hardware RAID protection, network scalability, and external storage connectivity.

The next-generation Lenovo XClarity Controller 2 (XCC2), which is built into the SR250 V3 server, provides advanced service processor control, monitoring, and alerting functions.

Target workloads are: Database, Entry Cloud, IT Infrastructure, Virtualization, Web

The following figure shows the Lenovo ThinkSystem SR250 V3 with ten 2.5-inch hot-swap drives.

Figure 1 Lenovo ThinkSystem SR250 V3

Did you know?

The ThinkSystem SR250 V3 is an entry-level server with enterprise-grade management features and support for hot-swap power supplies and drives. It 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 2 (XCC2) management processor for ongoing systems management and alerting. These tools make the SR250 V3 easy to deploy, integrate, service, and manage.

Key features

The SR250 V3 server is a compact, cost-effective, single-processor 1U rack server that has been optimized to provide enterprise-class features to small-to-medium-sized businesses, retail stores, or distributed enterprises.

Scalability and performance

The SR250 V3 offers the following features to boost performance, improve scalability, and reduce costs:

- Improved single-socket processor performance:
  - Intel Xeon E-2400 Series processors ("Raptor Lake") up to to 8 cores and core speeds up to 3.5 GHz
  - Intel Pentium G7400 and G7400T processors ("Alder Lake") with 2 cores and core speeds up to 3.7 GHz
- Up to four 4800 MHz DDR5 ECC UDIMMs provide speed and capacity of up to 128 GB
- Offers flexible and scalable internal storage in a 1U rack form factor with up to 10x 2.5-inch drives for performance-optimized configurations or up to 4x 3.5-inch drives for capacity-optimized configurations
- Up to three PCIe slots for I/O expansion, riser dependent, one of which has the new PCIe Gen5 interface to maximize I/O performance
- 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 Lenovo and Broadcom provide 12 Gb SAS connectivity to the drive backplanes
- Supports two M.2 drives for OS boot support with VROC RAID or hardware RAID redundancy
- The server has two integrated Gigabit Ethernet ports
- Support for a NVIDIA GPU for enhanced workload performance

Availability and serviceability

The SR250 V3 server provides many features to simplify serviceability and increase system uptime:

- Designed to run 24 hours a day, 7 days a week
- The SR250 V3 supports UDIMM memory with ECC protection which provides error correction not available in PC-class "servers" that use parity memory. Avoiding system crashes (and data loss) due to soft memory errors means greater system uptime.
- Provides easy access to upgrades and serviceable parts (such as memory DIMMs and adapter cards) with tool-less cover removal.
- Much like hot-swap 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.
- Offers data protection and greater system uptime with a choice of affordable onboard SATA RAID or advanced hardware RAID redundancy, along with hot-swap drives (select models).
- The server supports hot-swap power supplies; with two installed, they form a redundant pair to provide availability for business-critical applications.
- The built-in Lenovo XClarity Controller 2 (XCC2) continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failures to minimize downtime.
- Allows preventive actions in advance of possible failure, thereby increasing server uptime and application availability with Proactive Platform Alerts (including PFA and SMART alerts) for memory, internal storage (SAS/SATA HDDs and SSDs, NVMe SSDs, M.2 SSDs), RAID controllers, and server ambient and sub-component temperatures.

- Provides quick access to system status, firmware, network, health, and alerts information via Virtual Operator Panel from the XClarity Mobile App running on the Android or iOS mobile device that is connected to the front USB port with XCC2 access.
- 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.
- 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.
- Auto restart in the event of a momentary loss of AC power (based on power policy setting in the XClarity Controller service processor)
- One-year or three-year customer-replaceable unit (CRU) and onsite limited warranty with next business day response. Optional service upgrades are available.

Manageability and security

Powerful systems management features simplify local and remote management of the SR250 V3 server and deliver enterprise-class data protection:

- The server includes an XClarity Controller 2 (XCC2) to monitor server availability. Optional upgrade to XCC2 platinum to provide remote control (keyboard video mouse KVM) functions, support for the mounting of remote media files (ISO and IMG image files), boot capture, and power capping among other features.
- 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.
- 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 (Intel Xeon E processors only) 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.
- Helps prevent unauthorized software from running on the server by protecting against boot block-level malicious software with Intel Boot Guard technology.
- Protects application code and data from disclosure or modification with Intel Software Guard Extensions (SGX), enabling high-assurance security use cases, such as blockchain, identity and records privacy, secure browsing, and digital rights management (DRM).
- Optional lockable front security bezel for additional physical security

Energy efficiency

The SR250 V3 server offers the following energy saving features to save energy, reduce operational costs, increase energy availability, and contribute to the green environment:

- Delivers optimized compute power per watt, featuring 80 PLUS Gold (fixed) and Platinum (hot-swap) AC power supplies.
- Reduces power drawn with Intel Intelligent Power Capability that powers individual processor elements on and off as needed.
- Helps reduce power consumption with variable speed fans.
- Helps achieve lower heat output and reduced cooling needs with Lenovo XClarity Energy Manager that provides advanced data center power notification, analysis, and policy-based management.

Comparing the SR250 V3 to the SR250 series

The ThinkSystem SR250 V3 improves on the previous generation SR250, as summarized in the following table.

Table 1. Comparing the SR250 V3 to the SR250s

Feature	SR250	SR250 V2	SR250 V3	Benefits
Form Factor	• 1-Socket (1S) Rack • Short-depth form factor, 509mm (20 inches) EIA rack depth	• 1-Socket (1S) Rack • Short-depth form factor, 509mm (20 inches) EIA rack depth	• 1-Socket (1S) Rack • Short-depth form factor, 561mm (22 inches) EIA rack depth	• Compact 1U rack server • Installs in a 4-post or 2-post rack
Processor	• Supports single Xeon E2200 Series "Coffee Lake-S" processor up to 6C / 95W • Also supports Pentium, Core i3 and Celeron processors • Uses Intel C246 "Cannon Lake" Platform Controller Hub (PCH)	• Support single Xeon E2300 Series "Rocket Lake" processor up to 8C / 95W • Also supports Pentium processors • Intel C256 "Tiger Lake" Platform Controller Hub (PCH)	• Support single Xeon E-2400 Series "Raptor Lake-E" processor up to 8C / 95W • Also supports Pentium processors (Alder Lake) • Intel C266 "Raptor Lake" Platform Controller Hub (PCH-S)	• Supports the latest generation Intel Xeon E processors
GPU	• NVIDIA Quadro P620 2GB PCIe Active GPU	• NVIDIA Quadro T1000 / T4000 PCIe Active GPU	• NVIDIA Quadro T1000 / T400 PCIe Active GPU	• GPU for advanced graphics processing

Feature	SR250	SR250 V2	SR250 V3	Benefits
Memory	• 4x UDIMM slots, up to 128GB, 2666MHz • TruDDR4 ECC memory (in China, also support for non-ECC memory)	• 4x UDIMM slots, up to 128GB, 3200MHz with Xeon E-2300 processors • 4x UDIMM slots, up to 128GB, 2666MHz with Pentium processors • TruDDR4 ECC memory	• 4x UDIMM slots, up to 128GB, 4800MHz with Xeon E-2400 processors • 4x UDIMM slots, up to 128GB, 4800MHz with Pentium processors • TruDDR5 ECC memory • 4x DIMM slots, 2DPC, 2 channels	• Enterprise-grade memory sufficient for most SMB and retail applications • Faster memory with Xeon processors • Larger memory capacity means greater performance with larger applications
Storage	• Up to 4x 3.5-inch hot-swap SAS/SATA drive bays or • Up to 10x 2.5-inch hot-swap SAS/SATA drive bays, or • Up to 4x 3.5-inch simple-swap SATA drive bays • 1x M.2 SATA SSD, installs on the system board	• Up to 4x 3.5-inch hot-swap SAS/SATA drive bays or • Up to 10x 2.5-inch hot-swap SAS/SATA drive bays, or • Up to 4x 3.5-inch simple-swap SATA drive bays, or • Up to 3x 3.5-inch simple-swap SATA drive bays + 1x NVMe drive bay • 2x M.2 SATA SSD supporting RAID 0 and RAID 1 using VROC, installs in an adapter in a PCIe slot	• Up to 4x 3.5-inch hot-swap SAS/SATA drive bays or • Up to 4x 3.5-inch simple-swap SATA drive bays, or • Up to 2x 3.5-inch simple-swap SATA drive bays + 2x NVMe/SATA drive bay • Up to 8x 2.5-inch hot-swap SAS/SATA drive bays • Up to 10x 2.5-inch hot-swap SAS/SATA drive bays • 2x M.2 SATA SSD supporting RAID 0 and RAID 1 using VROC or HW RAID, installs in an adapter in a PCIe slot	• Support for both HDDs for capacity and SSDs for performance • Simple-swap configurations support an NVMe drive for tiered storage • Optical drive support for ease of software installation • M.2 drive support to separate the OS from the applications and data • RAID support for M.2 to maximize uptime

Feature	SR250	SR250 V2	SR250 V3	Benefits
RAID	• Supports a SAS HBA or RAID adapter for hardware RAID functionality • 12Gb SAS/SATA/RAID support • PCIe 3.0 adapters • Intel RSTe SW RAID	• Supports a SAS HBA or RAID adapter for hardware RAID functionality • 12Gb SAS/SATA/RAID support • PCIe 3.0 and PCIe 4.0 adapters • Intel VROC 6.x SW RAID	• Supports a SAS HBA or RAID adapter for hardware RAID functionality • 12Gb SAS/SATA/RAID support • PCIe 3.0 and PCIe 4.0 adapters • Intel VROC 6.x SW RAID • CFF RAID adapters	• Featuring industry's latest PCIe Gen4 based RAID adapters • RAID capability maximizes reliability and uptime
Cooling	• 4 non-hot-swap system fans	• 4 non-hot-swap system fans	• 4 non-hot-swap system fans	• Ensures all components are sufficiently cooled
Networking	• 2x 1GbE Onboard Ethernet ports (Broadcom BCM5720) • Port 1 allows remote connectivity to the XCC management controller	• 2x 1GbE Onboard Ethernet ports (Broadcom BCM5720) • Port 1 allows remote connectivity to the XCC management controller	• 2x 1GbE Onboard Ethernet ports (Broadcom BCM5720) • Port 1 allows remote connectivity to the XCC management controller	• Easy built-in networking
PCIe Slots	• Supports 3 slots (x8, x8, x4) or 2 slots (x16, x4) • Optional PCIe x16 slot for a GPU	• Supports 3 slots (x8, x8, x4) or 2 slots (x16, x4) • Optional PCIe x16 slot for a GPU • Some slots operate at PCIe Gen 4 (requires Xeon E-2300 processor)	• Riser dependent • x16 PCIe riser: slot1: Optional PCIe Gen5 x16 slot for a GPU • x16/x8 PCIe riser: slot1: PCIe Gen4 x8 in x8 (LP); slot2: PCIe Gen4 x8 in x16 slot (LP)	• Support the latest PCIe Gen5 slot technology • Support for a high-performance PCIe x16 adapter
Front I/O	• Power button & LED • Thermal sensor • One USB 3.2 G1 (5 Gb/s) port • One USB 2.0 port (also supports XClarity Mobile connectivity for local systems management)	• Power button & LED • Thermal sensor • One USB 3.2 G1 (5 Gb/s) port • One USB 2.0 port (also supports XClarity Mobile connectivity for local systems management)	• Power button & LED • Thermal sensor • One USB 3.2 G1 (5 Gb/s) port • One USB 2.0 port (also supports XClarity Mobile connectivity for local systems management)	• Expansive USB support • Thermal sensor ensures the server does not overheat if the ambient temperature rises

Feature	SR250	SR250 V2	SR250 V3	Benefits
Rear I/O	• 2x USB 3.1 G2 ports • 1x VGA video • 1x RJ-45 systems management • 2x RJ-45 GbE network ports • 1x serial port	• 2x USB 3.2 G2 (5 Gb/s) ports • 1x VGA video • 1x RJ-45 systems management • 2x RJ-45 GbE network ports • 1x serial port	• 2x USB 3.2 G2 (5 Gb/s) ports • 1x VGA video • 1x RJ-45 systems management • 2x RJ-45 GbE network ports • 1x serial port	• Expansive USB support • Integrated Gigabit networking • Serial port for applications that require it
Management and Security	• XClarity Controller with upgrades • Full XClarity software suite including XClarity Administrator • Dedicated Ethernet port for remote management • Optional lockable front bezel	• XClarity Controller with upgrades • Full XClarity software suite including XClarity Administrator • Dedicated Ethernet port for remote management • Optional lockable front bezel • Platform Firmware Resiliency (PFR) hardware Root of Trust	• XClarity Controller 2 (XCC2) with upgrades • Full XClarity software suite including XClarity Administrator • Dedicated Ethernet port for remote management • Platform Firmware Resiliency (PFR) hardware Root of Trust	• Common management tools with prior generation • The server offers electronic and physical security features • Platform Firmware Resiliency is an advanced security solution with a silicon-based to guard against corruption and unauthorized firmware updates
Power Supply	• Choice of a single fixed power supply or redundant hot-swap power supplies • 300W fixed power supply or 450W hot-swap power supplies • 450W power supply is 80 PLUS Platinum certified	• Choice of a single fixed power supply or redundant hot-swap power supplies • 300W fixed power supply or 450W hot-swap power supplies • 450W power supply option is 80 PLUS Platinum certified	• Choice of a single fixed power supply or redundant hot-swap power supplies • 300W fixed power supply or 800W hot-swap power supplies • 800W power supply option is 80 PLUS Platinum or Titanium certified	• Select the power supply that best suits the configuration to maximize efficiency • Enterprise-grade power efficiency

Components and connectors

There are four different base drive configurations available for the SR250 V3, as shown in the following figure:

- 10x 2.5-inch hot-swap drive bays, SAS/SATA
- 8x 2.5-inch hot-swap drive bays, either SAS only or SAS/SATA
- 4x 3.5-inch hot-swap drives, either SAS only or SAS/SATA
- 4x 3.5-inch simple-swap drives SATA only (4x SATA or 2x SATA + 2x NVMe)

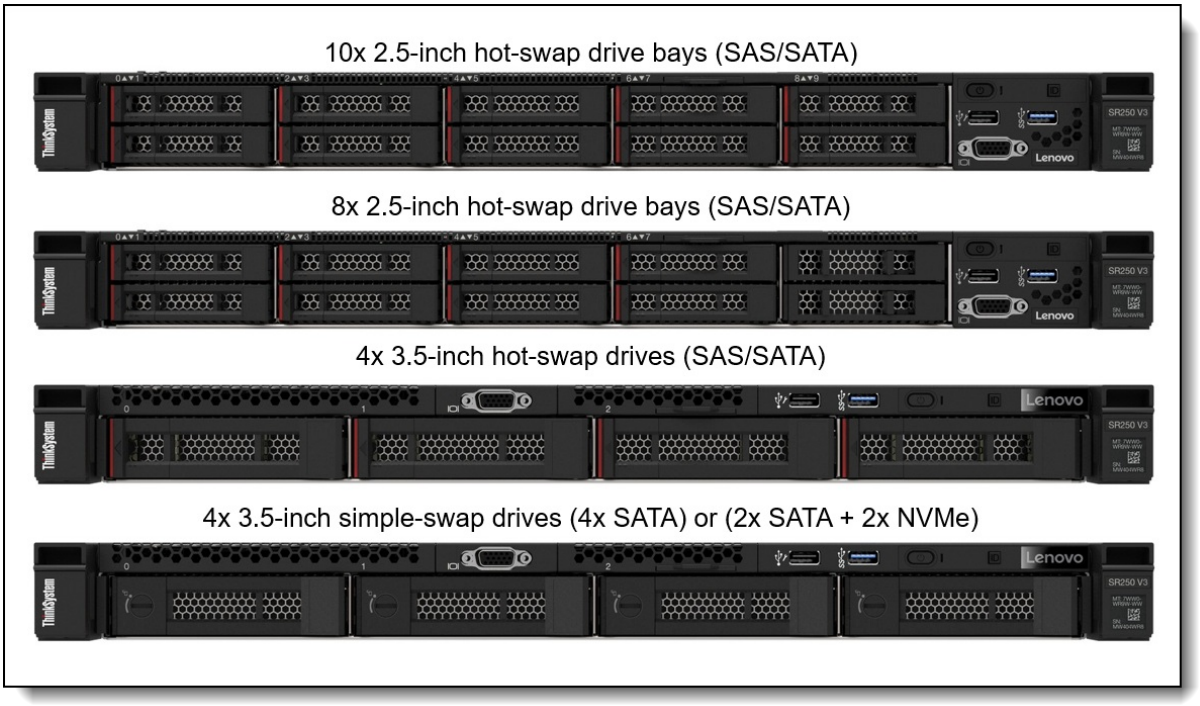

Figure 2. Front configurations of the ThinkSystem SR250 V3

The following figure shows the components on the front of the SR250 V3 server.

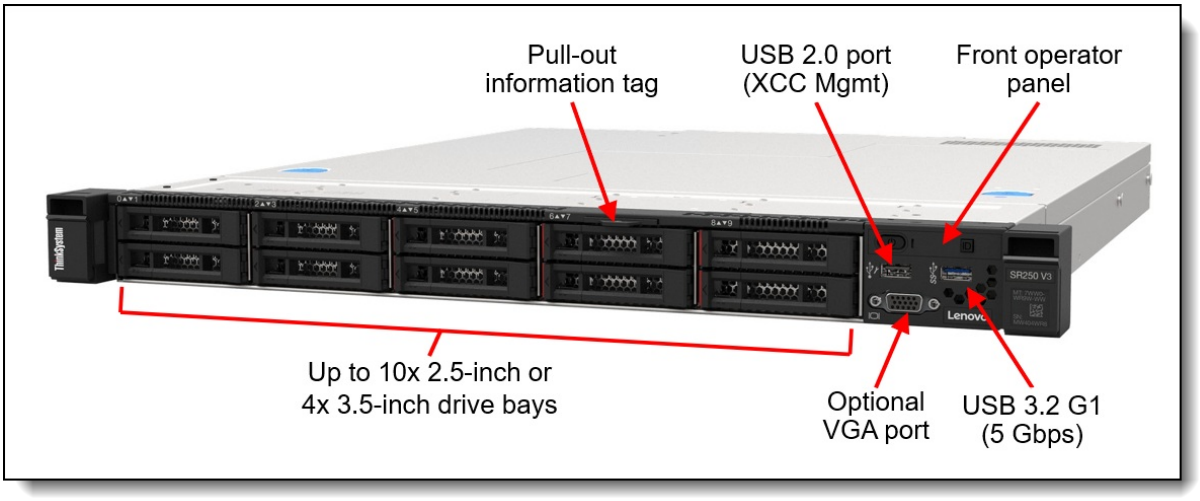

Figure 3. Front view of the SR250 V3 with 10x 2.5-inch drive bays

The following figure shows the rear of the SR250 V3 server.

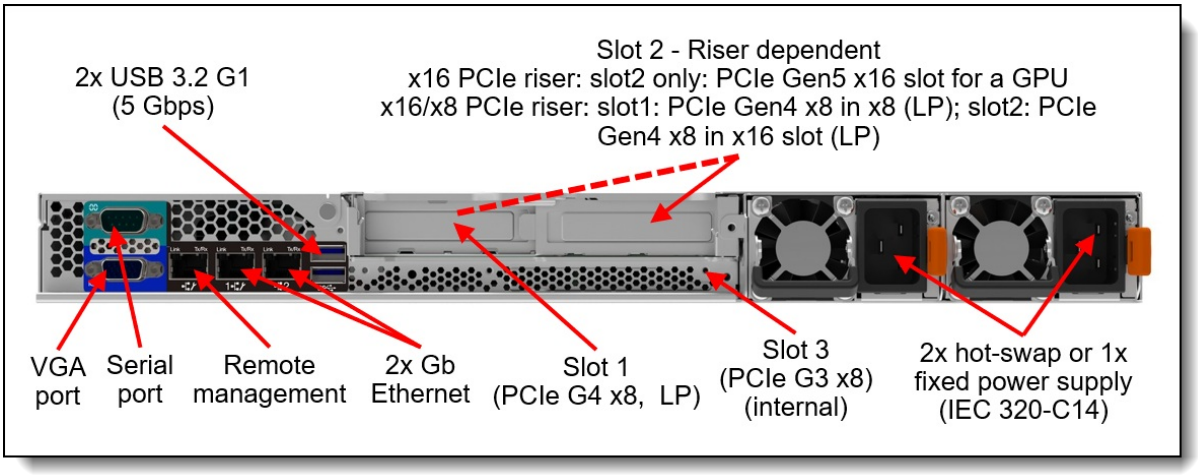

Figure 4. Rear view of the SR250 V3

The following figure shows the locations of key components inside the SR250 V3 server.

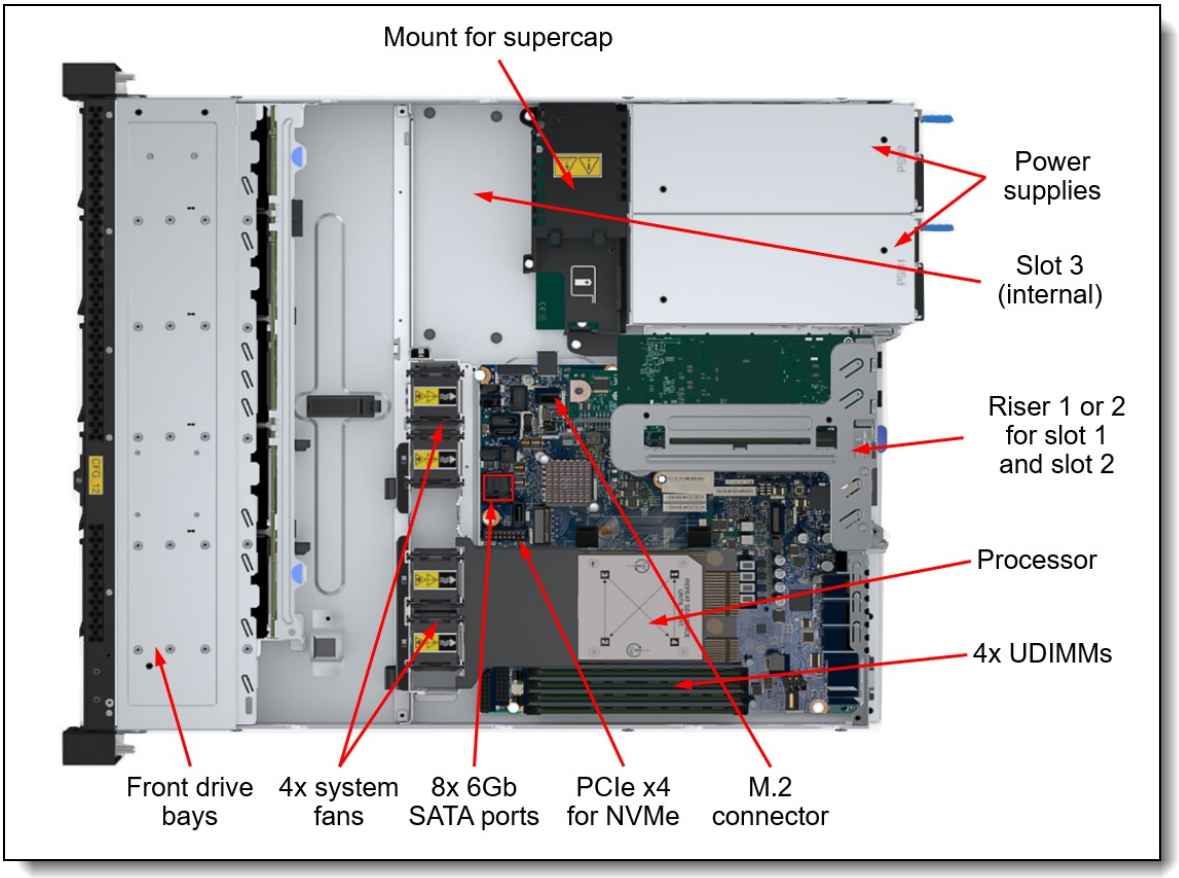

Figure 5. Internal view of the SR250 V3

System architecture

The following figure shows the architectural block diagram of the SR250 V3, showing the major components and their connections.

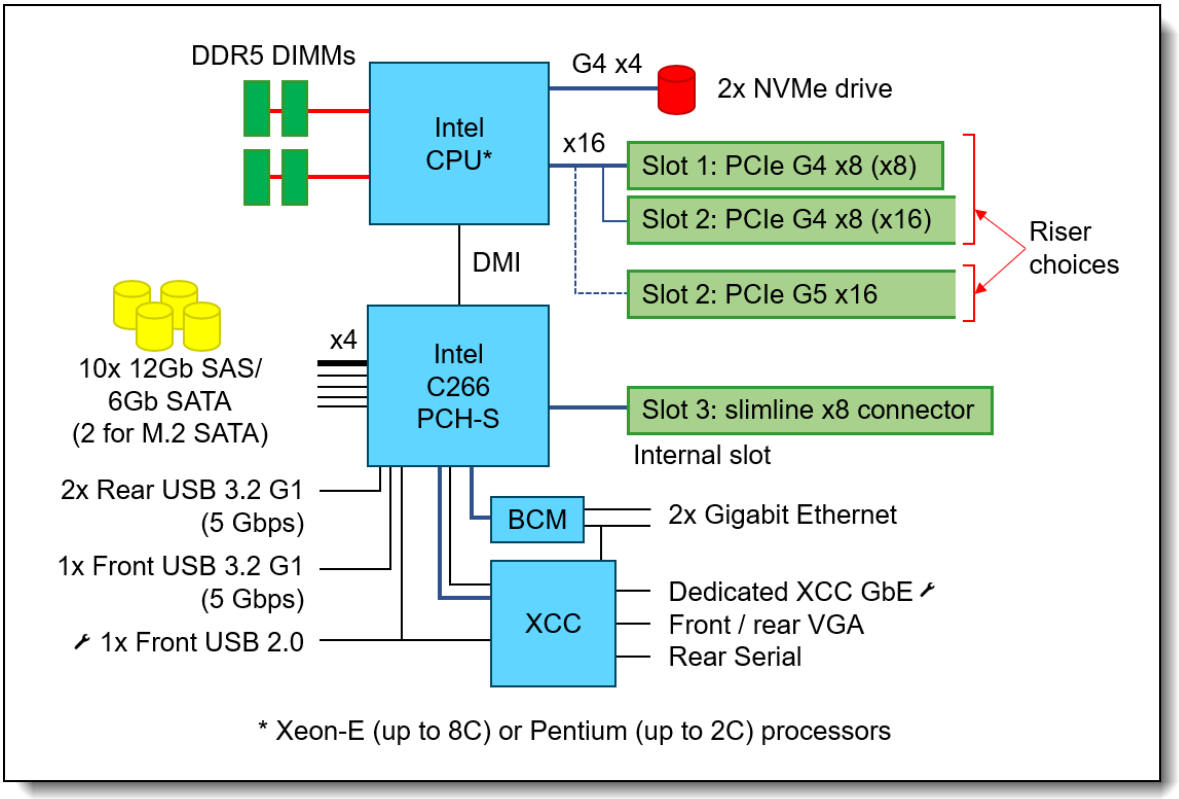

Figure 6. SR250 V3 system architectural block diagram

Standard specifications

The following table lists the standard specifications.

Table 2. Standard specifications

Components	Specification
Machine type	7DCM - 1 year warranty 7DCL - 3 year warranty
Form factor	1U rack-mount
Processor	One Intel processor. Choose from: • Intel Xeon E-2400 Series processors ("Raptor Lake-E") up to to 8 cores, with core speeds up to 3.5 GHz • Intel Pentium G7400 and G7400T processors ("Alder Lake-R") with 2 cores and core speeds up to 3.7 GHz
Chipset	Intel Raptor Lake PCH-S C266
Memory	Four DIMM sockets supporting Lenovo TruDDR5 DIMMs at 4800 MHz (Xeon processors) or 4800 MHz (Pentium processors). Support ECC UDIMMs.
Memory maximum	Up to 128 GB using 4x 32 GB UDIMMs.

Components	Specification
Memory protection	Error-correcting code (ECC)
Disk drive bays	Available configurations: • 10x 2.5-inch hot-swap SAS/SATA drive bays • 8x 2.5-inch hot-swap SATA only, or SAS/SATA drive bays • 4x 3.5-inch hot-swap SATA only, or SAS/SATA drive bays • 4x 3.5-inch simple-swap drive bays, all SATA • 4x 3.5-inch simple-swap drive bays, 2x SATA and 2x NVMe In addition, the SR250 V3 supports two M.2 drives installed in an M.2 adapter which is installed in PCIe slot.
Maximum internal storage	• 2.5-inch drives: ◦ 76.8TB using 10x 7.68TB SATA 6Gb HS SSDs ◦ 24TB using 10 x 2.4TB 10K 2.5-inch SAS HDDs 3.5-inch drives: ◦ 88TB using 4x 22TB 3.5-inch SAS HDDs ◦ 30.7TB using 4x 7.68TB 3.5-inch SATA SSDs • Intermix of SAS and SATA is supported.
Storage controller	• Software RAID (RAID level 0, 1, 5, and 10): Intel VROC SATA RAID • 12 Gb SAS/SATA RAID adapters • 12 Gb SAS/SATA host bus adapters • CFF RAID adapters
Optical drive bays	No support. Use an external optical drive.
Tape drive bays	No support
Network interfaces	Two integrated Gigabit Ethernet 1000BASE-T ports (RJ-45) based on Broadcom BCM5720 embedded controller, one can be shared with XCC for systems management. Third dedicated Gigabit Ethernet port for XCC systems management.
PCI Expansion slots	Two PCIe slots depending on the riser selected: • Riser with two x8 slots: ◦ Slot 1: PCIe G4 x8 (x8 slot, open-ended) 25W, half-length, low-profile ◦ Slot 2: PCIe G4 x8 (x16 slot, closed-ended) 50W, half-length, low-profile ◦ Slot 3 (internal slot): PCIe G3 x4 (x8 slot, closed-ended) 25W, half-length, low-profile • Riser with one x16 slot: ◦ Slot 1: Not connected ◦ Slot 2: PCIe G5 x16 (x16 slot, closed-ended) 75W, half-length, full-height to support PCIe x16 card, such as GPU ◦ Slot 3 (internal slot): PCIe G3 x4 (x8 slot, closed-ended) 25W, half-length, low-profile Note: Slot 3: 1x slimline x8 connector to support onboard NVMe (PCIe 3.0) or CFF RAID card

Components	Specification

Ports	• Front:
	  ◦ One USB 3.2 G1 (5 Gb/s) port
	  ◦ One USB 2.0 port (also for XClarity Mobile connectivity for local systems management)
	  ◦ Optional VGA port
	• Rear:
	  ◦ Two USB 3.2 G2 (5 Gb/s) ports
	  ◦ One VGA video
	  ◦ One RJ-45 systems management network port
	  ◦ Two RJ-45 GbE network ports
	  ◦ One serial port

Cooling	Four non-hot-swap system fans
Power supply	Model dependent choices: • One fixed 300W power supply, 80 PLUS Gold certified • Two hot-swap 800W redundant power supplies, 80 PLUS Platinum or Titanium certified, Energy Star and ErP Lot 9 compliant (Energy Star and ErP Lot 9 only with Intel Xeon processors)
Hot-swap parts	Hard drives and hot-swap power supplies
Systems management	Operator panel with status LEDs. XClarity Controller 2 (XCC2) embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XCC2 platinum to enable premium functions.
Security features	Power-on password, administrator's password, Trusted Platform Module, supporting TPM 2.0. Optional lockable front bezel for physical security.
Video	G200 graphics with 16 MB memory, integrated into the XCC2. For use with local Administrator functions (not designed for workstation use). Maximum resolution is 1920x1200 32bpp at 60Hz.
Operating systems supported	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware ESXi. See the Operating system section for specifics.
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	Width: 434.4 mm (17.1 in.), height: 43 mm (1.7 in.), depth: 561 mm (22.1 in.). See Physical specifications for details.
Weight	Maximum configuration: 12.3 kg (27.1 lb) (3.5” config) or 11.44 kg (2.5” config).

The SR250 V3 server is shipped with the following items:

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

Models

ThinkSystem SR250 V3 models can be configured by using the Lenovo Data Center Solution Configurator (DCSC).

Preconfigured server models may also be available for the SR250 V3, however these are region-specific; that is, each region may define their own server models, and not all server models are available in every region.

The following table lists the base CTO models of the ThinkSystem SR250 V3 server.

Table 3. Base CTO models

Machine Type/Model	Description
7DCLCTO1WW	ThinkSystem SR250 V3 – 3-year warranty
7DCMCTO1WW	ThinkSystem SR250 V3 – 1-year warranty

Models of the SR250 V3 are defined based on whether the server has 2.5-inch drive bays at the front (called the 2.5-inch chassis) or whether it has 3.5-inch drive bays at the front (called the 3.5-inch chassis). For models, the feature codes for these chassis bases are as listed in the following table.

Table 4. Chassis base feature codes

Feature code	Description
BWM2	SR250 V3 3.5" Chassis Base
BWM1	SR250 V3 2.5" Chassis Base

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

- Models for Asia Pacific region
- Models for Australia and New Zealand
- Models for Brazil
- Models for EMEA countries
- 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.

Models for Asia Pacific region

The following table lists the models for the Asia Pacific region: Australia, Bangladesh, Brunei, Hong Kong, India, Japan, Korea, Sri Lanka, Malaysia, New Zealand, Philippines, Singapore, Thailand, Taiwan, Vietnam

Table 5. Models for Asia Pacific markets

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Standard models with a 3-year warranty (machine type 7DCL)										
7DCLA00DAP	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	9350-8i	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
7DCLA009AP	Xeon E-2414 4C 55W 2.6GHz	1x 16GB	9350-8i ‡	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00AAP	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	9350-8i	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00EAP	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	9350-8i ‡	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00BAP	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	9350-8i ‡	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00CAP	Xeon E-2414 4C 55W 2.6GHz	1x 16GB	9350-8i	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
Standard models for Japan only										
7DCLA01DJP	Intel Xeon E-2434 4C 3.4GHz	1x16GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA01EJP	Intel XEON Raptor E-2414 4C 2.6G	1x16GB	SW RD	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA018JP	Intel Xeon E-2434 4C 3.4GHz	1x16GB	5350-8i	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA01AJP	Intel Xeon E-2488 8C 3.2GHz	1x16GB	9350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA01BJP	Intel Xeon E-2434 4C 3.4GHz	1x16GB	9350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA01CJP	Intel Xeon E-2486 6C 3.5GHz	1x16GB	9350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Fric
Topseller models for Korea only										
7DCLA015CN	Intel XEON Raptor E-2414 4C 2.6GHz	1x16GB	OB SATA / SW RAID **	4x 3.5-in HS / 1x 1TB SATA HDD	x8 LP, x8 LP, x8 Int	Opt	1x 300W fixed / 1 (Y)	Std	Opt	Fric
7DCLA016CN	Intel Xeon E-2434 4C 3.4GHz	1x16GB	OB SATA / SW RAID **	4x 3.5-in HS / 1x 1TB SATA HDD	x8 LP, x8 LP, x8 Int	Opt	1x 300W HS / 1 (N)	Std	Opt	Fric

† Processor detail: Model, number of cores, TDP, core frequency
‡ 4Y37A72484, ThinkSystem RAID 9350-8i 2GB Flash PCIe 12Gb Internal Adapter
* 4M17A13564, Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2
** On Board SATA Software RAID (AVV0) - adapter reference

Models for Australia and New Zealand

AP models: Customers in Australia and New Zealand also have access to the Asia Pacific region models.

Table 6. Models for Australia and New Zealand

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Standard models with a 3-year warranty (machine type 7DCL)										
7DCLA00YAU	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	4x 3.5-in HS / 3x 12TB SAS HDD	x8 LP, x8 LP, x8 Int	1x 4x1Gb I350	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA010AU	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00ZAU	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS / 3x 960GB SATA HDD	x8 LP, x8 LP, x8 Int	1x 4x1Gb I350	1x 800W HS / 1 (Y)	Std	Yes	Fric
TopSeller models with a 3-year model (machine type 7DCL)										
7DCLA011AU	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00XAU	Xeon E-2488 8C 95W 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00VAU	Xeon E-2478 8C 80W 2.8GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA00WAU	Xeon E-2478 8C 80W 2.8GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric
7DCLA012AU	Xeon E-2456 6C 80W 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Yes	Fric

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Models for Brazil

Table 7. Models for Brazil

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Standard models with a 3-year warranty (machine type 7DCL)										
7DCLA01NBR	Xeon E-2488 8C 95W 3.2GHz	1x 16GB	5350-8i	8x 2.5-in HS: 1x 960GB SATA HS, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	1x 4x10Gb X710	1x 800W HS / 1 (Y)	Plat	Opt	Opt
TopSeller models with a 3-year warranty (machine type 7DCL)										
7DCLA014BR	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS / Open bay	x8 LP, x8 LP, x8 Int	1x 4x10Gb X710	1x 800W HS / 1 (Y)	Plat	Opt	Opt
7DCLA013BR	Xeon E-2468 8C 65W 2.6GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS / Open bay	x8 LP, x8 LP, x8 Int	1x 4x10Gb X710	1x 800W HS / 1 (Y)	Plat	Opt	Opt
7DCLA01FBR	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	5350-8i	8x 2.5-in HS: 1x 960GB SATA HS SSD, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Opt
7DCLA01GBR	Intel Xeon E-2436 6C 2.9GHz	1x16GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 300W fixed / 1 (Y)	Plat	Opt	Opt
7DCLA01JBR	Intel Xeon E-2436 6C 2.9GHz	1x16GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Opt
7DCLA01HBR	Intel Xeon E-2436 6C 2.9GHz	1x16GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Opt

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Models for EMEA countries

Table 8. Models for EMEA countries

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Standard models with 3-year warranty (machine type 7DCL)										
7DCLA00KEA	Xeon E-2414 4C 55W 2.6GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in HS / Open bay	x8 LP, x8 FH, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00MEA	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00JEA	Xeon E-2478 8C 80W 2.8GHz	1x 32GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00LEA	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00REA	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00NEA	Xeon E-2436 6C 65W 2.9GHz	1x 32GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00TEA	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00SEA	Xeon E-2478 8C 80W 2.8GHz	1x 32GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00PEA	Xeon E-2414 4C 55W 2.6GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00FEA	Xeon E-2456 6C 80W 3.2GHz	1x 32GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00UEA	Xeon E-2456 6C 80W 3.2GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00HEA	Xeon E-2488 8C 95W 3.2GHz	1x 32GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00QEA	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA00GEA	Xeon E-2456 6C 80W 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Models for India

Table 9. Models for India

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Topseller models with 3-year warranty (machine type 7DCL)										
7DCLA01LSG	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	OB SATA / SW RAID **	4x 3.5-in SS / Open bay	x8 LP, x8 FH, x8 Int	1x 4x1Gb Base-T	1x 800W HS / 1 (N)	Std	Opt	Fric
7DCLA01MSG	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	1x 4x1Gb Base-T	2x 800W HS / 2 (N)	Std	Opt	Fric
7DCLA01KSG	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	OB SATA / SW RAID **	8x 2.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	1x 4x1Gb Base-T	1x 800W HS / 1 (N)	Std	Opt	Fric

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Models for Japan

AP models: Customers in Japan also have access to the Asia Pacific region models.

Table 10. Models for Japan

Model	Intel Xeon Scalable processor†	Memory	Drive C'troller	Drive bays Drive	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit *
Standard models with a 3-year warranty (machine type 7DCL)										
7DCLA024JP	Xeon E-2488 8C 95W 3.2GHz	1x 16GB	9350-8i 2GB	8x 2.5" SAS Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std
7DCLA027JP	Xeon E-2486 6C 95W 3.5GHz	1x 16GG	9350-8i 2GB	8x 2.5" SAS Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std
7DCLA023JP	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	5350-8i	8x 2.5" SAS Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std
7DCLA028JP	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	9350-8i 2GB	8x 2.5" SAS Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std
7DCLA025JP	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	5350-8i	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std
7DCLA026JP	Intel XEON Raptor E-2414 4C 2.6G	1x 16GB	OB SATA / SW RAID **	4x 3.5-in HS / Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (N)	Std	Opt	Std

† Processor description: Processor model, number of cores, thermal design power (TDP), core frequency

Models for Latin American countries (except Brazil)

Table 11. Models for Latin American countries (except Brazil)

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Topseller models with 3-year warranty (machine type 7DCL)										
7DCLA02BLA	Xeon E-2478 8C 80W 2.8GHz	1x 32GB	OB SATA / SW RAID **	4x 3.5-in SS: Open bay, 1x M.2 SATA/x4NVMe: Open bay: 2x M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	1x 300W fixed / 1 (Y)	Std	Opt	Fric
7DCLA029LA	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA01TLA	Xeon E-2468 8C 65W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	2x 800W HS / 2 (Y)	Plat	Opt	Fric
7DCLA01SLA	E-2414 4C 55W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W HS / 2 (Y)	Std	Opt	Fric
7DCLA02DLA	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	1x 300W fixed / 1 (Y)	Std	Opt	Fric
7DCLA022LA	Xeon E-2436 6C 65W 2.9GHz	1x 16GB	5350-8i	4x 3.5-in SS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Opt	Fric
7DCLA02ALA	Xeon E-2436 6C 65W 2.9GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 FH, x8 Int	Opt	1x 800W HS / 1 (Y)	Plat	Opt	Fric
7DCLA01VLA	E-2436 6C 65W 2.9GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W HS / 2 (Y)	Plat	Opt	Fric
7DCLA02CLA	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 300W fixed / 1 (Y)	Std	Opt	Fric
7DCLA02ELA	Xeon E-2434 4C 55W 3.4GHz	1x 16GB	OB SATA / SW RAID **	4x 3.5-in SS: Open bay, 1x M.2 SATA/x4NVMe: Open bay, 2x M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 300W fixed / 1 (Y)	Std	Opt	Fric
7DCLA01ULA	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	5350-8i	4x 3.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W HS / 2 (Y)	Plat	Opt	Fric
7DCLA01RLA	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	5350-8i	4x 3.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W HS / 2 (Y)	Std	Opt	Fric
7DCLA01PLA	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	5350-8i	4x 3.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	1x 800W HS / 1 (Y)	Std	Opt	Fric

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
7DCLA01QLA	Xeon E-2414 4C 55W 2.6GHz	1x 32GB	5350-8i	8x 2.5-in HS: Open bay, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W HS / 2 (Y)	Plat	Opt	Fric

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Models for USA and Canada

Table 12. Models USA and Canada

Model	Intel processors†	Memory	Drive C'troller	Drive bays Drives	Slots	Add'l Cards	Power supply (cord)	XCC2	Front VGA	Rail kit*
Topseller models with 3-year warranty (machine type 7DCL)										
7DCLA01YNA	Intel Xeon E-2488 8C 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 FH, x8 Int	Opt	1x 800W / 1 (Y)	Plat	Opt	Fric
7DCLA021NA	Intel Xeon E-2488 8C 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W / 1 (Y)	Std	Opt	Fric
7DCLA01XNA	Intel Xeon E-2456 6C 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W / 1 (Y)	Std	Opt	Fric
7DCLA020NA	Xeon E-2456 6C 3.2GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W / 1 (Y)	Std	Opt	Fric
7DCLA01ZNA	Xeon E-2434 4C 3.4GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 800W / 1 (Y)	Plat	Opt	Fric
7DCLA01WNA	Xeon E-2434 4C 3.4GHz	1x 16GB	OB SATA / SW RAID **	8x 2.5-in HS: Open bay	x8 LP, x8 LP, x8 Int	Opt	1x 300W fixed / 1 (Y)	Plat	Opt	Fric
Standard models with a 3-year warranty (machine type 7DCL)										
7DCL1001NA	Xeon E-2478 8C 80W 2.8GHz	1x 32GB	5350-8i	8x 2.5-in HS: 3x 1.92TB, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W / 2 (Y)	Plat	Opt	Fric
7DCL1000NA	Xeon E-2478 8C 80W 2.8GHz	1x 32GB	5350-8i	8x 2.5-in HS: 3x 960GB, 1x M.2 SATA/x4NVMe: 2x 480G M.2 SATA	x8 LP, x8 LP, x8 Int	Opt	2x 800W / 2 (Y)	Plat	Opt	Fric

† Processor detail: Model, number of cores, TDP, core frequency
* Rail kit "Fric" refers to ThinkSystem Toolless Friction Rail v2, 4M17A13564
** On Board SATA Software RAID (AVV0) - adapter reference

Processors

The SR250 V3 supports one processor from the following Intel product families:

- Intel Xeon E-2400 Series processors ("Raptor Lake-E")
- Intel Alder Lake Pentium Gold G7400 and G7400T processors

All supported processors have the following characteristics:

- LGA 1700 socket
- 14 nm semiconductor process technology
- Direct Media Interface (DMI) 4.0 connection to PCH-S
  - Xeon E-2400: DMI 4.0 x8 connection
  - Pentium: DMI 3.0 x4 connection
- Two DDR5 memory channels
- Support for ECC memory
  - Xeon E-2400: Up to 4800 MHz memory speed
  - Pentium: Up to 4800 MHz memory speed
- PCIe lanes:
  - up to 16 lanes of PCIe 5.0, up to 4 lanes of PCIe 4.0

The following table lists the supported processors.

Integrated graphics and management: Xeon processors with a G suffix include integrated graphics, however, this functionality is not used in the SR250 V3. Instead, graphics support is provided by XClarity Controller 2 (XCC2), or by an GPU add-in card. Similarly system management of the SR250 V3 is handled by XCC2 and as a result, the AMT management processor is disabled.

Table 13. Supported processors

Feature code	Intel model	TDP	Cores	Core speed	Cache	Max memory speed
Intel Pentium processors						
BWM7	G7400T	35 W	2	3.1 GHz	6 MB	4800 MHz
BWM8	G7400	46 W	2	3.7 GHz	6 MB	4800 MHz
Intel Xeon E processors						
BXJZ	E-2414	55 W	4	2.6 GHz	8 MB	4800 MHz
BWMA	E-2434	55 W	4	3.4 GHz	8 MB	4800 MHz
BWMB	E-2436	65 W	6	2.9 GHz	12 MB	4800 MHz
BWMC	E-2456	80 W	6	3.3 GHz	12 MB	4800 MHz
BWMD	E-2468	65 W	8	2.6 GHz	16 MB	4800 MHz
BWME	E-2478	80 W	8	2.8 GHz	16 MB	4800 MHz
BWLS	E-2486	95 W	6	3.5 GHz	12 MB	4800 MHz
BWMF	E-2488	95 W	8	3.2 GHz	16 MB	4800 MHz

Configuration notes:

- For customers in the UK and in EU countries, Intel Pentium processors are not offered due to ERP Lot 9 requirements
- Energy Star certification only applies to Intel Xeon E processors. Intel Pentium processors are not Energy Star compliant

UEFI operating modes

The SR250 V3 offers preset operating modes that affect energy consumption and performance. These modes are a collection of predefined low-level UEFI settings that simplify the task of tuning the server to suit your business and workload requirements.

The following table lists the feature codes that allow you to specify the mode you wish to preset in the factory for CTO orders.

Table 14. UEFI operating mode presets in DCSC

Feature code	Description
BFYB	Operating mode selection for: "Maximum Performance Mode"
BFYC	Operating mode selection for: "Minimal Power Mode"
BFYD	Operating mode selection for: "Efficiency Favoring Power Savings Mode"
BFYE	Operating mode selection for: "Efficiency - Favoring Performance Mode"

The preset modes for the SR250 V3 are as follows:

- **Maximum Performance Mode** (feature BFYB): Achieves maximum performance but with higher power consumption and lower energy efficiency.
- **Minimal Power Mode** (feature BFYC): Minimize the absolute power consumption of the system.
- **Efficiency Favoring Power Savings Mode** (feature BFYD): Maximize the performance/watt efficiency with a bias towards power savings. This is the favored mode for SPECpower benchmark testing, for example.
- **Efficiency Favoring Performance Mode** (feature BFYE): Maximize the performance/watt efficiency with a bias towards performance. This is the favored mode for Energy Star certification, for example.

Memory options

The SR250 V3 supports Lenovo TruDDR5 memory. TruDDR5 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 processors have 2 memory channels and support 2 DIMMs per channel. The SR250 V3 supports 1, 2, 3 or 4 DIMMs. All DIMMs installed must be identical.

DIMMs installed in the SR250 V3 operate at a speed based on the processor installed, the number of DIMMs installed, and whether the DIMMs are single-rank or dual-rank:

- When connected to a Xeon or Pentium processor:
  - 1 or 2 [single-rank (1R) / dual-rank (2R)] DIMMs : 4400 MHz
  - 3, 4 (1R) DIMMs: 4000 MHz
  - 3, 4 (2R) DIMMs: 3600 MHz

The following table lists the memory options that are available for the SR250 V3 server.

Table 15. memory section

Part number	Feature code	Description	Maximum supported
4X77A88512	BWLJ	ThinkSystem 32GB TruDDR5 4800MHz (2Rx8) ECC UDIMM	4
4X77A88511	BWLK	ThinkSystem 16GB TruDDR5 4800MHz (1Rx8) ECC UDIMM	4

The following rules apply when selecting the memory configuration:

- The server only supports UDIMMs
- Quantities of 1, 2, 3 or 4 DIMMs are supported.
- All DIMMs must be identical (same part number)
- When installing two DIMMs, install one in each memory channel (DIMM slots 1 and 3)
- Memory mirroring and memory rank sparing are not supported

Internal storage

The SR250 V3 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:

Drive bays and backplanes

The server supports 3.5-inch or 2.5-inch drive bays in the following configurations:

- 3.5-inch drive bays:
  - 4x 3.5-inch hot-swap bays supporting 4x SATA drives (no SAS support)
  - 4x 3.5-inch hot-swap bays supporting 4x SAS or SATA drives
  - 4x 3.5-inch simple-swap bays supporting 4x SATA drives (no SAS support)
  - 4x 3.5-inch simple-swap bays supporting 2x SATA drives and 2x NVMe drive (no SAS support)
- 2.5-inch drive bays
  - 8x 2.5-inch hot-swap bays supporting 8x SATA drives (no SAS support)
  - 8x 2.5-inch hot-swap bays supporting 8x SAS or SATA drives
  - 10x 2.5-inch hot-swap bays supporting 10x SAS or SATA drives

Drive bays required: It is not supported to configure the SR250 V3 server without drive bays.

There are four different base drive configurations available for the SR250 V3, as shown in the following figure.

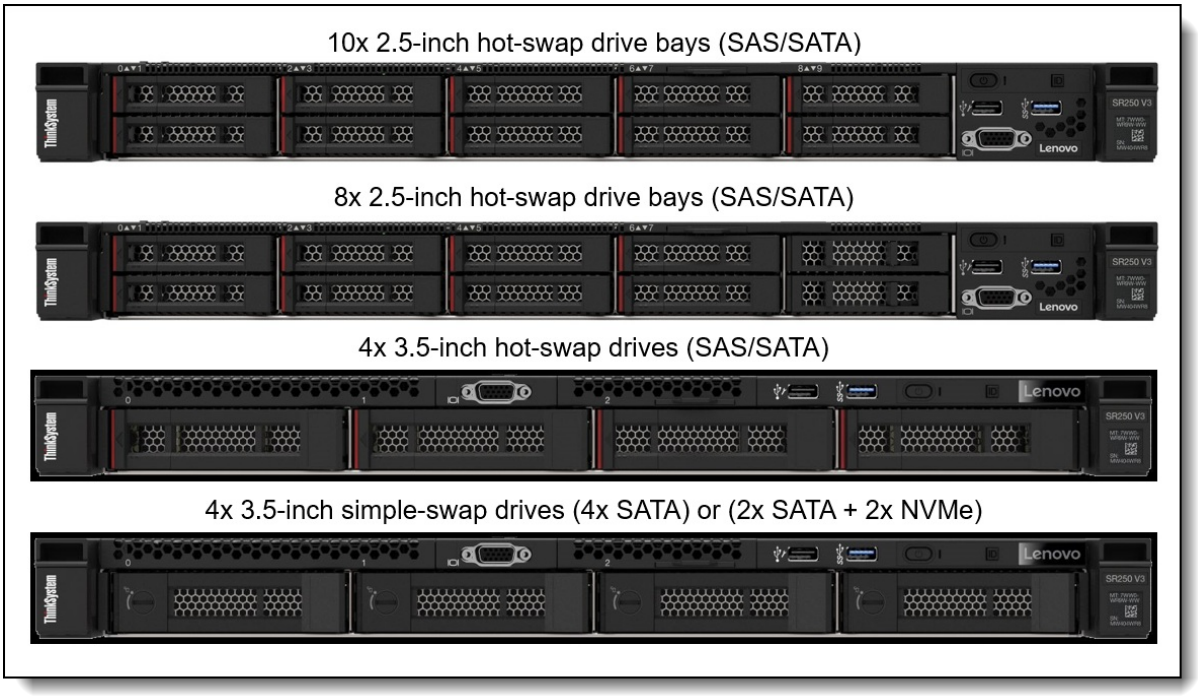

Figure 7. Storage configurations of the ThinkSystem SR250 V3

The following table lists the available hot-swap backplanes and simple-swap backplates for configure-to-order builds. See the Field upgrades section for option part numbers.

Table 16. Backplanes for CTO orders

Feature code	Description	Maximum supported	Purpose
BMWS	ThinkSystem SR250 Series 4x3.5" Simple Swap Backplane Kit	1	3.5-inch 4-bay simple-swap backplane (4x SATA) connected to onboard SATA
BWMU	MB MSHD R/A + SLx8 + MF2x8 to 2xHDD + 2xNVMe	1	4x 3.5” SS SATA / 2 SATA + 2 PCIe 4.0 NVMe/SATA
BM7L	ThinkSystem SR250 Series 4x3.5" Simple Swap Backplane Kit for X40 RAID/HBA	1	3.5-inch 4-bay simple-swap backplane (4x SATA) connected to X40 RAID/HBA
BN11	ThinkSystem SR250 Series 4x3.5" Simple Swap Backplane Kit for X350/X40 RAID/HBA	1	3.5-inch 4-bay simple-swap backplane (4x SATA) connected to X350 RAID/HBA
BMPX	ThinkSystem SR250 Series 4x3.5" Hot Swap SAS/SATA Backplane Kit for X350/X40 RAID/HBA	1	3.5-inch 4-bay hot-swap backplane
BPRM	ThinkSystem SR250 Series 10x2.5" Hot Swap SAS/SATA Backplane Kit for X350/X40 RAID/HBA	1	2.5-inch 10-bay hot-swap backplane
BMPU	ThinkSystem SR250 Series 8x2.5" Hot Swap SAS/SATA Backplane Kit for X350/X40 RAID/HBA v2	1	2.5-inch 8-bay hot-swap backplane

Storage configurations

The following table lists the supported combinations of drives, drive backplanes and storage controllers.

M.2 support: Config 6 does not support the use of the M.2 adapter, because the M.2 adapter uses 2 of the onboard SATA ports.

Table 17. Storage configurations

Cfg	Description	Base	Drive tray	Drive support	Backplane (feature)	Controller	Extra cables (derived feature or option kit)
1	4x 3.5" SS SATA to OB SATA	3.5-inch	Simple-swap	SATA	4x SATA SS to Onboard (BMWS)	Onboard SATA	None
2-1	4x 3.5" SS SAS/SATA to HW RAID X350	3.5-inch	Simple-swap	SAS, SATA	4x SAS SS to X350 RAID/HBA (BN11)	Onboard SATA	None
2-2	4x 3.5" SS SAS/SATA to HW RAID X40	3.5-inch	Simple-swap	SAS, SATA	4x SAS SS to X40 RAID (BM7L)	Onboard SATA	None
3	4x 3.5" SS SATA+NVMe to OB SATA+NVMe	3.5-inch	Simple-swap	SATA+NVMe	4x SATA SS / 2 SATA + 2 PCIe 4.0 NVMe/SATA (BWMU)	Onboard SATA+NVMe	None
4	4x 3.5" HS to OB SATA	3.5-inch	Hot-swap	SATA	4x 3.5-inch SAS/SATA HS (BMPX)	Onboard SATA	Onboard SATA to BP (B405)
5-1	4x 3.5" HS to HW RAID X350	3.5-inch	Hot-swap	SAS, SATA	4x 3.5-inch SAS/SATA HS (BMPX)	RAID/HBA X350-8i	Gen3 RAID to BP (B415)
5-2	4x 3.5" HS to HW RAID X40	3.5-inch	Hot-swap	SAS, SATA	4x 3.5-inch SAS/SATA HS (BMPX)	RAID/HBA X40-8i	Gen4 RAID to BP (BM7M)
6	8x 2.5" HS to OB SATA	2.5-inch	Hot-swap	SATA	8x 2.5-inch SAS/SATA HS (BMPU)	Onboard SATA	Onboard SATA multi to BP (BMX4)
7-1	8x 2.5" HS to HW RAID X350	2.5-inch	Hot-swap	SAS, SATA	8x 2.5-inch SAS/SATA HS (BMPU)	RAID/HBA X350-8i	2x Gen3 RAID to BP (B415)
7-2	8x 2.5" HS to HW RAID X40	2.5-inch	Hot-swap	SAS, SATA	8x 2.5-inch SAS/SATA HS (BMPU)	RAID/HBA X40-8i	Gen4 RAID to BP dual (BMX3)
8-1	10x 2.5" HS to HW RAID X350-16i	2.5-inch	Hot-swap	SAS, SATA	10x 2.5-inch SAS/SATA HS (BPRM)	RAID/HBA X350-16i	3x Gen3 RAID to BP (B415)
8-2	10x 2.5" HS to HW RAID X350-8i	2.5-inch	Hot-swap	SAS, SATA	10x 2.5-inch SAS/SATA HS (BPRM)	2x RAID/HBA X350-8i	3x Gen3 RAID to BP (B415)

* For config 8-2, the use of 2x 9350-8i or 2x 940-8i is not supported as the server only supports 1x supercap

RAID flash power module (supercap) support

Some high-performance RAID adapters include a RAID flash power module (supercap). The adapters that include a supercap are listed in the table in the Controllers for internal storage section.

The supercap is installed in the supercap holder than is located inside the server as shown in Components and connectors section (internal view of server).

The supercap holder is integrated into components of the chassis. No additional components are required.

M.2 drives

The SR250 V3 server supports two M.2 form-factor SATA drives installed in an M.2 adapter attached to a dummy PCIe adapter. The PCIe adapter is in turn installed in a PCIe slot. The M.2 adapter is connected via cables to the system board; the edge connector of the PCIe adapter only provides physical support and does not provide PCIe signals or power.

The following figures show the supported M.2 adapters for the SR250 V3.

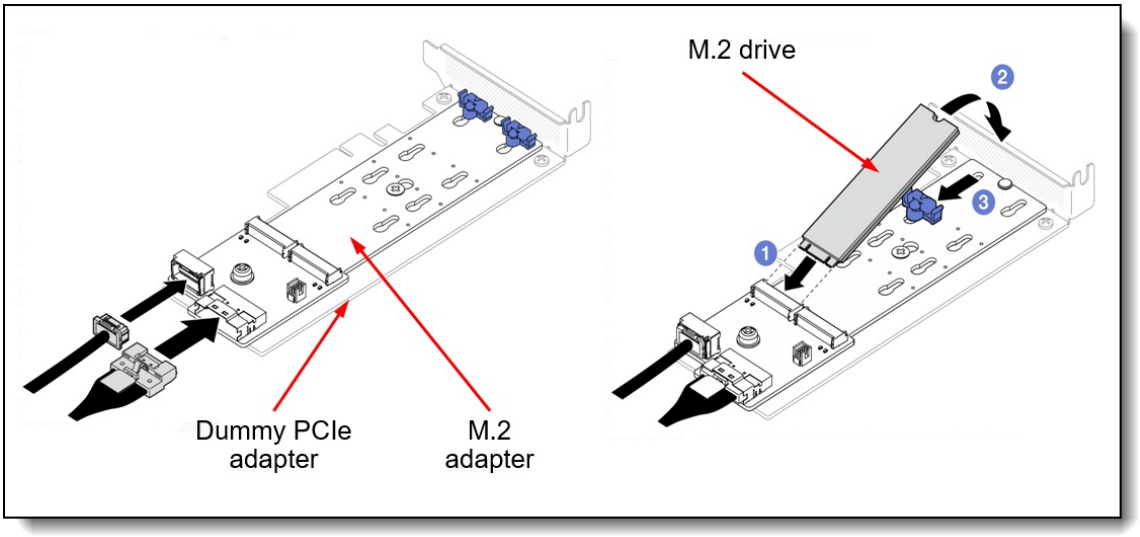

Figure 8. M.2 adapter (BM8X) with an M.2 drive

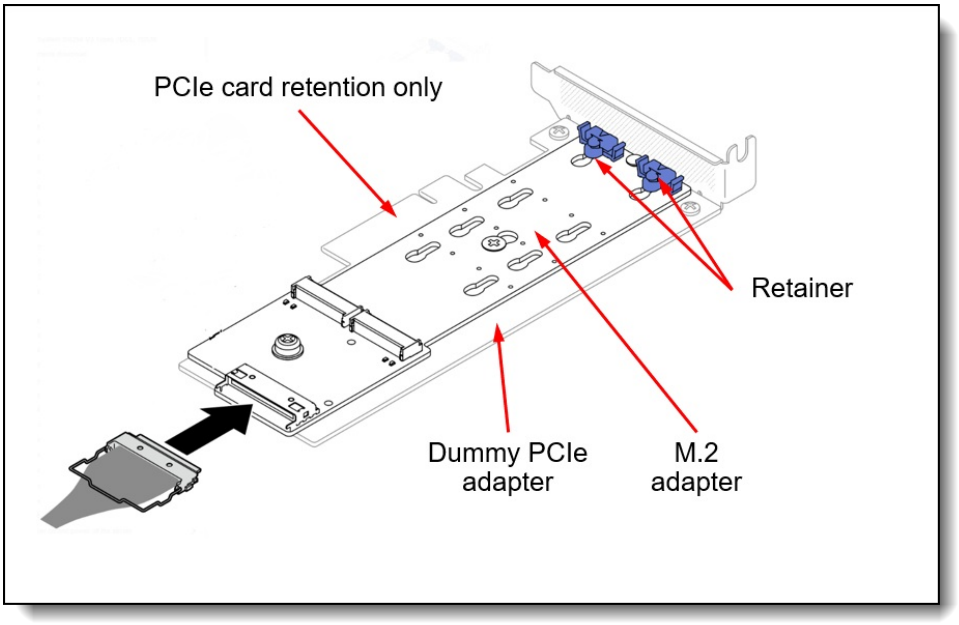

Figure 9. M.2 adapter (BYFF)

The following table lists the ordering information.

Supported drives are listed in the Internal drive options section.

Table 18. M.2 adapter for SR250 V3

Part number	Feature code	Description	Maximum supported	Slots supported
CTO only	BM8X	ThinkSystem M.2 SATA/x4 NVMe 2-Bay Enablement Kit • M.2 SATA/x4 NVMe 2-Bay Enablement Kit, BM8X • ThinkSystem ST250 Series Dummy PCIe Card, BMTU • M.2 signal Cable BWN1 • M.2 Power Cable BWN2	1	1, 2
4Y37A79663	N/A	ThinkSystem M.2 SATA/x4 NVMe 2-Bay Enablement Kit	1	1, 2
CTO only	BYFF	ThinkSystem M.2 RAID B540i-2i SATA/NVMe Adapter • M.2 RAID B540i-2i SATA/NVMe Adapter, BYFF • ThinkSystem ST250 Series Dummy PCIe Card, BMTU • ThinkSystem M.2 ULP-PH 1.0+SLIMx4 130mm, BYY7	1	1, 2
4Y37A90063	N/A	ThinkSystem M.2 RAID B540i-2i SATA/NVMe Adapter	1	1, 2
4Z57A88898	N/A	ThinkSystem SR250 V3/ST250 Series M.2 Cable Kit Includes: • ThinkSystem ST250 Series Dummy PCIe Card, BMTU • M.2 signal Cable BWN1 • M.2 Power Cable BWN2 • ThinkSystem M.2 ULP-PH 1.0+SLIMx4 130mm, BYY7	1	N/A

N/A - not applicable

Configuration rules:

- M.2 is not supported when the server is configured with 8x 2.5-inch SATA drives using the onboard SATA controller (config 6 in Storage configurations). This is because the M.2 adapter uses the same SATA ports
- BM8X and BYFF are mutually exclusive

The M.2 SATA/NVMe 2-Bay Enablement Kit has the following features when installed in the SR250 V3:

- Supports one or two M.2 SATA drives
- Support SATA 6Gb NHS SSDs
- JBOD native support; no built-in RAID support (RAID can be enabled via Intel VROC)
- Supports Intel VROC SATA RAID 0,1 only
- Supports monitoring and reporting of events and temperature through I2C
- Firmware update via Lenovo firmware update tools

The M.2 RAID B540i-2i SATA/NVMe Adapter has the following features when installed in the SR250 V3:

- Supports one or two M.2 SATA 6Gb NHS SSD drives
- Supports SATA HW RAID 0, 1
- Two M.2 SATA SSD for RAID support

For details about M.2 components, see:

- The *ThinkSystem M.2 Drives and M.2 Adapters* product guide: https://lenovopress.com/lp0769-thinksystem-m2-drives-adapters
- User Guide for the server: https://pubs.labs.lenovo.com/sr250-v3/install_the_m2_adapter

SED encryption key management with SKLM

The server supports self-encrypting drives (SEDs) as listed in the Internal drive options section. To effectively manage a large deployment of these drives in Lenovo servers, IBM Security Key Lifecycle Manager (SKLM) offers a centralized key management solution.

A Lenovo Feature on Demand (FoD) upgrade is used to enable this SKLM support in the management processor of the server. The following table lists the part numbers and feature codes for the upgrades.

Table 19. FoD upgrades for SKLM support

Part number	Feature code	Description
Security Key Lifecycle Manager - FoD (United States, Canada, Asia Pacific, and Japan)		
00D9998	A5U1	SKLM for System x/ThinkSystem w/SEDs - FoD per Install with 1 year S&S
00D9999	AS6C	SKLM for System x/ThinkSystem w/SEDs - FoD per Install with 3 year S&S
Security Key Lifecycle Manager - FoD (Latin America, Europe, Middle East, and Africa)		
00FP648	A5U1	SKLM for System x/ThinkSystem w/SEDs - FoD per Install with 1 year S&S
00FP649	AS6C	SKLM for System x/ThinkSystem w/SEDs - FoD per Install with 3 year S&S

The IBM Security Key Lifecycle Manager software is available from Lenovo using the ordering information listed in the following table.

Table 20. IBM Security Key Lifecycle Manager licenses

Part number	Description
7S0A007FWW	IBM Security Key Lifecycle Manager Basic Edition Install License + SW Subscription & Support 12 Months
7S0A007HWW	IBM Security Key Lifecycle Manager For Raw Decimal Terabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A007KWW	IBM Security Key Lifecycle Manager For Raw Decimal Petabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A007MWW	IBM Security Key Lifecycle Manager For Usable Decimal Terabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A007PWW	IBM Security Key Lifecycle Manager For Usable Decimal Petabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months

Controllers for internal storage

The SR250 V3 supports the use of the onboard 6Gb SATA ports to connect SATA drives. Hot-swap and simple-swap SATA drives are supported. These onboard SATA ports support RSTe mode for RAID functionality or AHCI mode for JBOD support.

In addition to the onboard SATA controller, the SR250 V3 with hot-swap drives supports the use of an internal RAID adapter or HBA. The following table lists the supported adapters.

Table 21. RAID controllers and HBAs for internal storage

Part number	Feature code	Description	Slots supported	Maximum quantity	Supercap included*
Onboard SATA - up to 8 drives - Intel VROC SATA RAID (Intel RSTe)					
None	AVV0	On Board SATA Software RAID Mode	Not applicable	1	No
SAS HBA - PCIe 3.0					
4Y37A72480	BJHH	ThinkSystem 4350-8i SAS/SATA 12Gb HBA	1, 2	1	No
RAID Adapter - PCIe 3.0					
4Y37A72482	BJHK	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	1, 2	1	No
4Y37A84028	BRQV	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter	CFF bay	1	No
4Y37A72483	BJHL	ThinkSystem RAID 9350-8i 2GB Flash PCIe 12Gb Adapter	1, 2	1	Yes
4Y37A72484	BJHM	ThinkSystem RAID 9350-8i 2GB Flash PCIe 12Gb Internal Adapter	CFF bay	1	Yes
4Y37A72485	BJHN	ThinkSystem RAID 9350-16i 4GB Flash PCIe 12Gb Adapter	1, 2	1	Yes
4Y37A72486	BJHP	ThinkSystem RAID 9350-16i 4GB Flash PCIe 12Gb Internal Adapter	CFF bay	1	Yes
RAID Adapter - PCIe 4.0					
4Y37A09728	B8NY	ThinkSystem RAID 940-8i 4GB Flash PCIe Gen4 12Gb Adapter	1, 2	1	Yes

* For a configuration with a fixed PSU, it does not support a supercap with an advanced RAID adapter

For a comparison of the functions of the supported storage adapters, see the ThinkSystem RAID Adapter and HBA Reference:
https://lenovopress.com/lp1288-thinksystem-raid-adapter-and-hba-reference#sr250-v2-support=SR250%20V2

Configuration notes:

- **Virtualization support**: The onboard 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.
- **Windows support**: Windows only supports a RSTe-based RAID array of no more than 6 drives.
- **E810 Ethernet and X350 RAID/HBAs**: The use of both an Intel E810 network adapter and an X350 HBA/RAID adapter (9350, 5350 and 4350) is supported, however E810 firmware CVL4.3 or later is required. For details, see Support Tip HT513226.

Internal drive options

The following tables list the drive options for internal storage of the server.

2.5-inch hot-swap drives:

- 2.5-inch hot-swap 12 Gb SAS HDDs
- 2.5-inch hot-swap 6 Gb SATA SSDs

3.5-inch hot-swap drives:

- 3.5-inch hot-swap 12 Gb SAS HDDs
- 3.5-inch hot-swap 6 Gb SATA HDDs
- 3.5-inch hot-swap 6 Gb SATA SSDs

Simple-swap drives:

- 3.5-inch simple-swap 6 Gb SATA HDDs
- 3.5-inch simple-swap 6 Gb SATA SSDs
- 3.5-inch simple-swap PCIe 4.0 NVMe SSDs

M.2 drives:

- M.2 SATA drives

M.2 drive support: The use of M.2 drives requires an additional adapter as described in the M.2 drives subsection.

SED support: The tables include a column to indicate which drives support SED encryption. The encryption functionality can be disabled if needed. Note: Not all SED-enabled drives have "SED" in the description.

Table 22. 2.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap HDDs - 12 Gb SAS 10K				
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	No	10
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	No	10
4XB7A83970	BRG7	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD v2	No	10
2.5-inch hot-swap SED HDDs - 12 Gb SAS 10K				
7XB7A00031	AUM5	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD SED	Support	10

Table 23. 2.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap SSDs - 6 Gb SATA - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A82289	BQ21	ThinkSystem 2.5" 5400 MAX 480GB Mixed Use SATA 6Gb HS SSD	Support	10
4XB7A82290	BQ24	ThinkSystem 2.5" 5400 MAX 960GB Mixed Use SATA 6Gb HS SSD	Support	10
4XB7A82291	BQ22	ThinkSystem 2.5" 5400 MAX 1.92TB Mixed Use SATA 6Gb HS SSD	Support	10
4XB7A82292	BQ23	ThinkSystem 2.5" 5400 MAX 3.84TB Mixed Use SATA 6Gb HS SSD	Support	10
4XB7A17125	BA7Q	ThinkSystem 2.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	10
4XB7A17126	BA4T	ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	10
4XB7A17127	BA4U	ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	10
4XB7A17128	BK7L	ThinkSystem 2.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	10
4XB7A17088	B8HY	ThinkSystem 2.5" 5300 480GB Mainstream SATA 6Gb Hot Swap SSD	No	10
2.5-inch hot-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A82258	BQ1Q	ThinkSystem 2.5" 5400 PRO 240GB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A82259	BQ1P	ThinkSystem 2.5" 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A82260	BQ1R	ThinkSystem 2.5" 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A82261	BQ1X	ThinkSystem 2.5" 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A82262	BQ1S	ThinkSystem 2.5" 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A82263	BQ1T	ThinkSystem 2.5" 5400 PRO 7.68TB Read Intensive SATA 6Gb HS SSD	Support	10
4XB7A17072	B99D	ThinkSystem 2.5" S4520 240GB Read Intensive SATA 6Gb HS SSD	No	10
4XB7A17101	BA7G	ThinkSystem 2.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	10
4XB7A17102	BA7H	ThinkSystem 2.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	10

Table 24. 3.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap HDDs - 12 Gb NL SAS				
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	4
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00045	B0YR	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
7XB7A00067	B117	ThinkSystem 3.5" 12TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A13906	B496	ThinkSystem 3.5" 14TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A13911	B7EZ	ThinkSystem 3.5" 16TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A38266	BCFP	ThinkSystem 3.5" 18TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A80353	BPKU	ThinkSystem 3.5" 20TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	4
4XB7A83766	BTR7	ThinkSystem 3.5" 22TB 7.2K SAS 12Gb Hot Swap 512e HDD	Support	4

Table 25. 3.5-inch hot-swap 6 Gb SATA HDDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap HDDs - 6 Gb NL SATA				
7XB7A00049	AUUF	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00050	AUUD	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00051	AUU8	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	4
7XB7A00052	AUUA	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00053	AUU9	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00054	AUUB	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
7XB7A00068	B118	ThinkSystem 3.5" 12TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A13907	B497	ThinkSystem 3.5" 14TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A13914	B7F0	ThinkSystem 3.5" 16TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A38130	BCFH	ThinkSystem 3.5" 18TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A80354	BPKV	ThinkSystem 3.5" 20TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	4
4XB7A83765	BTR8	ThinkSystem 3.5" 22TB 7.2K SATA 6Gb Hot Swap 512e HDD	Support	4

Table 26. 3.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap SSDs - 6 Gb SATA - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17137	BA4W	ThinkSystem 3.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	4
4XB7A17138	BA4X	ThinkSystem 3.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	4
4XB7A17139	BA4Y	ThinkSystem 3.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	4
4XB7A17140	BK7P	ThinkSystem 3.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	4
3.5-inch hot-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A17118	BA7K	ThinkSystem 3.5" S4520 240GB Read Intensive SATA 6Gb HS SSD	No	4
4XB7A17119	BA7L	ThinkSystem 3.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	4
4XB7A17120	BA7M	ThinkSystem 3.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	4

Table 27. 3.5-inch simple-swap 6 Gb SATA HDDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch simple-swap HDDs - 6 Gb NL SATA				
7XB7A00055	AUZS	ThinkSystem 1TB 7.2K 6Gbps SATA 3.5" Simple Swap 512n HDD	No	4
7XB7A00056	AUZT	ThinkSystem 2TB 7.2K 6Gbps SATA 3.5" Simple Swap 512n HDD	No	4

Table 28. 3.5-inch simple-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch simple-swap SSDs - 6 Gb SATA - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17134	BK7M	ThinkSystem 3.5" S4620 480GB Mixed Use SATA 6Gb SS SSD	No	4
4XB7A17135	BK7N	ThinkSystem 3.5" S4620 960GB Mixed Use SATA 6Gb SS SSD	No	4
3.5-inch simple-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A17109	BK7C	ThinkSystem 3.5" S4520 240GB Read Intensive SATA 6Gb SS SSD	No	4
4XB7A17110	BK7D	ThinkSystem 3.5" S4520 480GB Read Intensive SATA 6Gb SS SSD	No	4
4XB7A17111	BK7E	ThinkSystem 3.5" S4520 960GB Read Intensive SATA 6Gb SS SSD	No	4
4XB7A17121	BA7N	ThinkSystem 3.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD	No	4
4XB7A17122	BK7F	ThinkSystem 3.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD	No	4
4XB7A17123	BK7G	ThinkSystem 3.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD	No	4

Table 29. 3.5-inch simple-swap PCIe 4.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch SSDs - U.2 PCIe 4.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A79664	BNHZ	ThinkSystem 3.5" U.2 P5520 1.92TB Read Intensive NVMe PCIe 4.0 x4 SS SSD	Support	2

Table 30. M.2 SATA drives

Part number	Feature code	Description	SED support	Max Qty
M.2 SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A82286	BQ1Z	ThinkSystem M.2 5400 PRO 240GB Read Intensive SATA 6Gb NHS SSD	Support	2
4XB7A89422	BYF7	ThinkSystem M.2 ER3 240GB Read Intensive SATA 6Gb NHS SSD	Support	2
4XB7A82287	BQ1Y	ThinkSystem M.2 5400 PRO 480GB Read Intensive SATA 6Gb NHS SSD	Support	2
4XB7A90049	BYF8	ThinkSystem M.2 ER3 480GB Read Intensive SATA 6Gb NHS SSD	Support	2
4XB7A82288	BQ20	ThinkSystem M.2 5400 PRO 960GB Read Intensive SATA 6Gb NHS SSD	Support	2
4XB7A90230	BYF9	ThinkSystem M.2 ER3 960GB Read Intensive SATA 6Gb NHS SSD	Support	2

USB flash drive

For general portable storage needs, the server also supports the USB flash drive option that is listed in the following table.

Table 31. USB memory key

Part number	Feature	Description
4X77A77065	BNWN	ThinkSystem USB 32GB USB 3.0 Flash Drive

Optical drives

The server supports the external USB optical drive listed in the following table.

Table 32. External optical drive

Part number	Feature code	Description
7XA7A05926	AVV8	ThinkSystem External USB DVD RW Optical Disk Drive

The drive is based on the Lenovo Slim DVD Burner DB65 drive and supports the following formats: DVD-RAM, DVD-RW, DVD+RW, DVD+R, DVD-R, DVD-ROM, DVD-R DL, CD-RW, CD-R, CD-ROM.

I/O expansion

The SR250 V3 server supports up to three PCIe slots: one slot on the system planar that supports an internal storage controller and up to two PCIe slots riser dependent.

Slot numbering is as follows:

- Using a riser with two x8 slots (feature BMWQ):
  - Slot 1: PCIe G4 x8 (x8 slot, open-ended) 25W, half-length, low-profile
  - Slot 2: PCIe G4 x8 (x16 slot, closed-ended) 50W, half-length, low-profile
  - Slot 3 (internal slot): PCIe G3 x4 (x8 slot, closed-ended) 25W, half-length, low-profile
- Using a riser with one x16 slot (feature BWMX):
  - Slot 1: Not connected
  - Slot 2: PCIe G5 x16 (x16 slot, closed-ended) 75W, half-length, low-profile to support PCIe x16 card, such as GPU
  - Slot 3 (internal slot): PCIe G3 x4 (x8 slot, closed-ended) 25W, low-profile

PCIe 4.0 and PCIe 5.0 support: via riser BMWQ: Slots 1 and 2 are PCIe Gen 4. Via riser BWMX: Slot 2 is PCIe Gen 5

The locations of the PCIe slots are shown in the following figure.

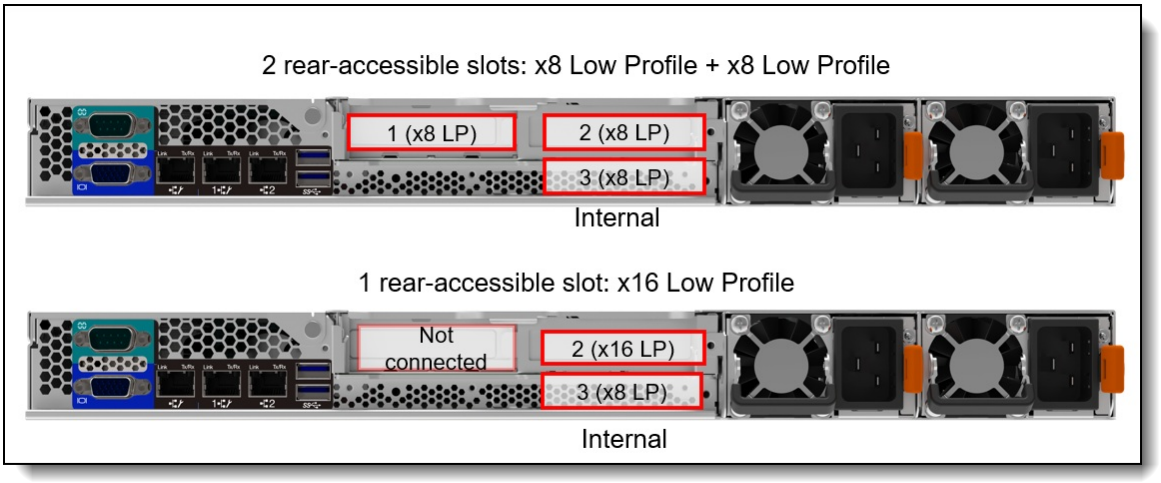

Figure 10. Slot locations

The following table lists available PCIe riser card options.

Table 33. Riser cards

Part number	Feature code	Description
4C57A81451	BMWQ	ThinkSystem SR250 Series X8/X8 PCIe Gen4 Riser Card
CTO only	BWMX	X16 PCIe Riser card PCIe Gen5

Network adapters

The SR250 V3 server supports two onboard Gigabit Ethernet network ports that are based on the Broadcom BCM5720 network interface controller (NIC) chip.

The BCM5720 embedded controller has the following features:

- Two 10/100/1000 Mb Ethernet RJ-45 ports
- NIC Teaming (load balancing and failover)
- IEEE 802.3ad Link Aggregation
- I/O Virtualization (IOV) for VMWare NetQueue and Microsoft VMQ
- IEEE 802.1Q Virtual Local Area Networks (VLANs)
- IEEE 802.3x flow control
- TCP, IP, and UDP checksum offload
- Large Send Offload (LSO) and TCP Segmentation Offload (TSO)
- Receive Side Scaling (RSS) and Transmit Side Scaling (TSS)
- Jumbo frames up to 9600 bytes
- IEEE 802.3az-2010 Energy Efficient Ethernet (EEE) compliant
- Hardware assist for IEEE 1588 and IEEE 802.1AS time synchronization implementations
- Preboot eXecution Environment (PXE) remote boot
- Wake on LAN (WOL) support

The following table lists the network adapters that are supported with the SR250 V3 server.

Table 34. Network adapters

Part number	Feature code	Description	Slots supported	Maximum quantity
Gigabit Ethernet				
7ZT7A00484	AUZV	ThinkSystem Broadcom 5719 1GbE RJ45 4-Port PCIe Ethernet Adapter	1, 2	2
7ZT7A00535	AUZW	ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter	1, 2	2
10 GbE 10GBASE-T Ethernet				
7ZT7A00496	AUKP	ThinkSystem Broadcom 57416 10GBASE-T 2-Port PCIe Ethernet Adapter	1, 2	2
25 Gb Ethernet				
4XC7A08238	BK1H	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	1, 2	2
4XC7A08295	BCD6	ThinkSystem Intel E810-DA2 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	1, 2	2

Configuration notes:

- For more information, including the transceivers and cables that each adapter supports, see the list of Lenovo Press Product Guides in the Ethernet adapters category: http://lenovopress.com/servers/options/ethernet#rt=product-guide
- **E810 Ethernet and X350 RAID/HBAs**: The use of both an Intel E810 network adapter and an X350

HBA/RAID adapter (9350, 5350 and 4350) is supported, however E810 firmware CVL4.3 or later is required. For details, see Support Tip HT513226.

SAS adapters for external storage

The following table lists the adapters suitable for connectivity to external SAS storage.

Table 35. Supported external storage adapters

Part number	Feature code	Description	Slots supported	Maximum quantity
4Y37A78837	BNWK	ThinkSystem 440-8e SAS/SATA PCIe Gen4 12Gb HBA	1, 2	2

For a comparison of the functions of the supported external storage adapters, see the ThinkSystem RAID Adapter and HBA Reference:
https://lenovopress.com/lp1288#sr250-v2-support=SR250%20V2&internal-or-external-ports=External

Mixing storage adapter families: The following HBA/RAID adapter combinations are supported:

- X30 external adapters with other X30 adapters (internal or external)
- X40 external adapters with other X40 adapters (internal or external)
- X40 external adapters with X350 internal adapters

The following HBA/RAID adapter combinations are *not* supported:

- X30 adapters (internal or external) with X40 adapters (internal or external)
- X30 adapters (internal or external) with X350 internal adapters

Fibre Channel host bus adapters

The SR250 V3 does not currently support Fibre Channel host bus adapters.

Flash Storage adapters

The SR250 V3 does not currently support Flash Storage adapters.

GPU adapters

The SR250 V3 server supports the graphics processing units (GPUs) listed in the following table.

Table 36. GPU adapters

Part number	Feature code	Description	Slots supported	Maximum quantity
4X67A79777	BMXD	ThinkSystem NVIDIA T1000 8GB PCIe Active GPU	slot 2	1
4X67A79778	BMXE	ThinkSystem NVIDIA T400 4GB PCIe Active GPU	slot 2	1

The following rules applies:

- GPU adapters are only supported on servers with redundant power supply.
- A GPU is supported in slot 2, supplied by either the x8/x8 or x16 riser card. Note, however, performance will be degraded when the GPU is installed in a x8 slot.
- An ESXi preload cannot be selected if the configuration includes an NVIDIA GPU (ESXi preload cannot include the NVIDIA driver)

For information about GPUs, see the ThinkSystem GPU Summary:
https://lenovopress.com/lp0768-thinksystem-gpu-summary

Cooling

The SR250 V3 server has four non-hot-swap variable-speed system fans. The fans have a single rotor and are not redundant.

Note: The server performance might be impacted in case of a system fan failure.

Power supplies

The SR250 V3 server supports one fixed power supply or up to two redundant hot-swap power supplies. With two power supplies, the server is capable of N+N redundancy depending on the configuration. A second power supply can be added to the models that come with one hot-swap power supply.

Table 37. Power supplies

Part number	Feature code	Description	Maximum quantity	80 PLUS certification	ErP Lot 9 compliant	110V AC	220V AC
CTO only	B40Q	ThinkSystem SR250/SR150 Fixed 300W PSU	1	Gold	No	Yes	Yes
4P57A87056	BWM3	ThinkSystem 800W 230V/115V Titanium CRPS Hot-Swap Power Supply v1.4*	2	Titanium	Yes	Yes	Yes
4P57A87054	BWM5	ThinkSystem 800W 230V/115V Platinum CRPS Hot-Swap Power Supply v1.1	2	Platinum	No	Yes	Yes

*Titanium is Energy Star certified
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.

The following table lists the maximum configuration for the supported power supplies.

Table 38. Maximum configuration for the supported PSUs

PSU	300W fixed	800W	300W fixed	300W fixed
1x Processor	80W	95W	70W	60W
Memory (<=32G DIMMS)	4 DIMMs	4 DIMMs	4 DIMMs	4 DIMMs
Slot 1	<= 25W	<= 25W	<= 25W	<= 25W
Slot 2	<= 25W	<= 75W (slot 1+2 <=75W)	<= 25W	<= 25W
CFF RAID (2.5" config only)	Supported for 2.5" config	Supported for 2.5" config	Supported	Supported
GPUs up to 75W (slot 2)	No support	One	No support	No support
Front Drives	• 8x 2.5" HDD or • 4x 3.5" HDD	• 8x 2.5" HDD or • 10x 2.5" HDD or • 4x 3.5" HDD	• 8x 2.5" HDD	• 8x 2.5" HDD
M.2	Supported	Supported	No support	No support

To ensures that the properly sized power supply is chosen for optimal performance, it is highly recommended to validate system configuration for specific power requirements by using the latest version of the Lenovo Capacity Planner:
https://datacentersupport.lenovo.com/us/en/products/solutions-and-software/software/lenovo-capacity-planner/solutions/ht504651

Power cords

Line cords and rack power cables with C13 connectors can be ordered as listed in the following table.

110V customers: If you plan to use the 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.

Table 39. Power cords

Part number	Feature code	Description
Rack cables - C13 to C14		
SL67B08593	BPHZ	0.5m, 10A/100-250V, C13 to C14 Jumper Cord
00Y3043	A4VP	1.0m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08367	B0N5	1.0m, 13A/100-250V, C13 to C14 Jumper Cord
39Y7937	6201	1.5m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08368	B0N6	1.5m, 13A/100-250V, C13 to C14 Jumper Cord
4L67A08365	B0N4	2.0m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable
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 IEC 320-C14 Rack Power Cable
4L67A08371	6583	4.3m, 13A/100-250V, C13 to C14 Rack Power Cable
Rack cables - C13 to C14 (Y-cable)		
00Y3046	A4VQ	1.345m, 2X C13 to C14 Jumper Cord, Rack Power Cable

Part number	Feature code	Description
00Y3047	A4VR	2.054m, 2X C13 to C14 Jumper Cord, Rack Power Cable
Rack cables - C13 to C20		
39Y7938	6204	2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable
Rack cables - C13 to C20 (Y-cable)		
47C2491	A3SW	1.2m, 16A/100-250V, 2 Short C13s to Short C20 Rack Power Cable
47C2492	A3SX	2.5m, 16A/100-250V, 2 Long C13s to Short C20 Rack Power Cable
47C2493	A3SY	2.8m, 16A/100-250V, 2 Short C13s to Long C20 Rack Power Cable
47C2494	A3SZ	4.1m, 16A/100-250V, 2 Long C13s to Long C20 Rack Power Cable
Line cords		
39Y7930	6222	2.8m, 10A/250V, C13 to IRAM 2073 (Argentina) Line Cord
81Y2384	6492	4.3m 10A/220V, C13 to IRAM 2073 (Argentina) Line Cord
39Y7924	6211	2.8m, 10A/250V, C13 to AS/NZ 3112 (Australia/NZ) Line Cord
81Y2383	6574	4.3m, 10A/230V, C13 to AS/NZS 3112 (Aus/NZ) Line Cord
69Y1988	6532	2.8m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
81Y2387	6404	4.3m, 10A/250V, C13 - 2P+Gnd (Brazil) Line Cord
39Y7928	6210	2.8m, 220-240V, C13 to GB 2099.1 (China) Line Cord
81Y2378	6580	4.3m, 10A/220V, 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/230V, C13 to DK2-5a (Denmark) Line Cord
39Y7917	6212	2.8m, 10A/230V, C13 to CEE7-VII (Europe) Line Cord
81Y2376	6572	4.3m, 10A/230V, C13 to CEE7-VII (Europe) Line Cord
39Y7927	6269	2.8m, 10A/250V, C13(2P+Gnd) (India) Line Cord
81Y2386	6567	4.3m, 10A/240V, 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/230V, C13 to SI 32 (Israel) Line Cord
39Y7921	6217	2.8m, 220-240V, C13 to CEI 23-16 (Italy/Chile) Line Cord
81Y2380	6493	4.3m, 10A/230V, C13 to CEI 23-16 (Italy/Chile) Line Cord
46M2593	A1RE	2.8m, 12A/125V, C13 to JIS C-8303 (Japan) Line Cord
4L67A08362	6495	4.3m, 12A/200V, C13 to JIS C-8303 (Japan) Line Cord
39Y7926	6335	4.3m, 12A/100V, C13 to JIS C-8303 (Japan) Line Cord
39Y7922	6214	2.8m, 10A/250V, C13 to SABS 164 (S Africa) Line Cord
81Y2379	6576	4.3m, 10A/230V, C13 to SABS 164 (South Africa) Line Cord
39Y7925	6219	2.8m, 220-240V, C13 to KETI (S Korea) Line Cord
81Y2385	6494	4.3m, 12A/220V, 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/230V, C13 to SEV 1011-S24507 (Sws) Line Cord
23R7158	6386	2.8m, 10A/125V, C13 to CNS 10917-3 (Taiwan) Line Cord
81Y2375	6317	2.8m, 10A/240V, C13 to CNS 10917-3 (Taiwan) Line Cord
81Y2374	6402	2.8m, 13A/125V, C13 to CNS 60799 (Taiwan) Line Cord
4L67A08363	AX8B	4.3m, 10A 125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2389	6531	4.3m, 10A/250V, C13 to 76 CNS 10917-3 (Taiwan) Line Cord
81Y2388	6530	4.3m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord

Part number	Feature code	Description
39Y7923	6215	2.8m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
81Y2377	6577	4.3m, 10A/230V, C13 to BS 1363/A (UK) Line Cord
90Y3016	6313	2.8m, 10A/120V, C13 to NEMA 5-15P (US) Line Cord
46M2592	A1RF	2.8m, 10A/250V, C13 to NEMA 6-15P Line Cord
00WH545	6401	2.8m, 13A/120V, 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/120V, C13 to NEMA 5-15P (US) Line Cord

Systems management

The SR250 V3 contains an integrated service processor, XClarity Controller (XCC2), which provides advanced service-processor control, monitoring, and alerting functions. ThinkSystem XClarity Controller 2 (XCC2) is based on AST2600; Pluggable hardware root of trust (RoT) module with TPM 2.0 (BPKR) default for WW except China.

- Front operator panel
- System status with XClarity Mobile
- Remote management
- XCC2 Platinum
- Lenovo XClarity Provisioning Manager
- Lenovo XClarity Administrator
- Lenovo XClarity Integrators
- Lenovo XClarity Essentials
- Lenovo XClarity Energy Manager

Front operator panel

The SR250 V3 offers a front operator panel showing key LED status indicators, as shown in the following figure.

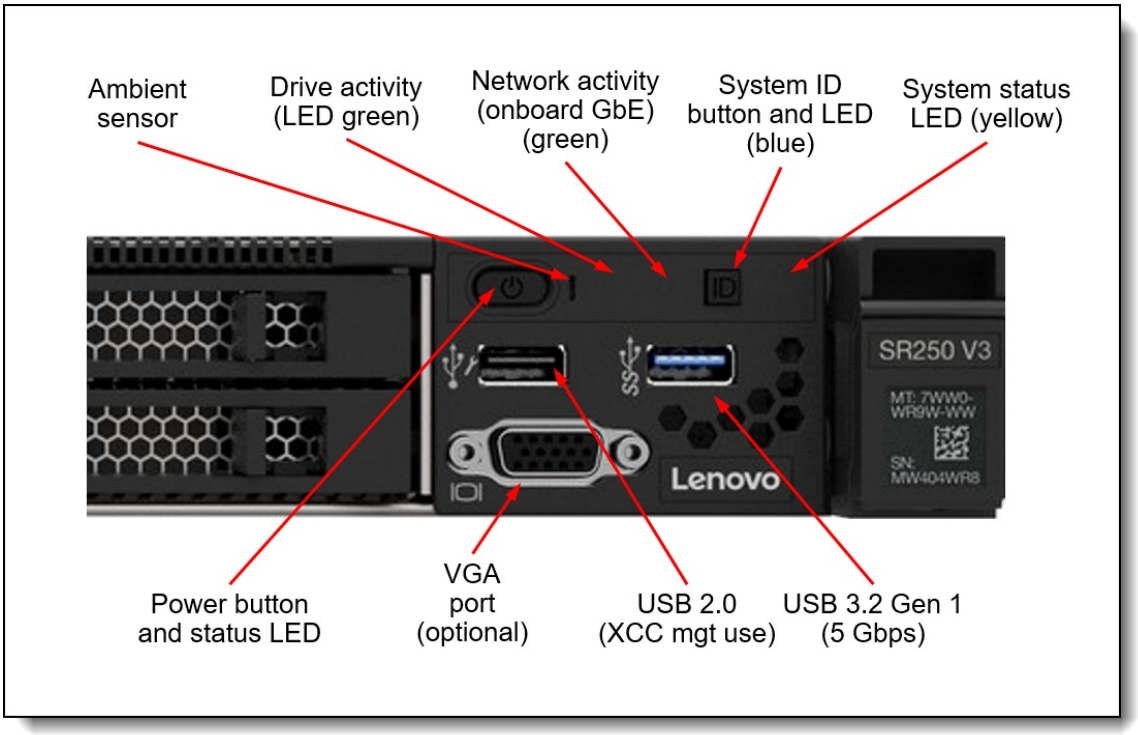

Figure 11. Front operator panel

System status with XClarity Mobile

The XClarity Mobile app 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

The server offers a dedicated RJ45 port at the rear of the server for remote management via the XCC2 management processor. The port supports 10/100/1000 Mbps speeds.

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

IPMI via the Ethernet port (IPMI over LAN) is supported, however it is disabled by default. For CTO orders you can specify whether you want to the feature enabled or disabled in the factory, using the feature codes listed in the following table.

Table 40. IPMI-over-LAN settings

Part number	Feature code	Description
CTO only	B7XZ	Disable IPMI-over-LAN (default)
CTO only	B7Y0	Enable IPMI-over-LAN

XCC2 Platinum

The XCC2 service processor in the SR250 V3 supports an upgrade to the Platinum level of features. Compared to the XCC functions of ThinkSystem V2 and earlier systems, Platinum adds the same features as Enterprise and Advanced levels in ThinkSystem V2, plus additional features.

XCC2 Platinum adds the following Enterprise and Advanced 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
- International keyboard mapping support
- Syslog alerting
- Redirecting serial console via SSH
- Component replacement log (Maintenance History log)
- Access restriction (IP address blocking)
- Lenovo SED security key management
- Displaying graphics for real-time and historical power usage data and temperature
- Boot video capture and crash video capture
- Virtual console collaboration - Ability for up to 6 remote users to be log into the remote session simultaneously
- Remote console Java client
- Mapping the ISO and image files located on the local client as virtual drives for use by the server
- Mounting the remote ISO and image files via HTTPS, SFTP, CIFS, and NFS
- Power capping
- System utilization data and graphic view
- Single sign on with Lenovo XClarity Administrator
- Update firmware from a repository
- License for XClarity Energy Manager

XCC2 Platinum also adds the following features that are new to XCC2:

- System Guard - Monitor hardware inventory for unexpected component changes, and simply log the event or prevent booting
- Enterprise Strict Security mode - Enforces CNSA 1.0 level security
- Neighbor Group - Enables administrators to manage and synchronize configurations and firmware level across multiple servers

Ordering information is listed in the following table. XCC2 Platinum is a software license upgrade - no additional hardware is required.

Table 41. XCC2 Platinum license upgrade

Part number	Feature code	Description
7S0X000KWW	SBCV	Lenovo XClarity Controller 2 (XCC2) Platinum Upgrade

With XCC2 Platinum, for CTO orders, you can request that System Guard be enabled in the factory and the first configuration snapshot be recorded. To add this to an order, select feature code listed in the following table. The selection is made in the Security tab of the DCSC configurator.

Table 42. Enable System Guard in the factory (CTO orders)

Feature code	Description
BUT2	Install System Guard

For more information about System Guard, see https://pubs.lenovo.com/xcc2/NN1ia_c_systemguard

Lenovo XClarity Provisioning Manager

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

LXPM 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. It 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 is an optional software component for the SR250 V3. The software can be downloaded and used at no charge to discover and monitor the SR250 V3 and to manage firmware upgrades.

If software support is required for Lenovo XClarity Administrator, or premium features such as configuration management and operating system deployment are required, Lenovo XClarity Pro software subscription should be ordered. Lenovo XClarity Pro is licensed on a per managed system basis, that is, each managed Lenovo system requires a license.

The following table lists the Lenovo XClarity software license options.

Table 43. Lenovo XClarity Pro ordering information

Part number	Feature code	Description
00MT201	1339	Lenovo XClarity Pro, per Managed Endpoint w/1 Yr SW S&S
00MT202	1340	Lenovo XClarity Pro, per Managed Endpoint w/3 Yr SW S&S
00MT203	1341	Lenovo XClarity Pro, per Managed Endpoint w/5 Yr SW S&S
7S0X000HWW	SAYV	Lenovo XClarity Pro, per Managed Endpoint w/6 Yr SW S&S
7S0X000JWW	SAYW	Lenovo XClarity Pro, per Managed Endpoint w/7 Yr SW S&S

Lenovo XClarity Administrator offers the following standard features that are available at no charge:

- Auto-discovery and monitoring of Lenovo systems
- Firmware updates and compliance enforcement
- External alerts and notifications via SNMP traps, syslog remote logging, and e-mail
- Secure connections to managed endpoints
- NIST 800-131A or FIPS 140-2 compliant cryptographic standards between the management solution and managed endpoints
- Integration into existing higher-level management systems such as cloud automation and orchestration tools through REST APIs, providing extensive external visibility and control over hardware resources
- An intuitive, easy-to-use GUI
- Scripting with Windows PowerShell, providing command-line visibility and control over hardware resources

Lenovo XClarity Administrator offers the following premium features that require an optional Pro license:

- Pattern-based configuration management that allows to define configurations once and apply repeatedly without errors when deploying new servers or redeploying existing servers without disrupting the fabric
- Bare-metal deployment of operating systems and hypervisors to streamline infrastructure provisioning

For more information, refer to the Lenovo XClarity Administrator Product Guide:
http://lenovopress.com/tips1200

Lenovo XClarity Integrators

Lenovo also offers software plug-in modules, Lenovo XClarity Integrators, to manage physical infrastructure from leading external virtualization management software tools including those from Microsoft and VMware.

These integrators are offered at no charge, however if software support is required, a Lenovo XClarity Pro software subscription license should be ordered.

Lenovo XClarity Integrators offer the following additional features:

- Ability to discover, manage, and monitor Lenovo server hardware from VMware vCenter or Microsoft System Center
- Deployment of firmware updates and configuration patterns to Lenovo x86 rack servers and Flex System from the virtualization management tool
- Non-disruptive server maintenance in clustered environments that reduces workload downtime by dynamically migrating workloads from affected hosts during rolling server updates or reboots
- Greater service level uptime and assurance in clustered environments during unplanned hardware events by dynamically triggering workload migration from impacted hosts when impending hardware failures are predicted

For more information about all the available Lenovo XClarity Integrators, 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 settings, 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 (LXEM) is a power and temperature management solution for data centers. It is an agent-free, web-based console that enables you to monitor and manage power consumption and temperature in your data center through the management console. It enables server density and data center capacity to be increased through the use of power capping.

LXEM is a licensed product. A single-node LXEM license is included with the XClarity Controller Platinum upgrade as described in the XCC2 Platinum section. If your server does not have the XCC Platinum upgrade, Energy Manager licenses can be ordered as shown in the following table.

Table 44. Lenovo XClarity Energy Manager

Part number	Description
4L40E51621	Lenovo XClarity Energy Manager Node License (1 license needed per server)

For more information about XClarity Energy Manager, see the following resources:

- Lenovo Support page:
  https://datacentersupport.lenovo.com/us/en/solutions/lnvo-lxem
- User Guide for XClarity Energy Manager:
  https://pubs.lenovo.com/lxem/

Security

Topics in this section:

Security features

The SR250 V3 offers the following security features:

- Electronic security measures:
  - Administrator and power-on passwords
  - Secure firmware updates
  - Trusted Platform Module (TPM) supporting TPM 2.0
  - For China customers, the Nationz TPM plug-in module
  - Self-encrypting drives with support for IBM Security Key Lifecycle Manager
- Mechanical security measures
  - Optional lockable front bezel

The following table lists the security options that are available for the SR250 V3 server.

Table 45. Security options

Part number	Feature code	Description
Lockable front bezel		
4Z57A14086	B4LS	ThinkSystem ST250/ST250 Series Intrusion Cable Kit
4XH7A09890	B8NL	ThinkSystem V2 1U Security Bezel
Trusted Platform Module (PRC only)		
CTO only	BPKS	PRC National Z TPM 2.0

Platform Firmware Resiliency - Lenovo ThinkShield

Lenovo's ThinkShield Security is a transparent and comprehensive approach to security that extends to all dimensions of our data center products: from development, to supply chain, and through the entire product lifecycle.

The ThinkSystem SR250 V3 includes Platform Firmware Resiliency (PFR) hardware Root of Trust (RoT) which enables the system to be NIST SP800-193 compliant. This offering further enhances key platform subsystem protections against unauthorized firmware updates and corruption, to restore firmware to an integral state, and to closely monitor firmware for possible compromise from cyber-attacks.

PFR operates upon the following server components:

- UEFI image – the low-level server firmware that connects the operating system to the server hardware
- XCC image – the management “engine” software that controls and reports on the server status separate from the server operating system
- FPGA image – the code that runs the server’s lowest level hardware controller on the motherboard

The Lenovo Platform Root of Trust Hardware performs the following three main functions:

- Detection – Measures the firmware and updates for authenticity
- Recovery – Recovers a corrupted image to a known-safe image
- Protection – Monitors the system to ensure the known-good firmware is not maliciously written

These enhanced protection capabilities are implemented using a dedicated, discrete security processor whose implementation has been rigorously validated by leading third-party security firms. Security evaluation results and design details are available for customer review – providing unprecedented transparency and assurance.

The SR250 V3 includes support for Secure Boot, a UEFI firmware security feature developed by the UEFI Consortium that ensures only immutable and signed software are loaded during the boot time. The use of Secure Boot helps prevent malicious code from being loaded and helps prevent attacks, such as the installation of rootkits. Lenovo offers the capability to enable secure boot in the factory, to ensure end-to-end protection. Alternatively, Secure Boot can be left disabled in the factory, allowing the customer to enable it themselves at a later point, if desired.

The following table lists the relevant feature code(s).

Table 46. Secure Boot options

Part number	Feature code	Description	Purpose
CTO only	BPKQ	TPM 2.0 with Secure Boot	Configure the system in the factory with Secure Boot enabled.
CTO only	BPKR	TPM 2.0	Configure the system without Secure Boot enabled. Customers can enable Secure Boot later if desired.

Tip: If Secure Boot is not enabled in the factory, it can be enabled later by the customer. However once Secure Boot is enabled, it cannot be disabled.

Intel Transparent Supply Chain

Add a layer of protection in your data center and have peace of mind that the server hardware you bring into it is safe authentic and with documented, testable, and provable origin.

Lenovo has one of the world's best supply chains, as ranked by Gartner Group, backed by extensive and mature supply chain security programs that exceed industry norms and US Government standards. Now we are the first Tier 1 manufacturer to offer Intel® Transparent Supply Chain in partnership with Intel, offering you an unprecedented degree of supply chain transparency and assurance.

To enable Intel Transparent Supply Chain for the Intel-based servers in your order, add the following feature code in the DCSC configurator, under the Security tab.

Table 47. Intel Transparent Supply Chain ordering information

Feature code	Description
BB0P	Intel Transparent Supply Chain

For more information on this offering, see the paper *Introduction to Intel Transparent Supply Chain on Lenovo ThinkSystem Servers*, available from https://lenovopress.com/lp1434-introduction-to-intel-transparent-supply-chain-on-thinksystem-servers.

Security standards

The SR250 V3 supports the following security standards and capabilities:

- **Industry Standard Security Capabilities**
  - Intel CPU Enablement
    - AES-NI (Advanced Encryption Standard New Instructions)
    - Secure Key
    - MKTME/TME (Multi-Key Total Memory Encryption)
    - OS Guard
    - TXT (Trusted eXecution Technology)
    - XD (eXecute Disable)
    - Boot Guard
    - MBEC (Mode-based Execute Control)
    - VT-x (Virtualization Technology-x)
    - VT-rp (Virtualization Technology with Redirect Protection)
    - VT-d (Virtualization Technology for Directed I/O)
    - VT-x with EPT (Extended Page Tables)
  - Microsoft Windows Security Enablement
    - Credential Guard
    - Device Guard
    - Host Guardian Service
  - TCG (Trusted Computing Group) TPM (Trusted Platform Module) 2.0
  - UEFI (Unified Extensible Firmware Interface) Forum Secure Boot
- **Hardware Root of Trust and Security**
  - Independent security subsystem providing platform-wide NIST SP800-193 compliant Platform Firmware Resilience (PFR)
  - Management domain RoT supplemented by the Secure Boot features of XCC
- **Platform Security**
  - Boot and run-time firmware integrity monitoring with rollback to known-good firmware (e.g., “self-healing”)
  - Non-volatile storage bus security monitoring and filtering
  - Resilient firmware implementation, such as to detect and defeat unauthorized flash writes or SMM (System Management Mode) memory incursions
  - Patented IPMI KCS channel privileged access authorization (USPTO Patent# 11,256,810)
  - Host and management domain authorization, including integration with CyberArk for enterprise password management
  - KMIP (Key Management Interoperability Protocol) compliant, including support for IBM SKLM and Thales KeySecure
  - Reduced “out of box” attack surface
  - Configurable network services

  For more information on platform security, see the paper “How to Harden the Security of your ThinkSystem Server and Management Applications” available from https://lenovopress.com/lp1260-how-to-harden-the-security-of-your-thinksystem-server.
- **Standards Compliance and/or Support**
  - NIST SP800-131A rev 2 “Transitioning the Use of Cryptographic Algorithms and Key Lengths”
  - NIST SP800-147B “BIOS Protection Guidelines for Servers”
  - NIST SP800-193 “Platform Firmware Resiliency Guidelines”
  - ISO/IEC 11889 “Trusted Platform Module Library”
  - Common Criteria TCG Protection Profile for “PC Client Specific TPM 2.0”

- European Union Commission Regulation 2019/424 (“ErP Lot 9”) “Ecodesign Requirements for Servers and Data Storage Products” Secure Data Deletion
- Optional FIPS 140-2 validated Self-Encrypting Disks (SEDs) with external KMIP-based key management

- **Product and Supply Chain Security**
  - Suppliers validated through Lenovo’s Trusted Supplier Program
  - Developed in accordance with Lenovo’s Secure Development Lifecycle (LSDL)
  - Continuous firmware security validation through automated testing, including static code analysis, dynamic network and web vulnerability testing, software composition analysis, and subsystem-specific testing, such as UEFI security configuration validation
  - Ongoing security reviews by US-based security experts, with attestation letters available from our third-party security partners
  - Digitally signed firmware, stored and built on US-based infrastructure and signed on US-based Hardware Security Modules (HSMs)
  - Manufacturing transparency via Intel Transparent Supply Chain (for details, see https://lenovopress.com/lp1434-introduction-to-intel-transparent-supply-chain-on-lenovo-thinksystem-servers)
  - TAA (Trade Agreements Act) compliant manufacturing, by default in Mexico for North American markets with additional US and EU manufacturing options
  - US 2019 NDAA (National Defense Authorization Act) Section 889 compliant

Rack installation

The following table lists the rack installation options that are available for the SR250 V3 server.

The VGA Connector Kit allows you to upgrade your server by adding a VGA video port to the front of the server (if the server does not already come with a front VGA port). When the front VGA is in use, the rear VGA port is automatically disabled.

Table 48. Rack installation options

Part number	Feature code	Description
Front VGA port		
4Z57A80508	BMQ0	ThinkSystem SR250 Series/SR150 Front VGA Connector Kit
4-post rail kits		
4M17A13564	BK7W	ThinkSystem Toolless Friction Rail v2
4M17A37605	B7L3	ThinkSystem Short Rack Rail Kit
2-post rail kits		
4M17A37105	B6H2	ThinkSystem Friction 2-Post Screw-in Rail Kit

The following table summarizes the rail kit features and specifications.

Table 49. Rail kit features and specifications summary

Feature	4-Post Tool-less Rail Kit	4-Post Short Rail Kit	2-Post Screw-in Rail Kit
Part number	4M17A13564	4M17A37605	4M17A37105
CMA	None	None	None
Rail length	751.2 mm (29.6 in.)	484.0 mm (19.1 in.)	486.2 mm (19.2 in.)
Rail type	Half-out slide (friction)	Half-out slide (friction)	Half-out slide (friction)
Tool-less installation	Yes	Yes	No
In-rack server maintenance	No	No	No
1U PDU support	Yes	Yes	Yes
0U PDU support	Limited*	Yes	Not applicable
Rack type	IBM or Lenovo 4-post, EIA standard-compliant	4-post, EIA standard-compliant	2-post, EIA standard-compliant
Mounting holes	Square or round	Square or round	Square, round, or threaded
Mounting flange thickness	2 mm (0.08 in.) – 3.3 mm (0.13 in.)	2 mm (0.08 in.) – 3.3 mm (0.13 in.)	2 mm (0.08 in.) – 3.3 mm (0.13 in.)
Distance between front and rear mounting flanges^	609.6 mm (24 in.) – 863.6 mm (34 in.)	355.6 mm (14 in.) – 609.6 mm (24 in.)	Not applicable

* If a 0U PDU used, the rack cabinet must be at least 1000 mm (39.37 in.) deep.
^ Measured when mounted on the rack cabinet, from the front surface of the front mounting flange to the rear most point of the rail.

Operating systems

The server supports the following operating systems:

- Microsoft Windows Server 2022
- Red Hat Enterprise Linux 8.8
- Red Hat Enterprise Linux 8.9
- Red Hat Enterprise Linux 8.10
- Red Hat Enterprise Linux 9.2
- Red Hat Enterprise Linux 9.3
- Red Hat Enterprise Linux 9.4
- SUSE Linux Enterprise Server 15 SP5
- SUSE Linux Enterprise Server 15 SP6
- SUSE Linux Enterprise Server 15 Xen SP5
- Ubuntu 22.04 LTS 64-bit
- Ubuntu 24.04 LTS 64-bit
- VMware ESXi 8.0 U2
- VMware ESXi 8.0 U3

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

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 (CTO) configurations, the server can be preloaded with VMware ESXi installed on an M.2 drive. Ordering information is listed in the following table.

Table 50. VMware ESXi preload

Part number	Feature code	Description
CTO only	BYC7	VMware ESXi 8.0 U2 (Factory Installed)

Physical specifications

The SR250 V3 has the following overall physical dimensions, excluding components that extend outside the standard chassis, such as EIA flanges, front security bezel (if any), and power supply handles:

- Width: 435 mm (17.1 inches)
- Height: 43 mm (1.7 inches)
- Depth: 561 mm (22.1 inches)

The following table lists the detailed dimensions. See the figure below for the definition of each dimension.

Table 51. Detailed dimensions

Dimension	Description
482 mm	X_a = Width, to the outsides of the front EIA flanges
435 mm	X_b = Width, to the rack rail mating surfaces
435 mm	X_c = Width, to the outer most chassis body feature
43 mm	Y_a = Height, from the bottom of chassis to the top of the chassis
501 mm	Z_a = Depth, from the rack flange mating surface to the rearmost I/O port surface
509 mm	Z_b = Depth, from the rack flange mating surface to the rearmost feature of the chassis body
523 mm	Z_c = Depth, from the rack flange mating surface to the rearmost feature such as power supply handle
36 mm	Z_d = Depth, from the forwardmost feature on front of EIA flange to the rack flange mating surface
47 mm	Z_e = Depth, from the front of security bezel (if applicable) or forwardmost feature to the rack flange mating surface

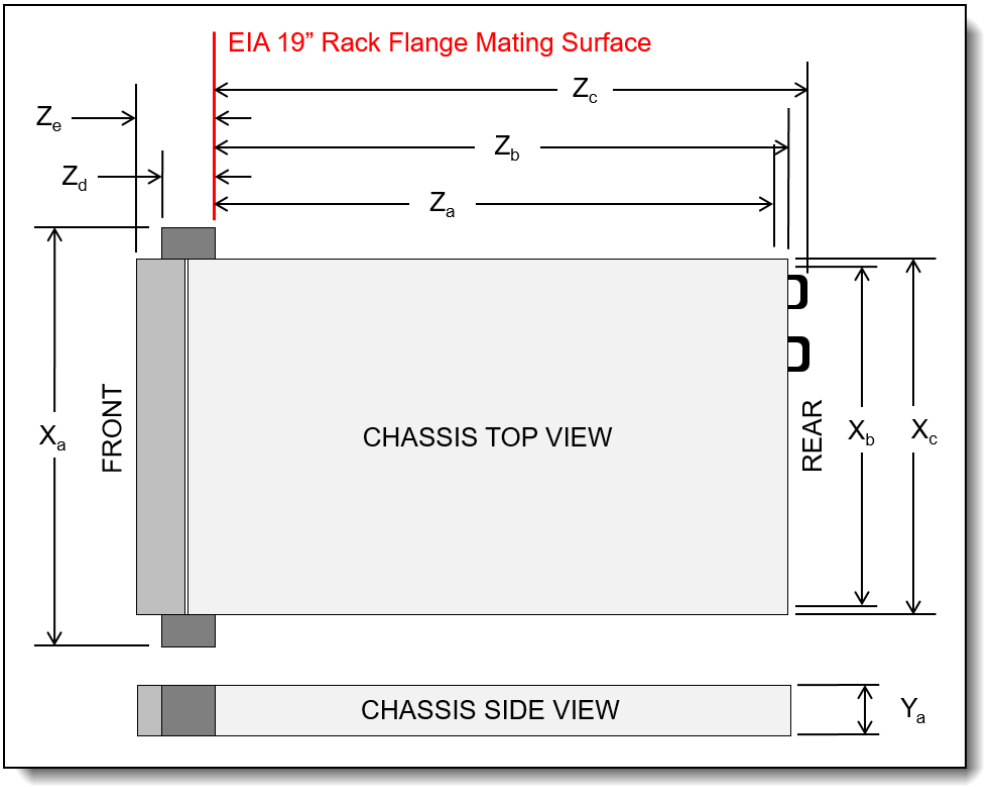

Figure 12. Server dimensions

The shipping (cardboard packaging) dimensions of the SR250 V3 are as follows:

- Width: 601 mm (23.7 inches)
- Height: 194 mm (7.6 inches)
- Depth: 863 mm (34.0 inches)

The SR250 V3 server has the following weight:

- Maximum configuration: 12.3 kg (3.5" config) or 11.44 kg (2.5” config)

Electrical requirements are as follows:

- Models with a 300 W AC fixed power supply (1U-300W):
  - 100-127 (nominal) V ac; 50 Hz or 60 Hz, 4 A
  - 200-240 (nominal) V ac; 50 Hz or 60 Hz, 2 A
- Models with a 800 W AC redundant power supply (Platinum, Titanium):
  - 100-127 (nominal) V ac; 50 Hz or 60 Hz, 10 A
  - 200-240 (nominal) V ac; 50 Hz or 60 Hz, 5 A

Operating environment

ThinkSystem SR250 V3 complies with ASHRAE class A2 specifications. System performance may be impacted when operating temperature is outside ASHRAE A2 specification or fan failed condition.

- Air temperature:
  - Operating
    - ASHRAE Class A2: 10°C to 35°C (50°F to 95°F); decrease the maximum ambient temperature by 1°C for every 300 m (984 ft) increase in altitude above 900 m (2,953 ft).
    - ASHRAE Class A3: 5°C to 40°C (41°F to 104°F); decrease the maximum ambient temperature by 1°C for every 175 m (574 ft) increase in altitude above 900 m (2,953 ft).
    - ASHRAE Class A4: 5°C to 45°C (41°F to 113°F); decrease the maximum ambient temperature by 1°C for every 125 m (410 ft) increase in altitude above 900 m (2,953 ft).
  - Server off: 5°C to 45°C (41°F to 113°F)
  - Shipment/storage: -40°C to 60°C (-40°F to 140°F)
- Maximum altitude: 3,050 m (10,000 ft)
- Relative Humidity (non-condensing):
  - Operating
    - ASHRAE Class A2: 8% to 80%; maximum dew point: 21°C (70°F)
    - ASHRAE Class A3: 8% to 85%; maximum dew point: 24°C (75°F)
    - ASHRAE Class A4: 8% to 90%; maximum dew point: 24°C (75°F)
  - Shipment/storage: 8% to 90%

Ambient temperature management

Adjust ambient temperature when a specific configuration is applied:

- Keep ambient temperature to 45°C or lower when a 60W (or lower) TDP CPU and an 80W heat sink are installed.
- Keep ambient temperature to 40°C or lower when a 70W (or lower) TDP CPU and an 80W heat sink are installed.
- Keep ambient temperature to 35°C or lower when one of the following is installed:
  - 95W (or lower) TDP CPU and a 95W heat sink.
  - 80W (or lower) TDP CPU and an 80W heat sink.
  - GPUs, M.2 drives, U.2 drives, U.3 drives, and 25GbE Ethernet adapters.

Thermal/Heat output

The server generates the following approximate heat output:

- Minimum configuration: 527 BTU per hour (154 watts)
- Maximum configuration: 1196 BTU per hour (350 watts)

Acoustical noise emissions

The server has the following acoustic noise emissions declaration:

- Sound power level (L_{WAd}):
  - Idling: 4.9 Bel (Typical), 6.2 Bel (Max.)

    - Operating 1: 6.3 Bel (Typical), 6.4 Bel (Max.)
    - Operating 2: 7.4 Bel (Typical), 7.4 Bel (Max.)
- Sound pressure level (L_{pAm}):
    - Idling: 35.7 dBA (Typical), 46.3 dBA (Max.)
    - Operating 1: 47.9 dBA (Typical), 50.0 dBA (Max.)
    - Operating 2: 60.8 dBA (Typical), 60.4 dBA (Max.)

Notes**:**

- These sound levels were measured in controlled acoustical environments according to procedures specified by ISO7779 and are reported in accordance with ISO 9296.
- Idle mode is the steady state in which the server is powered on but not operating any intended function. Operating mode 1 is 70% CPU TDP. Operating mode 2 is 100% CPU TDP.
- The declared acoustic sound levels are based on the following configurations, which may change depending on configuration/conditions, for example with M.2 drive.
    - Typical: Typical: 1x 80W CPU, 1x 16GB DIMM, 2x HDD, 1x 800W GW PSU
    - Max: 1x 95W CPU, 2x 32GB DIMM, 2x HDD , 1x 9350-8i RAID,1x 10G NIC, 2x 800W GW PSU
- Government regulations (such as those prescribed by OSHA or European Community Directives) may govern noise level exposure in the workplace and may apply to you and your server installation. The actual sound pressure levels in your installation depend upon a variety of factors, including the number of racks in the installation; the size, materials, and configuration of the room; the noise levels from other equipment; the room ambient temperature, and employee's location in relation to the equipment. Further, compliance with such government regulations depends on a variety of additional factors, including the duration of employees' exposure and whether employees wear hearing protection. Lenovo recommends that you consult with qualified experts in this field to determine whether you are in compliance with the applicable regulations.

Particulate contamination

Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might damage the system that might cause the system to malfunction or stop working altogether.

The following specifications indicate the limits of particulates that the system can tolerate:

- Reactive gases:
    - The copper reactivity level shall be less than 200 Angstroms per month (Å/month)
    - The silver reactivity level shall be less than 200 Å/month
- Airborne particulates:
    - The room air should be continuously filtered with MERV 8 filters.
    - Air entering a data center should be filtered with MERV 11 or preferably MERV 13 filters.
    - The deliquescent relative humidity of the particulate contamination should be more than 60% RH
    - Environment must be free of zinc whiskers

For additional information, see the Specifications section of the documentation for the server, available from the Lenovo Documents site, https://pubs.lenovo.com/

Warranty and support

The SR250 V3 has a 1-year or 3-year warranty, based on the machine type of the system:

- 7DCM - 1 year warranty
- 7DCL - 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.

Lenovo's additional support services provide a sophisticated, unified support structure for your data center, with an experience consistently ranked number one in customer satisfaction worldwide. Available offerings include:

- **Premier Support**

  Premier Support provides a Lenovo-owned customer experience and delivers direct access to technicians skilled in hardware, software, and advanced troubleshooting, in addition to the following:

  - Direct technician-to-technician access through a dedicated phone line
  - 24x7x365 remote support
  - Single point of contact service
  - End to end case management
  - Third-party collaborative software support
  - Online case tools and live chat support
  - On-demand remote system analysis

- **Warranty Upgrade (Preconfigured Support)**

  Services are available to meet the on-site response time targets that match the criticality of your systems.

  - 3, 4, or 5 years of service coverage
  - 1-year or 2-year post-warranty extensions
  - **Foundation Service**: 9x5 service coverage with next business day onsite response. YourDrive YourData is an optional extra (see below).
  - **Essential Service:** 24x7 service coverage with 4-hour onsite response or 24-hour committed repair (available only in select markets). Bundled with YourDrive YourData.
  - **Advanced Service:** 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select markets). Bundled with YourDrive YourData.

- **Managed Services**

  Lenovo Managed Services provides continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of your data center using state-of-the-art tools, systems, and practices by a team of highly skilled and experienced Lenovo services professionals.

  Quarterly reviews check error logs, verify firmware & OS device driver levels, and software as needed. We'll also maintain records of latest patches, critical updates, and firmware levels, to ensure you systems are providing business value through optimized performance.

- **Technical Account Management (TAM)**

  A Lenovo Technical Account Manager helps you optimize the operation of your data center based on a deep understanding of your business. You gain direct access to your Lenovo TAM, who serves as your single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time. In addition, your TAM will help proactively make service recommendations and manage your service relationship with Lenovo to make certain your needs are met.

- **Enterprise Server Software Support**

  Enterprise Software Support is an additional support service providing customers with software support on Microsoft, Red Hat, SUSE, and VMware applications and systems. Around the clock availability for critical problems plus unlimited calls and incidents helps customers address challenges fast, without incremental costs. Support staff can answer troubleshooting and diagnostic questions, address product comparability and interoperability issues, isolate causes of problems, report defects to software vendors, and more.

- **YourDrive YourData**

  Lenovo's YourDrive YourData 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 and is optional with Foundation Service. It is bundled with Essential Service and Advanced Service.

- **Health Check**

  Having a trusted partner who can perform regular and detailed health checks is central to maintaining efficiency and ensuring that your systems and business are always running at their best. Health Check supports Lenovo-branded server, storage, and networking devices, as well as select Lenovo-supported products from other vendors that are sold by Lenovo or a Lenovo-Authorized Reseller.

Examples of region-specific warranty terms are second or longer business day parts delivery or parts-only base warranty.

If warranty terms and conditions include onsite labor for repair or replacement of parts, Lenovo will dispatch a service technician to the customer site to perform the replacement. Onsite labor under base warranty is limited to labor for replacement of parts that have been determined to be field-replaceable units (FRUs). Parts that are determined to be customer-replaceable units (CRUs) do not include onsite labor under base warranty.

If warranty terms include parts-only base warranty, Lenovo is responsible for delivering only replacement parts that are under base warranty (including FRUs) that will be sent to a requested location for self-service. Parts-only service does not include a service technician being dispatched onsite. Parts must be changed at customer's own cost and labor and defective parts must be returned following the instructions supplied with the spare parts.

Lenovo Service offerings are region-specific. Not all preconfigured support and upgrade options are available in every region. For information about Lenovo service upgrade offerings that are available in your region, refer to the following resources:

- Service part numbers in Lenovo Data Center Solution Configurator (DCSC):
  http://dcsc.lenovo.com/#/services
- Lenovo Services Availability Locator
  http://lenovolocator.com/

For service definitions, region-specific details, and service limitations, please refer to the following documents:

- Lenovo Statement of Limited Warranty for Infrastructure Solutions Group (ISG) Servers and System Storage
  http://pcsupport.lenovo.com/us/en/solutions/ht503310
- Lenovo Data Center Services Agreement
  http://support.lenovo.com/us/en/solutions/ht116628

Services

Lenovo Services is a dedicated partner to your success. Our goal is to reduce your capital outlays, mitigate your IT risks, and accelerate your time to productivity.

Note: Some service options may not be available in all markets or regions. For more information, go to https://www.lenovo.com/services. For information about Lenovo service upgrade offerings that are available in your region, contact your local Lenovo sales representative or business partner.

Here's a more in-depth look at what we can do for you:

- **Asset Recovery Services**

  Asset Recovery Services (ARS) helps customers recover the maximum value from their end-of-life equipment in a cost-effective and secure way. On top of simplifying the transition from old to new equipment, ARS mitigates environmental and data security risks associated with data center equipment disposal. Lenovo ARS is a cash-back solution for equipment based on its remaining market value, yielding maximum value from aging assets and lowering total cost of ownership for your customers. For more information, see the ARS page, https://lenovopress.com/lp1266-reduce-e-waste-and-grow-your-bottom-line-with-lenovo-ars.

- **Assessment Services**

  An Assessment helps solve your IT challenges through an onsite, multi-day session with a Lenovo technology expert. We perform a tools-based assessment which provides a comprehensive and thorough review of a company's environment and technology systems. In addition to the technology based functional requirements, the consultant also discusses and records the non-functional business requirements, challenges, and constraints. Assessments help organizations like yours, no matter how large or small, get a better return on your IT investment and overcome challenges in the ever-changing technology landscape.

- **Design Services**

  Professional Services consultants perform infrastructure design and implementation planning to support your strategy. The high-level architectures provided by the assessment service are turned into low level designs and wiring diagrams, which are reviewed and approved prior to implementation. The implementation plan will demonstrate an outcome-based proposal to provide business capabilities through infrastructure with a risk-mitigated project plan.

- **Basic Hardware Installation**

  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.

- **Deployment Services**

  When investing in new IT infrastructures, you need to ensure your business will see quick time to value with little to no disruption. Lenovo deployments are designed by development and engineering teams who know our Products & Solutions better than anyone else, and our technicians own the process from delivery to completion. Lenovo will conduct remote preparation and planning, configure & integrate systems, validate systems, verify and update appliance firmware, train on administrative tasks, and provide post-deployment documentation. Customer's IT teams leverage our skills to enable IT staff to transform with higher level roles and tasks.

- **Integration, Migration, and Expansion Services**

  Move existing physical & virtual workloads easily, or determine technical requirements to support increased workloads while maximizing performance. Includes tuning, validation, and documenting ongoing run processes. Leverage migration assessment planning documents to perform necessary migrations.

Regulatory compliance

The SR250 V3 conforms to the following standards:

- ANSI/UL 62368-1
- IEC 62368-1 (CB Certificate and CB Test Report)
- CSA C22.2 No. 62368-1
- Argentina IEC 60950-1
- Mexico NOM-019
- India BIS 13252 (Part 1)
- Germany GS
- TUV-GS (EN62368-1, and EK1-ITB2000)
- Brazil INMETRO
- South Africa NRCS LOA
- Ukraine UkrCEPRO
- Morocco CMIM Certification (CM)
- Russia, Belorussia and Kazakhstan, TP EAC 037/2016 (for RoHS)
- Russia, Belorussia and Kazakhstan, EAC: TP TC 004/2011 (for Safety); TP TC 020/2011 (for EMC)
- CE, UKCA Mark (EN55032 Class A, EN62368-1, EN55035, EN61000-3-11, EN61000-3-12, (EU) 2019/424, and EN IEC 63000 (RoHS))
- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 7, Class A
- CISPR 32, Class A, CISPR 35
- Korea KN32, Class A, KN35
- Japan VCCI, Class A
- Taiwan BSMI CNS15936, Class A; CNS15598-1; Section 5 of CNS15663
- Australia/New Zealand AS/NZS CISPR 32, Class A; AS/NZS 62368.1
- UL Green Guard, UL2819
- Energy Star 4.0
- EPEAT (NSF/ ANSI 426) Bronze
- Japanese Energy-Saving Act
- EU2019/424 Energy Related Product (ErP Lot9)
- China CCC certificate, GB17625.1; GB4943.1; GB/T9254
- China CECP certificate, CQC3135
- China CELP certificate, HJ 2507-2011

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.

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

Table 52. External drive enclosures

Model	Description
4587HC1	Lenovo Storage D1212 Disk Expansion Enclosure (2U enclosure with 12x LFF drive bays)
4587HC2	Lenovo Storage D1224 Disk Expansion Enclosure (2U enclosure with 24x SFF drive bays)
6413HC1	Lenovo Storage D3284 High Density Expansion Enclosure (5U enclosure with 84x LFF drive bays)
7DAHCTO1WW	Lenovo ThinkSystem D4390 Direct Attached Storage (4U enclosure with 90x LFF drive bays)

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

- Lenovo Storage D1212 and D1224
  http://lenovopress.lenovo.com/lp0512
- Lenovo Storage D3284
  http://lenovopress.lenovo.com/lp0513
- Lenovo ThinkSystem D4390
  https://lenovopress.lenovo.com/lp1681

External storage systems

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

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

Rack cabinets

The following table lists the supported rack cabinets.

Table 53. Rack cabinets

Model	Description
93072RX	25U Standard Rack (1000mm)
93072PX	25U Static S2 Standard Rack (1000mm)
7D6DA007WW	ThinkSystem 42U Onyx Primary Heavy Duty Rack Cabinet (1200mm)
7D6DA008WW	ThinkSystem 42U Pearl Primary Heavy Duty Rack Cabinet (1200mm)
7D6EA009WW	ThinkSystem 48U Onyx Primary Heavy Duty Rack Cabinet (1200mm)
7D6EA00AWW	ThinkSystem 48U Pearl Primary Heavy Duty Rack Cabinet (1200mm)
1410O42	Lenovo EveryScale 42U Onyx Heavy Duty Rack Cabinet
1410P42	Lenovo EveryScale 42U Pearl Heavy Duty Rack Cabinet
1410O48	Lenovo EveryScale 48U Onyx Heavy Duty Rack Cabinet
1410P48	Lenovo EveryScale 48U Pearl Heavy Duty Rack Cabinet
93604PX	42U 1200mm Deep Dynamic Rack
93634PX	42U 1100mm Dynamic Rack
93634EX	42U 1100mm Dynamic Expansion Rack
93074RX	42U Standard Rack (1000mm)

For specifications about these racks, see the Lenovo Rack Cabinet Reference, available from:
https://lenovopress.com/lp1287-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 switches and consoles

The following table lists the supported KVM consoles.

Table 54. KVM console

Part number	Description
4XF7A84188	ThinkSystem 18.5" LCD Console (with US English keyboard)

The following table lists the available KVM switches and the options that are supported with them.

Table 56. KVM switches and options

Part number	Description
KVM Console switches	
1754D1X	Global 2x2x16 Console Manager (GCM16)
1754A2X	Local 2x16 Console Manager (LCM16)
1754A1X	Local 1x8 Console Manager (LCM8)
Cables for GCM and LCM Console switches	
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

Power distribution units

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

Table 57. Power distribution units

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
0U Basic PDUs															
4PU7A93176	C0QH	0U 36 C13 and 6 C19 Basic 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93169	C0DA	0U 36 C13 and 6 C19 Basic 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93177	C0QJ	0U 24 C13/C15 and 24 C13/C15/C19 Basic 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93170	C0D9	0U 24 C13/C15 and 24 C13/C15/C19 Basic 32A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
00YJ776	ATZY	0U 36 C13/6 C19 24A 1 Phase PDU	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	N
0U Switched and Monitored PDUs															
4PU7A93181	C0QN	0U 21 C13/C15 and 21 C13/C15/C19 Switched and Monitored 48A 3 Phase Delta PDU v2 (60A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
4PU7A93174	C0D5	0U 21 C13/C15 and 21 C13/C15/C19 Switched and Monitored 48A 3 Phase Delta PDU (60A derated)	N	Y	N	Y	N	N	Y	Y	N	N	N	Y	N

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
4PU7A93178	C0QK	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93171	C0D8	0U 20 C13 and 4 C19 Switched and Monitored 32A 1 Phase PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93182	C0QP	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93175	C0CS	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 63A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93180	C0QM	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 32A 3 Phase WYE PDU v2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A93173	C0D6	0U 18 C13/C15 and 18 C13/C15/C19 Switched and Monitored 32A 3 Phase WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
4PU7A93179	C0QL	0U 16 C13/C15 and 16 C13/C15/C19 Switched and Monitored 24A 1 Phase PDU v2 (30A derated)	N	Y	N	N	N	N	N	Y	N	Y	N	Y	N
4PU7A93172	C0D7	0U 16 C13/C15 and 16 C13/C15/C19 Switched and Monitored 24A 1 Phase PDU(30A derated)	N	Y	N	Y	N	N	Y	Y	N	N	N	Y	N
00YJ781	AU03	0U 20 C13/4 C19 Switched and Monitored 24A 1 Phase PDU	N	N	Y	N	Y	N	Y	N	N	Y	Y	Y	N
1U Switched and Monitored PDUs															
4PU7A90808	C0D4	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 ETL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A81117	BNDV	1U 18 C19/C13 switched and monitored 48A 3P WYE PDU - ETL	N	N	N	N	N	N	N	N	N	N	N	Y	N
4PU7A90809	C0DE	1U 18 C19/C13 Switched and monitored 48A 3P WYE PDU V2 CE	N	N	N	N	N	Y	Y	N	N	N	N	N	N
4PU7A81118	BNDW	1U 18 C19/C13 switched and monitored 48A 3P WYE PDU - CE	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y
4PU7A90810	C0DD	1U 18 C19/C13 Switched and monitored 80A 3P Delta PDU V2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A77467	BLC4	1U 18 C19/C13 Switched and Monitored 80A 3P Delta PDU	N	N	N	N	N	N	N	N	N	Y	N	Y	N
4PU7A90811	C0DC	1U 12 C19/C13 Switched and monitored 32A 3P WYE PDU V2	N	N	N	N	N	Y	Y	N	N	N	N	N	N
4PU7A77468	BLC5	1U 12 C19/C13 switched and monitored 32A 3P WYE PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4PU7A90812	C0DB	1U 12 C19/C13 Switched and monitored 60A 3P Delta PDU V2	N	N	N	N	N	N	N	N	N	Y	N	N	N
4PU7A77469	BLC6	1U 12 C19/C13 switched and monitored 60A 3P Delta PDU	N	N	N	N	N	N	N	N	N	N	N	Y	N
1U Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)															
71763NU	6051	Ultra Density Enterprise C19/C13 PDU 60A/208V/3PH	N	N	Y	N	N	N	N	N	N	Y	Y	Y	N
71762NX	6091	Ultra Density Enterprise C19/C13 PDU Module	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U C13 Enterprise PDUs (12x IEC 320 C13 outlets)															

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
39Y8941	6010	DPI C13 Enterprise PDU Module (WW)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U Front-end PDUs (3x IEC 320 C19 outlets)															
39Y8938	6002	DPI Single-phase 30A/120V Front-end PDU (US)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8939	6003	DPI Single-phase 30A/208V Front-end PDU (US)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8934	6005	DPI Single-phase 32A/230V Front-end PDU (International)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
39Y8940	6004	DPI Single-phase 60A/208V Front-end PDU (US)	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N
39Y8935	6006	DPI Single-phase 63A/230V Front-end PDU (International)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1U NEMA PDUs (6x NEMA 5-15R outlets)															
39Y8905	5900	DPI 100-127V NEMA PDU	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Line cords for 1U PDUs that ship without a line cord															
40K9611	6504	4.3m, 32A/380-415V, EPDU/IEC 309 3P+N+G 3ph wye (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9612	6502	4.3m, 32A/230V, EPDU to IEC 309 P+N+G (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9613	6503	4.3m, 63A/230V, EPDU to IEC 309 P+N+G (non-US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9614	6500	4.3m, 30A/208V, EPDU to NEMA L6-30P (US) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9615	6501	4.3m, 60A/208V, EPDU to IEC 309 2P+G (US) Line Cord	N	N	Y	N	N	N	Y	N	N	Y	Y	Y	N
40K9617	6505	4.3m, 32A/230V, Souriau UTG Female to AS/NZ 3112 (Aus/NZ) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
40K9618	6506	4.3m, 32A/250V, Souriau UTG Female to KSC 8305 (S. Korea) Line Cord	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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

Uninterruptible power supply units

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

Table 58. Uninterruptible power supply units

Part number	Description
Rack-mounted or tower UPS units - 100-125VAC	
7DD5A001WW	RT1.5kVA 2U Rack or Tower UPS-G2 (100-125VAC)
7DD5A003WW	RT3kVA 2U Rack or Tower UPS-G2 (100-125VAC)
Rack-mounted or tower UPS units - 200-240VAC	
7DD5A002WW	RT1.5kVA 2U Rack or Tower UPS-G2 (200-240VAC)
7DD5A005WW	RT3kVA 2U Rack or Tower UPS-G2 (200-240VAC)
7DD5A007WW	RT5kVA 3U Rack or Tower UPS-G2 (200-240VAC)
7DD5A008WW	RT6kVA 3U Rack or Tower UPS-G2 (200-240VAC)
7DD5A00AWW	RT11kVA 6U Rack or Tower UPS-G2 (200-240VAC)

† Only available in China and the Asia Pacific market.

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

Lenovo Financial Services

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

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

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

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

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

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

https://www.lenovo.com/us/en/landingpage/lenovo-financial-services/

Seller training courses

The following sales training courses are offered for employees and partners (login required). Courses are listed in date order.

1. **Partner Technical Webinar - OneIQ**
   2024-07-15 | 60 minutes | Employees and Partners

   In this 60-minute replay, Peter Grant, Field CTO for OneIQ, reviewed and demo'd the capabilities of OneIQ including collecting data and analyzing. Additionally, Peter and the team discussed how specific partners (those with NA Channel SA coverage) will get direct access to OneIQ and other partners can get access to OneIQ via Distribution or the NA LETS team.

   Published: 2024-07-15
   Length: 60 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: 071224
2. **SAP Webinar for Lenovo Sellers: Lenovo Portfolio Update for SAP Landscapes**
   2024-06-04 | 60 minutes | Employees Only

   Join Mark Kelly, Advisory IT Architect with the Lenovo Global SAP Center of Competence as he discusses:
   • Challenges in the SAP environment
   • Lenovo On-premise Solutions for SAP
   • Lenovo support resources for SAP solutions

   Published: 2024-06-04
   Length: 60 minutes
   Employee link: Grow@Lenovo
   Course code: DSAPF101
3. **Lenovo Data Center Product Portfolio**
   2024-05-29 | 20 minutes | Employees and Partners

   This course introduces the Lenovo data center portfolio, and covers servers, storage, storage networking, and software-defined infrastructure products. After completing this course about Lenovo data center products, you will be able to identify product types within each data center family, describe Lenovo innovations that this product family or category uses, and recognize when a specific product should be selected.

   Published: 2024-05-29
   Length: 20 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW1110r7
4. **VTT Cloud Architecture: NVIDIA Using Cloud for GPUs and AI**
   2024-05-22 | 60 minutes | Employees Only

   Join JD Dupont, NVIDIA Head of Americas Sales, Lenovo partnership and Veer Mehta, NVIDIA Solution Architect on an interactive discussion about cloud to edge, designing cloud Solutions with NVIDIA GPUs and minimizing private\hybrid cloud OPEX with GPUs. Discover how you can use what is done at big public cloud providers for your customers. We will also walk through use cases and see a demo you can use to help your customers.

   Published: 2024-05-22
   Length: 60 minutes
   Employee link: Grow@Lenovo
   Course code: DVCLD212

5. **Partner Technical Webinar - ISG Portfolio Update**
   2024-04-15 | 60 minutes | Employees and Partners

   In this 60-minute replay, Mark Bica, NA ISG Server Product Manager reviewed the Lenovo ISG portfolio. He covered new editions such as the SR680a \ SR685a, dense servers, and options that are strategic for any workload.

   Published: 2024-04-15
   Length: 60 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: 041224

6. **Partner Technical Webinar – StorMagic**
   2024-03-19 | 60 minutes | Employees and Partners

   March 08, 2024 – In this 60-minute replay, Stuart Campbell and Wes Ganeko of StorMagic joined us and provided an overview of StorMagic on Lenovo. They also demonstrated the interface while sharing some interesting use cases.

   Published: 2024-03-19
   Length: 60 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: 030824

7. **Intel Transparent Supply Chain on Lenovo Servers**
   2024-01-29 | 12 minutes | Employees and Partners

   This course introduces the Intel Transparent Supply Chain (TSC) program, explains how the program works, and discusses the benefits of the Intel TSC program to customers. Adding the Intel TSC feature to an order is explained.

   Course objectives:
   • Describe the Intel® Transparent Supply Chain program
   • Explain how the Intel® Transparent Supply Chain program works
   • Discuss the benefits of the Intel® Transparent Supply Chain program to Lenovo customers
   • Explain how to add Intel® Transparent Supply Chain program feature to an order

   Published: 2024-01-29
   Length: 12 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW1230

8. **Family Portfolio: Storage Controller Options**
   2024-01-23 | 25 minutes | Employees and Partners

   This course covers the storage controller options available for use in Lenovo servers. The classes of storage controller are discussed, along with a discussion of where they are used, and which to choose.

   After completing this course, you will be able to:
   • Describe the classes of storage controllers
   • Discuss where each controller class is used
   • Describe the available options in each controller class

   Published: 2024-01-23
   Length: 25 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW1111

9. **Lenovo-Intel Sustainable Solutions QH**
   2024-01-22 | 10 minutes | Employees and Partners

   This Quick Hit explains how Lenovo and Intel are committed to sustainability, and introduces the Lenovo-Intel joint sustainability campaign. You will learn how to use this campaign to show customers what that level of commitment entails, how to use the campaign's unsolicited proposal approach, and how to use the campaign as a conversation starter which may lead to increased sales.

   Published: 2024-01-22
   Length: 10 minutes
   Employee link: Grow@Lenovo
   Partner link: Lenovo Partner Learning
   Course code: SXXW2524a

10. **Family Introduction: Rack and Tower**
    2024-01-19 | 11 minutes | Employees and Partners

    This course is designed to give Lenovo sales and partner representatives a foundation on the characteristics of the rack and tower server family. As an introduction to the family, this course also includes positioning, when to use a product, and keywords a client may use when discussing a rack product.

    Course Objectives:
    • Family Characteristics
    • Priority Positioning
    • Product Usage
    • Keywords and Phrases

    Published: 2024-01-19
    Length: 11 minutes
    Employee link: Grow@Lenovo
    Partner link: Lenovo Partner Learning
    Course code: SXXW1100r3

11. **FY24Q3 Intel Servers Update**
    2023-12-11 | 15 minutes | Employees and Partners

    This update is designed to help you discuss the features and customer benefits of Lenovo servers that use the 5th Gen Intel® Xeon® processors. Lenovo has also introduced a new server, the ThinkSystem SD650-N V3, which expands the supercomputer server family. Reasons to call your customer and talk about refreshing their infrastructure are also included as a guideline.

    Published: 2023-12-11
    Length: 15 minutes
    Employee link: Grow@Lenovo
    Partner link: Lenovo Partner Learning
    Course code: SXXW2522a

12. **Partner Technical Webinar - Data Center Limits and ISG TAA Compliance**
    2023-05-16 | 60 minutes | Employees and Partners

    In this 60-minute replay, we had two topics. First Vinod Kamath, Lenovo Distinguished Engineer for Data Center Cooling presented on the Systems Configuration and Data Center Ambient Limits. Second, Shama Patari, Lenovo Trade Council, and Glenn Johnson, Lenovo Principal Engineer for Supply Chain presented on ISG TAA Compliance.

    Published: 2023-05-16
    Length: 60 minutes
    Employee link: Grow@Lenovo
    Partner link: Lenovo Partner Learning
    Course code: 051223

13. **Lenovo Sustainable Computing**
    2022-09-16 | 4 minutes | Employees and Partners

    This Quick Hit describes the Lenovo sustainable computing program, and the many ways in which Lenovo strives to respect and protect the environment.

    Published: 2022-09-16
    Length: 4 minutes
    Employee link: Grow@Lenovo
    Partner link: Lenovo Partner Learning
    Course code: SXXW2504a

Related publications and links

For more information, see these resources:

- ThinkSystem SR250 V3 product page
  https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr250-v3-rack-server/len21ts0024
- ThinkSystem SR250 V3 interactive 3D tour
  https://lenovopress.lenovo.com/lp1804-3d-tour-thinksystem-sr250-v3
- ThinkSystem SR250 V3 drivers and support
  https://datacentersupport.lenovo.com/us/en
- ThinkSystem SR250 V3 product publications:
  https://pubs.lenovo.com/
  - Quick Start
  - Tower-to-Rack Conversion Kit Installation Instructions
  - Setup Guide
  - Maintenance Manual
  - Lenovo XClarity Provisioning Manager User Guide
- ServerProven hardware compatibility:
  https://serverproven.lenovo.com/

Related product families

Product families related to this document are the following:

- 1-Socket Rack Servers
- ThinkSystem SR250 V3 Server

Notices

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

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

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

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

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

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

This document, LP1802, was created or updated on August 20, 2024.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
  https://lenovopress.lenovo.com/LP1802
- Send your comments in an e-mail to:
  comments@lenovopress.com

This document is available online at https://lenovopress.lenovo.com/LP1802.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at https://www.lenovo.com/us/en/legal/copytrade/.

The following terms are trademarks of Lenovo in the United States, other countries, or both:
Lenovo®
ServerProven®
System x®
ThinkServer®
ThinkShield®
ThinkSystem®
XClarity®

The following terms are trademarks of other companies:

AMD is a trademark of Advanced Micro Devices, Inc.

Intel®, Celeron®, Pentium®, and Xeon® are trademarks of Intel Corporation or its subsidiaries.

Linux® is the trademark of Linus Torvalds in the U.S. and other countries.

Microsoft®, ActiveX®, Hyper-V®, PowerShell, Windows PowerShell®, Windows Server®, and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

SPECpower® is a trademark of the Standard Performance Evaluation Corporation (SPEC).

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