

Lenovo ThinkSystem SR630 V4 Server

Product Guide

The Lenovo ThinkSystem SR630 V4 is an ideal 2-socket 1U rack server for customers that need industry-leading reliability, management, and security, as well as maximizing performance and flexibility for future growth. The SR630 V4 is based on two Intel Xeon 6700-series processors with the new Efficient-cores (E-cores), formerly codenamed "Sierra Forest-SP".

The SR630 V4 is designed for high density and scale-out workloads in various customer segments including cloud service providers (CSP) and telecommunication industry customers.



Figure 1. Lenovo ThinkSystem SR630 V4

Did you know?

The SR630 V4 server has been designed to take advantage of the features of the new Intel Xeon 6 processors, such as the full performance of processors up to 144 cores and 330W TDP, support for 6400 MHz memory and PCIe Gen 5.0 support. The server also offers onboard NVMe PCIe ports that allow direct connections to up to 16x NVMe SSDs, which results in faster access to store and access data.

Key features

Combining performance and flexibility, the SR630 V4 server is a great choice for enterprises of all sizes. The server offers a broad selection of drive and slot configurations and offers numerous high performance features. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve your business environment and can help save operational costs.

Scalability and performance

The ThinkSystem SR630 V4 offers numerous features to boost performance, improve scalability and reduce costs:

- Supports one or two Intel Xeon 6700-series processors with Efficient-cores (E-cores)
 - Up to 144 cores
 - Core speeds of up to 2.4 GHz
 - TDP ratings of up to 330 W
- Support for DDR5 memory DIMMs to maximize the performance of the memory subsystem:
 - Up to 32 DDR5 memory DIMMs, 16 DIMMs per processor
 - 8 memory channels per processor (2 DIMMs per channel)
 - Supports 1 DIMM per channel operating at 6400 MHz
 - Supports 2 DIMMs per channel operating at 5200 MHz
 - Using 64GB RDIMMs, the server supports up to 2TB of system memory
- Planned support for Compute Express Link (CXL) memory DIMMs in an E3.S 2T form factor. With CXL 2.0 for next-generation workloads, you can reduce compute latency in the data center and lower TCO. CXL is a protocol that runs across the standard PCIe physical layer and can support both standard PCIe devices as well as CXL devices on the same link. (planned for 1Q/2025)
- Planned support for up to three single-width GPUs, each up to 75W for substantial processing power in a 1U system. (planned for 1Q/2025)
- Supports up to 12x 2.5-inch NVMe hot-swap drive bays, by using combinations of front-accessible (up to 10 bays) and rear-accessible (2 bays).
- Planned support for up to 16x E3.S 1T NVMe drives, a new form factor drive for high-density and high-performance storage. (planned for 1Q/2025)
- Supports up to 16x NVMe drives without oversubscription of PCIe lanes (1:1 connectivity) and without the need for additional NVMe adapters. The use of NVMe drives maximizes drive I/O performance, in terms of throughput and latency.
- Supports M.2 drives for convenient operating system boot functions or data storage. M.2 drives can be internally mounted or can be mounted at the front (planned) or rear of the server as hot-swap drives.
- Supports up to 5x PCIe slots, 3x at the rear of the server and 2x at the front of the server. Also supports 2x OCP slots, either two in the rear of the server, or one in the rear plus one in the front of the server.
- The server has up to two dedicated industry-standard OCP 3.0 slots supporting a variety of Ethernet network adapters. A simple-swap mechanism with a thumbscrew and pull-tab enables tool-less installation and removal of the adapter. The adapter supports shared BMC network sideband connectivity to enable out-of-band systems management.
- The server offers PCI Express 5.0 I/O expansion capabilities that doubles the theoretical maximum bandwidth of PCIe 4.0 (32GT/s in each direction for PCIe Gen 5, compared to 16 GT/s with PCIe Gen 4 and 8 GT/s with PCIe Gen 3). A PCIe 5.0 x16 slot provides 128 GB/s bandwidth, enough to support a dual-port 200GbE network connection.

Availability and serviceability

The SR630 V4 provides many features to simplify serviceability and increase system uptime:

- Designed to run 24 hours a day, 7 days a week

- The server offers Single Device Data Correction (SDDC, also known as Chipkill), Adaptive Double-Device Data Correction (ADDDC, also known as Redundant Bit Steering or RBS), and memory mirroring for redundancy in the event of a non-correctable memory failure. Note: ADDDC is not supported with 9x4 RDIMMs.
- The server offers hot-swap drives, supporting RAID redundancy for data protection and greater system uptime.
- Available M.2 boot adapters support RAID-1 (using onboard hardware RAID or using Intel VROC) which can enable two NVMe M.2 drives to be configured as a redundant pair.
- The server has up to two hot-swap redundant power supplies and up to eight hot-swap redundant fans to provide availability for business-critical applications.
- Optional front-accessible slots and drives so that most major components and cables (except power) are located at the front of the server
- The light path diagnostics feature uses LEDs to lead the technician to failed (or failing) components, which simplifies servicing, speeds up problem resolution, and helps improve system availability.
- Solid-state drives (SSDs) offer more reliability and performance than traditional mechanical HDDs for greater uptime.
- Proactive Platform Alerts (including PFA and SMART alerts): Processors, voltage regulators, memory, internal storage (SAS/SATA HDDs and SSDs, NVMe SSDs, M.2 storage, flash storage adapters), fans, power supplies, RAID controllers, server ambient and subcomponent temperatures. Alerts can be surfaced through the XClarity Controller to managers such as Lenovo XClarity Administrator, VMware vCenter, and Microsoft System Center. These proactive alerts let you take appropriate actions in advance of possible failure, thereby increasing server uptime and application availability.
- The built-in XClarity Controller continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failures to minimize downtime.
- Built-in diagnostics in UEFI, using Lenovo XClarity Provisioning Manager, speed up troubleshooting tasks to reduce service time.
- Lenovo XClarity Provisioning Manager supports diagnostics and can save service data to a USB key drive or remote CIFS share folder for troubleshooting and reduce service time.
- Auto restart in the event of a momentary loss of AC power (based on power policy setting in the XClarity Controller service processor)
- Offers a diagnostics port on the front of the server to allow you to attach an external diagnostics handset for enhanced systems management capabilities.
- Support for the XClarity Administrator Mobile app running on a supported smartphone or tablet and connected to the server through the service-enabled USB port, enables additional local systems management functions.
- Three-year or one-year customer-replaceable unit and onsite limited warranty (varies by geography), 9 x 5 next business day. Optional service upgrades are available.

Manageability and security

Systems management features simplify local and remote management of the SR630 V4:

- The server includes XClarity Controller 3 (XCC3) to monitor server availability. Optional upgrade to XCC3 Premier to provide remote control (keyboard video mouse) functions, support for the mounting of remote media files (ISO and IMG image files), boot capture and power capping. XCC3 Premier also offers additional features such as Neighbor Groups, System Guard, a CNSA-compliant security mode, a FIPS 140-3-compliant mode, and enhanced NIST 800-193 support.
- Dedicated Ethernet port at the rear of the server for remote management (BMC management). Optional support for a second dedicated BMC management port, installed in the OCP adapter bay.
- Lenovo XClarity Administrator offers comprehensive hardware management tools that help to increase uptime, reduce costs and improve productivity through advanced server management capabilities.

- 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.
- An integrated industry-standard Unified Extensible Firmware Interface (UEFI) enables improved setup, configuration, and updates, and simplifies error handling.
- Support for industry standard management protocols, IPMI 2.0, SNMP 3.0, Redfish REST API, serial console via IPMI
- An integrated hardware Trusted Platform Module (TPM) supporting TPM 2.0 enables advanced cryptographic functionality, such as digital signatures and remote attestation.
- Administrator and power-on passwords help protect from unauthorized access to the server.
- Supports Secure Boot to ensure only a digitally signed operating system can be used. Supported with HDDs and SSDs, as well as M.2 drives.
- Industry-standard Advanced Encryption Standard (AES) NI support for faster, stronger encryption.
- Intel Execute Disable Bit functionality can prevent certain classes of malicious buffer overflow attacks when combined with a supported operating system.
- Intel Trusted Execution Technology provides enhanced security through hardware-based resistance to malicious software attacks, allowing an application to run in its own isolated space, protected from all other software running on a system.
- Additional physical security features are an available chassis intrusion switch and available lockable front bezel.

Energy efficiency

The SR630 V4 offers the following energy-efficiency features to save energy, reduce operational costs, and increase energy availability:

- The server supports an advanced direct-water cooling (DWC) capability with the Lenovo Neptune Processor DWC Module, where heat from the processors is removed from the rack and the data center using an open loop and coolant distribution units, resulting in lower energy costs
- Energy-efficient system board components help lower operational costs.
- High-efficiency power supplies with 80 PLUS Platinum and Titanium certifications
- Solid-state drives (SSDs) consume as much as 80% less power than traditional spinning 2.5-inch HDDs.
- Support for Lenovo XClarity Energy Manager provides advanced data center power notification, analysis, and policy-based management to help achieve lower heat output and reduced cooling needs.
- The server uses hexagonal ventilation holes, which can be grouped more densely than round holes, providing more efficient airflow through the system and thus keeping your system cooler.

Comparing the SR630 V4 to the SR630 V3

The ThinkSystem SR630 V4 improves on the previous generation SR630 V3, as summarized in the following table.

Table 1. Comparing the SR630 V4 to the previous generation SR630 V3

Feature	SR630 V3	SR630 V4	Benefits
Processor	<ul style="list-style-type: none"> • 2x 5th Gen or 4th Gen Intel Xeon Scalable Processors • Up to 64 cores with Hyper-Threading • TDP ratings up to 350W 	<ul style="list-style-type: none"> • 2x Intel Xeon 6 processor with E-cores • Planned support for Intel Xeon 6 processors with P-cores • E-cores: Up to 144 cores (no Hyper-Threading) • E-cores: TDP ratings up to 330W 	<ul style="list-style-type: none"> • Significant increase in cores per processor • Increased performance • Consolidation of more apps on same number of servers, reducing costs
Memory	<ul style="list-style-type: none"> • DDR5 memory operating up to 5600 MHz • 8 channels per CPU • 32 DIMMs (16 per processor), 2 DIMMs per channel • Supports RDIMMs, 3DS RDIMMs and 9x4 RDIMMs • Up to 8TB of system memory 	<ul style="list-style-type: none"> • DDR5 memory operating up to 6400 MHz • E-cores: 8 channels per CPU • 32 DIMMs (16 per processor), 2 DIMMs per channel • Supports RDIMMs • E-cores: Planned support for CXL memory • P-cores: Planned support for 3DS RDIMMs, MCRDIMMs, and CXL memory • E-cores: Up to 2TB of system memory 	<ul style="list-style-type: none"> • Faster DDR5 memory • Support for new memory technologies
Internal storage	<ul style="list-style-type: none"> • Front: 4x 3.5" SAS/SATA hot-swap drive bays • Front: 10x 2.5" SAS/SATA/NVMe • Front: 16x E1.S NVMe hot-swap drive bays • Rear: Up to 2x 2.5" SAS/SATA or NVMe hot-swap drive bays • Rear: 2x 7mm SATA or NVMe hot-swap drive bays (RAID support via VROC) • 16x Onboard NVMe ports • 2x Internal M.2 with optional RAID 1 (RAID support via VROC) 	<ul style="list-style-type: none"> • Front: 10x 2.5" NVMe drives • Front: 16x E3.S 1T NVMe hot-swap drive bays (planned) • Front: 8x E3.S 2T NVMe hot-swap drive bays (planned) • Rear: Up to 2x 2.5" NVMe hot-swap drive bays • Planned SAS/SATA support for front & rear drive bays • 16x Onboard NVMe ports • 2x Internal M.2 or 2x Hot-swap M.2 	<ul style="list-style-type: none"> • Support for up to 12x 2.5" NVMe drives (front+rear) • Support for E3.S drive formats will allow for greater drive capacities • No support for 3.5-inch drive bays • Onboard NVMe ports means no need for Retimer adapters, freeing up slots for other adapters • New hot-swap M.2 drive options for OS boot

Feature	SR630 V3	SR630 V4	Benefits
RAID	<ul style="list-style-type: none"> Support for Onboard NVMe and Onboard SATA controllers 8-port and 16-port RAID adapters with up to 8GB flash Support for Lenovo and Broadcom adapters Support for PCIe or Internal cabled (CFF) form factor adapters Support for NVMe drives connected to 940 RAID adapters (Tri-Mode) Storage HBAs available 	<ul style="list-style-type: none"> Support for onboard NVMe (no onboard SATA) Planned support for RAID adapters and SAS HBAs 	<ul style="list-style-type: none"> Consistent RAID/HBA support Flexible config solution PCIe Gen 5 allows for greater storage performance
Networking	<ul style="list-style-type: none"> 1x OCP slot with PCIe Gen 5 x16 interface (rear or front of server) Additional PCIe adapters supported 	<ul style="list-style-type: none"> 2x OCP slots with PCIe Gen 5 x16 interface (two rear or front+rear) Additional PCIe adapters supported 	<ul style="list-style-type: none"> Two OCP slots up slots for other adapters or drive bays Front PCIe slots configurations
PCIe slots	<ul style="list-style-type: none"> Up to 2x PCIe Gen 5 slots + 1x PCIe Gen 4 slot at the rear Up to 2x PCIe Gen 5 slots + OCP slot at the front of the server One OCP 3.0 slot (rear or front) Supports a RAID/HBA in CFF form factor (does not occupy a PCIe slot) 	<ul style="list-style-type: none"> Up to 3x PCIe Gen 5 slots + 2x OCP slots at the rear of the server Up to 2x PCIe Gen 5 slots + OCP slot at the front of the server Two OCP 3.0 slots (two rear or front+rear) 	<ul style="list-style-type: none"> PCIe Gen 5 allows for greater I/O performance Flexible PCIe offerings Front PCIe slots configurations Support for 2x OCP slots
Management and security	<ul style="list-style-type: none"> Integrated XClarity Controller 2 Additional features with XCC2 Platinum Support for full XClarity toolset including XClarity Administrator Platform Firmware Resiliency (PFR) hardware Root of Trust (RoT) 	<ul style="list-style-type: none"> Integrated XClarity Controller 3 Additional features with XCC3 Premier Support for full XClarity toolset including XClarity Administrator Platform Firmware Resiliency (PFR) hardware Root of Trust (RoT) 	<ul style="list-style-type: none"> Same system management tool with previous generation Silicon-level security solution

Feature	SR630 V3	SR630 V4	Benefits
Power	<ul style="list-style-type: none"> 750W, 1100W, 1800W AC Platinum/Titanium Hot Plug PSUs CFFv4 form factor power supplies 1300W -48VDC power supplies 240V HVDC support for PRC customers 	<ul style="list-style-type: none"> 800W, 1300W, 2000W AC Platinum/Titanium Hot Plug PSUs CRPS form factor power supplies 1300W -48VDC power supplies (planned) 1300W HVDC power supplies (planned) 240V HVDC support for PRC customers 	<ul style="list-style-type: none"> Multiple PSU offerings to suit the configuration selected New ErP Lot 9-compliant offerings Support for Telco customers with -48V requirements

Components and connectors

The following figure shows the front of the SR630 V4.

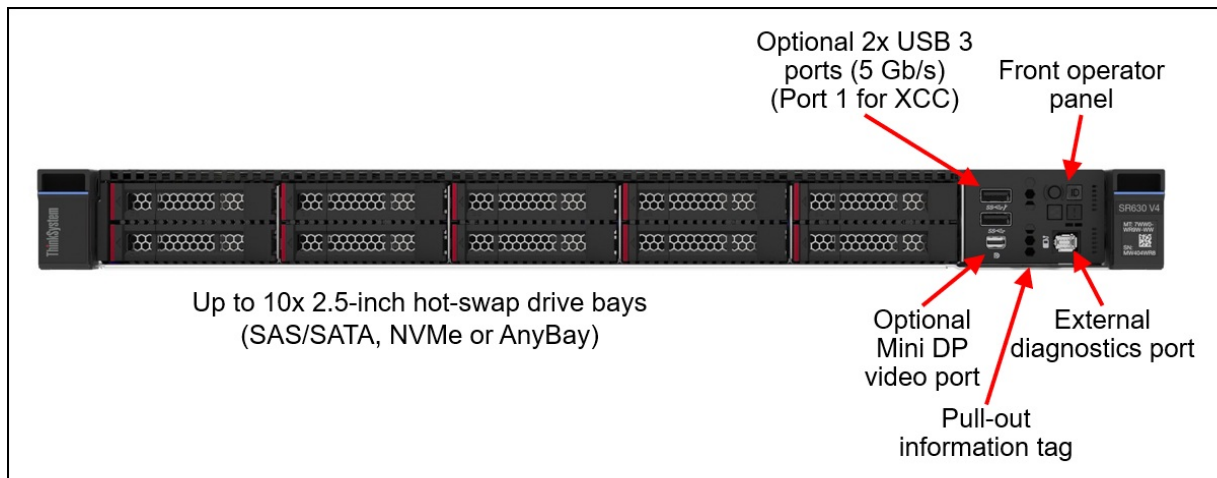


Figure 2. Front view of the SR630 V4 with 2.5-inch drive bays

For details on the front ports, including the optional front VGA port and front external diagnostic port, see the [Local management](#) section.

The following figure shows the various front configurations supported by the SR630 V4. As shown, the server supports 2.5-inch or E3.S EDSFF drive bays and optionally, two hot-swap M.2 drive bays. The SR630 V4 also supports a configuration with 4x 2.5-inch drive bays + 3x front-accessible PCIe slots - a low-profile slot, a full-height slot, and an OCP 3.0 slot.

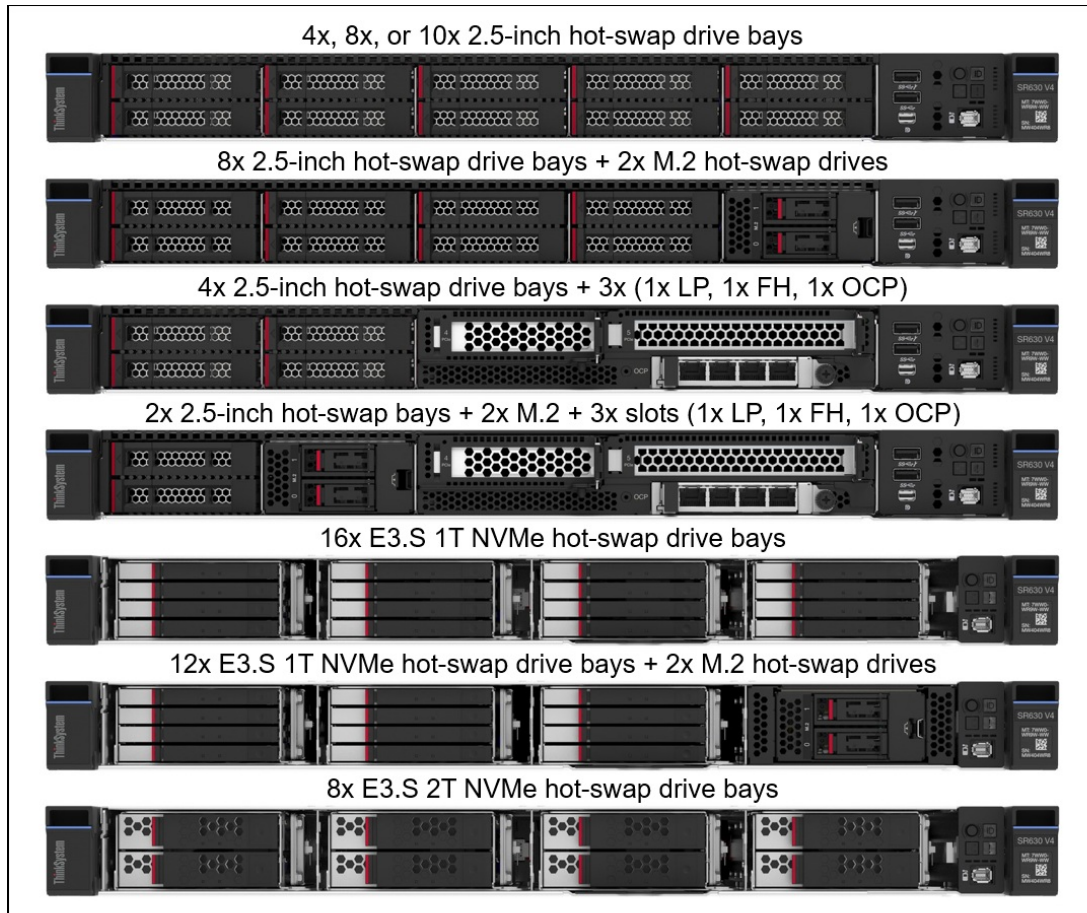


Figure 3. Front configurations of the SR630 V4

The following figure shows the components visible from the rear of the server.

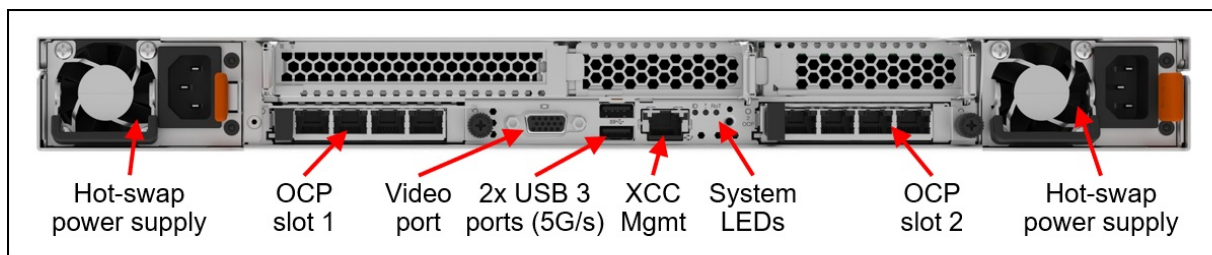


Figure 4. Rear view of the SR630 V4 with three low-profile slots

The SR630 V4 supports four air-cooled and two water-cooled configurations as shown below. Combinations of low-profile slots, full-height slots, 2.5-inch hot-swap drives, and M.2 hot-swap drives are available.

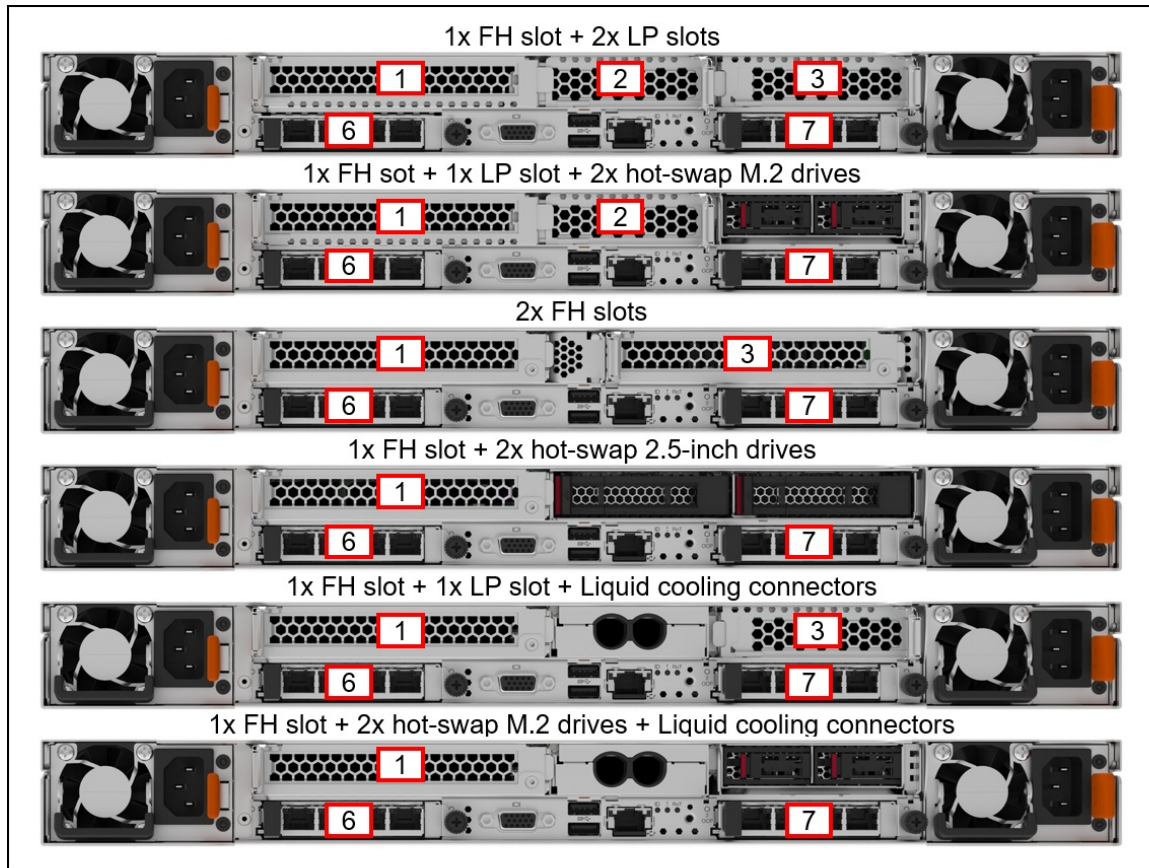


Figure 5. Rear configurations of the ThinkSystem SR630 V4

The following figure shows the locations of key components inside the server. In the figure, the server is configured with front PCIe slots.

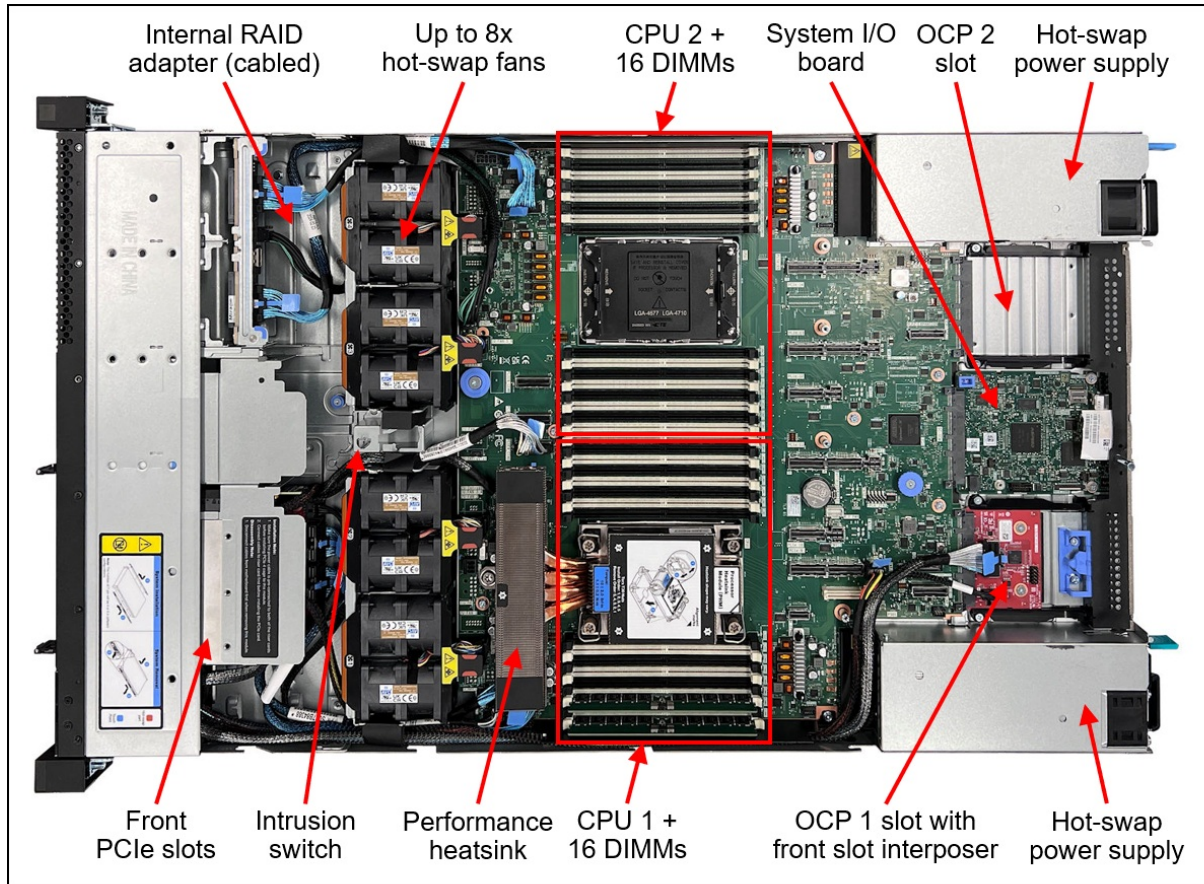


Figure 6. Internal view of the SR630 V4 with front PCIe slots

System architecture

The following figure shows the architectural block diagram of the SR630 V4, showing the major components and their connections.

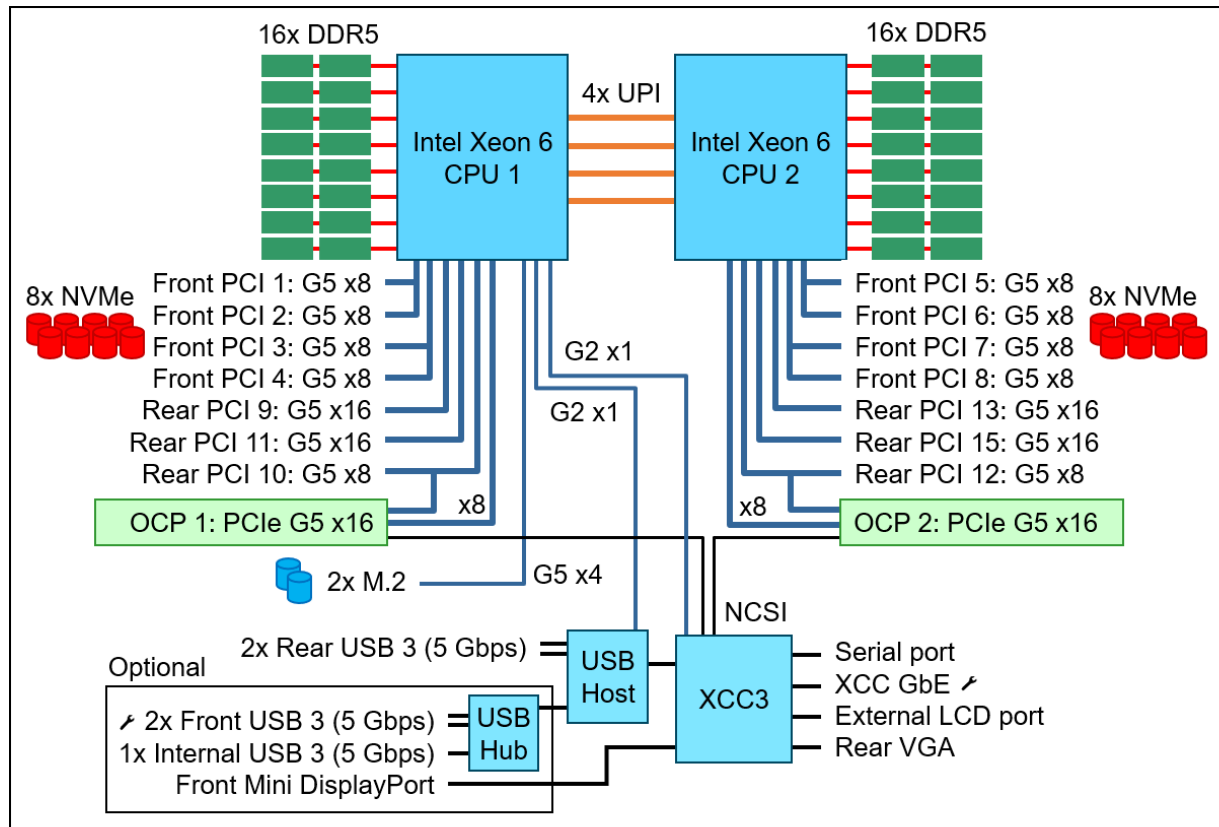


Figure 7. SR630 V4 system architectural block diagram

Standard specifications

The following table lists the standard specifications.

Table 2. Standard specifications

Components	Specification
Machine types	7DG8 - 1 year warranty 7DG9 - 3 year warranty
Form factor	1U rack.
Processor	One or two Intel Xeon 6700-series processors (formerly codenamed "Sierra Forest"). Supports processors up to 144 cores, core speeds of up to 2.4 GHz, and TDP ratings of up to 330 W.
Chipset	None. Integrated into the processor.
Memory	32 DIMM slots with two processors (16 DIMM slots per processor). Each processor has 8 memory channels, with 2 DIMMs per channel (DPC). Lenovo TruDDR5 RDIMMs are supported. DIMMs operate at up to 6400 MHz at 1 DPC and up to 5200 MHz at 2 DPC.
Memory maximum	Up to 2TB by using 32x 64GB RDIMMs
Memory protection	ECC, SDDC (for x4-based memory DIMMs), ADDDC (for x4-based memory DIMMs), and memory mirroring.

Components	Specification
Disk drive bays	<p>Up to 12x 2.5-inch hot-swap drive bays plus M.2 drives:</p> <ul style="list-style-type: none"> ● Front bays can be one of the following: <ul style="list-style-type: none"> ○ 10x 2.5-inch hot-swap NVMe drive bays ○ 8x 2.5-inch hot-swap NVMe drive bays ● Rear can be one of the following: <ul style="list-style-type: none"> ○ 2x 2.5-inch hot-swap NVMe bays ● M.2 support, for OS boot and drive storage support: <ul style="list-style-type: none"> ○ 2x rear hot-swap M.2 drive bays ○ Internal M.2 module supporting up to two M.2 drives <p>Additional support planned for the following (planned for 1Q/2025):</p> <ul style="list-style-type: none"> ● Planned front bays: <ul style="list-style-type: none"> ○ 10x 2.5-inch hot-swap: All AnyBay ○ 10x 2.5-inch hot-swap: 6x SAS/SATA + 4x AnyBay ○ 10x 2.5-inch hot-swap: 6x SAS/SATA + 4x NVMe ○ 10x 2.5-inch hot-swap: 6x SAS/SATA + 2x AnyBay + 2x NVMe ○ 8x 2.5-inch hot-swap SAS/SATA ○ 16x E3.S 1T NVMe hot-swap drives ○ 8x E3.S 2T NVMe hot-swap drives ○ 8x E3.S 1T + 4x E3.S 2T NVMe hot-swap drives ● Planned rear bays: <ul style="list-style-type: none"> ○ 2x 2.5-inch hot-swap SAS/SATA bays <p>See Supported drive bay combinations for details. AnyBay bays support SAS, SATA or NVMe drives. NVMe bays only support NVMe drives. Rear drive bays can be used in conjunction with 2.5-inch front drive bays. The server supports up to 12x NVMe drives all with direct connections (no oversubscription).</p>
Maximum internal storage	184.3TB using 12x 15.36TB 2.5-inch NVMe SSDs
Storage controller	<ul style="list-style-type: none"> ● Up to 16x Onboard NVMe ports (RAID support using Intel VROC) ● Planned support for: <ul style="list-style-type: none"> ○ 12 Gb SAS/SATA RAID adapters, PCIe 4.0 or PCIe 3.0 host interface ○ 12 Gb SAS/SATA HBA (non-RAID), PCIe 4.0 or PCIe 3.0 host interface
Optical drive bays	No internal optical drive.
Tape drive bays	No internal backup drive.
Network interfaces	Two dedicated OCP 3.0 SFF slots with a PCIe 5.0 host interface, either x8 or x16. Support a variety of 2-port and 4-port adapters with 1, 10, 25 and 100 GbE network connectivity. One port of each installed OCP adapter can optionally be shared with the XClarity Controller (XCC) management processor for Wake-on-LAN and NC-SI support.

Components	Specification
PCI Expansion slots	<p>Up to 5x slots, 3x at the rear and 2x at the front, plus 2 OCP slots. All slots are PCIe 5.0.</p> <p>Four choices for rear-access slots:</p> <ul style="list-style-type: none"> • 3x PCIe 5.0 x16 low-profile slots • 2x PCIe 5.0 x16 full-height half-length slots • 1x PCIe 5.0 x16 full-height half-length slot + 1x PCIe 5.0 x16 low-profile slot (also supports 2x rear hot-swap M.2 drive bays) • 1x PCIe 5.0 x16 low-profile slot (also supports 2x rear 2.5-inch drive bays) <p>All configurations include at the rear of the server:</p> <ul style="list-style-type: none"> • 2x OCP slots with PCIe 5.0 x16 or x8 connection <p>Front: The server also supports slots at the front of the server:</p> <ul style="list-style-type: none"> • 1x PCIe 5.0 x16 or x8 full-height half-length slot • 1x PCIe 5.0 x16 low-profile slot • 1x OCP slot with PCIe 5.0 x16 or x8 interface (mutually exclusive with one of the rear OCP slots) <p>For 2.5-inch SAS/SATA front drive configurations, the server supports the installation of a CFF RAID adapter or HBA in a dedicated area that does not consume any of the PCIe slots. Planned for 1Q/2025.</p> <p>Note: Some slots are not available in a 1-processor configuration. See the I/O expansion for details.</p>
GPU support	Planned support for up to 3x single-wide GPUs
Ports	<p>Front: External diagnostics port, optional 2x USB 3 (5 Gb/s) port, one supports XCC local management, optional Mini DisplayPort 1.1a video port.</p> <p>Rear: 2x USB 3 (5 Gb/s) ports, 1x VGA video port, 1x RJ-45 1GbE systems management port for XCC remote management. Optional DB-9 COM serial port (installs in a slot). Planned support for an optional second RJ-45 1GbE systems management port for XCC remote management (installs in OCP adapter slot). Planned support for an optional adapter to share an incoming remote management network connection across 4 servers (installs in an OCP slot).</p> <p>Internal: Optional 1x USB 3 (5 Gb/s) connector for operating system or license key purposes</p>
Cooling	Up to 8x N+1 dual-rotor or single-rotor hot-swap 40 mm fans, implemented as 2-in-1 fan modules. Fans are N+1 rotor redundant. Fan select is configuration dependent. There is also one fan integrated in each power supply.
Power supply	Up to two hot-swap redundant AC power supplies, 80 PLUS Platinum or 80 PLUS Titanium certification. 800 W, 1300 W and 2000 W AC options. All AC power supplies support 230V power; some also support 115V input supply. In China only, all power supply options support 240 V DC. Planned support for HVDC and -48V DC power supply options.
Video	Embedded graphics with 16 MB memory with 2D hardware accelerator, integrated into the XClarity Controller 3 management controller. Two video ports (rear VGA and optional front Mini DisplayPort); both can be used simultaneously if desired. Maximum resolution is 1920x1200 32bpp at 60Hz.
Hot-swap parts	Drives, power supplies, and fans.
Systems management	Operator panel with status LEDs. Optional External Diagnostics Handset with LCD display. Clarity Controller 3 (XCC3) embedded management based on the ASPEED AST2600 baseboard management controller (BMC), XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XCC3 Premier to enable remote control functions and other features.

Components	Specification
Security features	Chassis intrusion switch, Power-on password, administrator's password, Root of Trust module supporting TPM 2.0 and Platform Firmware Resiliency (PFR). Optional lockable front security bezel.
Operating systems supported	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Ubuntu Server. See the Operating system support 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: 440 mm (17.3 in.), height: 43 mm (1.7 in.), depth: 788 mm (31 in.). See Physical and electrical specifications for details.
Weight	Maximum weight: 20.2 kg (44.5 lb)

Models

ThinkSystem SR630 V4 models can be configured by using the [Lenovo Data Center Solution Configurator \(DCSC\)](#).

Topics in this section:

- [CTO models](#)
- [Base feature codes](#)
- [Preconfigured models](#)

CTO models

ThinkSystem SR630 V4 models can be configured by using the [Lenovo Data Center Solution Configurator \(DCSC\)](#).

Configure-to-order (CTO) models are used to create models with factory-integrated server customizations. For CTO models, two types of base CTO models are available for the SR630 V4 as listed in the columns in the following table:

- General purpose base CTO models are for general business (non-HPC) and is selectable by choosing **General Purpose** mode in DCSC.
- AI and HPC base models are intended for Artificial Intelligence (AI) and High Performance Computing (HPC) configurations and solutions are enabled using the **AI & HPC Hardware - ThinkSystem Hardware** mode in DCSC. These configurations, along with Lenovo EveryScale Solutions, can also be built using [System x and Cluster Solutions Configurator \(x-config\)](#). **Tip:** Some HPC and AI models are not listed in DCSC and can only be configured in x-config.

Preconfigured server models may also be available for the SR630 V4, 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 SR630 V4 server.

Table 3. Base CTO models

Machine Type/Model General purpose	Machine Type/Model for AI and HPC	Description
7DG9CTO1WW	7DG9CTOLWW	ThinkSystem SR630 V4 – 3-year warranty
7DG8CTO1WW	7DG8CTOLWW	ThinkSystem SR630 V4 – 1-year warranty

Base feature codes

Models of the SR630 V4 are defined based on the configuration of front drives and front slots. The feature codes for these chassis bases are as listed in the following table.

Table 4. Chassis base feature codes

Feature code	Description	Purpose
C1XE	ThinkSystem 1U V4 10x2.5" Chassis	Configurations with front 2.5-inch hot-swap drives without front PCIe slots
C1XF	ThinkSystem 1U V4 Front IO Chassis	Configurations with front PCIe slots
C1XG*	ThinkSystem 1U V4 E3.S Chassis	Configurations with front E3.S drive bays

* E3.S support planned for 1Q/2025

Preconfigured models

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

- [Models for EMEA region](#)

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

Common to all models:

- Power supplies are Platinum unless otherwise stated
- All models include a Toolless Slide Rail Kit

Models for EMEA region

Table 5. Models for EMEA region

Model	Intel Xeon 6 processor†	Memory	RAID	Drive bays	OCP	Slots	Power supply	Fan packs (each 2 fans)	Internal USB	Front USB/DP	XCC3	Intru switch
Standard models with a 3-year warranty (machine type 7DG9)												
Models with Intel Xeon 6700E Series processors												
7DG9A00HEA	2x 6710E 64C 205W 2.4GHz	16x 64GB	VROC optional	4x 2.5" NVMe; Open bay	Open	3x x16 G5 (FH,LP,LP)	2x1300W TT Prem	4x Perf	Y	Y	Pre	Y
7DG9A00JEA	2x 6740E 96C 250W 2.4GHz	16x 64GB	VROC optional	4x 2.5" NVMe; Open bay	Open	3x x16 G5 (FH,LP,LP)	2x2000W TT Prem	4x Perf	Y	Y	Pre	Y
7DG9A00KEA	2x 6756E 128C 225W 1.8GHz	16x 64GB	VROC optional	4x 2.5" NVMe; Open bay	Open	3x x16 G5 (FH,LP,LP)	2x2000W TT Prem	4x Perf	Y	Y	Pre	Y
7DG9A00GEA	2x 6766E 144C 250W 1.9GHz	16x 64GB	VROC optional	4x 2.5" NVMe; Open bay	Open	3x x16 G5 (FH,LP,LP)	2x2000W TT Prem	4x Perf	Y	Y	Pre	Y
7DG9A00LEA	2x 6780E 144C 330W 2.2GHz	16x 64GB	VROC optional	4x 2.5" NVMe; Open bay	Open	3x x16 G5 (FH,LP,LP)	2x2000W TT Prem	4x Perf	Y	Y	Pre	Y

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

Processors

The SR630 V4 supports the Intel Xeon 6700 series processors. The server supports one or two processors.

Topics in this section:

- [Processor options](#)
- [Processor features](#)
- [Intel On Demand feature licensing](#)
- [One-processor configurations](#)
- [Thermal requirements by processor](#)
- [Lenovo Processor Neptune Air Module - Closed-loop liquid cooling](#)
- [Lenovo Processor Neptune Core Module - Open-loop liquid cooling](#)
- [UEFI operating modes](#)

Processor options

All supported processors have the following characteristics:

- 8 DDR5 memory channels at 2 DIMMs per channel
- Up to 4 UPI links between processors at up to 24 GT/s
- 88 PCIe 5.0 I/O lanes

The following table lists the Intel Xeon 6700-series processors with E-cores that are currently supported by the SR630 V4.

Table 6. Intel Xeon 6 processor support

Part number	Feature code	SKU	Description	Maximum quantity
4XG7A96812	C2ZD	6710E	ThinkSystem SR630 V4 Intel Xeon 6710E 64C 205W 2.4GHz Processor w/o Fan	2
None*	C2ZR	6731E	Intel Xeon 6731E 96C 250W 2.2GHz Processor	1
4XG7A96810	C2ZQ	6740E	ThinkSystem SR630 V4 Intel Xeon 6740E 96C 250W 2.4GHz Processor w/o Fan	2
4XG7A96814	C2ZF	6746E	ThinkSystem SR630 V4 Intel Xeon 6746E 112C 250W 2.0GHz Processor w/o Fan	2
4XG7A96813	C2ZE	6756E	ThinkSystem SR630 V4 Intel Xeon 6756E 128C 225W 1.8GHz Processor w/o Fan	2
4XG7A96815	C2ZG	6766E	ThinkSystem SR630 V4 Intel Xeon 6766E 144C 250W 1.9GHz Processor w/o Fan	2
4XG7A96809	C2ZP	6780E	ThinkSystem SR630 V4 Intel Xeon 6780E 144C 330W 2.2GHz Processor w/o Fan	2

* Processor 6731E is only supported in 1-socket configurations; CTO only, not field upgrades are supported

Processor features

Processors supported by the SR630 V4 include embedded accelerators to add even more processing capability:

- **QuickAssist Technology (Intel QAT)**
Help reduce system resource consumption by providing accelerated cryptography, key protection, and data compression with Intel QuickAssist Technology (Intel QAT). By offloading encryption and decryption, this built-in accelerator helps free up processor cores and helps systems serve a larger number of clients.
- **Intel Dynamic Load Balancer (Intel DLB)**
Improve the system performance related to handling network data on multi-core Intel Xeon Scalable processors. Intel Dynamic Load Balancer (Intel DLB) enables the efficient distribution of network processing across multiple CPU cores/threads and dynamically distributes network data across multiple CPU cores for processing as the system load varies. Intel DLB also restores the order of networking data packets processed simultaneously on CPU cores.
- **Intel Data Streaming Accelerator (Intel DSA)**
Drive high performance for storage, networking, and data-intensive workloads by improving streaming data movement and transformation operations. Intel Data Streaming Accelerator (Intel DSA) is designed to offload the most common data movement tasks that cause overhead in data center-scale deployments. Intel DSA helps speed up data movement across the CPU, memory, and caches, as well as all attached memory, storage, and network devices.
- **Intel In-Memory Analytics Accelerator (Intel IAA)**
Run database and analytics workloads faster, with potentially greater power efficiency. Intel In-Memory Analytics Accelerator (Intel IAA) increases query throughput and decreases the memory footprint for in-memory database and big data analytics workloads. Intel IAA is ideal for in-memory databases, open source databases and data stores like RocksDB, Redis, Cassandra, and MySQL.

The processors also support a separate and encrypted memory space, known as the SGX Enclave, for use by Intel Software Guard Extensions (SGX). The size of the SGX Enclave supported varies by processor model. Intel SGX offers hardware-based memory encryption that isolates specific application code and data in memory. It allows user-level code to allocate private regions of memory (enclaves) which are designed to be protected from processes running at higher privilege levels.

The following table summarizes the key features of the Intel Xeon 6700-series processors with E-cores that are supported in the SR630 V4.

Table 7. Intel Xeon 6700-series processor features

CPU model	Cores/ threads*	Core speed (Base / TB max)	L3 cache	Mem. chan	Max memory speed	UPI 2.0 links & speed	PCIe lanes	TDP	Accelerators				SGX Enclave Size
									QAT	DLB	DSA	IAA	
6710E	64 / 64	2.4 / 3.2 GHz	94 MB	8	5600 MHz	4 / 16 GT/s	88	205W	4	4	2	2	512GB
6731E	96 / 96	2.2 / 3.1 GHz	96 MB	8	5600 MHz	None‡	88	250W	2	2	2	2	512GB
6740E	96 / 96	2.4 / 3.2 GHz	96 MB	8	6400 MHz	4 / 20 GT/s	88	250W	4	4	2	2	512GB
6746E	112 / 112	2 / 2.7 GHz	96 MB	8	5600 MHz	4 / 16 GT/s	88	250W	2	2	2	2	512GB
6756E	128 / 128	1.8 / 2.6 GHz	96 MB	8	6400 MHz	4 / 24 GT/s	88	225W	2	2	2	2	512GB
6766E	144 / 144	1.9 / 2.7 GHz	108 MB	8	6400 MHz	4 / 24 GT/s	88	250W	2	2	2	2	512GB
6780E	144 / 144	2.2 / 3 GHz	108 MB	8	6400 MHz	4 / 24 GT/s	88	330W	2	2	2	2	512GB

* E-core processors do not offer Hyper-Threading

‡ Intel Xeon 6731E does not have UPI links and is a single-socket processor

The following table summarizes the key features of the Intel Xeon 6700-series processors with E-cores that are supported in the SR630 V4.

Table 8. Intel Xeon 6700-series processor features

CPU model	Cores/ threads*	Core speed (Base / TB max)	L3 cache	Mem. chan	Max memory speed	UPI 2.0 links & speed	PCIe lanes	TDP	Accelerators				SGX Enclave Size
									QAT	DLB	DSA	IAA	
6710E	64 / 64	2.4 / 3.2 GHz	94 MB	8	5600 MHz	4 / 16 GT/s	88	205W	4	4	2	2	512GB
6731E	96 / 96	2.2 / 3.1 GHz	96 MB	8	5600 MHz	None‡	88	250W	2	2	2	2	512GB
6740E	96 / 96	2.4 / 3.2 GHz	96 MB	8	6400 MHz	4 / 20 GT/s	88	250W	4	4	2	2	512GB
6746E	112 / 112	2 / 2.7 GHz	96 MB	8	5600 MHz	4 / 16 GT/s	88	250W	2	2	2	2	512GB
6756E	128 / 128	1.8 / 2.6 GHz	96 MB	8	6400 MHz	4 / 24 GT/s	88	225W	2	2	2	2	512GB
6766E	144 / 144	1.9 / 2.7 GHz	108 MB	8	6400 MHz	4 / 24 GT/s	88	250W	2	2	2	2	512GB
6780E	144 / 144	2.2 / 3 GHz	108 MB	8	6400 MHz	4 / 24 GT/s	88	330W	2	2	2	2	512GB

* E-core processors do not offer Hyper-Threading

‡ Intel Xeon 6731E does not have UPI links and is a single-socket processor

Intel On Demand feature licensing

Intel Xeon 6 processors do not support Intel On Demand feature licensing for Accelerators.

One-processor configurations

The SR630 V4 can be used with one processor installed. Most core functions of the server (including the XClarity Controller) are connected to processor 1 as shown in the [System architecture](#) section.

With only one processor, the server has the following capabilities:

- 16 memory DIMMs for a 1TB maximum
- 2x rear PCIe slots, Slot 1 and Slot 2 are available, however Slot 3 is not available
- Front slot configurations also support Slot 5, however Slot 4 is not available
- 1x OCP 3.0 slot: OCP1 with x16 connection, or front OCP slot with x8 connection
- Up to 8x 2.5-inch NVMe drives
- M.2 drives

Thermal requirements by processor

The server offers four ways to remove heat from the processors:

- Standard heatsinks, suitable for configurations that generate lower heat levels
- Performance heatsinks, suitable for most configurations
- Closed-loop liquid processor cooling, as described in the [Lenovo Neptune Liquid to Air Module](#) section
- Open-loop liquid processor cooling, as described in the [Lenovo Neptune Processor DWC Module](#) section

For details about what configurations are supported with each, see the Thermal Rules section in the Lenovo Docs site for the SR630 V4:

https://pubs.lenovo.com/sr630-v4/thermal_rules

Ordering information is listed in the following table.

Table 9. Processor cooling options

Feature code	Description	Purpose
BPFK	Standard Heatsink	Standard 1U heatsink. Automatically selected based on the server configuration.
C1XJ	ThinkSystem 1U V4 Performance Heatsink (Neptune Thermal Transfer Module)	Performance 1U heatsink with two satellite heatsinks. Automatically selected based on the server configuration.
C1XK	ThinkSystem 1U V4 Liquid to Air Cooling Module	Enables closed-loop liquid cooling of the processors. See the Lenovo Neptune Liquid to Air Module section.
C1XH	ThinkSystem 1U V4 Processor Direct Water Cooling Module	Enables open-loop liquid cooling of the processors. See the Lenovo Neptune Processor DWC Module section.

Lenovo Processor Neptune Air Module - Closed-loop liquid cooling

The Lenovo Processor Neptune Air Module is a closed-loop liquid-cooled processor heatsink, and on the SR630 V4, can be used to lower power consumption due to lower fan speeds. Internal testing has shows a 56% fan power saving per node and 5% rack-level power saving with the use of closed-loop liquid cooling.

For configurations using processors $250W < TPD \leq 300W$, the use of the closed-loop heatsink allows for a 5°C higher ambient temperature compared to using air-cooled performance heatsinks.

The following figure shows the placement of the components in the closed-loop liquid-cooled solution. Cold plates are mounted on top of each processor and these are connected via aluminum tubes to a radiator that is placed in front of the system fans. The tubes contain a mixture of water and ethylene glycol (EGW). The liquid is actively pumped through the pipes in a closed loop to remove the heat from the processors.

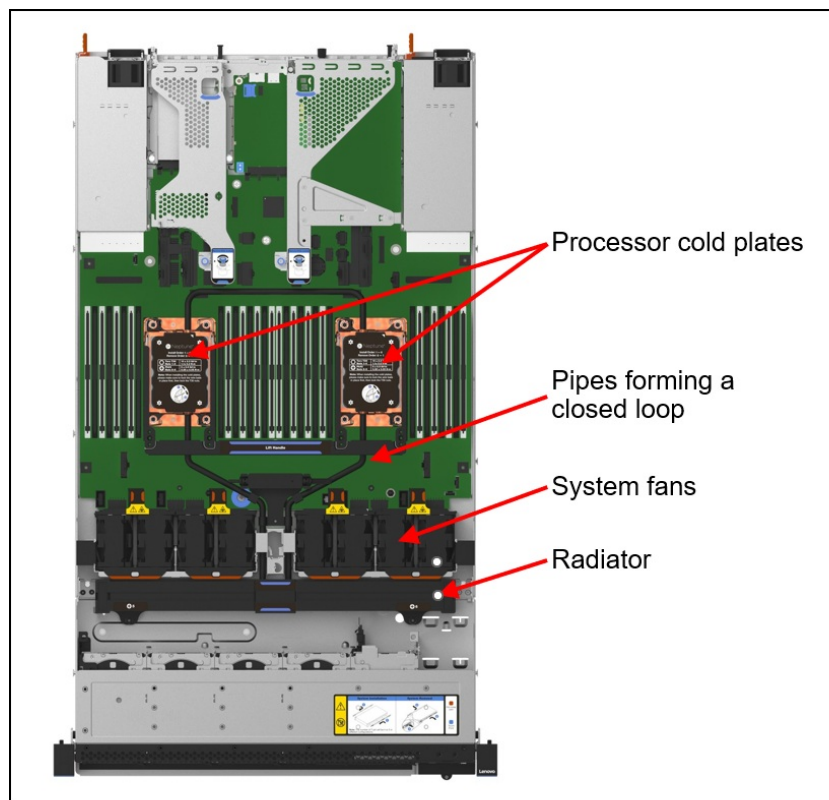


Figure 8. SR630 V4 with the Lenovo Processor Neptune Air Module

The Processor Neptune Air Module is only available in CTO orders, not as a field upgrade. Ordering information is listed in the following table.

Table 10. Ordering information

Part number	Feature code	Description
CTO only	C1XK*	ThinkSystem 1U V4 Liquid to Air Cooling Module

* In DCSC, this feature code is listed in the Processor tab

The closed-loop liquid-cooled heatsink has the following requirements:

- Either one or two CPUs are supported
- Hot-swap M.2 drive bays are supported
- The following components are not supported:
 - Internal M.2 adapter (2.5-inch drive bay chassis)
 - Front PCIe slots
 - Rear drive bays
 - GPUs
 - Internal (CFF) RAID adapters or HBAs

For additional support information including configurations and ambient temperature requirements, see the Thermal Rules page for the Neptune Air module:

https://pubs.lenovo.com/sr630-v4/thermal_rules#thermal_rules__thermal_rules_for_servers_with_lacm

Lenovo Processor Neptune Core Module - Open-loop liquid cooling

The SR630 V4 also supports advanced direct-water cooling (DWC) capability with the Lenovo Processor Neptune Core Module. This module implements a liquid cooling solution where heat from the processors is removed from the rack and the data center using an open loop and coolant distribution units.

With the Processor Neptune Core Module, all heat generated by the processors is removed from the server using water. This means that the server fans and data center air conditioning units only need to remove the heat generated by the other components. This results in lower air conditioning costs and it enables the use of slower fans which results in lower overall power consumption.

Internal testing has shows an 80% fan power saving per node and 27% rack-level power saving with the use of open-loop liquid cooling. Power savings are configuration dependent.

The following figure shows the Lenovo Processor Neptune Core Module.

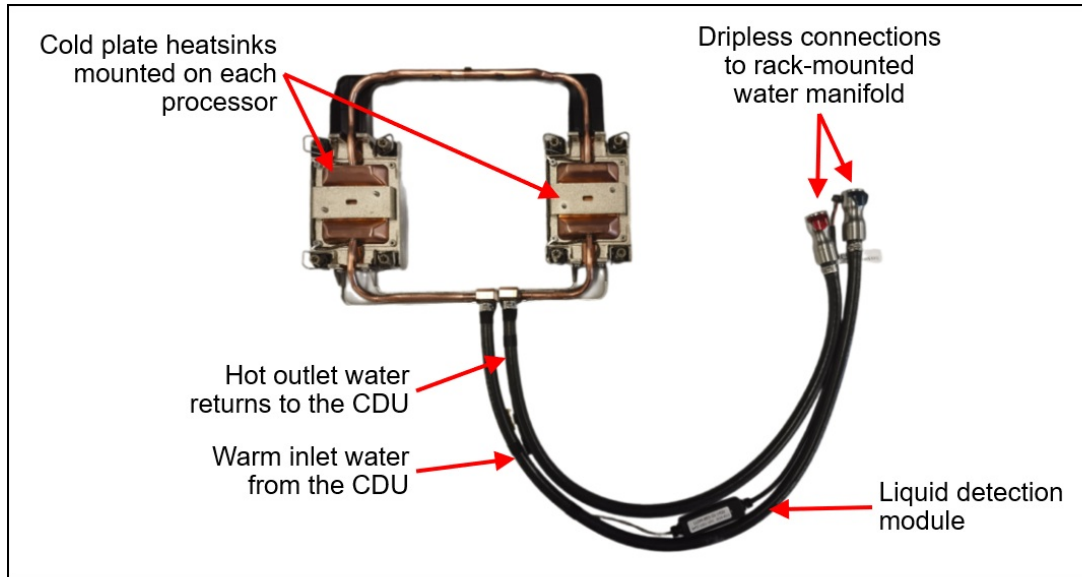


Figure 9. Lenovo Processor Neptune Core Module

The Processor Neptune Core Module also includes a leak detection module which can detect a leakage of more than 0.5ml (about 10 drops) along the length of the tube and then issue an event to the XClarity Controller. XCC will then post an error to the System Event Log and enable further actions. Once the liquid evaporates, a further event is issued to XCC.

The Processor Neptune Core Module is only available in CTO orders, not as a field upgrade. Ordering information is listed in the following table.

Table 11. Ordering information

Part number	Feature code	Description
CTO only	C1XH*	ThinkSystem 1U V4 Processor Direct Water Cooling Module

* In DCSC, this feature code is listed in the Processor tab

Configuration notes:

- The Processor Neptune Core Module requires water infrastructure be available in the rack cabinet and data center, as described in the [Water infrastructure](#) section.
- All processor SKUs are supported
- Either one or two CPUs are supported
- All front drive bay configurations are supported
- Slot 2 is not available for adapters - the water loop is routed through the space otherwise occupied by slot 2
- Only the following slot configurations are supported:
 - 2x Low profile x16 slots, in slot 1 and slot 3
 - 1x Low profile x16 slot in slot 1, and 2x 7mm drives in slot 3
- Rear 2.5-inch drive bays are not supported
- RAID flash power module (supercap) support is limited only to positions 1 (2.5-inch drives only) or position 3 (slot 3), as described in the [RAID flash power module \(supercap\) support](#) section. Location 2 on the air baffle is not supported.
- M.2 adapters are supported based on the configurations in the [Storage configurations](#) section
- Standard fans can be configured in most configurations

- The use of a cable management arm (CMA) is not supported

For more information, see the Thermal Rules page for the direct water cooling module:

https://pubs.lenovo.com/sr630-v4/thermal_rules#server-models-with-direct-water-cooling-module

The following figure shows the Lenovo Neptune Processor DWC Module installed in the SR630 V4.

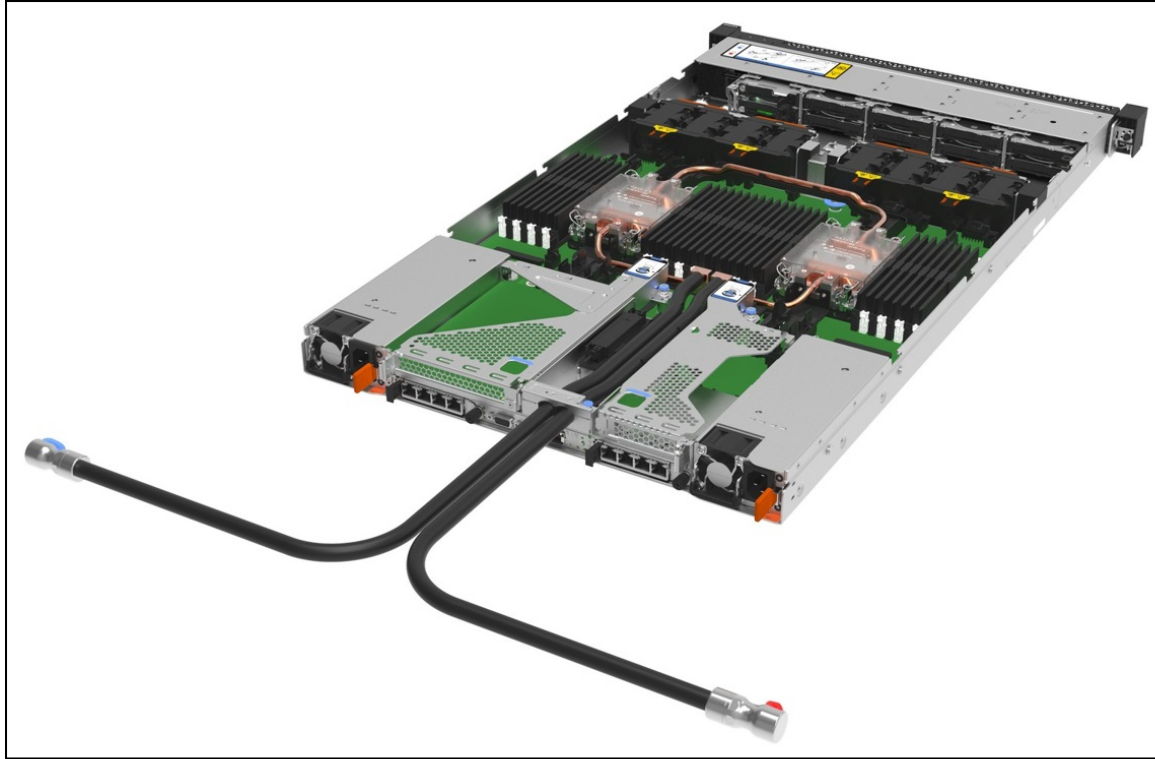


Figure 10. Lenovo Neptune Processor DWC Module installed in the SR630 V4

UEFI operating modes

The SR630 V4 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.

UK and EU customers: With the SR630 V4, the mode "General Computing - Peak Frequency" (feature C3JA) is not offered in the UK and countries in the European Union.

Table 12. UEFI operating mode presets in DCSC

Feature code	Description
C3JB	General Computing - Power Efficiency (default)
C3JA	General Computing - Peak Frequency
C3J9	General Computing - Max Performance
C3J8	High Performance Computing (HPC)

The preset modes for the SR630 V4 are as follows:

- **General Computing - Power Efficiency** (feature C3JB): This workload profile optimizes the performance per watt efficiency with a bias towards performance. This workload profile is analogous to “Efficiency – Favor Performance” operating mode on ThinkSystem V3 servers. This profile contains settings for ENERGY STAR® and ERP Lot9 compliance.
- **General Computing - Peak Frequency** (feature C3JA): This workload profile is defined by the requirement to drive the highest core frequencies out of a processor across a subset of cores available – not for all cores active. This workload profile benefits workloads requiring either high per core and / or overall CPU package frequency. These workloads may have variable resource demands, are relatively insensitive to overall platform latency, and are generally CPU clock constrained. Tuning a system for highest possible core frequency may mean allowing inactive cores to transfer in and out of sleep states (C-states), which allows active cores to run at higher frequency for different durations of time. Allowing cores to go into low power states allows for higher per core frequency but can introduce “jitter” in the systems clock frequency.
- **General Computing - Max Performance** (feature C3J9): This workload profile maximizes the absolute performance of the system without regard for power savings. Power savings features are disabled. This operating mode should be used when an application can sustain work across all cores simultaneously and is Non-uniform Memory Access (NUMA) aware.
- **High Performance Computing (HPC)** (feature C3J8): This profile is for customers running large-scale scientific and engineering workloads. These environments tend to be clustered environments where each node performs at maximum utilization for extended periods of time, and the application is Non-uniform Memory Access (NUMA) aware.

Memory options

The SR630 V4 uses Lenovo TruDDR5 memory operating at up to 6400 MHz. The server supports up to 32 DIMMs with 2 processors. The processors have 8 memory channels and support 2 DIMMs per channel (DPC). The server supports up to 2TB of memory using 32x 64GB RDIMMs and two processors.

With 6th Gen Intel Xeon processors, DIMMs operate at the following speeds, up to the memory bus speed of the processor selected. See the [Processor features](#) section for specifics.

- 1 DIMM per channel (DPC): Up to 6400 MHz
- 2 DPC using RDIMMs: Up to 5200 MHz

CXL memory support: Support for CXL memory is planned for 1Q/2025, both on the Intel Xeon 6700 E-core processors and future Intel Xeon 6 processors.

MCRDIMM memory support: Support for MCRDIMM memory is planned for 1Q/2025 however only with future Intel Xeon 6 processors, not with the Intel Xeon 6700 E-core processors.

Lenovo TruDDR5 memory uses the highest quality components that are sourced from Tier 1 DRAM suppliers and only memory that meets the strict requirements of Lenovo is selected. It is compatibility tested and tuned to maximize performance and reliability. From a service and support standpoint, Lenovo TruDDR5 memory automatically assumes the system warranty, and Lenovo provides service and support worldwide.

The following table lists the 6400 MHz memory options that are currently supported by the SR630 V4.

Table 13. Memory options

Part number	Feature code	Description	DRAM technology	Quantity supported
x4 RDIMMs				
4X77A90964	C0U9	ThinkSystem 32GB TruDDR5 6400MHz (1Rx4) RDIMM	16Gb	8 per CPU
4X77A90966	C0TQ	ThinkSystem 64GB TruDDR5 6400MHz (2Rx4) RDIMM	16Gb	16 per CPU
x8 RDIMMs				
4X77A90965	BYTJ	ThinkSystem 32GB TruDDR5 6400MHz (2Rx8) RDIMM	16Gb	8 per CPU

For more information on DDR5 memory, see the Lenovo Press paper, *Introduction to DDR5 Memory*, available from <https://lenovopress.com/lp1618>.

The following rules apply when selecting the memory configuration:

- The SR630 V4 only supports quantities of 8 or 16 DIMMs per processor, as follows:
 - 32GB DIMMs are only supported 8 DIMMs per processor (1 DIMM per channel)
 - 64GB DIMMs are supported 8 or 16 DIMMs per processor (1 or 2 DPC)
 - Other quantities are not supported
- The server with Intel Xeon 6700-series E-core processors only supports RDIMMs
- Planned memory support:
 - Intel Xeon 6700 E-core processors are planned to support CXL memory
 - Future Intel Xeon 6 processors are planned to support 3DS RDIMMs, MCRDIMMs and CXL memory
- Mixing x4 and x8 DIMMs is not supported
- Mixing of DIMM rank counts (1R, 2R) is not supported

For best performance, consider the following:

- Ensure the memory installed is at least the same speed as the memory bus of the selected processor.
- Populate all memory channels.

The following memory protection technologies are supported:

- ECC detection/correction
- Bounded Fault detection/correction
- SDDC (for 10x4-based memory DIMMs; look for "x4" in the DIMM description)
- ADDDC (for 10x4-based memory DIMMs)
- Memory mirroring

See the Lenovo Press article "RAS Features of the Lenovo ThinkSystem Intel Servers" for more information about memory RAS features: <https://lenovopress.lenovo.com/lp1711-ras-features-of-the-lenovo-thinksystem-intel-servers>

If memory channel mirroring is used, then DIMMs must be installed in pairs (minimum of one pair per processor), and both DIMMs in the pair must be identical in type and size. 50% of the installed capacity is available to the operating system. Memory rank sparing is not supported.

Internal storage

The SR630 V4 supports up to 12x 2.5-inch drives. Support is also planned for up to 16x E3.S 1T or 8x E3.S 2T drive bays, depending on the selected chassis and backplane configuration. The server also supports configurations without any drive bays if desired.

The server supports front and rear drive bays, are as follows:

- Up to 10x 2.5-inch hot-swap NVMe drive bays at the front of the server
- 2x 2.5-inch hot-swap NVMe drive bays at the rear of the server

The server also supports one or two M.2 drives, in two possible locations:

- Installed in an M.2 adapter internal to the server (non-hot-swap)
- Hot-swap in the rear of the server

It is also planned to support the following in 1Q/2025:

- Front 2.5-inch SAS/SATA drives
- Front 16x E3.S 1T hot-swap bays
- Front 8x E3.S 2T hot-swap bays
- Front M.2 hot-swap drive bays
- Rear 2.5-inch SAS/SATA drives

In this section:

- [NVMe drive support](#)
- [Front drive bays](#)
- [Rear drive bays](#)
- [Storage configurations](#)
- [Field upgrades](#)
- [M.2 drives](#)
- [SED encryption key management with SKLM](#)

NVMe drive support

The SR630 V4 supports NVMe drives to maximize storage performance:

- In 2.5-inch front drive configurations, the server supports up to 12 NVMe drives without oversubscription (that is, each x4 drive has a dedicated x4 connection (4 lanes) to the processor):
 - 10x 2.5-inch NVMe drives at the front
 - 2x 2.5-inch NVMe drives at the rear

The specifics of these configurations are covered in the [Storage configurations](#) section.

In addition, the SR630 V4 supports two M.2 NVMe drives for use as boot drives, as described in the [M.2 drives](#) section

Front drive bays

The front drive bay zone supports the following configurations. All drives bays are hot-swap, and all NVMe drive support is PCIe Gen5.

- 2.5-inch hot-swap drive bays without support for front PCIe slots:
 - 4x NVMe (Gen5)
 - 8x NVMe (Gen5)
 - 10x NVMe (Gen5)
- 2.5-inch hot-swap drive bays with support for front PCIe slots
 - 4x NVMe (Gen5)
- Drive-less configuration - No backplane and no drives (supports [field upgrades](#))

These configurations are shown in the following figures. The feature codes listed correspond to the feature codes listed in the table below the figures.

The following figure shows the supported 2.5-inch drive bay configurations that don't support front PCIe slots. With 4 or 8 drive bays, the server supports optional hot-swap M.2 drives mounted at the front of the server. Support for front-mounted hot-swap M.2 drive bays is planned for 1Q/2025.

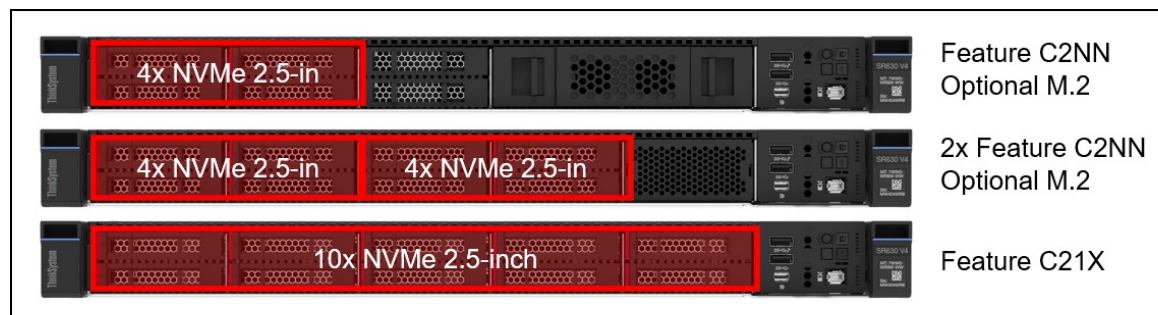


Figure 11. SR630 V4 front drive bay configurations - 3.5-inch and EDSFF drive bays

The following figure shows the supported 2.5-inch drive bays drive bay configurations that do support front PCIe slots. Front slots can be used with rear slots. See the [I/O expansion](#) for details.

Front IO base required : To configure front PCIe slots, you will need to select base feature code C1XF as described in the [Base feature codes](#) section.

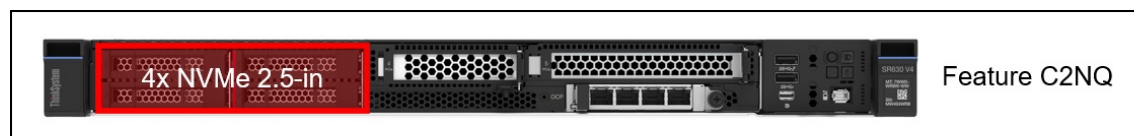


Figure 12. SR630 V4 front drive bay configurations - 2.5-inch drive bays without front PCIe slot support

The backplanes used to provide these drive bays are listed in the following table. Most front backplanes are also available as part numbers for field upgrades using upgrade kits, as described in the [Field upgrades](#) section below.

Table 14. Front drive backplanes

Feature code	Description	Max Qty
Front 2.5-inch drive backplanes - 4 drive bays - no support for front PCIe slots		
C2NN	ThinkSystem 1U V4 4x2.5" NVMe Gen5 Backplane	2
Front 2.5-inch drive backplanes - 4 drive bays - with support for front PCIe slots		
C2NQ	ThinkSystem 1U V4 4x2.5" NVMe Gen5 Backplane for Front IO	1
Front 2.5-inch drive backplanes - 10 drive bays - no support for front PCIe slots		
C21X	ThinkSystem 1U V4 10x2.5" NVMe Gen5 Backplane	1

Rear drive bays

The SR630 V4 supports hot-swap drives installed at the rear of the server chassis. Both drives bays are hot-swap, and NVMe drive support is PCIe Gen5. The supported configuration is as follows:

- 2x 2.5-inch hot-swap NVMe drive bays (Gen5)

The configuration is shown in the following figure.



Figure 13. Rear drive bay configurations

The backplanes used to provide these drive bays in CTO orders are listed in the following table. Backplanes are also available as part numbers for field upgrades using upgrade kits, as described in the [Field upgrades](#) section below.

Table 15. Front drive backplanes

Feature code	Description	Max Qty
Rear 2.5-inch drive backplanes		
C226	ThinkSystem 1U V4 2x2.5" NVMe Gen5 Rear Backplane	1

The use of rear 2.5-inch drive bays has the following configuration rules:

- With 2.5-inch rear drive bays, only slot 1 is available. Slot 2 and 3 are not available
- Rear 2.5-inch drives are not supported with either of the following:
 - Open-loop water cooling
 - Rear-mounted hot-swap M.2 drives

Field upgrades: Rear backplanes are available as part numbers for field upgrades using upgrade kits, as described in the [Field upgrades](#) section below.

Storage configurations

This section describes the various combinations of front and rear drives that the server supports, as well as M.2 support.

Tip: These tables are based on Storage Configs v1.5

In this section:

- [Overview - Configurations without front slots](#)
- [Overview - Configurations with front slots](#)
- [Details - Configurations without front slots](#)
- [Details - Configurations with front slots](#)

The following tables summarize the storage configurations for the SR630 V4. For details, including processor requirements, cooling options, M.2 support, and controller selections, see the Details tables.

Overview - Configurations without front slots

The following table summarizes the configurations that use 2.5-inch front drive bays but do not support front PCIe slots.

Jump down to the [details of the configurations](#).

Return to [Storage configurations](#).

Table 16. Overview - Configurations without front slots

Config	Total drives (NVMe)	Front drive bays					Rear drives			Backplanes
		SAS/SATA	AnyBay	NVMe	E3.S 1T	E3.S 2T	SAS/SATA	AnyBay	NVMe	
2	4 (4)	0	0	4	0	0	0	0	0	2.5" 4xNVMe G5 (C2NN)
4	8 (8)	0	0	8	0	0	0	0	0	2x 2.5" 4xNVMe G5 (2x C2NN)
8	10 (10)	0	0	10	0	0	0	0	0	2.5" 10xNVMe G5 (C21X)
9	12 (12)	0	0	10	0	0	0	0	2	2.5" 10xNVMe G5 (C21X)

Overview - Configurations with front slots

The following table summarizes the configurations that use 2.5-inch front drive bays and support front PCIe slots.

Jump down to the [details of the configurations](#).

Return to [Storage configurations](#).

Table 17. Overview - Configurations with front slots

Config	Total drives (NVMe)	Front drive bays					Rear drives			Backplanes
		SAS/SATA	AnyBay	NVMe	E3.S 1T	E3.S 2T	SAS/SATA	AnyBay	NVMe	
44	4 (4)	0	0	4	0	0	0	0	0	2.5" 4xNVMe G5 (C2NQ)

Details - Configurations without front slots

The following table lists the detailed configurations that use 2.5-inch front drive bays without front PCIe slots.

Go back to the [overview of configurations](#).

Return to [Storage configurations](#).

Table 18. Details - Configurations without front slots

Config	CPUs	CPU cooling			Front drive bays					Rear drives			Backplanes	M.2			Controllers	
		Air cooled	Closed loop	Open loop	SAS/SATA	AnyBay	NVMe	E3.S 1T	E3.S 2T	SAS/SATA	AnyBay	NVMe		M.2 Internal	M.2 Rear HS	M.2 Front HS		
2-1	1 or 2	AC	N	OL	0	0	4	0	0	0	0	0	0	2.5" 4xNVMe G5 (C2NN)	Y	Y	Y	OB NVMe
2-1-C	1 or 2	N	CL	N											N	Y	Y	OB NVMe
4-1	2 only	AC	N	OL	0	0	8	0	0	0	0	0	0	2x 2.5" 4xNVMe G5 (2x C2NN)	Y	Y	Y	OB NVMe
4-1-C	2 only	N	CL	N											N	Y	Y	OB NVMe
4-2	1 only	AC	N	OL											Y	Y	Y	OB NVMe
4-2-C	1 only	N	CL	N											N	Y	Y	OB NVMe
8-1	2 only	AC	N	OL	0	0	10	0	0	0	0	0	0	2.5" 10xNVMe G5 (C21X)	Y	Y	N	OB NVMe
8-1-C	2 only	N	CL	N											N	Y	N	OB NVMe
9-1	2 only	AC	N	OL	0	0	10	0	0	0	0	2	0	2.5" 10xNVMe G5 (C21X)	Y	N	N	OB NVMe

Details - Configurations with front slots

The following table lists the detailed configurations that use 2.5-inch front drive bays without front PCIe slots.

Go back to the [overview of configurations](#).

Return to [Storage configurations](#).

Table 19. Details - Configurations with front slots

Config	CPUs	CPU cooling			Front drive bays					Rear drives			Backplanes	M.2			Controllers	
		Air cooled	Closed loop	Open loop	SAS/SATA	AnyBay	NVMe	E3.S 1T	E3.S 2T	SAS/SATA	AnyBay	NVMe		M.2 Internal	M.2 Rear HS	M.2 Front HS		
44-1	2 only	AC	N	OL	0	0	4	0	0	0	0	0	0	2.5" 4xNVMe G5 (C2NQ)	N	Y	N	OB NVMe 7&8
45-1	1 only	AC	N	OL											N	Y	N	OB NVMe 2&1

Field upgrades

The SR630 V4 is orderable without drive bays, allowing you to add a backplane, cabling and controllers as field upgrades. The following table summarizes the option part numbers you will need to order for each available drive configuration.

Configuration rules:

- For front drive bays, backplane kits do not include cables. Cables must be ordered separately.

- For Rear drive bays, backplane kits included cables.
- There is no upgrade path to add drive bays if the SR630 V4 already has a backplane, without removing the existing backplane. For example, you cannot upgrade an 8x 2.5-inch drive bay to 10 bays without first removing the existing backplane.

The following table lists the part numbers needed for each storage configuration.

Table 20. Field upgrades

Front storage configuration	Part numbers (all needed)
Front drive bays (cable kit must also be ordered)	
4x 2.5-inch NVMe drives	<ul style="list-style-type: none"> • 4XH7A96830, ThinkSystem SR630 V4 4x2.5" AnyBay Gen5 Backplane Option Kit • 4X97A96839, ThinkSystem SR630 V4 4x2.5" AnyBay Backplane NVMe Cable Kit
4x 2.5-inch NVMe drives for use with front PCIe slots	<ul style="list-style-type: none"> • 4XH7A96830, ThinkSystem SR630 V4 4x2.5" AnyBay Gen5 Backplane Option Kit • 4X97A96840, ThinkSystem SR630 V4 4x2.5" AnyBay Backplane NVMe Cable Kit for Front I/O Chassis
8x 2.5-inch NVMe drives	<ul style="list-style-type: none"> • 4XH7A96830, ThinkSystem SR630 V4 4x2.5" AnyBay Gen5 Backplane Option Kit • 4XH7A96830, ThinkSystem SR630 V4 4x2.5" AnyBay Gen5 Backplane Option Kit • 4X97A96842, ThinkSystem SR630 V4 8x2.5" AnyBay Backplane NVMe Cable Kit
10x 2.5-inch NVMe drives	<ul style="list-style-type: none"> • 4XH7A96834, ThinkSystem SR630 V4 10x2.5" AnyBay Gen5 Backplane Option Kit • 4X97A96845, ThinkSystem SR630 V4 10x2.5" AnyBay Backplane NVMe Cable Kit
Rear drive bays (cable are included)	
2x 2.5-inch rear NVMe drives	<ul style="list-style-type: none"> • 4XH7A96835, ThinkSystem SR630 V4 2x2.5" AnyBay Gen5 Rear Backplane Option Kit

When adding drive bays, you will also need to add the appropriate storage controller(s). Consult the tables in the [Storage configurations](#) section to determine what controller sections are supported and what additional controllers you will need. Controllers are described in the [Controllers for internal storage](#) section.

M.2 drives

The SR630 V4 supports one or two M.2 form-factor SATA or NVMe drives for use as an operating system boot solution or as additional storage.

M.2 drives can be installed in one of the following locations:

- Internal to the server (non-hot-swap) in a location between the front drive bays the and fans, as shown in the [Internal view](#) of the server
- Rear-mounted hot-swap M.2 drives with integrated RAID
- Front-mounted hot-swap M.2 drives with integrated RAID (planned for 1Q/2025)

The following figure shows the SR630 V4 with front and rear hot-swap M.2 drive bays.

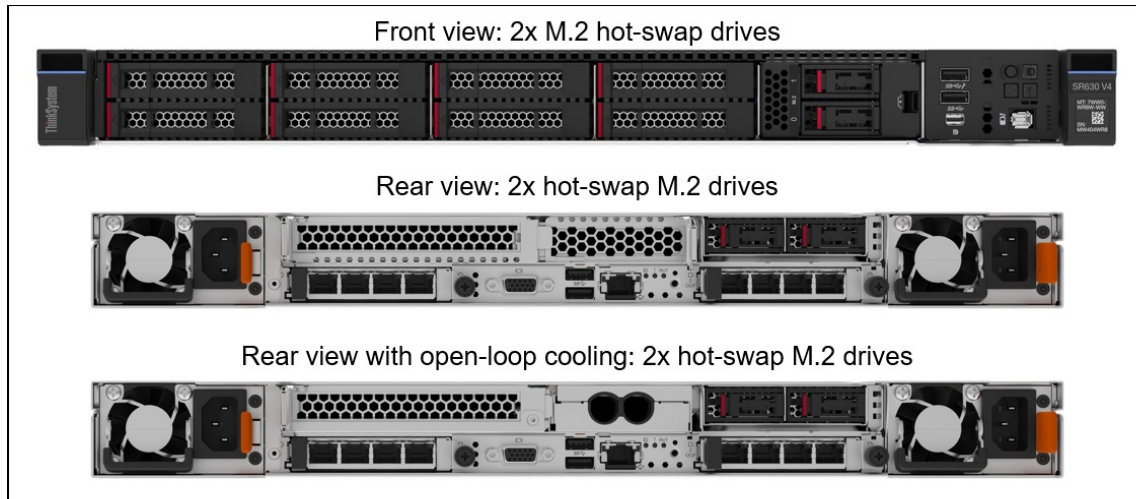


Figure 14. Hot-swap M.2 drive bays

The following figure shows the rear hot-swap M.2 drive bays.

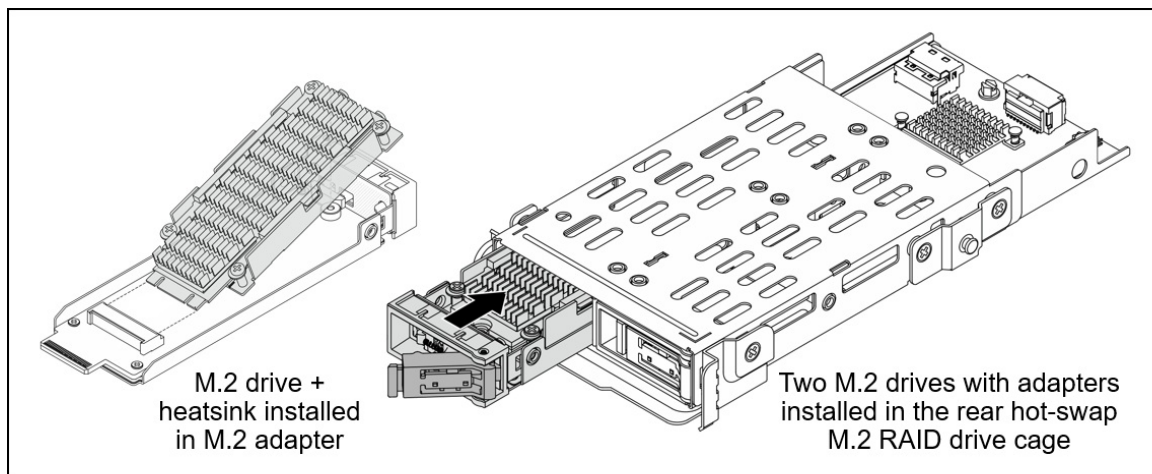


Figure 15. Rear hot-swap M.2 drive bays

The supported M.2 module is listed in the following table. For field upgrades see the [M.2 field upgrades](#) section below.

Table 21. M.2 modules

Part number	Feature code	Description	Location	SATA drives	NVMe drives	RAID	Max Qty
4Y37A91802	C0JK	ThinkSystem M.2 B340i-2i NVMe Enablement Adapter	Internal	No	Yes (x2 lanes per drive)	VROC	1
4Y37A93746	C26V	ThinkSystem M.2 RAID B545i-2i SATA/NVMe Adapter	Internal	Yes	Yes (x1 lane per drive)	Integrated (Broadcom)	1
4XH7A96836	C0JJ	ThinkSystem SR630 V4 M.2 RAID B540p 2HS SATA/NVMe Kit Part number 4XH7A96836 contains: <ul style="list-style-type: none"> • M.2 rear drive cage • M.2 2-drive hot-swap backplane • 2x empty M.2 hot-swap adapter trays • Signal and power cables 	Rear hot-swap	Yes	Yes (x1 lane per drive)	Integrated (Broadcom)	1
Planned*	C0TT*	ThinkSystem M.2 RAID B540d-2HS SATA/NVMe Adapter	Front hot-swap	Yes	Yes (x1 lane per drive)	Integrated (Broadcom)	1

* Front M.2 support is planned for 1Q/2025

Configuration notes:

- M.2 is not supported with all storage configurations - see [Storage configurations](#) for details.
- For CTO orders, all other necessary components, except for the M.2 drives themselves, will be automatically included in the order. For drives, see the [Internal drive options](#) section.
- For field upgrades of the internal M.2, an additional cable is needed as described in the [M.2 field upgrades for internal M.2](#) section below.
- For field upgrades of the rear or front hot-swap M.2, one additional kit is needed for each M.2 drive you plan to install, as described in the [M.2 field upgrades for hot-swap M.2](#) section below.

ThinkSystem M.2 B340i-2i NVMe Enablement Adapter (4Y37A91802) optionally supports RAID with the use of Intel VROC. For CTO orders, ordering information is listed in the following table.

Table 22. CTO feature codes to select VROC RAID for ThinkSystem M.2 B340i-2i NVMe Enablement Adapter (4Y37A91802)

Part number	Feature code	Description	Max Qty	RAID support
VROC NVMe RAID for ThinkSystem M.2 B340i-2i NVMe Enablement Adapter (4Y37A91802)				
4L47A92670*	BZ4X	Intel VROC RAID1 Only for M.2	1	RAID-1
4L47A83669*	BS7M	Intel VROC (VMD NVMe RAID) Standard for M.2	1	RAID-0,1

* The part numbers enable VROC for all installed drives, not just M.2

The ThinkSystem M.2 B340i-2i NVMe Enablement Adapter (4Y37A91802) has the following features:

- Supports one or two NVMe M.2 drives (SATA not supported)
- Drives are not hot-swap
- Support M.2 2280 (80mm) drive form factor only
- No built-in RAID support (optionally supports Intel VROC NVMe RAID)
- PCIe 5.0 x4 host interface; PCIe 5.0 x2 connection to each drive
- Management and configuration support via UEFI and OS-based tools
- Supports monitoring and reporting of events and temperature
- Firmware update via Lenovo firmware update tools
- Supports SED drive encryption

The ThinkSystem M.2 RAID B545i-2i SATA/NVMe Adapter (4Y37A93746) has the following features:

- Supports one or two M.2 drives, either SATA or NVMe
- Drives are not hot-swap
- Supports M.2 2242, 2260, 2280 drive form factors (42mm, 60mm, 80mm)
- RAID support via an onboard Broadcom SAS3808N RAID Controller
- With 1 drive, supports JBOD
- With 2 drives, supports 2-drive RAID-0, 2-drive RAID-1, or JBOD
- PCIe 4.0 x2 host interface; PCIe 4.0 x1 connection to each drive
- Management and configuration support via UEFI and OS-based tools
- Supports monitoring and reporting of events and temperature
- Firmware update via Lenovo firmware update tools
- Supports SED drive encryption

The ThinkSystem SR630 V4 M.2 RAID B540p 2HS SATA/NVMe Kit (4XH7A96836) has the following features:

- Supports one or two M.2 drives, either SATA or NVMe
- Each drive is installed in a hot-swap carrier
- Support M.2 2280 (80mm) drive form factor only
- RAID support via an onboard Broadcom SAS3808N RAID Controller
- With 1 drive, supports JBOD
- With 2 drives, supports 2-drive RAID-0, 2-drive RAID-1, or JBOD
- PCIe 4.0 x2 host interface; PCIe 4.0 x1 connection to each drive
- Management and configuration support via UEFI and OS-based tools
- Supports monitoring and reporting of events and temperature
- Firmware update via Lenovo firmware update tools
- Supports SED drive encryption

The ThinkSystem M.2 RAID B540d-2HS SATA/NVMe Adapter (4Y37A93014) has the following features:

- Supports one or two M.2 drives, either SATA or NVMe
- Each drive is installed in a hot-swap carrier
- Support M.2 2280 (80mm) drive form factor only
- RAID support via an onboard Broadcom SAS3808N RAID Controller
- With 1 drive, supports JBOD
- With 2 drives, supports 2-drive RAID-0, 2-drive RAID-1, or JBOD
- PCIe 4.0 x2 host interface; PCIe 4.0 x1 connection to each drive
- Management and configuration support via UEFI and OS-based tools
- Supports monitoring and reporting of events and temperature
- Firmware update via Lenovo firmware update tools
- Supports SED drive encryption

M.2 field upgrades for internal M.2

For field upgrades to add one of the supported internal M.2 adapters, the SR630 V4 also requires an additional M.2 cable kit. Ordering information is listed in the following table.

Table 23. M.2 Cable Kits for field upgrades to add an internal M.2 adapter

Part number	Description	Qty
4X97A96838	ThinkSystem SR630 V4 Internal M.2 Cable kit	1

M.2 field upgrades for hot-swap M.2

In addition to the ThinkSystem SR630 V4 M.2 RAID B540p 2HS SATA/NVMe Kit (4XH7A96836), for each M.2 drive you want to add to the server as a hot-swap drive, you will also need to a drive kit which supplies the M.2 adapter, drive tray, and drive heatsink that are needed. One kit is required for each M.2 drive.

Table 24. M.2 kit for field upgrades to add hot-swap M.2 drives

Part number	Description	Qty
4XH7A96837	ThinkSystem V4 1U/2U Hot Swap M.2 SATA/NVMe Drive Assembly Kit <ul style="list-style-type: none"> • M.2 adapter • M.2 drive tray • M.2 drive heatsink 	1 per drive

The following figure shows the components of the ThinkSystem V4 1U/2U Hot Swap M.2 SATA/NVMe Drive Assembly Kit. The M.2 drive needs to be ordered separately.

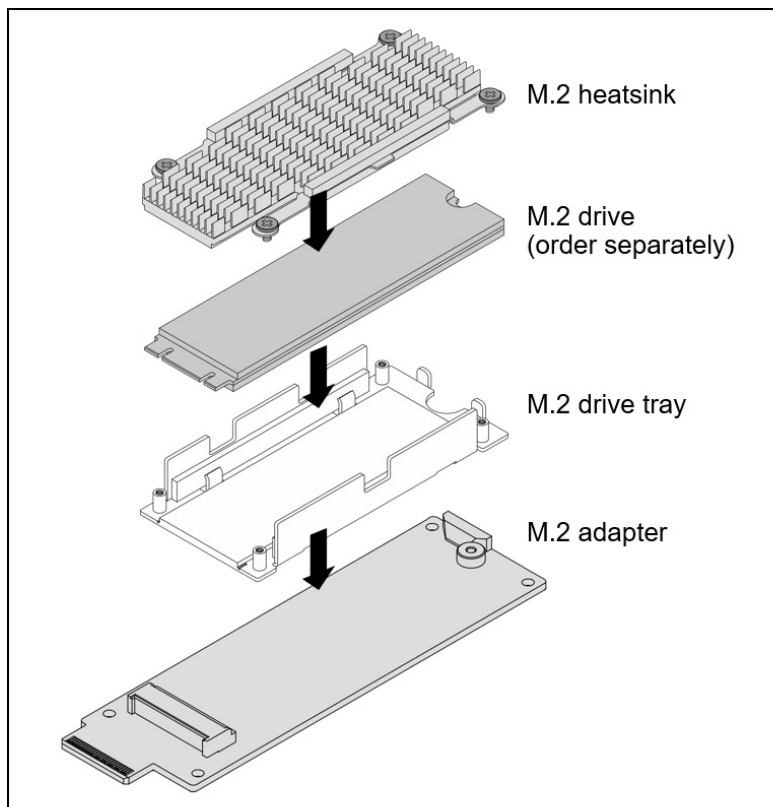


Figure 16. Components of the ThinkSystem V4 1U/2U Hot Swap M.2 SATA/NVMe Drive Assembly Kit

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.

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

Table 25. 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 SR630 V4 currently supports NVMe drives for maximum performance. SAS and SATA drive support is planned with the use of a SAS/SATA RAID adapter or HBA. Initial support is for 2.5-inch hot-swap NVMe drives and there is planned support for E3.S 1T and E3.S 2T NVMe drives.

For RAID support with NVMe drives, SR630 V4 supports Intel VROC NVMe RAID. See the [Intel VROC](#) section for ordering information.

The server also supports M.2 drives for additional storage or OS boot functions. See the [M.2 drives](#) section for details.

The onboard NVMe support has the following features:

- Support integrated into the Intel processor
- Each drive has PCIe 5.0 x4 host interface
- Supports JBOD
- Supports RAID using Intel VROC

Intel VROC onboard RAID

Intel VROC (Virtual RAID on CPU) is a feature of the Intel processor that enables Integrated RAID support.

On the SR630 V4, Intel VROC provides RAID functions for the onboard NVMe controller (Intel VROC NVMe RAID).

VROC NVMe RAID offers RAID support for any NVMe drives directly connected to the ports on the server's system board or via adapters such as NVMe retimers or NVMe switch adapters. On the SR630 V4, RAID levels implemented are based on the VROC feature selected as indicated in the following table. RAID 1 is limited to 2 drives per array, and RAID 10 is limited to 4 drives per array. Hot-spare functionality is also supported.

Performance tip: For best performance with VROC NVMe RAID, the drives in an array should all be connected to the same processor. Spanning processors is possible however performance will be unpredictable and should be evaluated based on your workload.

The SR630 V4 supports the VROC NVMe RAID offerings listed in the following table.

Table 26. Intel VROC NVMe RAID ordering information and feature support

Part number	Feature code	Description	Intel NVMe SSDs	Non-Intel NVMe SSDs	RAID 0	RAID 1	RAID 10	RAID 5
4L47A92670	BZ4W	Intel VROC RAID1 Only	Yes	Yes	No	Yes	No	No
4L47A83669	BR9B	Intel VROC (VMD NVMe RAID) Standard	Yes	Yes	Yes	Yes	Yes	No
4L47A39164	B96G	Intel VROC (VMD NVMe RAID) Premium	Yes	Yes	Yes	Yes	Yes	Yes

Configuration notes:

- If a feature code is ordered in a CTO build, the VROC functionality is enabled in the factory. For field upgrades, order a part number and it will be fulfilled as a Feature on Demand (FoD) license which can then be activated via the XCC management processor user interface.

Virtualization support: Virtualization support for Intel VROC is as follows:

- **VROC (VMD) NVMe RAID :** VROC (VMD) NVMe RAID is supported by ESXi, KVM, Xen, and Hyper-V. ESXi support is limited to RAID 1 only; other RAID levels are not supported. Windows and Linux OSes support VROC RAID NVMe, both for host boot functions and for guest OS function, and RAID-0, 1, 5, and 10 are supported. On ESXi, VROC is supported with both boot and data drives.

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 PCIe 5.0 NVMe SSDs](#)
- [2.5-inch hot-swap PCIe 4.0 NVMe SSDs](#)

M.2 drives:

- [M.2 PCIe 4.0 NVMe 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 27. 2.5-inch hot-swap PCIe 5.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch SSDs - U.2 PCIe 5.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A93097	C1WM	ThinkSystem 2.5" U.2 PM9D5a 800GB Mixed Use NVMe NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93098	C1WN	ThinkSystem 2.5" U.2 PM9D5a 1.6TB Mixed Use NVMe NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93099	C1WP	ThinkSystem 2.5" U.2 PM9D5a 3.2TB Mixed Use NVMe NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93100	C1WR	ThinkSystem 2.5" U.2 PM9D5a 6.4TB Mixed Use NVMe NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93101	C1WQ	ThinkSystem 2.5" U.2 PM9D5a 12.8TB Mixed Use NVMe NVMe PCIe 5.0 x4 HS SSD	Support	12
2.5-inch SSDs - U.2 PCIe 5.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A93066	C0GK	ThinkSystem 2.5" U.2 PM9D3a 960GB Read Intensive NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93067	C0GL	ThinkSystem 2.5" U.2 PM9D3a 1.92TB Read Intensive NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93068	C0GN	ThinkSystem 2.5" U.2 PM9D3a 3.84TB Read Intensive NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93069	C0GP	ThinkSystem 2.5" U.2 PM9D3a 7.68TB Read Intensive NVMe PCIe 5.0 x4 HS SSD	Support	12
4XB7A93095	C1WL	ThinkSystem 2.5" U.2 PM9D3a 15.36TB Read Intensive NVMe PCIe 5.0 x4 HS SSD	Support	12

Table 28. 2.5-inch hot-swap PCIe 4.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch SSDs - U.3 PCIe 4.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A95054	C2BG	ThinkSystem 2.5" U.3 7500 MAX 800GB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95055	C2BV	ThinkSystem 2.5" U.3 7500 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95056	C2BW	ThinkSystem 2.5" U.3 7500 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95057	C2BF	ThinkSystem 2.5" U.3 7500 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95058	C2BX	ThinkSystem 2.5" U.3 7500 MAX 12.8TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	12
2.5-inch SSDs - U.3 PCIe 4.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A95049	C2BY	ThinkSystem 2.5" U.3 7500 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95050	C2BR	ThinkSystem 2.5" U.3 7500 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95051	C2BS	ThinkSystem 2.5" U.3 7500 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95052	C2BT	ThinkSystem 2.5" U.3 7500 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	12
4XB7A95053	C2BU	ThinkSystem 2.5" U.3 7500 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	12

Table 29. M.2 PCIe 4.0 NVMe drives

Part number	Feature code	Description	SED support	Max Qty
M.2 SSDs - PCIe 4.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A82636	BS2P	ThinkSystem M.2 7450 PRO 480GB Read Intensive NVMe PCIe 4.0 x4 NHS SSD	Support	2
4XB7A13999	BKSR	ThinkSystem M.2 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 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 30. USB memory key

Part number	Feature	Description
4X77A95465	C44Q	ThinkSystem USB 64GB USB 3.0 Flash Drive

Internal backup units

The server does not support any internal backup units, such as tape drives or RDX drives. External backup units are available as described in the [External backup units](#) section.

Optical drives

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

Table 31. 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 SR630 V4 supports a total of up to 5x PCIe slots, 3x at the rear and 2x at the front, plus 2x OCP 3.0 SFF slots for networking. The OCP slots can be either both at the rear of the server, one can be at the front and one at the rear. Slot availability is based on riser selection and drive bays configured. The use of slot 3 and the front slots require that both processors be installed.

Internal (CFF) RAID adapter/HBA: For configurations with 2.5-inch front drive bays, an internal RAID adapter or HBA (CFF, custom form factor) can be installed in a dedicated space and cabled to a PCIe 4.0 x8 connector, thereby freeing up a slot for other purposes.

Topics in this section:

- [Rear slots](#)
- [Front slots](#)
- [Slot field upgrades](#)
- [Serial port](#)

Rear slots

The following figure shows the locations of the rear-accessible slots for each configuration selection. The rear OCP slots (slots 6 and 7) are located below the PCIe slots.

All slots are PCIe Gen 5, either x16 or x8 as shown.

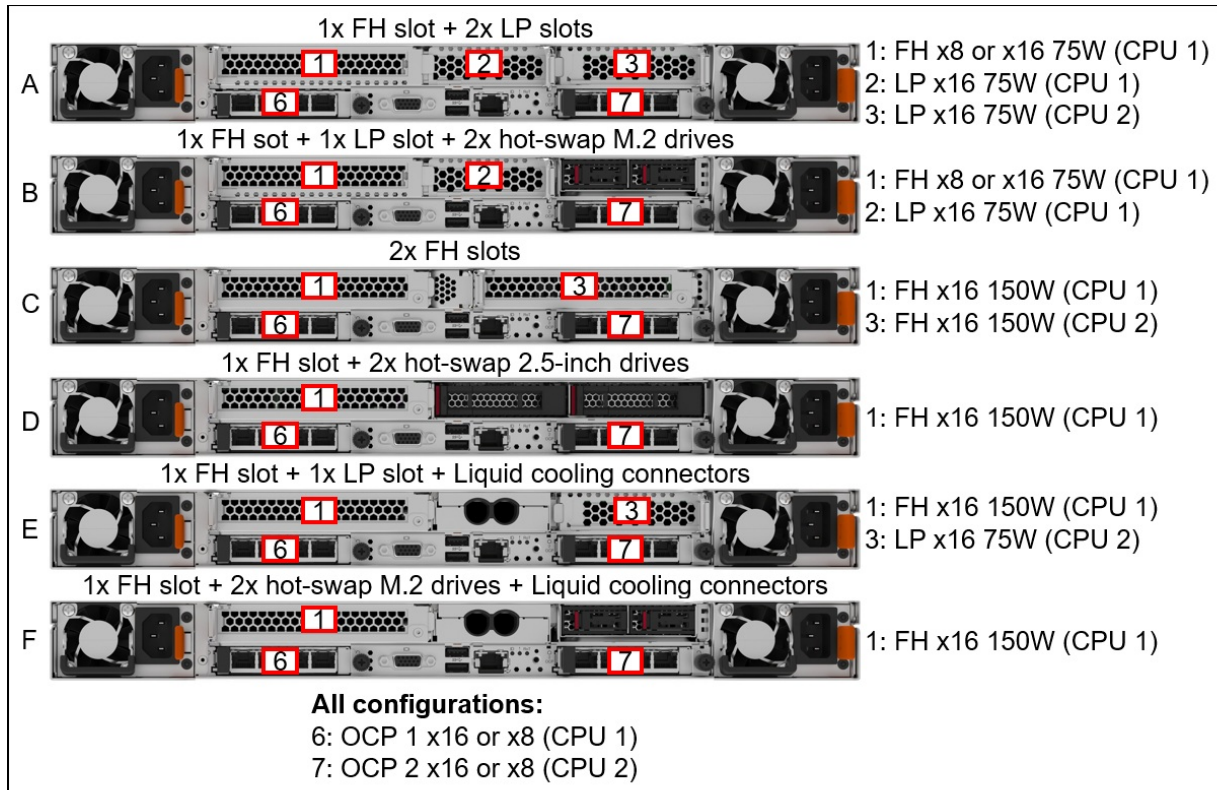


Figure 17. SR630 V4 rear slot configurations

The rear-accessible slots and riser cards are as follows:

- Riser 1: Slots 1 & 2 (connect to CPU 1)
 - Slot 1: Full height, PCIe 5.0 x8 or x16, depending on the configuration
 - Slot 2: Low Profile, PCIe 5.0 x16 (only in configuration A and B in the above figure)
- Riser 2: Slot 3 (connects to CPU 2)
 - Slot 3: Low Profile or FHHL, PCIe 5.0 x16 (only in configuration A, C, and E)
- OCP slots:
 - OCP slot 6 (connects to CPU 1): PCIe 5.0 x8 or x16 (can be configured as x16 with the addition of a x16 OCP Cable Kit, feature C1YK)
 - OCP slot 7 (connects to CPU 2): PCIe 5.0 x8 or x16 (can be configured as x16 with the addition of a x16 OCP Cable Kit, feature C1YK)

The following table lists the CTO feature codes for the rear slots. For part numbers, see the [Rear slot configurations](#) table.

Table 32. CTO feature codes for Risers and the OCP cable

Feature code	Description	Purpose	Max Qty
Riser cards			
C1ZB	ThinkSystem SR630 V4 x16 PCIe Gen5 Riser 1 or 2	Provides x16 slot 1 (riser 1) or slot 3 (riser 2)	2
C1Z4	ThinkSystem SR630 V4 x16 PCIe Gen5 Riser2	Provides x16 slot 3 (riser 2)	1
C2NL	ThinkSystem SR630 V4 x8/x8 PCIe Gen5 Riser 1	Provides x8 slots 1 and 2 (riser 1)	1
C1YH	ThinkSystem SR630 V4 x16/x16 PCIe Gen5 Cable Riser	Provides x16 slots 1 and 2 (riser 1)	1
OCP cable			
C1YK	ThinkSystem SR650 V4/SR630 V4 x16 OCP Cable Kit	With this cable, a rear OCP slot is PCIe x16. Without this cable, the rear OCP slot is PCIe x8. 1 per OCP slot. Rear OCP slots only.	2

The following table lists the supported rear slots configurations in the SR630 V4. The Cfg column matches the slot configurations shown in the preceding figure. Ordering information is as follows:

- For CTO orders, order the feature codes listed for the configuration, both riser and cage feature codes (2, 3, or 4 feature codes, depending on the configuration)
- For field upgrades, order the part numbers listed for the configuration (1 or 2 part numbers, depending on the configuration). The part numbers include both the risers and cages needed for that configuration.

No slots: It is also possible to build a configuration without any slots, in which case slot fillers will be derived in the configurator. Slots can be added later as field upgrades using option part numbers as listed in the table.

Table 33. Rear slot configurations

Cfg	Part number	Features		Description (part number)	Slot configuration* (All Gen5)			Purpose
		Riser	Cage		Slot 1	Slot 2	Slot 3	
Rear slots - Gen 5					Slot 1	Slot 2	Slot 3	
A x16	4XH7A96826	C1YH	C1Z7	ThinkSystem SR630 V4 x16/x16 Gen5 Cable Riser 1 FH+LP Option Kit	FH x16 75W (CPU 1)	LP x16 75W (CPU 1)		1x FH slot + 2x LP slots (x16/x16/x16 75W)
	4XH7A96828	C1Z4	C1Z8	ThinkSystem SR630 V4 x16 Gen5 Riser 2 LP Option Kit			LP x16 75W (CPU 2)	
A x8	4XH7A96827	C2NL	C1Z7	ThinkSystem SR630 V4 x8/x8 Gen5 Riser 1 FH+LP Option Kit	FH x8 75W (CPU 1)	LP x8 75W (CPU 1)		1x FH slot + 2x LP slots (x8/x8/x16 75W)
	4XH7A96828	C1Z4	C1Z8	ThinkSystem SR630 V4 x16 Gen5 Riser 2 LP Option Kit			LP x16 75W (CPU 2)	
B x16	4XH7A96826	C1YH	C1Z7	ThinkSystem SR630 V4 x16/x16 Gen5 Cable Riser 1 FH+LP Option Kit	FH x16 75W (CPU 1)	LP x16 75W (CPU 1)	M.2 drives	1x FH slot + 1x LP slot (x16/x16 75W) + 2x hot-swap M.2 drives
B x8	4XH7A96827	C2NL	C1Z7	ThinkSystem SR630 V4 x8/x8 Gen5 Riser 1 FH+LP Option Kit	FH x8 75W (CPU 1)	LP x8 75W (CPU 1)	M.2 drives	1x FH slot + 1x LP slot (x8/x8 75W) + 2x hot-swap M.2 drives
C	4XH7A96823	C1ZB	C1ZC	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit	FH x16 150W (CPU 1)	No slot		2x FH slots (x16/x16 150W) for GPUs > 75W
	4XH7A96824	C1ZB	C1ZD	ThinkSystem SR630 V4 x16 Gen5 Riser 2 FH Option Kit			FH x16 150W (CPU 2)	
D	4XH7A96825	C1ZB	C1ZF	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit for Rear HDD	FH x16 150W (CPU 1)	2.5" drive	2.5" drive	1x FH slot (x16 150W) + 2x hot-swap 2.5-inch drives
E	4XH7A96825	C1ZB	C1ZF	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit for Rear HDD	FH x16 150W (CPU 1)	DWC connectors		1x FH slot + 1x LP slot (x16 150W/x16 75W) + Liquid cooling connectors
	4XH7A96828	C1Z4	C1Z8	ThinkSystem SR630 V4 x16 Gen5 Riser 2 LP Option Kit			LP x16 75W (CPU 2)	
F	4XH7A96825	C1ZB	C1ZF	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit for Rear HDD	FH x16 150W (CPU 1)	DWC connectors	M.2 drives	1x FH slot (x16 150W) + 2x hot-swap M.2 drives + Liquid cooling connectors

Front slots

As an addition or alternative to the rear slots, the SR630 V4 supports slots at the front of the server.

The following figure shows the locations of the front-accessible slots.

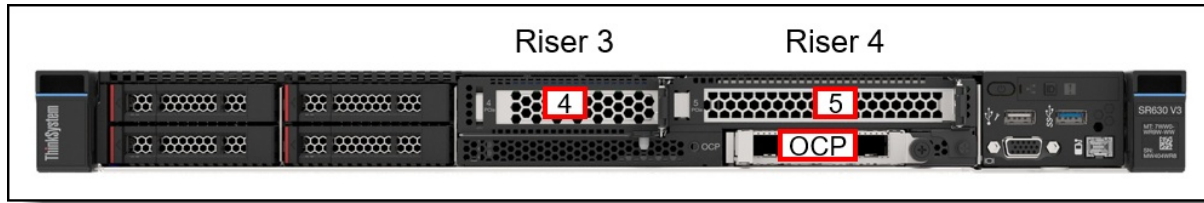


Figure 18. SR630 V4 front slots

The front-accessible slots and riser cards are as follows:

- Slot 4: Low Profile, PCIe 5.0 x16 (connects to CPU 2)
- Slot 5: FHHL, PCIe 5.0 x16 (connects to CPU 1)
- Front OCP slot (Slot 8) (connects to CPU 1)
 - With 1 CPU installed, front OCP is PCIe 5.0 x8
 - With 2 CPUs installed, front OCP is PCIe 5.0 x16

Ordering information is listed in the following table.

Table 34. Front slots

Part number	Feature code	Description	Purpose
Slot 4 (Riser 3)			
CTO only	C1YJ	ThinkSystem SR630 V4 Front x16 PCIe Gen5 Riser	Provides front x16 slot for slot 4
Slot 5 (Riser 4)			
CTO only	C1YJ	ThinkSystem SR630 V4 Front x16 PCIe Gen5 Riser	Provides front x16 slot for slot 5

Configuration notes:

- The use of front slots requires base feature code C1XF as described in the [Base feature codes](#) section.
- Front slots can be used in conjunction with rear drive bays. See [Storage configurations](#) for details.
- The front OCP slot is automatically derived by the configurator with riser 4 (slot 5).
- The server only supports one or two OCP slots, so with front PCIe slots configured in a 2-processor system, a single rear OCP is optional. If selected, the rear OCP will be located in OCP slot 2 and connected to CPU 2.
- The use of the Lenovo Neptune Liquid to Air (L2A) Module (feature C1XK) is not supported.
- The security bezel is not supported with front PCIe slots.
- Front M.2 hot-swap drive bays is not supported with front PCIe slots.

Slot field upgrades

Slot configurations can also be ordered as field upgrades using option part numbers, as listed in the following table.

For details on which configurations these are supported in, see the [Rear slot configurations](#) table.

Table 35. Slot field upgrades

Part number	Description	Max Qty
Rear PCIe risers		
4XH7A96823	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit	1
4XH7A96824	ThinkSystem SR630 V4 x16 Gen5 Riser 2 FH Option Kit	1
4XH7A96825	ThinkSystem SR630 V4 x16 Gen5 Riser 1 FH Option Kit for Rear HDD	1
4XH7A96826	ThinkSystem SR630 V4 x16/x16 Gen5 Cable Riser 1 FH+LP Option Kit	1
4XH7A96827	ThinkSystem SR630 V4 x8/x8 Gen5 Riser 1 FH+LP Option Kit	1
4XH7A96828	ThinkSystem SR630 V4 x16 Gen5 Riser 2 LP Option Kit	1
Rear OCP slot upgrades		
4X97A97300	ThinkSystem V4 1U/2U OCP x16 Enablement Cable Kit	2

Configuration notes:

- Riser option part numbers include the riser card and the bracket that the riser card mounts in. For cabled risers, the option part numbers include the cable needed to connect the riser to the system board.
- The ThinkSystem V4 1U/2U OCP x16 Enablement Cable Kit (4X97A97300) is used to convert a rear OCP slot from PCIe x8 to PCIe x16, which is beneficial if you have, or plan to have, a PCIe x16 OCP adapter installed. The kit includes a cable that plugs into system board connector PCI 10 for OCP slot 1, or connector PCI 12 for OCP slot 2 (see the block diagram in the [System architecture](#) section).
- For 1-socket configurations with front slots, the front OCP slot is configured as a PCIe x8 slot. If a second processor is added as a field upgrade, it is not supported to upgrade the front OCP slot to PCIe x16 due to cabling differences.

Serial port

The SR630 V4 optionally supports a RS-232 serial port by adding a COM port bracket to either slot 2 or slot 3. Ordering information is shown in the following table.

No front slot support: The serial port is not supported in the front PCIe slots

Table 36. Serial port

Part number	Feature code	Description
4X97A97253	C3FB	ThinkSystem V4 1U/2U COM Port Upgrade Kit

The bracket is shown in the following figure. The option part number includes both Low Profile and Full Height brackets.

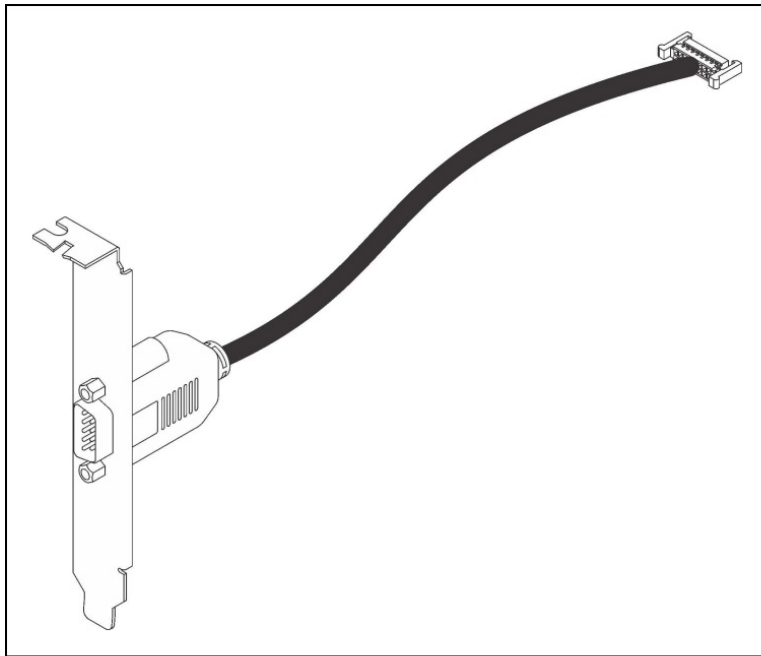


Figure 19. ThinkSystem V4 1U/2U COM Port Upgrade Kit

Network adapters

The server has two dedicated OCP 3.0 SFF slots each with a PCIe x16 host interface. The OCP slots can either be both located at the rear of the server or one at the front of the server and one at the rear. See [Figure 3](#) for the location of the OCP slots.

The following table lists the supported OCP adapters. One port can optionally be shared with the XCC management processor for Wake-on-LAN and NC-SI support.

Table 37. Supported OCP adapters

Part number	Feature code	Description	Maximum supported
25 Gb Ethernet			
4XC7A08237	BN2T	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-Port OCP Ethernet Adapter	2
4XC7A80567	BPPW	ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port OCP Ethernet Adapter	2
4XC7A62582	BE4T	ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port OCP Ethernet Adapter	2
100 Gb Ethernet			
4XC7A08243	BPPX	ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter	2

The following table lists additional supported network adapters that can be installed in the regular PCIe slots.

Table 38. Supported PCIe Network Adapters

Part number	Feature code	Description	Max qty	Slots	PCIe width	
25 Gb Ethernet						
4XC7A08238	BK1H	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	5	5,4,1,2,3	PCIe x8	9/3/2024
4XC7A80566	BNWM	ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port PCIe Ethernet Adapter	3	5,1,3†	PCIe x16	9/3/2024
4XC7A62580	BE4U	ThinkSystem Mellanox ConnectX-6 Lx 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	5	5,4,1,2,3	PCIe x8	9/3/2024
100 Gb Ethernet and HDR100 InfiniBand						
4XC7A08297	BK1J	ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port PCIe 4 Ethernet Adapter	4*	5,4,1,2,3	PCIe x16	9/3/2024
200 Gb Ethernet and HDR/NDR200 InfiniBand						
4XC7A81883	BQBN	ThinkSystem NVIDIA ConnectX-7 NDR200/200GbE QSFP112 2-port PCIe Gen5 x16 Adapter	5*	5,4,1,2,3	PCIe x16	9/3/2024

* Performance fans may be required. See the [Cooling](#) section

† In the SR630 V4, this adapter requires a full-height bracket and must be installed in a full-height slot. The use of a low-profile bracket and slot is not supported.

For more information, including the transceivers and cables that each adapter supports, see the list of Lenovo Press Product Guides in the Networking adapters category:

<https://lenovopress.com/servers/options/ethernet>

Fibre Channel host bus adapters

Support for Fibre Channel host bus adapters is planned.

SAS adapters for external storage

Support for SAS adapters for external storage is planned.

GPU adapters

Support for GPU adapters is planned.

Cooling

The SR630 V4 server has up to eight 40 mm hot-swap variable-speed fans. The fans are implemented as 2-in-1 fan modules where each module contains two fans, side by side.

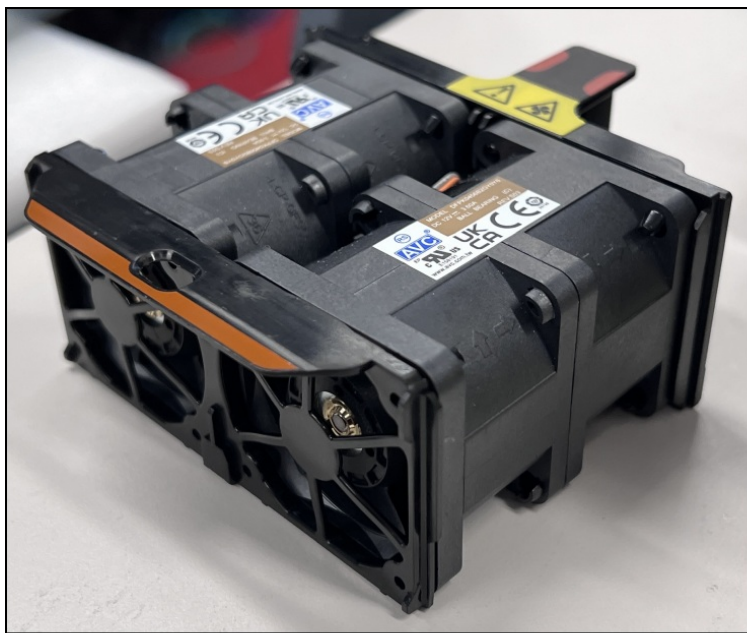


Figure 20. Fan module

Three fan modules (six fans) are needed when one processor is installed and four fan modules (eight fans) are required when two processors are installed. The server offers N+1 rotor redundancy.

Depending on the configuration, the server can be configured with one of the following:

- Standard fans, which are single-rotor 23K RPM fans
- Performance fans, which are dual-rotor 28K RPM fans

Ordering information for the fans is listed in the following table.

Table 39. Fan ordering information (each module contains two fans)

Part number	Feature code	Description	Fan modules required (2 fans each)	
			1 CPU	2 CPUs
4H47A96816	C1YS	ThinkSystem SR630 V4 Standard Fan Option Kit	3	4
4H47A96817	C1YT	ThinkSystem SR630 V4 Performance Fan Option Kit	3	4

Configuration rules:

- Fan types cannot be mixed
- Use performance fans when your server is installed with any of the following adapters:
 - ThinkSystem Broadcom 57454 10GBASE-T 4-port OCP Ethernet Adapter
 - ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter
 - ThinkSystem Broadcom 57508 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter
- Use performance fans and the ambient temperature must be limited to 30°C or lower when your server is installed with any of the following adapters:
 - ThinkSystem Broadcom 57508 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter V2 with Active Fiber cables
 - ThinkSystem Mellanox ConnectX-6 HDR100 IB/100GbE VPI 1-port x16 PCIe 3.0 HCA
 - ThinkSystem Mellanox ConnectX-6 HDR100 IB/100GbE VPI 2-port x16 PCIe 3.0 HCA
 - ThinkSystem Mellanox ConnectX-6 HDR IB/200GbE Single Port x16 PCIe Adapter
 - ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter
 - ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 1-port PCIe Ethernet Adapter
 - ThinkSystem NVIDIA ConnectX-7 NDR400 OSFP 1-port PCIe Gen5 Adapter
 - ThinkSystem NVIDIA ConnectX-7 NDR200/HDR QSFP112 2-port PCIe Gen5 x16 InfiniBand Adapter
- The ambient temperature must be limited to 30°C or lower when 100/200 GB NIC adapters with active transceivers and fiber cables installed; and 35°C or lower when the adapters use passive copper cables.

For additional details on configuration requirements, see the Thermal Rules page on the Lenovo Docs site: https://pubs.lenovo.com/sr630-v4/thermal_rules

Power supplies

The SR630 V4 supports up to two redundant hot-swap power supplies.

The power supply choices are listed in the following table. If two power supplies are installed, both power supplies used in server must be identical.

Tip: When configuring a server in the DCSC configurator, power consumption is calculated precisely by interfacing with Lenovo Capacity Planner. You can therefore select the appropriate power supply for your configuration. However, do consider future upgrades that may require additional power needs.

Table 40. Power supply options

Part number	Feature code	Description	Max Qty	Capacity (230V)	Capacity (115V)	Voltage	Connector
Titanium AC power supplies - CRPS Premium							
4P57A88687	C0U7	ThinkSystem 800W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	2	800W	800W	230V/115V	C14
4P57A88621	C0U4	ThinkSystem 1300W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	2	1300W	1000W	230V/115V	C14
4P57A88689	C0U3	ThinkSystem 2000W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	2	2000W	1000W	230V/115V	C14
Platinum AC power supplies - CRPS							
4P57A89306	C0U8	ThinkSystem 800W 230V/115V Platinum CRPS Hot-Swap Power Supply v1.5	2	800W	800W	230V/115V	C14
4P57A89307	C0U6	ThinkSystem 1300W 230V/115V Platinum CRPS Hot-Swap Power Supply v1.5	2	1300W	1000W	230V/115V	C14
4P57A88636	C0U5	ThinkSystem 1300W 230V/115V Platinum CRPS Hot-Swap Power Supply v2.4	2	1300W	1000W	230V/115V	C14

Supported voltage ranges are as follows:

- The 230V/115V AC power supplies support both low-range (100-127V 50/60 Hz) and high-range (200-240V 50/60 Hz) power. For China customers, all power supplies support 240V DC.

For inlet current requirements, see the [Physical and electrical specifications](#) section.

Power supply options do not include a line cord. For server configurations, the inclusion of a power cord is model dependent. Configure-to-order models can be configured without power cords if desired.

The SR630 V4 supports both CRPS and CRPS Premium power supplies. CRPS Premium power supplies offer the following additional features:

- Over-subscription
- More accurate power metering
- Virtual reset
- Enhanced fault detection
- System cooling assist (fan override)
- Fault LEDs
- VPD support

Power supply LEDs

The supported hot-swap power supplies have the following LEDs:

- Power input LED:
 - Green: The power supply is connected to the AC power source
 - Off: The power supply is disconnected from the AC power source or a power problem has occurred
- Power output LED:
 - Green: The server is on and the power supply is working normally
 - Blinking green: The power supply is in Zero-output/Standby mode (see below)
 - Off: The server is powered off, or the power supply is not working properly
- Power supply error LED:
 - Off: The power supply is working normally
 - Yellow: The power supply has failed

Zero-output mode: When Zero-output mode (also known as Standby mode or Cold Redundancy mode) is configured in XCC and the server power load is sufficiently low, one of the installed power supplies enters into the Standby state while the other one delivers entire load. When the power load increases, the standby power supply will switch to Active state to provide sufficient power to the server. Zero-output mode can be enabled or disabled in the XClarity Controller web interface, Server Configuration > Power Policy. If you select Disable, then both power supplies will be in the Active state.

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 1300W or 2000W power supplies 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 41. 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
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

Part number	Feature code	Description
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
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

Part number	Feature code	Description
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 SR630 V4 contains an integrated service processor, XClarity Controller 3 (XCC3), which provides advanced control, monitoring, and alerting functions. The XCC3 is based on the AST2600 baseboard management controller (BMC) using a dual-core ARM Cortex A7 32-bit RISC service processor running at 1.2 GHz.

Topics in this section:

- [System I/O Board](#)
- [Local management](#)
- [System status with XClarity Mobile](#)
- [Remote management](#)
- [MicroSD for XCC local storage](#)
- [XCC3 Premier](#)
- [Lenovo XClarity Provisioning Manager](#)
- [Lenovo XClarity Administrator](#)
- [Lenovo XClarity Integrators](#)
- [Lenovo XClarity Essentials](#)
- [Lenovo XClarity Energy Manager](#)
- [Lenovo Capacity Planner](#)

System I/O Board

The SR630 V4 implements a separate System I/O Board that connects to the system board as shown in the Internal view in the [Components and connectors](#) section. The System I/O Board contains all the connectors visible at the rear of the server as shown in the following figure.

Note: The NMI (non-maskable interrupt) button is not accessible from the rear of the server. Lenovo recommends using the NMI function that is part of the XCC user interfaces instead.

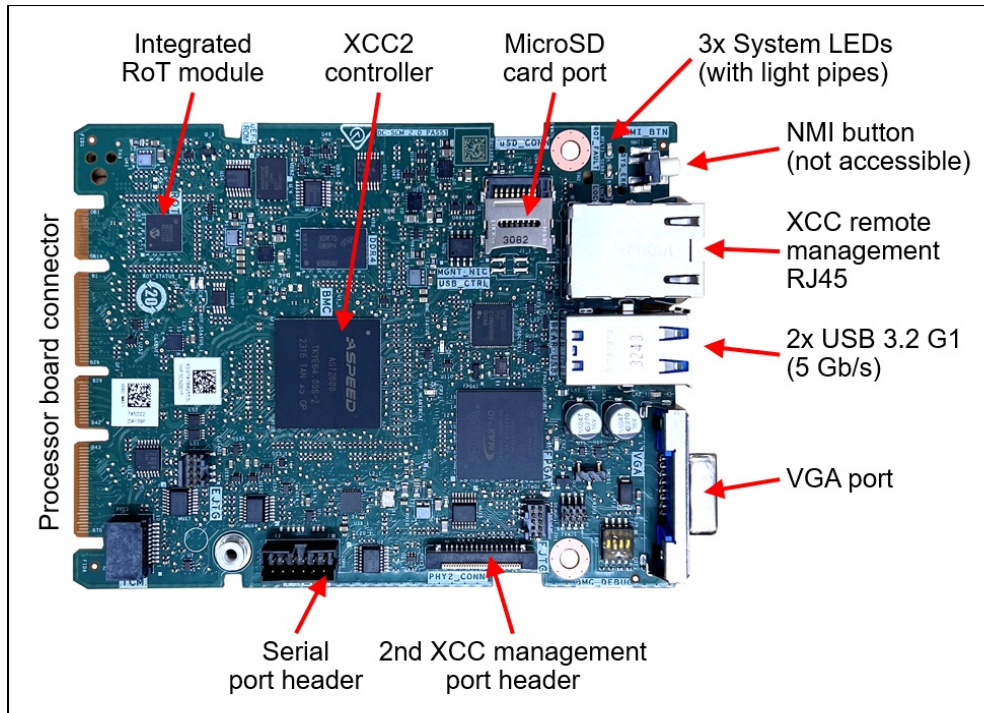


Figure 21. System I/O Board

The board also has the following components:

- XClarity Controller 3, implemented using the ASPEED AST2600 baseboard management controller (BMC).
- Root of Trust (RoT) module - implements Platform Firmware Resiliency (PFR) hardware Root of Trust (RoT) which enables the server to be NIST SP800-193 compliant. For more details about PFR, see the [Security](#) section.
- MicroSD card port to enable the use of a MicroSD card for additional storage for use with the XCC3 controller. XCC3 can use the storage as a Remote Disc on Card (RDOC) device (up to 4GB of storage). It can also be used to store firmware updates (including N-1 firmware history) for ease of deployment.

Tip: Without a MicroSD card installed, the XCC controller will have 100MB of available RDOC storage.

Ordering information for the supported Micro SD cards are listed in the [MicroSD for XCC local storage](#) section.

Local management

The SR630 V4 offers a front operator panel with key LED status indicators, as shown in the following figure.

Tip: The Network LED only shows network activity of an installed OCP network adapter. The LED shows activity from both OCP adapters if two are installed.

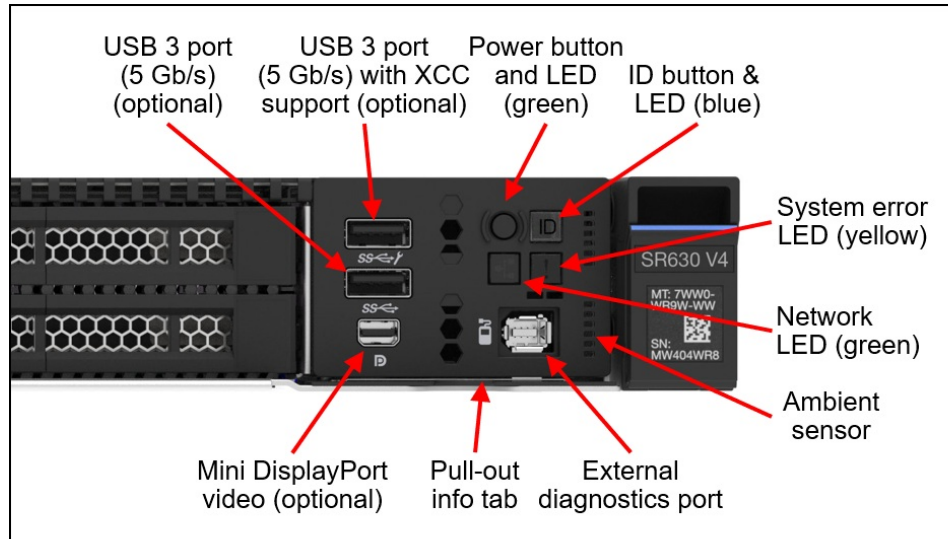


Figure 22. SR630 V4 Front operator panel

Front DisplayPort video port and Front/Internal USB ports

The rear USB ports are standard on all models of the SR630 V4, however the front and internal USB ports are optional, and can be configured in the factory in CTO orders, or as field upgrades using option part numbers. Similarly, the rear VGA port is standard on all models, however a front MiniDP video port can be configured CTO or added as a field upgrade.

Internal USB port: The internal USB port supports USB drives that have an overall length of less than 30mm. See the [USB flash drive](#) section for the supported drive.

For CTO orders, the feature codes are listed in the following table.

Table 42. CTO orders - Front & internal ports

Feature code	Description	Purpose
C1YR	ThinkSystem 1U/2U V4 USB Ports Extension Board	Provides the Internal USB 3 port (5 Gb/s)
C1YQ*	ThinkSystem 1U V4 Media Bay with 2xUSB and 1xMini-DP ports	Provides the 2x Front USB 3 ports (5 Gb/s) and MiniDP 1.1a port

* Feature C1YR must also be selected

Configuration rules:

- The Front USB ports and MiniDP (C1YQ) requires that the Internal USB port (C1YR) also be selected
- For CTO orders to select feature C1YQ, you will need to deselect feature C1YP
- Feature C1YQ is required to use XClarity Mobile, as described in the [System status with XClarity Mobile](#) section.
- Feature C1YQ is not supported with E3.S drive bay configurations

For field upgrades, the part numbers listed in the following table are available.

Table 43. Local management

Part number	Description	Purpose
4X97A96850	ThinkSystem 1U/2U V4 Front Media Bay Option Kit <ul style="list-style-type: none"> • USB I/O board with Internal USB port • Front media bezel with USB ports and MiniDP port 	Adds Internal USB 3 port (5 Gb/s), 2x Front USB 3 ports (5 Gb/s), MiniDP 1.1a video port
4XF7A99087	ThinkSystem V4 1U/2U Internal USB I/O Board Option Kit <ul style="list-style-type: none"> • USB I/O board with Internal USB port 	Adds Internal USB 3 port (5 Gb/s) only. See the USB flash drive section for supported USB drives.

Configuration notes for field upgrades:

- If you order ThinkSystem 1U/2U V4 Front Media Bay Option Kit for use in a server that already has the internal USB port installed (feature C1YR), the USB I/O board from the kit will not be needed as it is a duplicate of what is already installed.
- ThinkSystem 1U/2U V4 Front Media Bay Option Kit is required to use XClarity Mobile, as described in the [System status with XClarity Mobile](#) section.
- ThinkSystem 1U/2U V4 Front Media Bay Option Kit is not supported with E3.S drive bay configurations

External Diagnostics port

The SR630 V4 includes a port to connect an External Diagnostics Handset. The External Diagnostics Handset has the same functions as the Integrated Diagnostics Panel but has the advantages of not consuming space on the front of the server plus it can be shared among many servers in your data center. The handset has a magnet on the back of it to allow you to easily mount it on a convenient place on any rack cabinet.

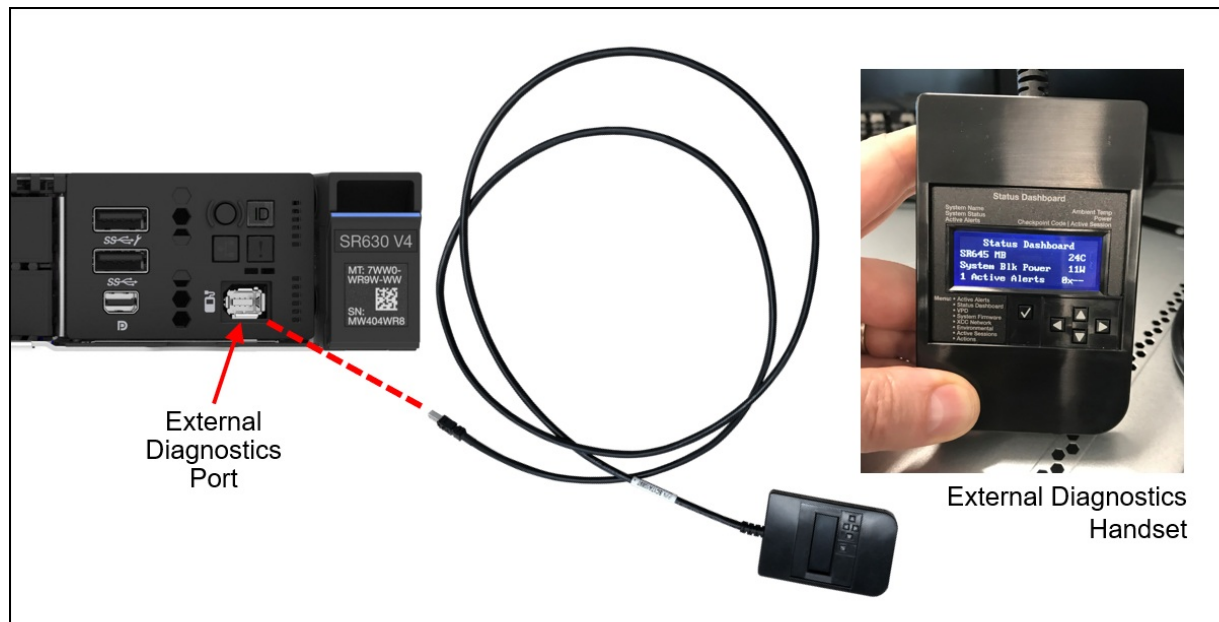


Figure 23. SR630 V4 External Diagnostics Handset

The External Diagnostics Handset allows quick access to system status, firmware, network, and health information. The LCD display on the unit and the function buttons give you access to the following information:

- Active alerts
- Status Dashboard
- System VPD: machine type & mode, serial number, UUID string
- System firmware levels: UEFI and XCC firmware
- XCC network information: hostname, MAC address, IP address, DNS addresses
- Environmental data: Ambient temperature, CPU temperature, AC input voltage, estimated power consumption
- Active XCC sessions
- System reset action

The port itself is standard in all models, however the handset is a separate orderable component. Ordering information for the handset is listed in the following table.

Table 44. External Diagnostics Handset ordering information

Part number	Feature code	Description
4TA7A64874	BEUX	ThinkSystem External Diagnostics Handset

Information pull-out tab

The front of the server also houses an information pull-out tab (also known as the network access tag). See [Figure 2](#) for the location. A label on the tab shows the network information (MAC address and other data) to remotely access the service processor.

Light path diagnostics

The server offers light path diagnostics. If an environmental condition exceeds a threshold or if a system component fails, the XCC lights LEDs inside the server to help you diagnose the problem and find the failing part.


The server has fault LEDs next to the following components:

- Each memory DIMM
- Each drive bay
- Each power supply

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)

Configuration notes:

- The use of XClarity Mobile requires front USB ports. If your server doesn't already include front USB ports, order the field upgrade ThinkSystem 1U/2U V4 Front Media Bay Option Kit (4X97A96850) as described in the [Local management](#) section
- XClarity Mobile cannot be used with E3.S drive configurations, since these configurations don't support the front USB port

Remote management

The server offers a dedicated RJ45 Ethernet port at the rear of the server for remote management via the XClarity Controller 2 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 the feature enabled or disabled in the factory, using the feature codes listed in the following table.

Table 45. IPMI-over-LAN settings

Feature code	Description
B7XZ	Disable IPMI-over-LAN (default)
B7Y0	Enable IPMI-over-LAN

MicroSD for XCC local storage

The server includes a MicroSD card port to enable the use of a MicroSD card for additional storage for use with the XCC controller. XCC can use the storage as a Remote Disc on Card (RDOC) device (up to 4GB of storage). It can also be used to store firmware updates (including N-1 firmware history) for ease of deployment.

Tip: Without a MicroSD card installed, the XCC controller will have 100MB of available RDOC storage.

Ordering information for the supported Micro SD cards is listed in the following table.

Table 46. Media for use with the MicroSD card port

Part number	Feature code	Description
4X77A92672	C0BC	ThinkSystem MicroSD 64GB Class 10 Flash Memory Card

XCC3 Premier

The XCC3 service processor in the SR630 V4 supports an upgrade to the Premier level of features. XCC3 Premier in ThinkSystem V4 servers is equivalent to the XCC2 Premium offering in ThinkSystem V3 servers.

XCC3 Premier adds the following functions:

- Enterprise Strict Security mode - Enforces CNSA 1.0 level security
- 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
- Redirecting serial console via SSH
- Component replacement log (Maintenance History log)
- Access restriction (IP address blocking)
- Displaying graphics for real-time and historical power usage data and temperature
- 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
- License for XClarity Energy Manager

The following additional XCC3 Premier features are planned for 1Q/2025

- System Guard - Monitor hardware inventory for unexpected component changes, and simply log the event or prevent booting
- Neighbor Group - Enables administrators to manage and synchronize configurations and firmware level across multiple servers
- Syslog alerting
- Lenovo SED security key management
- 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
- System utilization data and graphic view
- Single sign on with Lenovo XClarity Administrator
- Update firmware from a repository

Ordering information is listed in the following table. XCC3 Premier is a software license upgrade - no additional hardware is required.

Table 47. XCC3 Premier license upgrade

Part number	Feature code	Description
7S0X000XWW	SCY0	Lenovo XClarity Controller 3 (XCC3) Premier

With XCC3 Premier, 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 48. 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 SR630 V4. The software can be downloaded and used at no charge to discover and monitor the SR630 V4 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 49. 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 Premier upgrade as described in the [XCC3 Premier](#) section. If your server does not have the XCC Premier upgrade, Energy Manager licenses can be ordered as shown in the following table.

Table 50. 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/Invo-lxem>
- **User Guide for XClarity Energy Manager:**
<https://pubs.lenovo.com/lxem/>

Lenovo Capacity Planner

Lenovo Capacity Planner is a power consumption evaluation tool that enhances data center planning by enabling IT administrators and pre-sales professionals to understand various power characteristics of racks, servers, and other devices. Capacity Planner can dynamically calculate the power consumption, current, British Thermal Unit (BTU), and volt-ampere (VA) rating at the rack level, improving the planning efficiency for large scale deployments.

For more information, refer to the Capacity Planner web page:
<http://datacentersupport.lenovo.com/us/en/solutions/Invo-lcp>

Security

Topics in this section:

- [Security features](#)
- [Platform Firmware Resiliency - Lenovo ThinkShield](#)
- [Intel Transparent Supply Chain](#)
- [Security standards](#)

Security features

The SR630 V4 server offers the following electronic security features:

- Secure Boot function of the Intel Xeon processor
- Support for Platform Firmware Resiliency (PFR) hardware Root of Trust (RoT) - see the [Platform Firmware Resiliency](#) section
- Firmware signature processes compliant with FIPS and NIST requirements
- System Guard (part of [XCC3 Premier](#)) - Proactive monitoring of hardware inventory for unexpected component changes
- Administrator and power-on password
- Integrated Trusted Platform Module (TPM) supporting TPM 2.0
- For China users, optional Nationz TPM 2.0 module
- Self-encrypting drives (SEDs) with support for enterprise key managers - see the [SED encryption key management](#) section

The server is NIST SP 800-147B compliant.

The SR630 V4 server also offers the following optional physical security features:

- Optional chassis intrusion switch
- Optional lockable front security bezel

The optional lockable front security bezel is shown in the following figure and includes a key that enables you to secure the bezel over the drives and system controls thereby reducing the chance of unauthorized or accidental access to the server.

Front PCIe slots: The use of the security bezel is not supported when the server has front PCIe slots.



Figure 24. Lockable front security bezel

The dimensions of the security bezel are:

- Width: 435 mm (17.1 in.)
- Height: 40 mm (1.6 in.)
- Width: 30 mm (1.2 in.)

The following table lists the security options for the SR630 V4.

Table 51. Security features

Part number	Feature code	Description
4X97A96849	C21F	ThinkSystem SR630 V4 Intrusion Cable Kit
4XH7A96847	C1Z1	ThinkSystem SR630 V4 Bezel Option Kit
CTO only	C1YL	ThinkSystem V4 PRC NationZ TPM 2.0 Module

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 SR630 V4 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 SR630 V4 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 52. 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 53. Intel Transparent Supply Chain ordering information

Feature code	Description
C4M7	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 SR630 V4 supports the following security standards and capabilities:

- **Industry Standard Security Capabilities**
 - Intel CPU Enablement
 - Intel Trust Domain Extensions (Intel TDX)
 - Intel Crypto Acceleration
 - Intel QuickAssist Software Acceleration
 - Intel Platform Firmware Resilience Support
 - Intel Control-Flow Enforcement Technology
 - Intel Total Memory Encryption - Multi Key
 - Intel Total Memory Encryption
 - Intel AES New Instructions (AES-NI)
 - Intel OS Guard
 - Execute Disable Bit (XD)
 - Intel Boot Guard
 - Mode-based Execute Control (MBEC)
 - Intel Virtualization Technology (VT-x)
 - Intel Virtualization Technology for Directed I/O (VT-d)
 - 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 SR630 V4.

Table 54. Rack installation options

Part number	Feature Code	Description	CMA support
Rail kits			
4XF7A97379	C2DG	ThinkSystem Toolless Friction Rail V4	No support
4XF7A97370	C2DH	ThinkSystem Toolless Slide Rail Kit V4	Optional
4XF7A97373	C2DL	ThinkSystem Toolless Slide Rail Kit V4 with 1U CMA	Included
4XF7A97371	C2DJ	ThinkSystem Advanced Toolless Slide Rail Kit V4	Optional
4XF7A97375	C2DM	ThinkSystem Advanced Toolless Slide Rail Kit V4 with 1U CMA	Included
Cable management arm			
7M27A05699	B136	ThinkSystem 1U CMA Upgrade Kit for Toolless Slide Rail	-

The following table summarizes the rail kit features and specifications.

Tip: The Advanced rail kits add support for threaded mounting holes.

Table 55. Rail kit features and specifications summary

Product	ThinkSystem Toolless Slide Rail Kit V4 with 1U CMA	ThinkSystem Toolless Slide Rail Kit V4	ThinkSystem Toolless Friction Rail V4	ThinkSystem Advanced Toolless Slide Rail Kit V4 with 1U CMA	ThinkSystem Advanced Toolless Slide Rail Kit V4
Option part number	4XF7A97373	4XF7A97370	4XF7A97379	4XF7A97375	4XF7A97371
Rail type	Full-out slide rail (ball bearing), toolless installation	Full-out slide rail (ball bearing), toolless installation	Half-out slide rail (friction), toolless installation	Full-out slide rail (ball bearing), toolless installation	Full-out slide rail (ball bearing), toolless installation
Supported rack type	Four-post IBM and Lenovo standard rack, complying with the IEC standard (2)	Four-post IBM and Lenovo standard rack, complying with the IEC standard (2)	Four-post IBM and Lenovo standard rack, complying with the IEC standard (2)	Four-post IBM and Lenovo standard rack, complying with the IEC standard (2)	Four-post IBM and Lenovo standard rack, complying with the IEC standard (2)
Service in rack	Yes	Yes	No	Yes	Yes
Cable Management Arm (CMA) part number	CMA is included in the Rail Kit option part number	7M27A05699 and 7M27A05698	No CMA support	CMA is included in the Rail Kit option part number	7M27A05699 and 7M27A05698
1U power distribution unit (PDU) support	Yes	Yes	Yes	Yes	Yes
0U PDU support	Limited support (2)	Limited support (2)	Yes	Limited support (2)	Limited support (2)
Supported mounting holes	Square or round	Square or round	Square or round	Square, round, or threaded	Square, round, or threaded
Thickness of mounting flanges	2.0 to 3.3 mm (0.08 to 0.13 inches)	2.0 to 3.3 mm (0.08 to 0.13 inches)	2.0 to 3.3 mm (0.08 to 0.13 inches)	2.0 to 3.3 mm (0.08 to 0.13 inches)	2.0 to 3.3 mm (0.08 to 0.13 inches)
Supported distance between front and rear mounting flanges (3)	609.6 to 863.6 mm (24 to 34 inches)	609.6 to 863.6 mm (24 to 34 inches)	609.6 to 863.6 mm (24 to 34 inches)	609.6 to 863.6 mm (24 to 34 inches)	609.6 to 863.6 mm (24 to 34 inches)
Rail length (4)	851.5 mm	771.5 mm	751.2 mm	851.5 mm	771.5 mm

Notes:

1. There are no CMA mounting brackets preinstalled on the rail. The CMA mounting brackets are contained in the CMA option kit package. Before installing the CMA, you need to install the CMA mounting brackets first. For detailed instructions, refer to the documentation that comes with the CMA option kit.
2. If you want to install the rails and a 0U PDU into the same rack, the rack must meet the height and depth requirements. See the sections below for details, [Rack cabinets with parallel 0U PDUs](#) and

Rack cabinets with perpendicular 0U PDUs .

3. For best performance, it is recommended that you install the rails to the racks with a 719-mm distance (28.31-inch, Lenovo rack default distance) between the front and rear mounting flanges.
4. The rail length refers to the distance measured when the rail is not extended.

Operating system support

The SR630 V4 supports the following operating systems:

- Microsoft Windows Server 2022
- Red Hat Enterprise Linux 9.4
- SUSE Linux Enterprise Server 15 SP6
- Ubuntu 24.04 LTS 64-bit

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.lenovo.com/osig#servers=sr630-v4-7dg8-7dg9>

Physical and electrical specifications

The SR630 V4 with 2.5-inch drives 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: 440 mm (17.3 inches)
- Height: 43 mm (1.7 inches)
- Depth: 788 mm (31 inches)

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

Table 56. 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
440 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
744 mm	Z_a = Depth, from the rack flange mating surface to the rearmost I/O port surface
752 mm	Z_b = Depth, from the rack flange mating surface to the rearmost feature of the chassis body
773 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
51 mm	Z_e = Depth, from the front of security bezel (if applicable) or forwardmost feature to the rack flange mating surface

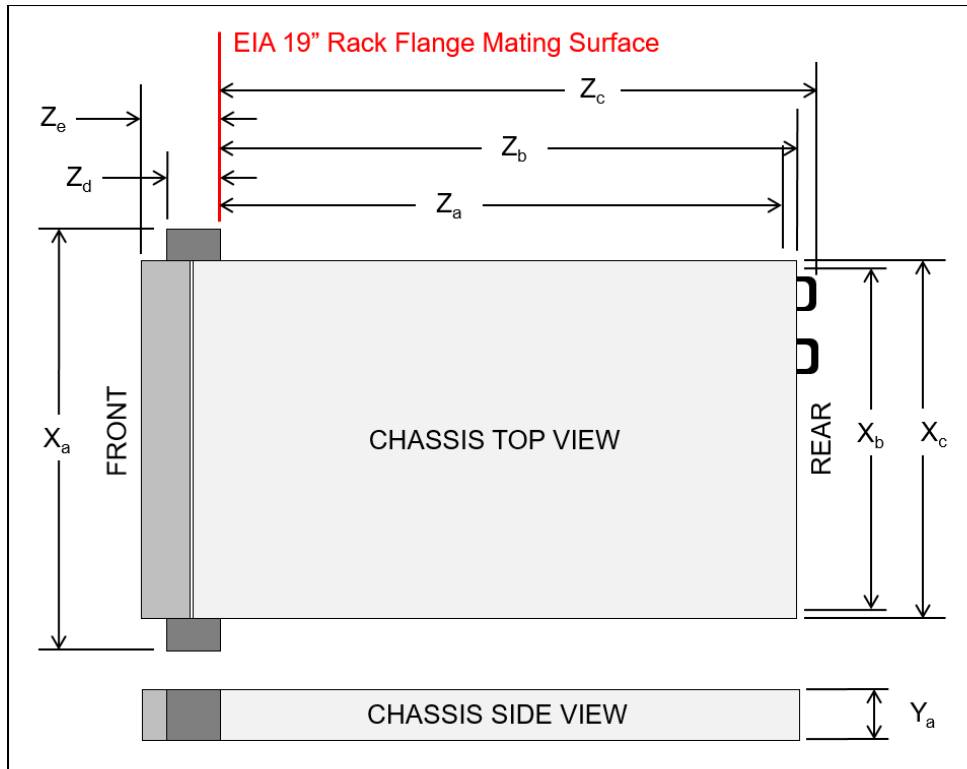


Figure 25. Server dimensions

The shipping (cardboard packaging) dimensions of the SR630 V4 are as follows:

- Width: 587 mm (23.1 inches)
- Height: 188 mm (7.4 inches)
- Depth: 998 mm (39.3 inches)

The server has the following weight:

- Maximum weight: 20.2 kg (44.5 lb)

The server has the following electrical specifications for AC input power supplies:

- Input voltage:
 - 100 to 127 (nominal) Vac, 50 Hz or 60 Hz
 - 200 to 240 (nominal) Vac, 50 Hz or 60 Hz
 - 180 to 300 Vdc (China only)
- Inlet current: see the following table.

Table 57. Maximum inlet current

Part number	Description	100V AC	200V AC	240V DC
Titanium AC power supplies				
4P57A88687	ThinkSystem 800W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	9.3A	4.5A	4A
4P57A88621	ThinkSystem 1300W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	11.4A	7.2A	6.2A
4P57A88689	ThinkSystem 2000W 230V/115V Titanium CRPS Premium Hot-Swap Power Supply	11.4A	11A	9.1A
Platinum AC power supplies				
4P57A89306	ThinkSystem 800W 230V/115V Platinum CRPS Hot-Swap Power Supply v1.5	10A	5A	4.5A
4P57A89307	ThinkSystem 1300W 230V/115V Platinum CRPS Hot-Swap Power Supply v1.5	12A	8A	6.5A
4P57A88636	ThinkSystem 1300W 230V/115V Platinum CRPS Hot-Swap Power Supply v2.4	12A	8A	8A

Electrical specifications for -48V DC input power supply:

- Input voltage: -48 to -60 Vdc
- Inlet current (1300W power supply): 29.8 A

Operating environment

The SR630 V4 server complies with ASHRAE Class A2 specifications with most configurations, and depending on the hardware configuration, also complies with ASHRAE Class A3 and Class A4 specifications. System performance may be impacted when operating temperature is outside ASHRAE A2 specification.

Depending on the hardware configuration, the SR630 V4 server also complies with ASHRAE Class H1 specification. System performance may be impacted when operating temperature is outside ASHRAE H1 specification.

Topics in this section:

- [Ambient temperature requirements](#)
- [Temperature and humidity](#)
- [Acoustical noise emissions](#)
- [Shock and vibration](#)
- [Particulate contamination](#)

Ambient temperature requirements

The restrictions to ASHRAE support are as follows:

- Use performance fans and the ambient temperature must be limited to 30°C or lower when your server is installed with any of the following adapters:
 - ThinkSystem Broadcom 57508 100GbE QSFP56 2-port PCIe 4 Ethernet Adapter V2 with Active Fiber cables
 - ThinkSystem Mellanox ConnectX-6 HDR100 IB/100GbE VPI 1-port x16 PCIe 3.0 HCA
 - ThinkSystem Mellanox ConnectX-6 HDR100 IB/100GbE VPI 2-port x16 PCIe 3.0 HCA
 - ThinkSystem Mellanox ConnectX-6 HDR IB/200GbE Single Port x16 PCIe Adapter
 - ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 2-port PCIe Ethernet Adapter

- ThinkSystem Mellanox ConnectX-6 Dx 100GbE QSFP56 1-port PCIe Ethernet Adapter
- ThinkSystem NVIDIA ConnectX-7 NDR400 OSFP 1-port PCIe Gen5 Adapter
- ThinkSystem Nvidia ConnectX-7 NDR200/HDR QSFP112 2-port PCIe Gen5 x16 InfiniBand Adapter
- The ambient temperature must be limited to 30°C or lower when 100/200 GB NIC adapters with active transceivers and fiber cables installed; and 35°C or lower when the adapters use passive copper cables.

Air-cooled and Closed-loop liquid cooling requirements

The restrictions to ASHRAE support are as follows (cooling by air or Processor Neptune Air Module):

- The ambient temperature must be no more than 30°C if your server meets the following conditions:
 - 300 W < TDP ≤ 350 W
 - NeptAir module
 - High-performance fan-packs
 - Any M.2 NVMe drive
 - Memory modules with capacity equal to or smaller than 64 GB
- The ambient temperature must be no more than 35°C if your server meets any of the following conditions:
 - 205 W < TDP ≤ 300 W
 - High-performance fan-packs
 - ≥ 100 GbE AOC transceiver with high-performance fan-packs
 - 30°C when 225 < TDP ≤ 300
 - 35°C when 185 ≤ TDP ≤ 225
 - Any M.2 NVMe drive
 - Memory modules with capacity equal to or smaller than 64 GB
- The ambient temperature must be no more than 35°C if your server meets any of the following conditions:
 - 185 W < TDP ≤ 205 W
 - Standard fan-packs
 - PCIe network interface cards (NICs) and OCP modules
 - ≥ 100 GbE AOC transceiver with high-performance fan-packs
 - Any M.2 NVMe drive
 - Memory modules with capacity equal to or smaller than 64 GB

Open-loop liquid cooling requirements

The restrictions to ASHRAE support are as follows (cooling by Processor Neptune Core Module):

- The ambient temperature must be no more than 35°C if your server meets the following conditions:
 - TDP ≤ 350
 - NeptCore module
 - Standard fan-packs
 - ≥ 100 GbE AOC transceiver
 - 30°C when installed with standard fan-packs
 - 35°C when installed with high-performance fan-packs
 - Any M.2 NVMe drive
 - Memory modules with capacity equal to or smaller than 64 GB

Water requirements:

- Maximum pressure: 3 bars
- Water inlet temperature and flow rates:
 - 50°C (122°F) inlet temperature: 1.5 liters per minute (lpm) per server
 - 45°C (113°F) inlet temperature: 1 liter per minute (lpm) per server
 - 40°C (104°F) or lower inlet temperature: 0.5 liters per minute (lpm) per server

For additional information, see the Environmental specifications and Thermal rules sections in the product documentation:

https://pubs.lenovo.com/sr630-v4/server_specifications_environmental

https://pubs.lenovo.com/sr630-v4/thermal_rules

Temperature and humidity

The server is supported in the following environment:

- Air temperature:
 - Operating:
 - ASHRAE Class A2: 10°C to 35°C (50°F to 95°F); the maximum ambient temperature decreases 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); the maximum ambient temperature decreases 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); the maximum ambient temperature decreases by 1°C for every 125 m (410 ft) increase in altitude above 900 m (2,953 ft).
 - ASHRAE Class H1: 5 °C to 25 °C (41 °F to 77 °F); Decrease the maximum ambient temperature by 1°C for every 500 m (1640 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)
 - ASHRAE Class H1: 8% to 80%; Maximum dew point: 17°C (63°F)
 - Shipment/storage: 8% to 90%

Acoustical noise emissions

The server has the following acoustic noise emissions declaration:

Typical configuration:

- Sound power level (L_{wAd}):
 - Idle: 5.5 Bel
 - Operating (50% CPU TDP): 6.0 Bel
 - Operating (100% CPU TDP): 7.2 Bel
- Sound pressure level (L_{pAm}):
 - Idle: 43.7 dBA
 - Operating (50% CPU TDP): 48.5 dBA
 - Operating (100% CPU TDP): 60.5 dBA

Storage-rich configuration:

- Sound power level (L_{wAd}):
 - Idle: 6.2 Bel
 - Operating (100% CPU TDP): 7.8 Bel
 - Operating (100% IOPS workload): 8.1 Bel
- Sound pressure level (L_{pAm}):
 - Idle: 51.1 dBA
 - Operating (100% CPU TDP): 65.5 dBA
 - Operating (100% IOPS workload): 68.8 dBA

Notes:

- Idle mode: The steady-state condition in which the server is powered-on but not operating any intended function.
- Standard configuration: 10x 2.5" chassis, 4x standard fan-packs, 2x 205W processors, 2x standard heat sinks, 16x 64 GB RDIMMs, 10x 2.5" NVMe drives, ThinkSystem Broadcom 57416 10GBASE-T 2-port OCP adapter on slot 6, 2x 800W PSUs
- Storage-right configuration: 10x 2.5" chassis, 4x high-performance fan-packs, 2x 330W processors, 2x performance heat sinks, 16x 64 GB RDIMMs, 10x 2.5" NVMe drives, ThinkSystem Broadcom 57416 10GBASE-T 2-port OCP adapter on slot 6, 2x 1300W PSUs
- These sound power levels are measured in controlled acoustical environments according to procedures specified by ISO 7779 and are reported in accordance with ISO 9296.
- The declared sound levels may change depending on configuration/conditions.
- 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.

Shock and vibration

The server has the following vibration and shock limits:

- Vibration:
 - Operating: 0.21 G rms at 5 Hz to 500 Hz for 15 minutes across 3 axes
 - Non-operating: 1.04 G rms at 2 Hz to 200 Hz for 15 minutes across 6 surfaces
- Shock:
 - Operating: 15 G for 3 milliseconds in each direction (positive and negative X, Y, and Z axes)
 - Non-operating:
 - 12 kg - 22 kg: 50 G for 152 in./sec velocity change across 6 surfaces

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/>

Water infrastructure for the Lenovo Processor Neptune Core Module

The Lenovo Processor Neptune Core Module is the liquid-based processor cooling offering for the SR630 V4, as described in the [Lenovo Processor Neptune Core Module](#) section.

The open-loop cooling module requires the following water infrastructure components in the rack cabinet and data center:

- Supported 42U or 48U rack cabinet

The 42U or 48U Heavy Duty Rack Cabinet (machine types 7D6D or 7D6E) are supported. Two 0U mounting points are required for the water manifolds, at the rear of the rack cabinet, one either side.

For information about the 42U and 48U Heavy Duty Rack Cabinets, see the product guide: <https://lenovopress.lenovo.com/lp1498-lenovo-heavy-duty-rack-cabinets>

- 38-port water manifold (machine type 7DE6), installed in the rear of the rack cabinet

The manifold provides quick-disconnect couplings that each server in the rack are connected to. Ordering information is in the table below.

- Coolant distribution unit (CDU), either in-rack or in-row

In-rack CDUs are installed at the bottom of the rack cabinet. The supported in-rack CDU is as follows:

- Lenovo Neptune DWC RM100 In-Rack CDU; see the [RM100 In-Rack Coolant Distribution Unit](#) section

In-row CDUs are separate cabinets that are typically installed at the end of a row of rack cabinets. Examples of suitable in-row CDUs include (but not limited to):

- CoolTera FS400 310KW CDU
- Vertiv Liebert XDU60 60KW CDU

- Hose kit to connect to the CDU to the manifold

Ordering information is in the table.

The following figure shows the major components of the solution.

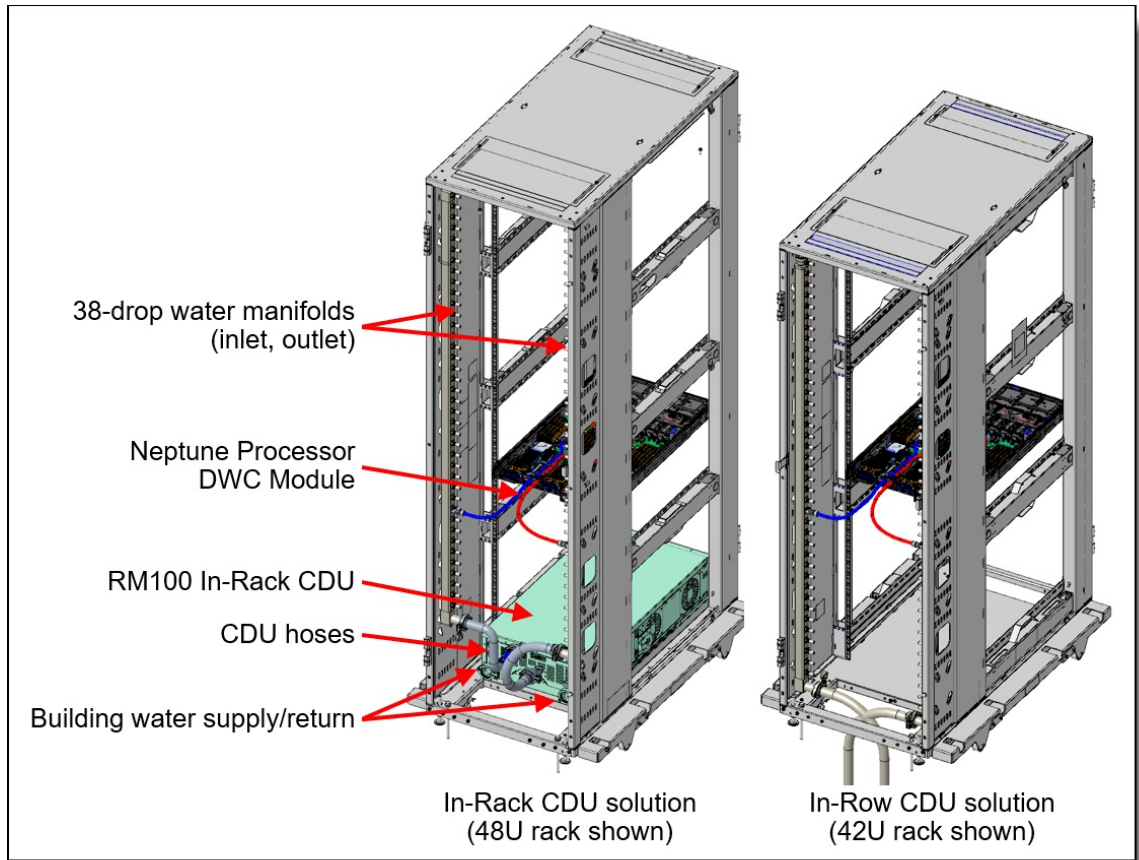


Figure 26. Water manifold connections

Configuration requirements:

- Maximum number of SR630 V4 servers support in a rack:
 - 48U rack: 38 servers
 - 42U rack with in-rack CDU: 35 servers
 - 42U rack without in-rack CDU: 38 servers
- Inlet water flow rate:
 - 0.5 LPM: Maximum 40°C inlet water temperature
 - 1.0 LPM: Maximum 45°C inlet water temperature
 - 1.5 LPM: Maximum 50°C inlet water temperature
- Water pressure requirement:
 - Maximum operating node inlet pressure = 43.5 psi (3 Bar)

The 38-drop water manifold and hoses can be ordered as part numbers or by using the CTO process in the configurators using CTO model 7DE6CTO1WW. The following table lists the ordering information for the water manifold for the Processor Neptune Core Module.

Table 58. Ordering information

Part number	Feature code (7DE6CTO1WW)	Description
Manifold for 42U and 48U rack cabinet		
4XF7A90061	BXHD	ThinkSystem Neptune DWC 38 Port Rack Manifold
Hoses to connect the manifold to an in-rack CDU		
4XF7A90232	BXHE	Connection Set, for 38 Ports Manifold with in-Rack CDU in 42U Rack
4XF7A90233	BXHF	Connection Set, for 38 Ports Manifold with in-Rack CDU in 48U Rack
Hoses to connect the manifold to an in-row CDU		
4XF7A90234	BXHG	Hose Set, 1 inch EPDM, 1.3m, for 38 Ports manifold for in-row CDU
4XF7A90235	BXHH	Hose Set, 1 inch EPDM, 2.3m, for 38 Ports manifold for in-row CDU

Configuration notes:

- This water connection solution described here cannot be used with the DW612S enclosure as the water requirements are different.
- The hoses for in-row CDUs that are listed in the table above have Eaton FD83 quick-disconnect couplings

RM100 In-Rack Coolant Distribution Unit

The RM100 In-Rack Coolant Distribution Unit (CDU) can provide 100kW cooling capacity within the rack cabinet. It is designed as a 4U high rack device installed at the bottom of the rack. The CDU is supported in the 42U and 48U Heavy Duty Rack Cabinets.

For information about the 42U and 48U Heavy Duty Rack Cabinets, see the product guide: <https://lenovopress.lenovo.com/lp1498-lenovo-heavy-duty-rack-cabinets>

The following figure shows the RM100 CDU.



Figure 27. RM100 In-Rack Coolant Distribution Unit

The CDU can be ordered using the CTO process in the configurators using machine type 7DBL. The following table lists the base CTO model and base feature code.

Table 59. Ordering information

CTO model	Base feature	Description
7DBLCTOLWW	BRL4	Lenovo Neptune DWC RM100 In-Rack CDU

For details and exact specification of the CDU, see the In-Rack CDU Operation & Maintenance Guide: https://pubs.lenovo.com/hdc_rackcabinet/rm100_user_guide.pdf

Professional Services: The factory integration of the In-Rack CDU requires Lenovo Professional Services review and approval for warranty and associated extended services. Before ordering CDU and manifold, contact the Lenovo Professional Services team (CDUsupport@lenovo.com).

Warranty and Support

The SR630 V4 has a 1-year or 3-year warranty based on the machine type of the system:

- 7DG8 - 1 year warranty
- 7DG9 - 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 SR630 V4 conforms to the following standards:

- ANSI/UL 62368-1
- IEC 62368-1 (CB Certificate and CB Test Report)
- CSA C22.2 No. 62368-1
- Russia, Belorussia and Kazakhstan, TP EAC 037/2016 (for RoHS)
- CE, UKCA Mark (EN55032 Class A, EN62368-1, EN55035, EN61000-3-11, EN61000-3-12, (EU) 2019/424, and EN IEC 63000 (RoHS))
- UL Green Guard, UL2819
- [Energy Star 4.0](#)
- EPEAT (NSF/ ANSI 426) Bronze
- Japanese Energy-Saving Act
- EU2019/424 Energy Related Product (ErP Lot9)
- TCO Certified
- China CCC certificate, GB17625.1; GB4943.1; GB/T9254
- China CECP certificate, CQC3135
- China CELP certificate, HJ 2507-2011

Uninterruptible power supply units

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

Table 60. 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>

Power distribution units

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

Table 61. 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
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															

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
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)															
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

Part number	Feature code	Description	ANZ	ASEAN	Brazil	EET	MEA	RUCIS	WE	HTK	INDIA	JAPAN	LA	NA	PRC
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>

Rack cabinets

The following table lists the supported rack cabinets.

Table 62. Rack cabinets

Model	Description
7D2NCTO1WW	12U 1200mm Deep Micro Datacenter Rack
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
93614PX	42U 1200mm Deep Static 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 console options

The following table lists the supported KVM consoles.

Table 63. 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 65. 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>

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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. **FY25Q1 Intel Xeon 6 Update**

2024-06-04 | 5 minutes | Employees and Partners

Lenovo is announcing two new servers based on the Intel® Xeon® 6 family of processors. The new Intel® Xeon® 6 family of processors builds on the previous processor generations, adding new features and improving others.

This Quick Hit introduces the new processor family and the Lenovo ThinkSystem SR630 V4 and SD520 V4 servers that use it.

Published: 2024-06-04

Length: 5 minutes

Employee link: Grow@Lenovo

Partner link: [Lenovo Partner Learning](#)

Course code: SXXW2535a

3. **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

4. 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

5. 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

6. 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

7. 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

8. 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

9. 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

10. 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

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:

- Lenovo ThinkSystem SR630 V4 product page:
<https://www.lenovo.com/us/en/p/servers-storage/servers/racks/lenovo-thinksystem-sr630-v4/len21ts0035>
- ThinkSystem SR630 V4 datasheet
<https://lenovopress.lenovo.com/datasheet/ds0185-lenovo-thinksystem-sr630-v4>
- Interactive 3D Tour of the ThinkSystem SR630 V4:
<https://lenovopress.lenovo.com/lp1985>
- ThinkSystem SR630 V4 drivers and support
<http://datacentersupport.lenovo.com/products/servers/thinksystem/sr630v4/7dg9/downloads>
- Lenovo ThinkSystem SR630 V4 product publications:
<https://pubs.lenovo.com/sr630-v4/>
 - User Guide, which includes:
 - System Configuration Guide
 - Hardware Maintenance Guide
 - Rack Installation Guides
 - Messages and Codes Reference
 - UEFI Manual for ThinkSystem Servers
- SR630 V4 hardware repair & replacement videos:
https://www.youtube.com/playlist?list=PLYV5R7hVcs-Cco5vT5AB-w2w_5B8zq3qv
- User Guides for options:
<https://serveroption.lenovo.com>
- ServerProven hardware compatibility:
<http://serverproven.lenovo.com>

Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [ThinkSystem SR630 V4 Server](#)

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This document, LP1971, was created or updated on September 6, 2024.

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