Lenovo ThinkSystem SR650 Server (Xeon SP Gen 2)
Product Guide

Lenovo ThinkSystem SR650 is an ideal 2-socket 2U rack server for small businesses up to large enterprises that need industry-leading reliability, management, and security, as well as maximizing performance and flexibility for future growth. The SR650 server is designed to handle a wide range of workloads, such as databases, virtualization and cloud computing, virtual desktop infrastructure (VDI), enterprise applications, collaboration/email, and business analytics and big data.

Featuring the second generation of Intel Xeon Processor Scalable Family (Xeon SP Gen 2), the SR650 server offers scalable performance, storage capacity, and I/O expansion. The SR650 server supports up to two processors, up to 2933 MHz memory speed, up to 3 TB of memory capacity with TruDDR4 DIMMs or up to 7.5 TB of memory capacity with a combination of TruDDR4 DIMMs and Intel DC persistent memory modules (DCPMMs), up to 24x 2.5-inch or 14x 3.5-inch drive bays with an extensive choice of NVMe PCIe SSDs, SAS/SATA SSDs, and SAS/SATA HDDs, and flexible I/O expansion options with a LOM slot, a dedicated storage controller slot, and up to 6x PCIe expansion slots.

The SR650 server offers basic or advanced hardware RAID protection and a wide range of networking options, including selectable LOM, ML2, and PCIe network adapters. The next-generation Lenovo XClarity Controller, which is built into the SR650 server, provides advanced service processor control, monitoring, and alerting functions.

The following figure shows the ThinkSystem SR650 with 2.5-inch hot-swap drives.



Figure 1. Lenovo ThinkSystem SR650 with 2.5-inch drive bays

Did you know?

The SR650 server features an AnyBay design that allows a choice of drive interface types in the same drive bay: SAS drives, SATA drives, or U.2 NVMe PCIe drives.

The SR650 server offers onboard NVMe PCIe ports that allow direct connections to the U.2 NVMe PCIe SSDs, which frees up I/O slots and helps lower NVMe solution acquisition costs.

The SR650 server is designed to meet ASHRAE A4 standards (up to 45 °C [113 °F]) in select configurations, which enable customers to lower energy costs, while still maintaining world-class reliability.

The SR650 server delivers outstanding memory performance with Performance+ 2933 MHz DIMMs, which is achieved by supporting two-DIMMs-per-channel configurations at speeds up to 10% faster than the Intel specification defines, while still maintaining world-class reliability.

Key features

Combining performance and flexibility, the SR650 server is a great choice for small and medium businesses up to the large enterprise. It can provide outstanding uptime to keep business-critical applications and cloud deployments running safely. Ease of use and comprehensive systems management tools help make deployment easier. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design improve your business environment and help save operational costs.

Scalability and performance

The SR650 server offers numerous features to boost performance, improve scalability, and reduce costs:

- Improves productivity by offering superior system performance with the second generation of the Intel Xeon Processor Scalable Family with up to 28-core processors, up to 38.5 MB of last level cache (LLC), up to 2933 MHz memory speeds, and up to 10.4 GT/s Ultra Path Interconnect (UPI) links.
    - Support for up to two processors, 56 cores, and 112 threads allows to maximize the concurrent execution of multithreaded applications.
    - Intelligent and adaptive system performance with energy efficient Intel Turbo Boost 2.0 Technology allows CPU cores to run at maximum speeds during peak workloads by temporarily going beyond processor thermal design power (TDP).
    - Intel Hyper-Threading Technology boosts performance for multithreaded applications by enabling simultaneous multithreading within each processor core, up to two threads per core.
    - Intel Virtualization Technology integrates hardware-level virtualization hooks that allow operating system vendors to better utilize the hardware for virtualization workloads.
    - Intel Speed Select Technology provides improvements in server utilization and guaranteed per-core performance service levels with more granular control over processor performance.
    - Intel Deep Learning Boost (Vector Neural Network Instruction set [VNNI]) is designed to deliver significant, more efficient Deep Learning (Inference) acceleration for high-performance Artificial Intelligence (AI) workloads.
    - Intel Advanced Vector Extensions 512 (AVX-512) enable acceleration of enterprise-class and high performance computing (HPC) workloads.
- Helps maximize system performance for data intensive applications with up to 2933 MHz memory speeds and up to 3 TB of memory capacity with 3DS RDIMMs.
- Boosts the performance of data-intensive applications and delivers consistent service levels at scale for virtualized and cloud environments by using the innovative persistent memory technology that provides a unique combination of affordable large memory capacity and non-volatility for up to 7.5 TB of total server memory capacity, including 3DS RDIMMs and DCPMMs (DC persistent memory modules).
- Offers flexible and scalable internal storage in a 2U rack form factor with up to 24x 2.5-inch and 2x 3.5-inch drives for performance-optimized configurations or up to 14x 3.5-inch drives for capacity-optimized configurations, providing a wide selection of SAS/SATA HDD/SSD and PCIe NVMe SSD types and capacities.
- Provides flexibility to use SAS, SATA, or NVMe PCIe drives in the same drive bays with an AnyBay design.
- Provides I/O scalability with a LOM slot, PCIe 3.0 slot for an internal storage controller, and up to six PCI Express (PCIe) 3.0 I/O expansion slots in a 2U rack form factor.
- Reduces I/O latency and increases overall system performance with Intel Integrated I/O Technology that embeds the PCI Express 3.0 controller into the Intel Xeon Processor Scalable Family.

Availability and serviceability

The SR650 server provides many features to simplify serviceability and increase system uptime:

- Offers protection in the event of a non-correctable memory failure with Single Device Data Correction (SDDC, also known as Chipkill, requires x4-based DIMMs), Adaptive Double Device Data Correction (ADDDC, also known as Redundant Bit Steering [RBS], requires x4-based DIMMs and Intel Xeon Gold or Platinum processors), memory mirroring, and memory rank sparing.
- Provides easy access to upgrades and serviceable parts (such as processors, memory DIMMs, and adapter cards) with tool-less cover removal.
- Offers data protection and greater system uptime with hot-swap drives supporting basic or advanced RAID redundancy.
- Provides availability for business-critical applications with redundant hot-swap power supplies and redundant hot-swap system fans.

- Simplifies servicing, speeds up problem resolution, and helps improve system availability with light path diagnostics.
- Allows preventive actions in advance of possible failure, thereby increasing server uptime and application availability with Proactive Platform Alerts (including PFA and SMART alerts) for processors, voltage regulators, memory, internal storage (SAS/SATA HDDs and SSDs, NVMe SSDs, M.2 storage, flash storage adapters), fans, power supplies, RAID controllers, and server ambient and sub-component temperatures.
- Continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failure to minimize downtime with Built-in XClarity Controller (XCC).
- Provides quick access to system status, firmware, network, health, and alerts information via Virtual Operator Panel from the XClarity Mobile App running on the Android or iOS mobile device that is connected to the front USB port with XClarity Controller access.
- Speeds up troubleshooting tasks to reduce service time with diagnostics built into the XClarity Provisioning Manager.

Manageability and security

Powerful systems management features simplify local and remote management of the SR650 server and deliver enterprise-class data protection:

- Provides advanced service processor control, monitoring, and alerting functions with XClarity Controller, a next generation service processor.
- Improves Unified Extensible Firmware Interface (UEFI) system setup, configuration, updates, simplified error handling, and operating system deployment with the embedded XClarity Provisioning Manager.
- Offers XClarity Essentials software tools that can help you set up, use, and maintain the server.
- Increases uptime, reduces costs, and improves productivity through advanced server management capabilities with Lenovo XClarity Administrator that provides comprehensive hardware management.
- Provides on-the-go monitoring and management of devices in XClarity Administrator from anywhere with the Lenovo XClarity mobile app, which can help improve efficiency and reduce downtime risks.
- Centralizes infrastructure resource management with Lenovo XClarity Integrators for VMware vCenter and Microsoft System Center, extending XClarity Administrator features to virtualization management software tools and enabling users to deploy and manage infrastructure end-to-end.
- Offers advanced cryptographic functionality (such as digital signatures and remote attestation) with an integrated Trusted Platform Module (TPM) or optional Trusted Cryptographic Module (TCM) or Nationz TPM (available only in PRC).
- Keeps user data safe with Lenovo Business Vantage, a security software tool suite designed to work with the Trusted Cryptographic Module or Nationz TPM (available only in PRC).
- Offers enterprise-class data protection with advanced RAID and optional self-encrypting drives.
- Provides faster, stronger encryption with industry-standard AES NI support.
- Helps prevent certain classes of malicious buffer overflow attacks with Intel Execute Disable Bit functionality, when combined with a supporting operating system.
- Enhances security through hardware-based resistance to malicious software attacks with Intel Trusted Execution Technology, allowing an application to run in its own isolated space, protected from all other software running on a system.

Energy efficiency

The SR650 server offers the following energy-efficiency features to save energy, reduce operational costs, increase energy availability, and contribute to the green environment:

- Delivers impressive compute power per watt, featuring 80 PLUS Titanium and Platinum redundant power supplies.
- Enables customers to lower energy costs with design to meet ASHRAE A4 standards in select configurations.
- Reduces power drawn with Intel Intelligent Power Capability that powers individual processor elements on and off as needed.
- Helps reduce power consumption with variable speed fans.
- Helps achieve lower heat output and reduced cooling needs with Lenovo XClarity Energy Manager that provides advanced data center power notification, analysis, and policy-based management.

Components and connectors

The following figure shows the front of the SR650 server with up to 16x 2.5-inch drive bays.

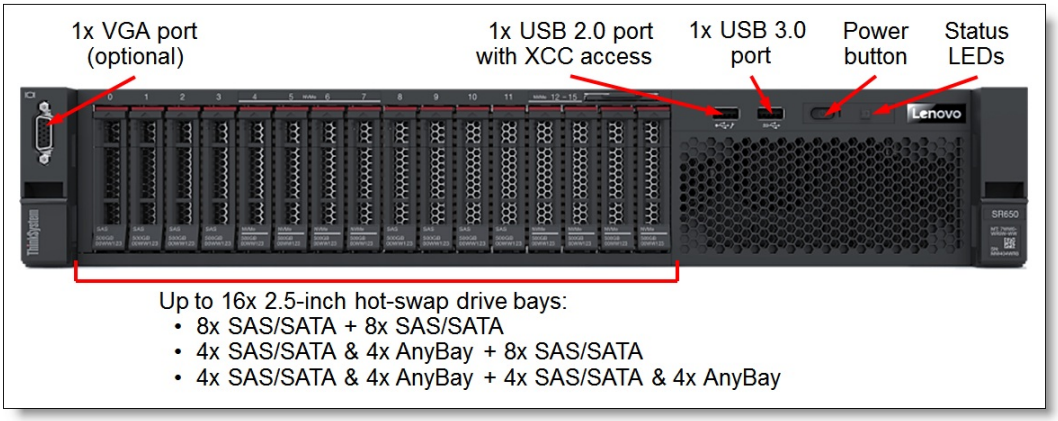


Figure 2. Front view of the SR650: Up to 16x 2.5-inch drive bays

The following figure shows the front of the SR650 server with up to 24x 2.5-inch drive bays.

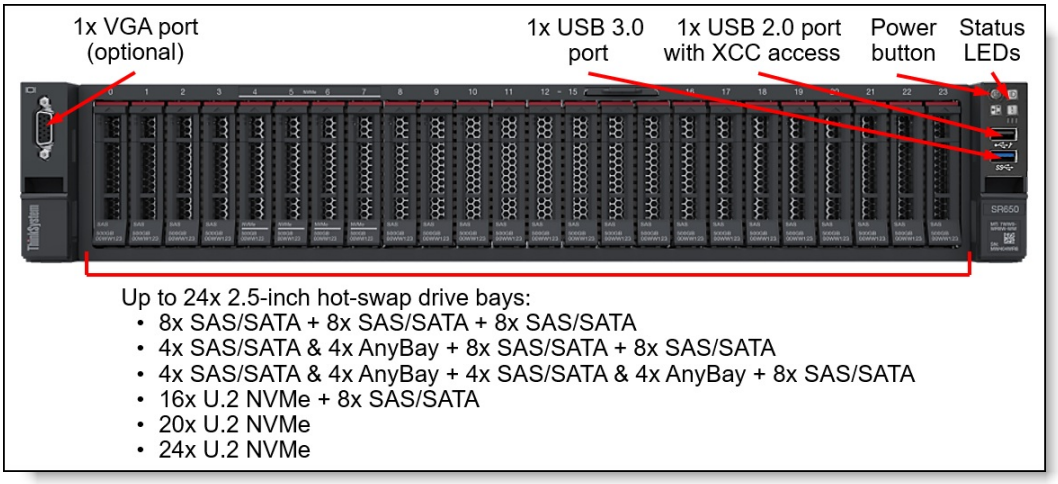


Figure 3. Front view of the SR650: Up to 24x 2.5-inch drive bays

The following figure shows the front of the SR650 server with 8x 3.5-inch drive bays.

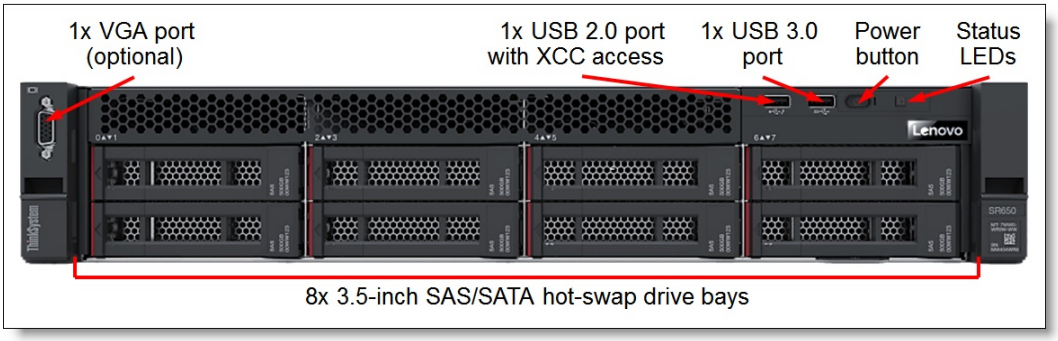


Figure 4. Front view of the SR650: 8x 3.5-inch drive bays

The following figure shows the front of the SR650 server with 12x 3.5-inch drive bays.

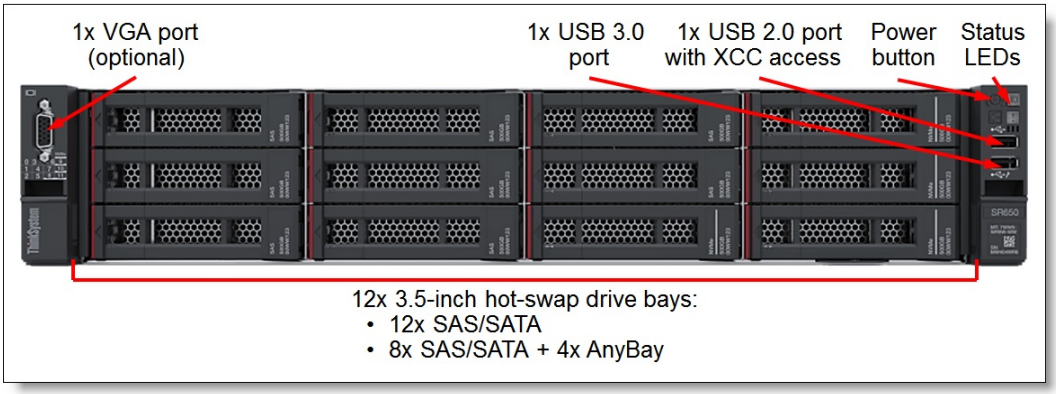


Figure 5. Front view of the SR650: 12x 3.5-inch drive bays

The front of the SR650 server includes the following components:

- Up to 16x 2.5-inch, or 24x 2.5-inch, or 8x 3.5-inch, or 12x 3.5-inch hot-swap drive bays.
- One VGA port (optional).
- One USB 3.0 port.
- One USB 2.0 port with XClarity Controller access.
- Power button.
- Status LEDs.

The following figure shows the rear of the SR650 server.

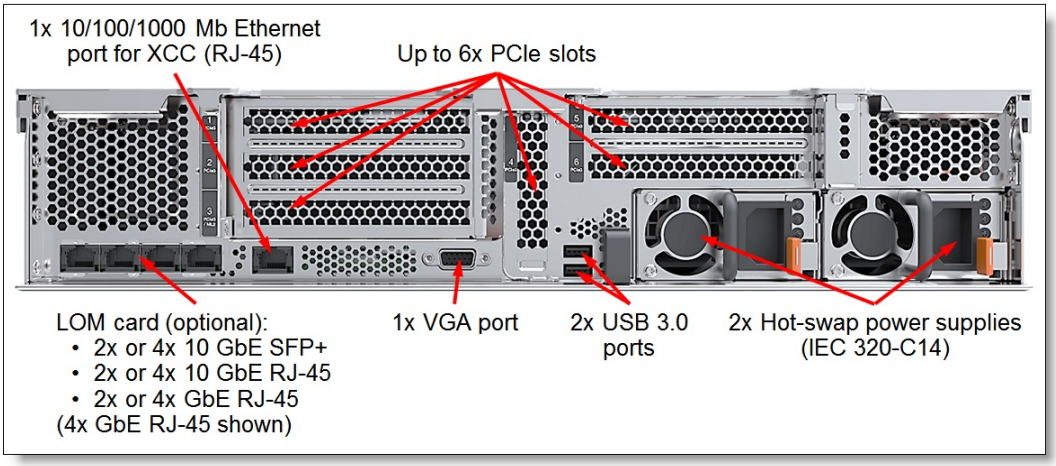


Figure 6. Rear view of the SR650

The rear of the SR650 server includes the following components:

- Up to six PCIe expansion slots (depending on the riser cards selected).
- One LOM card slot.
- One 1 GbE port for XClarity Controller.
- One VGA port.
- Two USB 3.0 ports.
- Up to two hot-swap power supplies.

The following figure shows the locations of key components inside the SR650 server.

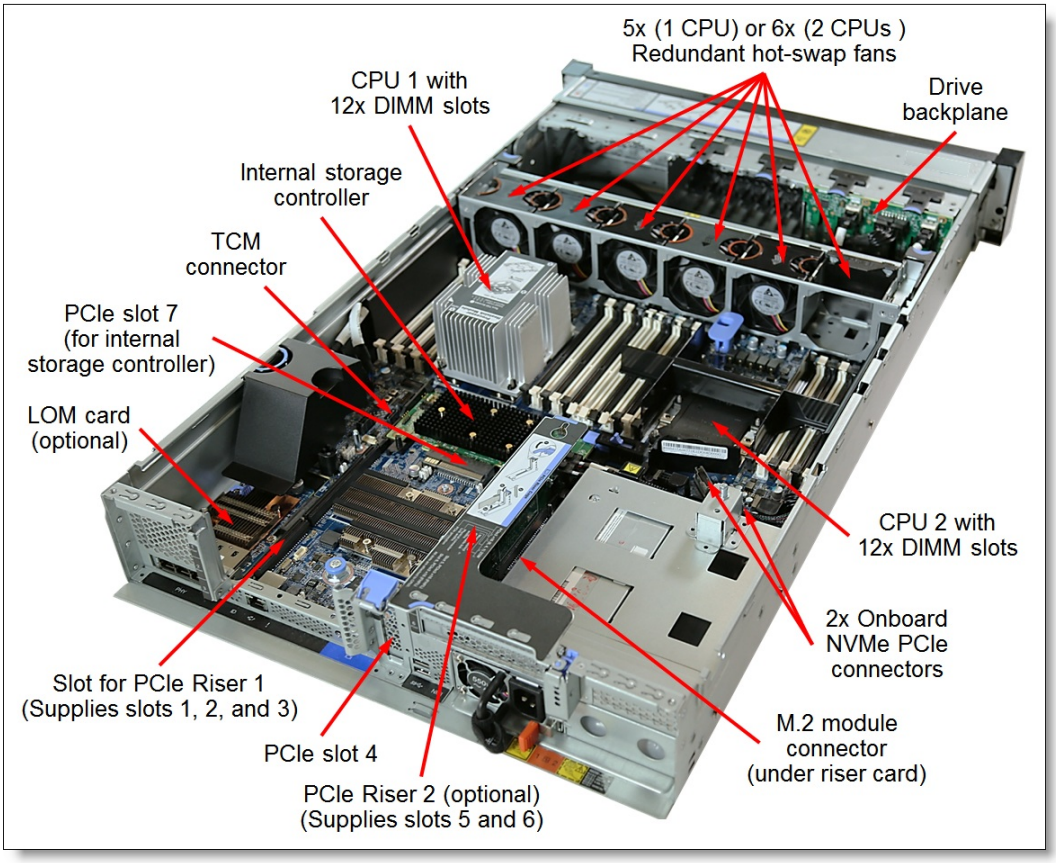


Figure 7. Internal view of the SR650

The following key components are located inside the SR650 server:

- Up to two processors.
- 24 DIMM slots (12 DIMM slots per processor).
- Drive backplanes.
- Two onboard NVMe PCIe connectors.
- One M.2 module connector.
- One LOM card connector.
- Two onboard PCIe slots 4 and 7.
- Two slots for PCIe riser cards.
- One TCM connector.
- Five (one processor) or six (two processors) hot-swap system fans.

System specifications

The following table lists the system specifications for the SR650 server.

Table 1. SR650 system specifications

Attribute	Specification
Machine types	7X05 - 1 year warranty 7X06 - 3 year warranty
Form factor	2U rack-mount.

Attribute	Specification
Processor	Up to two Intel Xeon Gen 2 Bronze, Silver, Gold, or Platinum processors: • Up to 28 cores (2.7 GHz core speeds). • Up to 3.9 GHz core speeds (8 cores). • UPI links up to 10.4 GT/s (2 UPI links used). • Up to 38.5 MB cache. • Up to 2933 MHz memory speed.
Chipset	Intel C624.
Memory	24 DIMM slots (12 DIMMs per processor; six memory channels per processor with two DIMMs per channel) with support for the following DIMM types and capacities: • TruDDR4 RDIMMs: ◦ 16 GB, 32 GB, and 64 GB Performance+ 2933 MHz. ◦ 8 GB, 16 GB, 32 GB, and 64 GB 2933 MHz. ◦ 16 GB and 32 GB 2666 MHz. • TruDDR4 3DS RDIMMs: ◦ 128 GB Performance+ 2933 MHz. ◦ 128 GB 2933 MHz. ◦ 64 GB 2666 MHz. **Note:** DIMM types (RDIMMs and 3DS RDIMMs) cannot be intermixed.
Persistent memory	Up to 12x 128 GB, 256 GB, or 512 GB TruDDR4 2666 MHz DCPMMs in the DIMM slots.
Memory protection	• Processor's integrated memory controllers: Error correction code (ECC), SDDC (for x4-based memory DIMMs), ADDDC (for x4-based memory DIMMs, requires Intel Xeon Gold or Platinum processors), memory mirroring, memory rank sparing, patrol scrubbing, and demand scrubbing. • DCPMM's onboard memory controllers: ECC, SDDC, DDDC, patrol scrubbing, and demand scrubbing. **Note:** In the configurations with DCPMMs, memory mirroring is supported only in the App Direct mode (other DCPMM modes do not support memory mirroring) and applies only to the RDIMMs or 3DS RDIMMs (DCPMMs are not mirrored). Memory sparing is not supported in the configurations with DCPMMs.
Memory capacity	• Memory DIMMs only: Up to 3 TB with up to 24x 128 GB 3DS RDIMMs (Up to 1.5 TB per processor). • Memory DIMMs and persistent memory modules: ◦ App Direct Mode: Up to 7.5 TB with up to 12x 128 GB 3DS RDIMMs and up to 12x 512 GB DCPMMs (Up to 3.75 TB per processor). ◦ Memory Mode: Up to 6 TB with up to 12x 512 GB DCPMMs (Up to 3 TB per processor). **Note:** Server configurations with more than 1 TB of memory capacity per socket (including DCPMMs and RDIMMs or 3DS RDIMMs) require processors that support up to 4.5 TB (L-suffix) per socket.

Attribute	Specification

Drive bays	• Up to 16 SFF (front) and 2 LFF (rear) hot-swap drive bays:
	  ◦ 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
	  ◦ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
	  ◦ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 2x 3.5" SAS/SATA
	• Up to 24 SFF (front) and 2 LFF (rear) hot-swap drive bays:
	  ◦ 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
	  ◦ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
	  ◦ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
	  ◦ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay
	  ◦ 16x 2.5" U.2 NVMe PCIe + 8x 2.5" SAS/SATA (factory-installed only)
	  ◦ 20x 2.5" U.2 NVMe PCIe
	  ◦ 24x 2.5" U.2 NVMe PCIe
	• Up to 10 LFF SAS/SATA hot-swap drive bays: 8x 3.5" (front) + 2x 3.5" (rear)
	• Up to 14 LFF hot-swap drive bays:
	  ◦ 12x 3.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)
	  ◦ 8x 3.5" SAS/SATA & 4x 3.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)

Internal storage capacity	• 2.5-inch drives:
	  ◦ 368.64TB using 24x 15.36TB 2.5-inch SAS SSDs
	  ◦ 368.64TB using 24x 15.36TB 2.5-inch NVMe SSDs
	  ◦ 57.6TB using 24x 2.4TB 2.5-inch HDDs
	• 3.5-inch drives:
	  ◦ 252TB using 14x 18TB 3.5-inch HDDs
	  ◦ 107.52TB using 14x 7.68TB 3.5-inch SAS/SATA SSDs
	  ◦ 30.72TB using 4x 7.68TB 3.5-inch NVMe SSDs

Storage controller	12 Gbps SAS/6 Gbps SATA RAID
	• RAID 0/1/10: RAID 530-16i
	• RAID 0/1/10/5/50:
	  ◦ RAID 530-8i
	  ◦ RAID 730-8i 1GB Cache
	• RAID 0/1/10/5/50/6/60:
	  ◦ RAID 730-8i 2GB Flash
	  ◦ RAID 930-8i 2GB Flash
	  ◦ RAID 930-16i 4GB or 8GB Flash
	  ◦ RAID 930-24i 4 GB Flash
	
	12 Gbps SAS/6 Gbps SATA non-RAID: 430-8i or 16i HBA
	
	NVMe PCIe non-RAID
	• Onboard NVMe
	• 810-4P NVMe Switch Adapter
	• 1610-4P NVMe Switch Adapter
	• 1610-8P NVMe Switch Adapter

Optical drive bays	None. Support for an external USB DVD RW Optical Disk Drive (SeeOptical drives).

Attribute	Specification

Network interfaces	• Onboard LOM slot for up to 4x 1/10 Gb Ethernet ports:
	  ◦ 2x or 4x 1 GbE RJ-45 ports (no 10/100 Mb support)
	  ◦ 2x or 4x 10 GbE RJ-45 ports (no 10/100 Mb support)
	  ◦ 2x or 4x 10 GbE SFP+ ports (no 10/100 Mb support)
	• Optional Mezzanine LOM (ML2) slot for dual-port 10 GbE cards with SFP+ or RJ-45 connectors or single- or dual-port 25 GbE cards with SFP28 connectors.
	• 1x RJ-45 10/100/1000 Mb Ethernet systems management port.

I/O expansion slots	Up to seven slots. Slots 4 and 7 are the fixed slots on the system planar, and the remaining slots depend on the riser cards installed. The slots are as follows: • Slot 1: PCIe 3.0 x16 or PCIe 3.0 x8; full-height, half-length (PCIe x16 slot can be single- or double-wide) • Slot 2: PCIe 3.0 x8; full-height, half-length (not present if Slot 1 is PCIe x16 double-wide or Slot 3 is ML2 x16) • Slot 3: PCIe 3.0 x8, or PCIe 3.0 x16, or ML2 x8, or ML2 x16; full-height, half-length • Slot 4: PCIe 3.0 x8; low profile (vertical slot on system planar) • Slot 5: PCIe 3.0 x16; full-height, half-length • Slot 6: PCIe 3.0 x16; full-height, half-length • Slot 7: PCIe 3.0 x8 (for an internal storage controller) Slots 5 and 6 require the second processor to be installed. Single-wide PCIe x16 Slot 1 requires the second processor to be installed.
Ports	• Front: 1x USB 2.0 port with XClarity Controller access and 1x USB 3.0 port; optional 1x VGA port. • Rear: 2x USB 3.0 ports and 1x VGA port; optional 1x DB-9 serial port.
Cooling	Five (one processor) or six (two processors) hot-swap system fans with N+1 redundancy.
Power supply	Up to two redundant hot-swap 550 W, 750 W, or 1100 W (100 - 240 V), or 1600 W (200 - 240 V) High Efficiency Platinum AC power supplies, or 750 W (200 - 240 V) High Efficiency Titanium AC power supplies. HVDC support (PRC only).
Video	Matrox G200e with 16 MB memory integrated into the XClarity Controller. Maximum resolution is 1920x1200 at 60 Hz with 32 bits per pixel.
Hot-swap parts	Drives, power supplies, and fans.
Systems management	XClarity Controller (XCC) Standard, Advanced, or Enterprise (Pilot 4 chip), proactive platform alerts, light path diagnostics, XClarity Provisioning Manager, XClarity Essentials, XClarity Administrator, XClarity Integrators for VMware vCenter and Microsoft System Center, XClarity Energy Manager, Capacity Planner.
Security features	Power-on password, administrator's password, secure firmware updates, Trusted Platform Module (TPM) 1.2 or 2.0 (configurable UEFI setting). Optional lockable front bezel. Optional Trusted Cryptographic Module (TCM) or Nationz TPM (available only in PRC). Optional Lenovo Business Vantage security software (available only in PRC).
Operating systems	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware ESXi. See the Operating systems section for specifics.
Warranty	One-year (Machine Type 7X05) or three-year (Machine Type 7X06) customer-replaceable unit (CRU) and onsite limited warranty with 9x5 Next Business Day Parts Delivered.
Service and support	Optional Lenovo Services upgrades: 2-hour or 4-hour response time, 6-hour or 24-hour committed service repair, warranty extension up to 5 years, 1-year or 2-year post-warranty extensions, YourDrive YourData, Enterprise Software Support, and Basic Hardware Installation Services.
Dimensions	Width: 445 mm (17.5 in.), height: 87 mm (3.4 in.), depth: 764 mm (30.1 in.). See Physical specifications for details.
Weight	Minimum configuration: 19 kg (41.9 lb), maximum: 32 kg (70.5 lb)

Models

ThinkSystem SR650 server models can be configured by using the Lenovo Data Center Solution Configurator (DCSC): http://dcsc.lenovo.com

ThinkSystem SR650 server models are region-specific; that is, each region may define their own server models, and not all server models are available in every region. For a complete list of the SR650 models, contact a Lenovo or Lenovo Business Partner representative in your region. Information on the SR650 models is also available on the PSREF website: http://psref.lenovo.com/Product/ThinkSystem/ThinkSystem_SR650

The preconfigured and factory-integrated custom models and their components and options, which are all described in this product guide, use the ThinkSystem SR650 Configure-to-Order (CTO) base models that are listed in the following table.

Table 2. CTO base models

Description	Machine Type/Model
ThinkSystem SR650 - 3yr Warranty	7X06CTO1WW
ThinkSystem SR650 - 1yr Warranty	7X05CTO1WW

The following table lists the base chassis for CTO models of the SR650 server.

Table 3. Base chassis for CTO models

Description	Feature code
ThinkSystem SR650 2.5" Chassis with 8, 16 or 24 bays	AUVV
ThinkSystem SR650 3.5" Chassis with 8 or 12 bays	AUVW
ThinkSystem SR650 2.5" Chassis with 8 or 16 bays	AUVX

All models of the SR650 server are shipped with the following items:

- *Rack Installation Guide*
- *Electronic Publications Flyer*

Models table conventions: The model tables shown in this section use the following conventions:

- Drive bays:
  - If the number is shown as "x", it represents the quantity of the SAS/SATA drive bays.
  - If the number is shown as "x+y", it represents the quantity of the SAS/SATA + AnyBay drive bays.
  - SFF and LFF drive bays are hot-swap.
  - M.2 drive bays are non-hot-swap.
- XClarity Controller: "S" = Standard, "A" = Advanced, "E" = Enterprise.
- Front VGA port: "Y" = Included; "N" = Not included, optional.
- Tool-less Rail Kit: "Y" = Included; "N" = Not included, optional.
- Cable Management Arm (CMA): "Y" = Included; "N" = Not included, optional.
- Power cord:
  - "L2" = 2.8 m line cord.
  - "R2" = 2.8 m C13-C14 rack power cable.
  - "N" = Not included; see Power supplies and cables for the ordering information.

The following tables list the models of the SR650 server for the following regions:

- North America
- Brazil
- Latin America (except Brazil)
- Europe, Middle East, and Africa (EMEA)
- India
- Hong Kong, Taiwan, Korea
- Japan
- Association of Southeast Asian Nations (ASEAN)
- Australia and New Zealand

Table 4. SR650 server models: North America

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	GPU	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
Relationship models - North America														
7X06A0FHNA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	Y	Y	N	R2
7X06A0KLNA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 530-8i	8 / 8 LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	Y	Y	N	R2
7X06A0FENA	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	Y	Y	N	R2
7X06A0FKNA	1x 4216 16C 100W 2.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	Y	Y	N	R2
7X06A0FLNA	1x 5218 16C 125W 2.3GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	Y	Y	N	R2

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.
† Includes NVIDIA GRID vPC Subscription Licenses 3Yr, 1 CCU for 64 concurrent users.

Table 5. SR650 server models: Brazil

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
SAP Business One workload-optimized models with SLES Standard Subscription w/Lenovo Support 1Yr - Brazil													
7X06A0J4BR	2x 8276M 28C 165W 2.2GHz	24x 128GB (x4) 2933MHz	1x RAID 930-24i 4GB	20 + 4 / 24 SFF	16x 960GB S4610	4x 1Gb RJ-45	2x PCIe x8 2x PCIe x16	2x 1100W	Y	N	Y	Y	R2
TopSeller models - Brazil													
7X06100RBR	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2666MHz	1x RAID 530-8i	8 / 8 LFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 550W	S	N	Y	N	R2
7X06A0HKBR	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	Y	Y	N	R2
7X06100VBR	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	Y	Y	N	L2
7X06A0KGBR	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	2x 750W Platinum	S	Y	Y	N	L2
7X06A0KDBR	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	3x PCIe x8 1x PCIe x16	2x 750W Platinum	E	Y	Y	N	L2
7X06A0HJBR	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	Y	Y	N	R2
7X06A0KFBR	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	2x 750W Platinum	S	Y	Y	N	L2
7X06100WBR	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	Y	Y	N	L2
7X06A0HUBR	1x 5218 16C 125W 2.3GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 750W Platinum	S	Y	Y	N	L2
7X06A0HVBR	2x 5218 16C 125W 2.3GHz	2x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	2x 750W Platinum	S	Y	Y	N	L2

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.

Table 6. SR650 server models: Latin America (except Brazil)

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
SAP Business One workload-optimized models with SLES Standard Subscription w/Lenovo Support 1Yr - Latin America (except Brazil)													
7X06A0J3LA	2x 8276M 28C 165W 2.2GHz	24x 128GB (x4) 2933MHz	1x RAID 930-24i 4GB	20 + 4 / 24 SFF	16x 960GB S4610	4x 1Gb RJ-45	2x PCIe x8 2x PCIe x16	2x 1100W	Y	N	Y	Y	R2
Relationship models - Latin America (except Brazil)													
7X06A0H8LA	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	S	Y	Y	N	R2
7X06A0HBLA	1x 5220 18C 125W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	S	Y	Y	N	R2
TopSeller models - Latin America (except Brazil)													
7X06A0H9LA	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	S	Y	Y	N	R2
7X06A0HALA	1x 4216 16C 100W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	S	Y	Y	N	R2

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Table 7. SR650 server models: EMEA

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	GPU	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
Relationship models - EMEA														
7X06A0AWEA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0ATEA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2666MHz	1x RAID 930-16i 4GB	12 / 14 LFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0HSEA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0KAEA	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JPEA	1x 4208 8C 85W 2.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K9EA	1x 4208 8C 85W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0H5EA	1x 4208 8C 85W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	2x480GB PM883	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B3EA	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B7EA	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2666MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B4EA	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2666MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0HTEA	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B0EA	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	2x 750W Platinum	N	E	N	Y	N	R2
7X06A0H7EA	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	2x480GB PM883	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JXEA	1x 4210R 10C 100W 2.4GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JSEA	1x 4210R 10C 100W 2.4GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JZEA	1x 4210R 10C 100W 2.4GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JYEA	1x 4210R 10C 100W 2.4GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	2x 750W Platinum	N	E	N	Y	N	R2
7X06A0B9EA	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0AZEA	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 930-16i 4GB	12 / 14 LFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0AVEA	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	2x 750W Platinum	N	E	N	Y	N	R2
7X06A0B2EA	1x 4214 12C 85W 2.2GHz	1x 32GB (x4) 2666MHz	1x RAID 930-16i 4GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K1EA	1x 4214R 12C 100W 2.4GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JREA	1x 4214R 12C 100W 2.4GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	2x 750W Platinum	N	E	N	Y	N	R2

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	GPU	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0AREA	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K4EA	1x 4215R 8C 130W 3.2GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JNEA	1x 4215R 8C 130W 3.2GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JLEA	1x 4215R 8C 130W 3.2GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0AXEA	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B5EA	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0H6EA	1x 5217 8C 115W 3.0GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0BCEA	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2666MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0ASEA	1x 5218 16C 125W 2.3GHz	1x 32GB (x4) 2666MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K5EA	1x 5218R 20C 125W 2.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JHEA	1x 5218R 20C 125W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K6EA	1x 5220R 24C 150W 2.2GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0J9EA	1x 6226 12C 125W 2.7GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0K7EA	1x 6226R 16C 150W 2.9GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JJEA	1x 6226R 16C 150W 2.9GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0BBEA	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0BAEA	1x 6230 20C 125W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0K2EA	1x 6230R 26C 150W 2.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JKEA	1x 6230R 26C 150W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0JCEA	1x 6234 8C 130W 3.3GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0JUEA	1x 6238R 28C 165W 2.2GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0AQEA	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0JMEA	1x 6240R 24C 165W 2.4GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	N	E	N	Y	N	R2
7X06A0B1EA	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0JQEA	1x 6242R 20C 205W 3.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0B6EA	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	None	No bays / 16 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0J7EA	1x 6246 12C 165W 3.3GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	GPU	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0JTEA	1x 6246R 16C 205W 3.4GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0AUEA	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	None	No bays / 24‡ SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0J6EA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	1x128GB M.2 SSD	4x10Gb RJ-45	3x PCIe x8 3x PCIe x16	2x 1600W Platinum		E	N	Y	N	R2
7X06A0J5EA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	1x128GB M.2 SSD	4x10Gb RJ-45	3x PCIe x8 3x PCIe x16	2x 1600W Platinum		2x M10†	N	Y	N	R2
7X06A0GVEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	2x128GB M.2 SSD	4x10Gb RJ-45	3x PCIe x8 3x PCIe x16	2x 1600W Platinum		2x M10††	N	Y	N	R2
7X06A0GYEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	2x128GB M.2 SSD	4x10Gb RJ-45	3x PCIe x8 3x PCIe x16	2x 1600W Platinum		2x M10†	N	Y	N	R2
7X06A0JBEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	1x128GB M.2 SSD	4x10Gb RJ-45	5x PCIe x8 2x PCIe x16	2x 1600W Platinum		2x M10	N	Y	N	R2
7X06A0JEEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	1x128GB M.2 SSD	4x10Gb RJ-45	5x PCIe x8 2x PCIe x16	2x 1600W Platinum		4x T4††	N	Y	N	R2
7X06A0GWEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	2x128GB M.2 SSD	4x10Gb RJ-45	5x PCIe x8 2x PCIe x16	2x 1600W Platinum		4x T4††	N	Y	N	R2
7X06A0GUEA	2x 6248 20C 150W 2.5GHz	12x 32GB (x4) 2933MHz	1x M.2 RAID	No bays / 16 SFF 2x M.2	2x128GB M.2 SSD	4x10Gb RJ-45	5x PCIe x8 2x PCIe x16	2x 1600W Platinum		4x T4††	N	Y	N	R2
7X06A0JVEA	1x 6248R 24C 205W 3.0GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0JWEA	1x 6250 8C 185W 3.9GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0AYEA	1x 6254 18C 200W 3.1GHz	1x 32GB (x4) 2933MHz	None	No bays / 16 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0K0EA	1x 6256 12C 205W 3.6GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2
7X06A0K3EA	1x 6258R 28C 205W 2.7GHz	1x 32GB (x4) 2933MHz	None	No bays / 8 SFF	Open bay	Open slot	2x PCIe x8	1x 1100W Platinum	N	E	N	Y	N	R2

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.
† Includes NVIDIA GRID vPC Subscription Licenses for 3 Years, 64 CCU.
†† Includes NVIDIA GRID vPC Subscription Licenses for 5 Years, 64 CCU.

Table 8. SR650 server models: India

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
TopSeller models - India													
7X06A0CXSG	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0D4SG	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0BWSG	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CYSG	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0BLSG	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0C6SG	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0C9SG	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0C5SG	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0BESG	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CCSG	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0D8SG	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CJSG	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DKSG	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DHSG	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CQSG	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0BUSG	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CZSG	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DGSG	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DLSG	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DBSG	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0C3SG	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DDSG	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0D1SG	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CPSG	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0DQSG	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CHSG	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0D2SG	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0D0SG	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CNSG	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CBSG	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CKSG	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2
7X06A0CLSG	1x 6254 18C 200W 3.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	R2

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Table 9. SR650 server models: Hong Kong, Taiwan, Korea

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
TopSeller models - Hong Kong, Taiwan, Korea													
7X06A0BSCN	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D3CN	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CECN	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CDCN	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DCCN	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CTCN	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D5CN	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BRCN	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DJCN	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BVCN	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BNCN	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CRCN	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D7CN	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C7CN	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0CUCN	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D6CN	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C8CN	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DFCN	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C0CN	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BYCN	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DECN	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DACN	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BXCN	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DNCN	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D9CN	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BHCN	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C4CN	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CMCN	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BDCN	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DMCN	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BTCN	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BMCN	1x 6254 18C 200W 3.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Table 10. SR650 server models: Japan

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
Relationship models - Japan													
7X06A0CGJP	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0DVJP	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0DRJP	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0DWJP	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0DPJP	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1600W Platinum	A	N	Y	N	N
7X06A0DTJP	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0DUJP	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0DSJP	1x 6254 18C 200W 3.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0DXJP	1x 8280M 28C 205W 2.7GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
TopSeller models - Japan													
7X06A0BKJP	1x 3204 6C 85W 1.9GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 8 LFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 550W Platinum	A	N	Y	N	N
7X06A0BQJP	1x 3204 6C 85W 1.9GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0BPJP	1x 4208 8C 85W 2.1GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0BGJP	1x 4210 10C 85W 2.2GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0CAJP	1x 4210 10C 85W 2.2GHz	1x 16GB (x4) 2666MHz	1x RAID 930-16i 4GB	12 / 14 LFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0BFJP	1x 4214 12C 85W 2.2GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0BJJP	1x 4215 8C 85W 2.5GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0BZJP	1x 4216 16C 100W 2.1GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0C2JP	1x 4216 16C 100W 2.1GHz	1x 16GB (x4) 2666MHz	1x RAID 930-16i 4GB	12 / 14 LFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0C1JP	1x 5215 10C 85W 2.5GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0CVJP	1x 5217 8C 115W 3.0GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0CWJP	1x 5218 16C 125W 2.3GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0CSJP	1x 5220 18C 125W 2.2GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0CFJP	1x 5222 4C 105W 3.8GHz	1x 16GB (x4) 2666MHz	1x RAID 730-8i 2GB	8 / 24‡ SFF	Open bay	4x 1Gb RJ-45	5x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0KPJP	1x 5218R 20C 125W 2.1GHz	1x 16GB (x4) 2666MHz	None	No bays / 16‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 750W Platinum	A	N	Y	N	N
7X06A0KVJP	1x 5220R 24C 150W 2.2GHz	1x 16GB (x4) 2666MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KUJP	1x 6226R 16C 150W 2.9GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KTJP	1x 6230R 26C 150W 2.1GHz	1x 16GB (x4) 2933MHz	None	No bays / 16‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KRJP	1x 6238R 28C 165W 2.2GHz	1x 16GB (x4) 2933MHz	None	No bays / 16‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KMJP	1x 6240R 24C 165W 2.4GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0KXJP	1x 6242R 20C 205W 3.1GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KQJP	1x 6246R 16C 205W 3.4GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0KWJP	1x 6248R 24C 205W 3.0GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N
7X06A0L0JP	1x 6258R 28C 205W 2.7GHz	1x 16GB (x4) 2933MHz	None	No bays / 24‡ SFF	Open bay	4x 1Gb RJ-45	2x PCIe x8	1x 1100W Platinum	A	N	Y	N	N

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Table 11. SR650 server models: ASEAN

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
TopSeller models - ASEAN													
7X06A0BSSG	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D3SG	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CESG	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CDSG	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DCSG	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CTSG	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D5SG	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BRSG	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DJSG	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BVSG	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BNSG	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CRSG	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D7SG	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C7SG	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CUSG	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0D6SG	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C8SG	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DFSG	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C0SG	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BYSG	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DESG	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DASG	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BXSG	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DNSG	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0D9SG	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BHSG	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0C4SG	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0CMSG	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BDSG	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DMSG	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BTSG	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0BMSG	1x 6254 18C 200W 3.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Table 12. SR650 server models: Australia and New Zealand

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
Relationship models - Australia and New Zealand													
7X06A0EHAU	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EKAU	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0EJAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0ELAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EUAU	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EPAU	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0ECAU	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0ESAU	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EFAU	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0ERAU	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DYAU	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F3AU	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EDAU	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EGAU	1x 5215 10C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F2AU	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F8AU	1x 5217 8C 115W 3.0GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EMAU	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F7AU	1x 5218 16C 125W 2.3GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EEAU	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0DZAU	1x 5220 18C 125W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F6AU	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F5AU	1x 6230 20C 125W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0F1AU	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0E1AU	1x 6240 18C 150W 2.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EVAU	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0E7AU	1x 6242 16C 150W 2.8GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EQAU	1x 6244 8C 150W 3.6GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EAAU	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0E9AU	1x 6248 20C 150W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N

Model number	Intel Xeon processor* (2 max)	Memory RDIMM (24 max)	Storage controller	Drive bays (std / max)	Drives	Eth. LOM	I/O slots (7 max)^	Power supply (2 max)	XClarity Controller	Front VGA port	Tool-less Rail Kit	CMA	Power cord
7X06A0ENAU	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0E8AU	1x 6252 24C 150W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
7X06A0EBAU	1x 6254 18C 200W 3.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 16 HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	S	N	N	N	N
TopSeller models - Australia and New Zealand													
7X06A0EWAU	1x 3204 6C 85W 1.9GHz	1x 16GB (x8) 2933MHz	1x RAID 530-8i	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0ETAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 530-8i	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0KBAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2666MHz	1x RAID 930-8i 2GB	8 / 8 HS LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	E	Y	Y	Y	R2
7X06A0EZAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0KCAU	1x 4208 8C 85W 2.1GHz	1x 16GB (x8) 2666MHz	1x RAID 930-16i 4GB	12 / 14 HS LFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	E	Y	Y	Y	R2
7X06A0EXAU	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 530-8i	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0E0AU	1x 4210 10C 85W 2.2GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0E2AU	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 530-8i	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0E3AU	1x 4210 10C 85W 2.2GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0E4AU	1x 4215 8C 85W 2.5GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0K8AU	1x 4214 12C 85W 2.2GHz	1x 16GB (x8) 2666MHz	1x RAID 930-8i 2GB	8 / 16 HS SFF	Open bay	Open slot	2x PCIe x8	1x 750W Platinum	E	Y	Y	Y	R2
7X06A0E5AU	1x 4215 8C 85W 2.5GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0E6AU	1x 4216 16C 100W 2.1GHz	1x 16GB (x8) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0F0AU	1x 4216 16C 100W 2.1GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0EYAU	1x 5217 8C 115W 3.0GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N
7X06A0F4AU	1x 5218 16C 125W 2.3GHz	1x 32GB (x4) 2933MHz	1x RAID 930-8i 2GB	8 / 24‡ HS SFF	Open bay	Open slot	3x PCIe x8 1x PCIe x16	1x 750W Platinum	E	N	Y	Y	N

* Processor details: Processor quantity and model, cores, thermal design power (TDP), and core speed.
^ The server supports two onboard PCIe slots 4 and 7 and up to five I/O slots on the riser cards. An internal storage controller occupies the PCIe slot 7.
‡ Models with 8, 16, or 24 SFF drive bays can be upgraded with 2 additional LFF rear drive bays (See Internal storage for details) that are not included in the maximum quantity shown.

Processors

The SR650 server supports one or two Intel Xeon Bronze, Silver, Gold, or Platinum processors. The following table lists the specifications of the processors for the SR650 server.

Processor specifications table abbreviations:

- UPI: Ultra Path Interconnect
- TDP: Thermal Design Power
- HT: Hyper-Threading
- TB: Turbo Boost 2.0
- VT-x: Virtualization Technology
- VT-d: Virtualization Technology for Directed I/O
- SST-PP: Speed Select Technology - Performance Profile
- FMA: Fused-Multiply Add (AVX-512)
- DCPMM: DC Persistent Memory Module
- RAS: Reliability, Availability, and Serviceability
  - Std: Standard RAS
  - Adv: Advanced RAS

Table 13. Processor specifications

CPU model	Cores / threads	Core speed (Base / TB Max)	Cache	Max DDR4 speed	Max memory capacity per socket	UPI speed	TDP	HT	TB	VT-x	VT-d	SST-PP	FMA units	DCPMM	RAS
Intel Xeon Bronze processors															
3204	6 / 6	1.9 / 1.9 GHz	8.25 MB	2133 MHz	1 TB	9.6 GT/s	85 W	N	N	Y	Y	N	1	N	Std
3206R	8 / 8	1.9 / 1.9 GHz	11 MB	2133 MHz	1 TB	9.6 GT/s	85 W	N	N	Y	Y	N	1	N	Std
Intel Xeon Silver processors															
4208	8 / 16	2.1 / 3.2 GHz	11 MB	2400 MHz	1 TB	9.6 GT/s	85 W	Y	Y	Y	Y	N	1	N	Std
4209T	8 / 16	2.2 / 3.2 GHz	11 MB	2400 MHz	1 TB	9.6 GT/s	70 W	Y	Y	Y	Y	N	1	N	Std
4210	10 / 20	2.2 / 3.2 GHz	13.75 MB	2400 MHz	1 TB	9.6 GT/s	85 W	Y	Y	Y	Y	N	1	N	Std
4210R	10 / 20	2.4 / 3.2 GHz	13.75 MB	2400 MHz	1 TB	9.6 GT/s	100 W	Y	Y	Y	Y	N	1	N	Std
4210T	10 / 20	2.3 / 3.2 GHz	13.75 MB	2400 MHz	1 TB	9.6 GT/s	95 W	Y	Y	Y	Y	N	1	N	Std
4214	12 / 24	2.2 / 3.2 GHz	16.5 MB	2400 MHz	1 TB	9.6 GT/s	85 W	Y	Y	Y	Y	N	1	N	Std
4214R	12 / 24	2.4 / 3.5 GHz	16.5 MB	2400 MHz	1 TB	9.6 GT/s	100 W	Y	Y	Y	Y	N	1	N	Std
4214Y	12 / 24	2.2 / 3.2 GHz	16.5 MB	2400 MHz	1 TB	9.6 GT/s	85 W	Y	Y	Y	Y	Y	1	N	Std
	10 / 20	2.3 / 3.2 GHz													
	8 / 16	2.4 / 3.2 GHz													
4215	8 / 16	2.5 / 3.5 GHz	11 MB	2400 MHz	1 TB	9.6 GT/s	85 W	Y	Y	Y	Y	N	1	Y	Std
4215R	8 / 16	3.2 / 4.0 GHz	11 MB	2400 MHz	1 TB	9.6 GT/s	130 W	Y	Y	Y	Y	N	1	Y	Std
4216	16 / 32	2.1 / 3.2 GHz	22 MB	2400 MHz	1 TB	9.6 GT/s	100 W	Y	Y	Y	Y	N	1	N	Std
Intel Xeon Gold processors															
5215	10 / 20	2.5 / 3.4 GHz	13.75 MB	2666 MHz	1 TB	10.4 GT/s	85 W	Y	Y	Y	Y	N	1	Y	Adv
5215L	10 / 20	2.5 / 3.4 GHz	13.75 MB	2666 MHz	4.5 TB	10.4 GT/s	85 W	Y	Y	Y	Y	N	1	Y	Adv
5217	8 / 16	3.0 / 3.7 GHz	11 MB	2666 MHz	1 TB	10.4 GT/s	115 W	Y	Y	Y	Y	N	1	Y	Adv
5218	16 / 32	2.3 / 3.9 GHz	22 MB	2666 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	1	Y	Adv
5218B	16 / 32	2.3 / 3.9 GHz	22 MB	2666 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	1	Y	Adv
5218R	20 / 40	2.1 / 4.0 GHz	27.5 MB	2666 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	1	Y	Adv
5218N	16 / 32	2.3 / 3.7 GHz	22 MB	2666 MHz	1 TB	10.4 GT/s	110 W	Y	Y	Y	Y	N	1	Y	Adv
5218T	16 / 32	2.1 / 3.8 GHz	22 MB	2666 MHz	1 TB	10.4 GT/s	105 W	Y	Y	Y	Y	N	1	Y	Adv
5220	18 / 36	2.2 / 3.9 GHz	24.75 MB	2666 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	1	Y	Adv
5220R	24 / 48	2.2 / 4.0 GHz	35.75 MB	2666 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	1	Y	Adv
5220S	18 / 36	2.7 / 3.9 GHz	24.75 MB	2666 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	1	Y	Adv
5220T	18 / 36	1.9 / 3.9 GHz	24.75 MB	2666 MHz	1 TB	10.4 GT/s	105 W	Y	Y	Y	Y	N	1	Y	Adv
5222	4 / 8	3.8 / 3.9 GHz	16.5 MB	2933 MHz	1 TB	10.4 GT/s	105 W	Y	Y	Y	Y	N	2	Y	Adv
6208U	16 / 32	2.9 / 3.9 GHz	22 MB	2933 MHz	1 TB	N/A	150 W	Y	Y	Y	Y	N	2	Y	Adv

CPU model	Cores / threads	Core speed (Base / TB Max)	Cache	Max DDR4 speed	Max memory capacity per socket	UPI speed	TDP	HT	TB	VT-x	VT-d	SST-PP	FMA units	DCPMM	RAS
6222V	20 / 40	1.8 / 3.6 GHz	27.5 MB	2400 MHz	1 TB	10.4 GT/s	115 W	Y	Y	Y	Y	N	2	Y	Adv
6226	12 / 24	2.7 / 3.7 GHz	19.25 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
6226R	16 / 32	2.9 / 3.9 GHz	22 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6230	20 / 40	2.1 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
6230N	20 / 40	2.3 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
6230R	26 / 52	2.1 / 4.0 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6230T	20 / 40	2.1 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
6234	8 / 16	3.3 / 4.0 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	130 W	Y	Y	Y	Y	N	2	Y	Adv
6238	22 / 44	2.1 / 3.7 GHz	30.25 MB	2933 MHz	1 TB	10.4 GT/s	140 W	Y	Y	Y	Y	N	2	Y	Adv
6238L	22 / 44	2.1 / 3.7 GHz	30.25 MB	2933 MHz	4.5 TB	10.4 GT/s	140 W	Y	Y	Y	Y	N	2	Y	Adv
6238R	28 / 56	2.2 / 4.0 GHz	38.5 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
6238T	22 / 44	1.9 / 3.7 GHz	30.25 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
6240	18 / 36	2.6 / 3.9 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6240L	18 / 36	2.6 / 3.9 GHz	24.75 MB	2933 MHz	4.5 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6240R	24 / 48	2.4 / 4.0 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
6240Y	18 / 36	2.6 / 3.9 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	Y	2	Y	Adv
	14 / 28	2.8 / 3.9 GHz													
	8 / 16	3.1 / 3.9 GHz													
6242	16 / 32	2.8 / 3.9 GHz	22 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6242R	20 / 40	3.1 / 4.1 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
6244	8 / 16	3.6 / 4.4 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6246	12 / 24	3.3 / 4.2 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
6246R	16 / 32	3.4 / 4.1 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
6248	20 / 40	2.5 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6248R	24 / 48	3.0 / 4.0 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
6250	8 / 16	3.9 / 4.5 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	185 W	Y	Y	Y	Y	N	2	Y	Adv
6252	24 / 48	2.1 / 3.7 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6252N	24 / 48	2.3 / 3.6 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	150 W	Y	Y	Y	Y	N	2	Y	Adv
6254	18 / 36	3.1 / 4.0 GHz	24.75 MB	2933 MHz	1 TB	10.4 GT/s	200 W	Y	Y	Y	Y	N	2	Y	Adv
6256	12 / 24	3.6 / 4.5 GHz	33 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
6258R	28 / 56	2.7 / 4.0 GHz	38.5 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
6262V	24 / 48	1.9 / 3.6 GHz	33 MB	2400 MHz	1 TB	10.4 GT/s	135 W	Y	Y	Y	Y	N	2	Y	Adv
Intel Xeon Platinum processors															
8253	16 / 32	2.2 / 3.0 GHz	22 MB	2933 MHz	1 TB	10.4 GT/s	125 W	Y	Y	Y	Y	N	2	Y	Adv
8256	4 / 8	3.8 / 3.9 GHz	16.5 MB	2933 MHz	1 TB	10.4 GT/s	105 W	Y	Y	Y	Y	N	2	Y	Adv
8260	24 / 48	2.4 / 3.9 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
8260L	24 / 48	2.4 / 3.9 GHz	35.75 MB	2933 MHz	4.5 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
8260Y	24 / 48	2.4 / 3.9 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	Y	2	Y	Adv
	20 / 40	2.5 / 3.9 GHz													
	16 / 32	2.7 / 3.9 GHz													
8268	24 / 48	2.9 / 3.9 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
8270	26 / 52	2.7 / 4.0 GHz	35.75 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
8276	28 / 56	2.2 / 4.0 GHz	38.5 MB	2933 MHz	1 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
8276L	28 / 56	2.2 / 4.0 GHz	38.5 MB	2933 MHz	4.5 TB	10.4 GT/s	165 W	Y	Y	Y	Y	N	2	Y	Adv
8280	28 / 56	2.7 / 4.0 GHz	38.5 MB	2933 MHz	1 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv
8280L	28 / 56	2.7 / 4.0 GHz	38.5 MB	2933 MHz	4.5 TB	10.4 GT/s	205 W	Y	Y	Y	Y	N	2	Y	Adv

Configuration notes:

- The Intel Xeon Gold 5218 and 5218B processors have similar specifications; however, they use different silicon designs and cannot be mixed in the same system.
- The processors that support SST-PP offer three distinct operating points that are defined by a core count with a base speed associated with that core count. The operating point is static, it is selected during the boot process and cannot be changed at runtime.

For the SR650 server models that come standard with one processor, the second processor can be ordered, if required (see the following table for ordering information). The second processor must be of the same model as the first processor. The second processor option includes a processor and a heatsink; an additional system fan is not included and needs to be purchased with the second processor (see Cooling for details).

Table 14. Processor options

Description	Part number	Feature code*
Intel Xeon Bronze processors		
SR550/SR590/SR650 Intel Xeon Bronze 3204 6C 85W 1.9GHz Processor w/o FAN	4XG7A37938	B4HU
SR550/SR590/SR650 Intel Xeon Bronze 3206R 8C 85W 1.9GHz Processor w/o FAN	4XG7A37983	B7N3
Intel Xeon Silver processors		
SR550/SR590/SR650 Intel Xeon Silver 4208 8C 85W 2.1GHz Processor w/o FAN	4XG7A37935	B4HT
SR550/SR590/SR650 Intel Xeon Silver 4209T 8C 70W 2.2GHz Processor w/o FAN	4XG7A37944	B4P4
SR550/SR590/SR650 Intel Xeon Silver 4210 10C 85W 2.2GHz Processor w/o FAN	4XG7A37932	B4HS
SR550/SR590/SR650 Intel Xeon Silver 4210R 10C 100W 2.4GHz Processor w/o FAN	4XG7A37981	B7N5
SR650 Intel Xeon Silver 4210T 10C 95W 2.3GHz Processor w/o FAN	4XG7A63276	BAZT
SR550/SR590/SR650 Intel Xeon Silver 4214 12C 85W 2.2GHz Processor w/o FAN	4XG7A37929	B4HR
SR550/SR590/SR650 Intel Xeon Silver 4214R 12C 100W 2.4GHz Processor w/o FAN	4XG7A37980	B7N6
SR550/SR590/SR650 Intel Xeon Silver 4214Y 12/10/8C 85W 2.2GHz Processor w/o FAN	4XG7A37941	B4NW
SR550/SR590/SR650 Intel Xeon Silver 4215 8C 85W 2.5GHz Processor w/o FAN	4XG7A37926	B4HQ
SR590/SR650 Intel Xeon Silver 4215R 8C 130W 3.2GHz Processor w/o FAN	4XG7A63274	BAZU
SR550/SR590/SR650 Intel Xeon Silver 4216 16C 100W 2.1GHz Processor w/o FAN	4XG7A37923	B4HP
Intel Xeon Gold processors		
SR550/SR590/SR650 Intel Xeon Gold 5215 10C 85W 2.5GHz Processor w/o FAN	4XG7A37916	B4HN
SR550/SR590/SR650 Intel Xeon Gold 5215L 10C 85W 2.5GHz Processor w/o FAN	4XG7A37910	B4P9
SR550/SR590/SR650 Intel Xeon Gold 5217 8C 115W 3.0GHz Processor w/o FAN	4XG7A37919	B4HM
SR550/SR590/SR650 Intel Xeon Gold 5218 16C 125W 2.3GHz Processor w/o FAN	4XG7A37895	B4HL
SR550/SR590/SR650 Intel Xeon Gold 5218B 16C 125W 2.3GHz Processor w/o FAN	4XG7A37958	B6BS
SR550/SR590/SR650 Intel Xeon Gold 5218R 20C 125W 2.1GHz Processor w/o FAN	4XG7A63272	BAZS
SR650 Intel Xeon Gold 16C 110W 2.3GHz Processor Option Kit w/o FAN	4XG7A37955	B5S0
SR550/SR590/SR650 Intel Xeon Gold 5218T 16C 105W 2.1GHz Processor w/o FAN	4XG7A38016	B4P3
SR550/SR590/SR650 Intel Xeon Gold 5220 18C 125W 2.2GHz Processor w/o FAN	4XG7A37892	B4HK
SR590/SR650 Intel Xeon Gold 5220R 24C 150W 2.2GHz Processor w/o FAN	4XG7A37974	B7N9
SR550/SR590/SR650 Intel Xeon Gold 5220S 18C 125W 2.7GHz Processor w/o FAN	4XG7A38019	B6CW
SR550/SR590/SR650 Intel Xeon Gold 5220T 18C 105W 1.9GHz Processor w/o FAN	4XG7A38005	B6CQ
SR550/SR590/SR650 Intel Xeon Gold 5222 4C 105W 3.8GHz Processor w/o FAN	4XG7A37951	B5S1
Intel Xeon Gold 6208U 16C 150W 2.9GHz Processor	None**	BAZV
SR550/SR590/SR650 Intel Xeon Gold 6222V 20C 115W 1.8GHz Processor w/o FAN	4XG7A38023	B6CV
SR550/SR590/SR650 Intel Xeon Gold 6226 12C 125W 2.7GHz Processor w/o FAN	4XG7A38021	B6CL
SR590/SR650 Intel Xeon Gold 6226R 16C 150W 2.9GHz Processor w/o FAN	4XG7A38082	BAZW
SR550/SR590/SR650 Intel Xeon Gold 6230 20C 125W 2.1GHz Processor w/o FAN	4XG7A37889	B4HJ
SR550/SR590/SR650 Intel Xeon Gold 6230N 20C 125W 2.3GHz Processor w/o FAN	4XG7A38028	B5RY
SR590/SR650 Intel Xeon Gold 6230R 26C 150W 2.1GHz Processor w/o FAN	4XG7A38081	BAZX

Description	Part number	Feature code*
SR550/SR590/SR650 Intel Xeon Gold 6230T 20C 125W 2.1GHz Processor w/o FAN	4XG7A38006	B6CP
SR590/SR650 Intel Xeon Gold 6234 8C 130W 3.3GHz Processor w/o FAN	4XG7A38001	B6CK
SR590/SR650 Intel Xeon Gold 6238 22C 140W 2.1GHz Processor w/o FAN	4XG7A38008	B6CJ
SR590/SR650 Intel Xeon Gold 6238L 22C 140W 2.1GHz Processor w/o FAN	4XG7A38003	B6CR
SR650 Intel Xeon Gold 6238R 28C 165W 2.2GHz Processor w/o FAN	4XG7A38080	BAZL
SR550/SR590/SR650 Intel Xeon Gold 6238T 22C 125W 1.9GHz Processor w/o FAN	4XG7A37906	B4P2
SR650 Intel Xeon Gold 6240 18C 150W 2.6GHz Processor w/o FAN	4XG7A15895	B4HH
SR590/SR650 Intel Xeon Gold 6240L 18C 150W 2.6GHz Processor w/o FAN	4XG7A38015	B6CS
SR650 Intel Xeon Gold 6240R 24C 165W 2.4GHz Processor w/o FAN	4XG7A38079	BAZM
SR590/SR650 Intel Xeon Gold 6240Y 18/14/8C 150W 2.6GHz Processor w/o FAN	4XG7A37903	B4NV
SR590/SR650 Intel Xeon Gold 6242 16C 150W 2.8GHz Processor w/o FAN	4XG7A37886	B4HG
SR650 Intel Xeon Gold 6242R 20C 205W 3.1GHz Processor w/o FAN	4XG7A38078	BAZN
SR590/SR650 Intel Xeon Gold 6244 8C 150W 3.6GHz Processor w/o FAN	4XG7A15874	B4HF
SR650 Intel Xeon Gold 6246 12C 165W 3.3GHz Processor Option Kit w/o FAN	4XG7A37963	B6PD
SR650 Intel Xeon Gold 6246R 16C 205W 3.4GHz Processor w/o FAN	4XG7A38077	BAZP
SR650 Intel Xeon Gold 6248 20C 150W 2.5GHz Processor w/o FAN	4XG7A15892	B4HE
SR650 Intel Xeon Gold 6248R 24C 205W 3.0GHz Processor w/o FAN	4XG7A38076	BAZQ
SR650 Intel Xeon Gold 6250 8C 185W 3.9GHz Processor w/o FAN	4XG7A38075	B96C
SR650 Intel Xeon Gold 6252 24C 150W 2.1GHz Processor w/o FAN	4XG7A15889	B4HC
SR590/SR650 Intel Xeon Gold 6252N 24C 150W 2.3GHz Processor w/o FAN	4XG7A38011	B6CT
SR650 Intel Xeon Gold 6254 18C 200W 3.1GHz Processor w/o FAN	4XG7A15872	B4HD
SR650 Intel Xeon Gold 6256 12C 205W 3.6GHz Processor w/o FAN	4XG7A38074	B96D
SR650 Intel Xeon Gold 6258R 28C 205W 2.7GHz Processor w/o FAN	4XG7A38073	BAZR
SR590/SR650 Intel Xeon Gold 6262V 24C 135W 1.9GHz Processor w/o FAN	4XG7A38010	B6CU
Intel Xeon Platinum processors		
SR550/SR590/SR650 Intel Xeon Platinum 8253 16C 125W 2.2GHz Processor w/o FAN	4XG7A37898	B5RZ
SR550/SR590/SR650 Intel Xeon Platinum 8256 4C 105W 3.8GHz Processor w/o FAN	4XG7A37947	B5S2
SR650 Intel Xeon Platinum 8260 24C 165W 2.4GHz Processor w/o FAN	4XG7A15887	B4HB
SR650 Intel Xeon Platinum 8260L 24C 165W 2.4GHz Processor w/o FAN	4XG7A15883	B4P7
SR650 Intel Xeon Platinum 8260Y 24/20/16C 165W 2.4GHz Processor w/o FAN	4XG7A37901	B4NU
SR650 Intel Xeon Platinum 8268 24C 205W 2.9GHz Processor w/o FAN	4XG7A15870	B4HA
SR650 Intel Xeon Platinum 8270 26C 205W 2.7GHz Processor w/o FAN	4XG7A15868	B4H9
SR650 Intel Xeon Platinum 8276 28C 165W 2.2GHz Processor w/o FAN	4XG7A15881	B4H8
SR650 Intel Xeon Platinum 8276L 28C 165W 2.2GHz Processor w/o FAN	4XG7A15877	B4P6
SR650 Intel Xeon Platinum 8280 28C 205W 2.7GHz Processor w/o FAN	4XG7A15866	B4H7
SR650 Intel Xeon Platinum 8280L 28C 205W 2.7GHz Processor w/o FAN	4XG7A15862	B4P5

* For CTO configurations, the feature code represents a processor, and fans and heatsinks are derived by the configuration tool.
** Factory-installed only; no field upgrade. Supported in the uniprocessor configurations only.

Configuration notes:

- Processors with 200 W or 205 W TDP, or Gold 6230N, 6240Y, 6244, or 6250 processors are supported in the following hardware configurations and ambient temperature requirements:
  - 24x 2.5” chassis.
  - Ambient temperature and drive bay configurations:
    - Up to 35 °C (95 °F): 8x 2.5” SAS/SATA drive bays (drive backplane in the middle).
    - Up to 30 °C (86 °F):
      - 4x 2.5" SAS/SATA and 4x 2.5" AnyBay (up to 4 NVMe SSDs).
      - 8x 2.5" SAS/SATA and 8x 2.5" AnyBay (up to 8 NVMe SSDs).

    Note: Gold 6242R, 6246R, 6248R, 6250, 6256, and 6258R processors are supported only at the ambient temperature of up to 30 °C (86 °F) and only with 8x 2.5” SAS/SATA drive bays (drive backplane in the middle).
  - No rear HDD kit installed.
  - No PCIe flash adapters installed.
  - No GPU adapters installed, or up to four T4 GPU adapters installed.
  - The server performance might be impacted in case of a system fan failure.
- Gold 6230T, 6246, or 6252N processors are supported in the following hardware configurations:
  - 8x 3.5" SAS/SATA drive bays.
  - 8x 2.5" SAS/SATA drive bays.
  - 4x 2.5" SAS/SATA and 4x 2.5" AnyBay drive bays.

Memory

The SR650 server supports up to 12 TruDDR4 memory RDIMMs or 3DS RDIMMs when one processor is installed and up to 24 DIMMs when two processors are installed. Each processor has six memory channels (two integrated memory controllers with three memory channels per memory controller), and there are two DIMMs per channel.

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

TruDDR4 memory has a unique signature programmed into the DIMM, which enables Lenovo servers to verify whether the memory installed is qualified and supported. Lenovo qualified and supported TruDDR4 memory is covered by Lenovo warranty, and service and support provided worldwide.

The following maximum memory capacities are supported by the SR650 server:

- RDIMMs: 1.5 TB (768 GB per processor).
- 3DS RDIMMs: 3 TB (1.5 TB per processor) (requires processors that support more than 1 TB of memory capacity per socket).

The following memory protection technologies are supported by the processor's integrated memory controllers:

- ECC
- SDDC (for x4-based memory DIMMs)
- ADDDC (for x4-based memory DIMMs; Gold and Platinum processors only)
- Memory mirroring
- Memory rank sparing
- Patrol scrubbing
- Demand scrubbing

The following table lists memory options available for the SR650 server.

Table 15. Memory options

Description	Part number	Feature code	Maximum quantity*
RDIMMs - 2933 MHz Performance+			
ThinkSystem 16GB TruDDR4 Performance+ 2933MHz (2Rx8 1.2V) RDIMM	4X77A12184	B5N6	12 / 24
ThinkSystem 32GB TruDDR4 Performance+ 2933MHz (2Rx4 1.2V) RDIMM	4X77A12185	B5N7	12 / 24
ThinkSystem 64GB TruDDR4 Performance+ 2933MHz (2Rx4 1.2V) RDIMM	4X77A12186	B5N8	12 / 24
RDIMMs - 2933 MHz			
ThinkSystem 8GB TruDDR4 2933MHz (1Rx8 1.2V) RDIMM	4ZC7A08706	B4H1	12 / 24
ThinkSystem 16GB TruDDR4 2933MHz (1Rx4 1.2V) RDIMM	4ZC7A08707	B4LY	12 / 24
ThinkSystem 16GB TruDDR4 2933MHz (2Rx8 1.2V) RDIMM	4ZC7A08708	B4H2	12 / 24
ThinkSystem 32GB TruDDR4 2933MHz (2Rx4 1.2V) RDIMM	4ZC7A08709	B4H3	12 / 24
ThinkSystem 64GB TruDDR4 2933MHz (2Rx4 1.2V) RDIMM	4ZC7A08710	B4H4	12 / 24
RDIMMs - 2666 MHz			
ThinkSystem 16GB TruDDR4 2666 MHz (1Rx4 1.2V) RDIMM	7X77A01302	AUNB	12 / 24
ThinkSystem 16GB TruDDR4 2666 MHz (2Rx8 1.2V) RDIMM	7X77A01303	AUNC	12 / 24
ThinkSystem 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM	7X77A01304	AUND	12 / 24
3DS RDIMMs - 2933 MHz Performance+			
ThinkSystem 128GB TruDDR4 Performance+ 2933MHz (4Rx4 1.2V) 3DS RDIMM	4X77A12187	B5N9	12 / 24
3DS RDIMMs - 2933 MHz			
ThinkSystem 128GB TruDDR4 2933MHz (4Rx4 1.2V) 3DS RDIMM	4ZC7A15113	B587	12 / 24
3DS RDIMMs - 2666 MHz			
ThinkSystem 64GB TruDDR4 2666MHz (4Rx4, 1.2V) 3DS RDIMM	4ZC7A08716	AUW5	12 / 24

* The maximum quantity shown is with one processor / two processors.

Configuration notes:

- All DIMMs in the server operate at the same speed, which is determined as the lowest value of:
  - DIMM rated speed (2666 MHz or 2933 MHz).
  - Memory speed supported by the specific processor (2133 MHz, 2400 MHz, 2666 MHz, or 2933 MHz).
  - Memory speed for the selected quantity of DIMMs per channel:
    - One DIMM per channel (1 DPC): 2933 MHz.
    - Two DIMMs per channel (2 DPC)
      - Performance+ DIMMs: 2933 MHz.
      - Other supported DIMMs: 2666 MHz.

  Note: Maximum memory speed can be achieved when Max performance mode is enabled in UEFI.
- Mixing different types of memory (RDIMMs and 3DS RDIMMs) is not supported.
- All Performance+ DIMMs in the server must be of the same type, rank, and capacity (the same part number or feature code) to operate at 2933 MHz in the configurations with two DIMMs per channel. Performance+ DIMMs cannot be mixed with other DIMMs.
- Mixing RDIMMs of different ranks (single- or dual-rank), DRAM chip types (x4 or x8), speeds (2666 MHz or 2933 MHz), and capacities (8 GB, 16 GB, 32 GB, or 64 GB) is supported in the independent channel mode (the default operational mode) (excluding Performance+ RDIMMs).
- Mixing 3DS RDIMMs of different speeds (2666 MHz or 2933 MHz) and capacities (64 GB or 128 GB) is supported in the independent channel mode (excluding Performance+ 3DS RDIMMs).
- The 128 GB Performance+ 2933 MHz 3DS RDIMMs (feature code B5N9) running at 2933 MHz with two DIMMs per channel are supported at the ambient temperature of up to 30 °C (86 °F).
- The maximum quantity of DIMMs supported is reduced by the quantity of DC Persistent Memory Modules used in the configuration.
- Server configurations with more than 1 TB of memory capacity per socket (including DCPMMs and RDIMMs or 3DS RDIMMs) require processors that support up to 4.5 TB (L-suffix) per socket.
- For server configurations with memory protection, the following rules apply:
  - Single Device Data Correction (SDDC) works only in the independent channel mode and supports only x4-based memory DIMMs.
  - Adaptive Double Device Data Correction (ADDDC) works with x4-based memory DIMMs and requires two DIMM ranks per channel, Intel Xeon Gold or Platinum processors, and the Closed Page memory access mode.
  - If memory mirroring is used, then DIMMs must be installed in quantities of 2, 4, or 8 per processor for mirroring across two memory channels, or in quantities of 3, 6, 9, or 12 per processor for mirroring across three memory channels. Mixing two- and three-channel mirroring in the server is allowed (one processor uses two-channel mirroring, and another processor uses three-channel mirroring). All DIMMs in the server must be identical in type and size.
  - If memory rank sparing is used, then a minimum of two ranks must be installed per populated channel (a least one dual-rank or quad-rank DIMM, or two single-rank DIMMs). In rank sparing mode, one rank in each populated channel is reserved as spare memory for other ranks on the same channel. All DIMMs in the server must be identical in type and size.
  - SDDC, memory mirroring, and memory rank sparing modes are mutually exclusive. Only one operational memory mode can be enabled on the server.
  - In the configurations with DCPMMs, memory mirroring is supported only in the App Direct mode (other DCPMM modes do not support memory mirroring) and applies only to the RDIMMs or 3DS RDIMMs (DCPMMs are not mirrored). Memory sparing is not supported in the configurations with DCPMMs.

Persistent memory

Intel Optane DC persistent memory is an innovative technology that delivers a unique combination of affordable large memory capacity and persistence (non-volatility). The persistent memory technology can help boost the performance of data-intensive applications, such as in-memory analytics, databases, content delivery networks, and high performance computing (HPC), as well as deliver consistent service levels at scale with higher virtual machine and container density.

The SR650 server supports up to six TruDDR4 DC Persistent Memory Modules (DCPMMs) when one processor is installed and up to 12 DCPMMs when two processors are installed (up to one DCPMM per processor's memory channel) for a total of up to 6 TB of persistent memory capacity. The DCPMMs are installed in the same memory DIMM slots on the system board that are used for installing RDIMMs or 3DS RDIMMs.

The DCPMMs support the following modes of operation:

- Memory Mode
  Memory Mode seamlessly brings large memory capacity at affordable cost points to legacy applications. In this mode, DCPMMs provide volatile memory that behaves much like traditional RDIMMs or 3DS RDIMMs (the data will not be saved in case of a power loss) and is transparent to the operating system and applications. DCPMMs provide memory capacity and RDIMMs or 3DS RDIMMs provide cache memory that is managed by the processor's memory controller. The total memory capacity that is seen by the operating system is the capacity of the DCPMMs; the capacity of the RDIMMs or 3DS RDIMMs is hidden and does not appear as a memory resource in the operating system. This mode is considered particularly suited for virtualized database deployments and big-data analytics applications.
- App Direct Mode
  App Direct Mode brings persistency to the data and structures (the data will be saved in case of a power loss). This mode requires operating system and application awareness of two types of system memory: Persistent (DCPMMs) and DRAM (RDIMMs or 3DS RDIMMs). The total memory capacity that is seen by the operating system includes the capacity of the DCPMMs and RDIMMs or 3DS RDIMMs. This mode is considered particularly suited for in-memory databases, in-memory analytics frameworks, and ultrafast storage applications.
- Mixed Memory Mode
  Mixed Memory Mode is a combination of Memory Mode and App Direct Mode, where a portion of the capacity of the DCPMMs is used for the Memory Mode operations, and the remaining capacity of the DCPMMs is used for the App Direct Mode operations.

The following memory protection technologies are supported by the DCPMM's onboard memory controllers:

- ECC
- SDDC
- DDDC
- Patrol scrubbing
- Demand scrubbing

The following table lists DCPMM options available for the SR650 server.

Table 16. DCPMM options

Description	Part number	Feature code	Maximum quantity*
ThinkSystem 128GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15110	B4LV	6 / 12
ThinkSystem 256GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15111	B4LW	6 / 12
ThinkSystem 512GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15112	B4LX	6 / 12

* The maximum quantity shown is with one processor / two processors.

The following table lists supported combinations of the DCPMMs and memory DIMMs available for the SR650 server.

Table 17. Supported DCPMM and memory DIMM combinations

DCPMM mode	DCPMM quantity*	Supported DCPMM sizes	Memory DIMM quantity*	Supported memory DIMM sizes
App Direct Mode	- / 1	128 GB, 256 GB, 512 GB	- / 12	16 GB, 32 GB, 64 GB, 128 GB
	1 / 2	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB, 128 GB
	2 / 4	128 GB, 256 GB, 512 GB	4 / 8	16 GB, 32 GB, 64 GB, 128 GB
	2 / 4	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB, 128 GB
	2 / 4	128 GB, 256 GB, 512 GB	8 / 16	16 GB, 32 GB, 64 GB, 128 GB
	4 / 8	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB, 128 GB
	6 / 12	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB, 128 GB
Memory Mode	2 / 4	128 GB	4 / 8	16 GB
	2 / 4	256 GB	4 / 8	32 GB
	2 / 4	512 GB	4 / 8	32 GB, 64 GB
	2 / 4	256 GB	6 / 12	16 GB
	2 / 4	512 GB	6 / 12	16 GB, 32 GB
	4 / 8	128 GB	6 / 12	16 GB
	4 / 8	256 GB	6 / 12	32 GB
	4 / 8	512 GB	6 / 12	32 GB, 64 GB
	6 / 12	128 GB	6 / 12	16 GB, 32 GB
	6 / 12	256 GB	6 / 12	32 GB, 64 GB
	6 / 12	512 GB	6 / 12	32 GB, 64 GB, 128 GB
Mixed Memory Mode	2 / 4	256 GB	6 / 12	16 GB
	2 / 4	512 GB	6 / 12	16 GB, 32 GB
	2 / 4	256 GB	4 / 8	16 GB
	2 / 4	512 GB	4 / 8	16 GB, 32 GB
	4 / 8	128 GB	6 / 12	16 GB
	4 / 8	256 GB	6 / 12	16 GB, 32 GB
	4 / 8	512 GB	6 / 12	16 GB, 32 GB, 64 GB
	6 / 12	128 GB	6 / 12	16 GB
	6 / 12	256 GB	6 / 12	16 GB, 32 GB
	6 / 12	512 GB	6 / 12	16 GB, 32 GB, 64 GB

* The supported exact quantity shown is with one processor / two processors.

Configuration notes:

- DCPMMs are supported only in the configurations with 8x 2.5-inch, 16x 2.5-inch, or 8x 3.5-inch drive bays.
- All DCPMMs in the server must be of the same capacity (the same part number or feature code).
- The RDIMMs or 3DS RDIMMs are required in the configurations with DCPMMs, and all RDIMMs or 3DS RDIMMs must be of the same type, rank, and capacity (the same part number or feature code).
- The DCPMMs cannot be mixed with the 8GB TruDDR4 2933 MHz RDIMM (4ZC7A08706).
- For Mixed Memory Mode, the volatile (Memory) portion of the total capacity of DCPMMs is configured in increments of 32 GB multiplied by the number of DCPMMs in the server, and the remaining capacity is allocated to the persistent (App Direct) portion. The ratio of the total capacity of RDIMMs or 3DS RDIMMs to the total capacity of the volatile portion of DCPMMs should be between 1 to 4 and 1 to 16.
- Server configurations with more than 1 TB of memory capacity per socket (including DCPMMs and RDIMMs or 3DS RDIMMs) require processors that support up to 4.5 TB (L-suffix) per socket.
- In the configurations with the processors of 200 W or 205 W TDP, or with Gold 6230N, 6240Y, 6244, or 6250 processors, the DCPMMs require two power supplies.
- Persistent memory is not supported in configurations with GPU adapters
- Persistent memory is not supported in configurations with flash storage adapters

For more information, refer to the Intel Optane DC Persistent Memory (DCPMM) Product Guide:
http://lenovopress.com/LP1066

Internal storage

The SR650 server supports the following internal drive bay configurations:

1. Up to 16 SFF (front) and 2 LFF (rear) hot-swap drive bays:
   a. 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
   b. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
   c. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 2x 3.5" SAS/SATA
2. Up to 24 SFF (front) and 2 LFF (rear) hot-swap drive bays:
   a. 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
   b. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
   c. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA + 2x 3.5" SAS/SATA
   d. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 4x 2.5" SAS/SATA & 4x 2.5" AnyBay
   e. 16x 2.5" U.2 NVMe PCIe + 8x 2.5" SAS/SATA (factory-installed only)
   f. 20x 2.5" U.2 NVMe PCIe
   g. 24x 2.5" U.2 NVMe PCIe
3. Up to 10 LFF SAS/SATA hot-swap drive bays: 8x 3.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)
4. Up to 14 LFF hot-swap drive bays:
   a. 12x 3.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)
   b. 8x 3.5" SAS/SATA & 4x 3.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)

In addition, the SR650 server models can be configured with one or two internal M.2 SATA SSDs. The server also supports configurations without drive bays.

The following figures show the internal drive bay configurations.

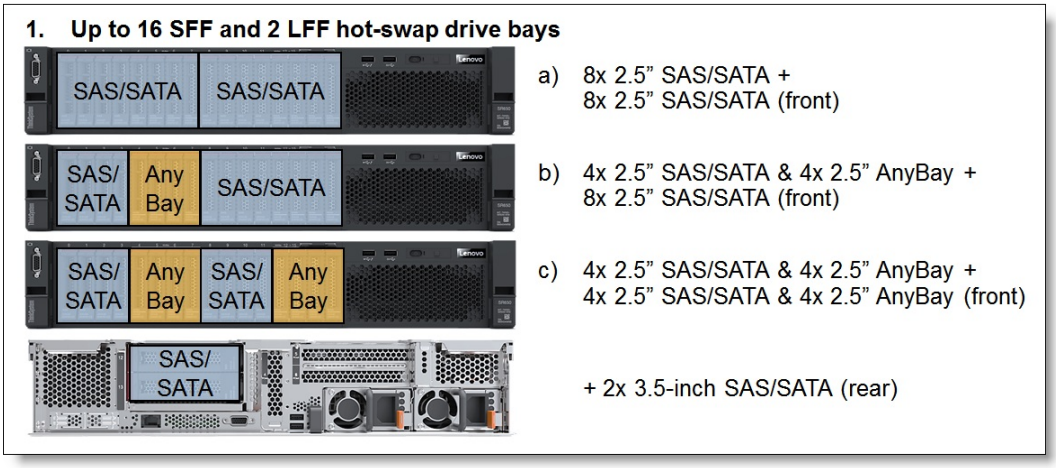


Figure 8. Drive bay configurations: 16x 2.5-inch chassis

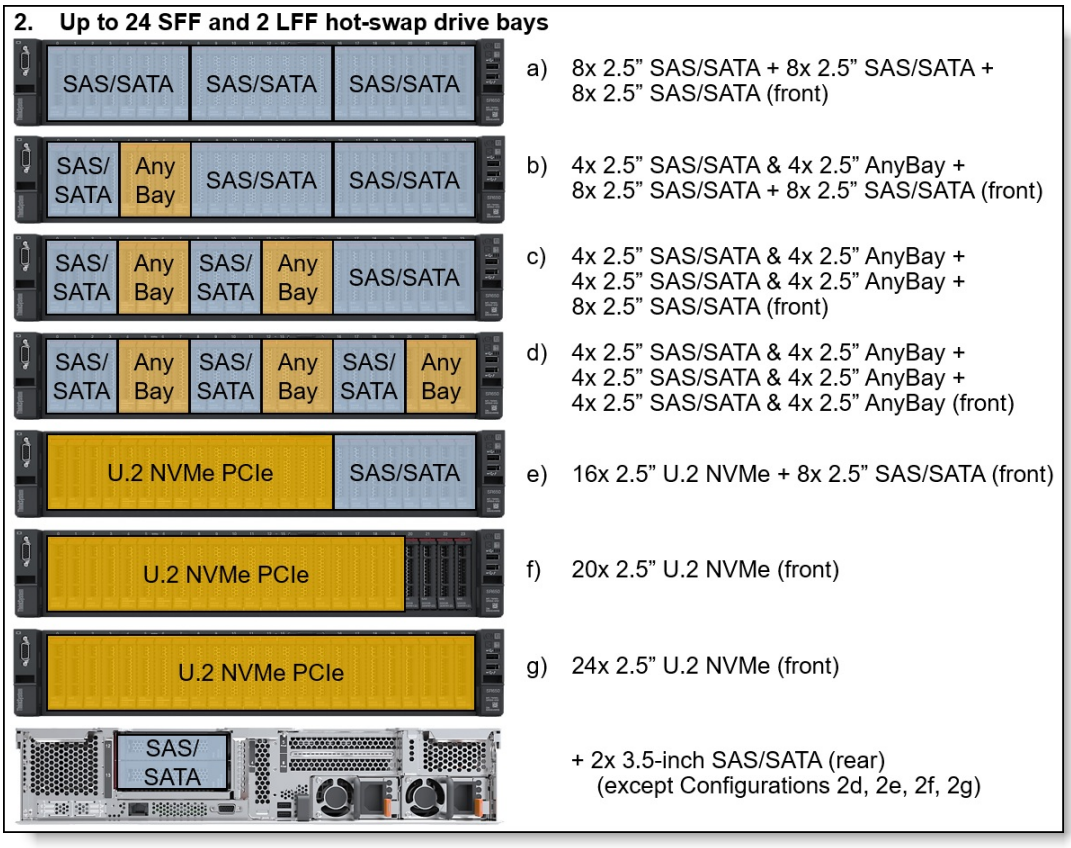


Figure 9. Drive bay configurations: 24x 2.5-inch chassis

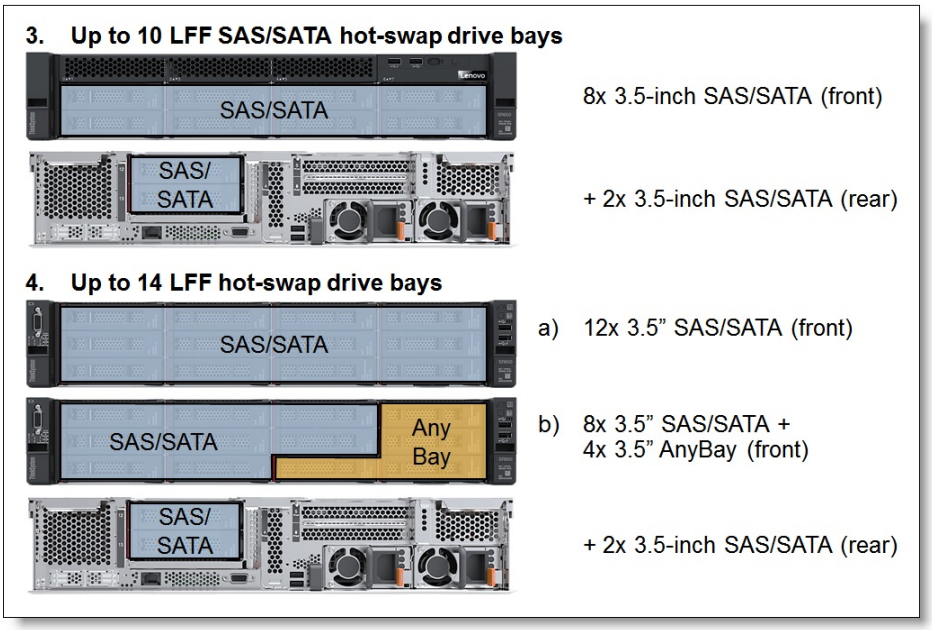


Figure 10. Drive bay configurations: 12x 3.5-inch chassis

The following table lists the internal storage options for the SR650 server.

Table 18. Internal storage options

Description	Part number	Feature code	Maximum quantity
Factory-installed backplane kits			
ThinkSystem 2U/Twr 2.5" SATA/SAS 8-Bay Backplane	None*	AURA	3
ThinkSystem 2U/Twr 2.5" AnyBay 8-Bay Backplane	None*	AUR5	3
ThinkSystem 2U 3.5" SATA/SAS 8-Bay Backplane	None*	AUR6	1
ThinkSystem 2U 3.5" SATA/SAS 12-Bay Backplane	None*	AUR9	1
ThinkSystem 2U 3.5" AnyBay 12-Bay Backplane	None*	AUR8	1
ThinkSystem 2U 2.5" NVMe 8-Bay Backplane	None*	B4PC	3
ThinkSystem SR590/SR650 3.5" Rear HDD/SSD Kit	7XH7A06253	AURZ	1
ThinkSystem SR650 Rear HDD Kit - Fanless (PRC only)	4XB7A64318	BFK0	1
Backplane kit field upgrade options			
SR550/SR650 2.5" SATA/SAS 8-Bay Backplane Upgrade Kit	7XH7A06254	None**	3
SR650 2.5" AnyBay 8-Bay Backplane Upgrade Kit	7XH7A06251	None**	3
SR550/SR590/SR650 3.5" SATA/SAS 8-Bay Backplane Upgrade Kit	4XH7A08770	None**	1
SR550/SR590/SR650 3.5" SATA/SAS 12-Bay Backplane Upgrade Kit	4XH7A08771	None**	1
SR590/SR650 3.5" AnyBay 12-Bay Backplane Upgrade Kit	4XH7A08785	None**	1
ThinkSystem SR650 U.2 NVMe 20-Bay Backplane Upgrade Kit	4XH7A09819	None**	1
ThinkSystem SR650 U.2 NVMe 24-Bay Backplane Upgrade Kit	4XH7A08810	None**	1
ThinkSystem SR590/SR650 3.5" Rear HDD/SSD Kit	7XH7A06253	AURZ	1
ThinkSystem SR650 Rear HDD Kit - Fanless (PRC only)	4XB7A64318	BFK0	1
M.2 enablement kits			
ThinkSystem M.2 Enablement Kit	7Y37A01092	AUMU	1
ThinkSystem M.2 with Mirroring Enablement Kit	7Y37A01093	AUMV	1

* These backplane kits can be factory-installed in standard or custom (CTO or Special Bid) models, and they might not have an option part number assigned.
** Field upgrade only.

Configuration notes:

- 24x 2.5-inch front drives are supported only on storage dense models that use the 24x 2.5" chassis (feature code AUVV).
- The 2.5" SATA/SAS 8-Bay Backplane Kit (7XH7A06254) adds 8x 2.5" SAS/SATA hot-swap drive bays to the previously configured models that are based on the 16x 2.5" chassis (feature code AUVX) or 24x 2.5" chassis (feature code AUVV) and support drive bay expansion capabilities (including models without drive bays).
- The 2.5" AnyBay 8-Bay Backplane Kit (7XH7A06251) adds 4x 2.5" SAS/SATA & 4x 2.5" AnyBay hot-swap drive bays to the previously configured models that are based on the 16x 2.5" chassis (feature code AUVX) or 24x 2.5" chassis (feature code AUVV) and support drive bay expansion capabilities (including models without drive bays).
- Up to 3x 2.5" AnyBay 8-Bay Backplane Kits are supported in the server with the processors of up to 165 W TDP. Up to 2x 2.5" AnyBay 8-Bay Backplane Kits are supported in the server with the processors of more than 165 W TDP. If 3x 2.5" AnyBay 8-Bay Backplane Kits are installed in the server, the Rear HDD kit cannot be installed.
- Models without any drive bays that are based on the 12x 3.5" chassis (feature code AUVW) include the Right EIA Latch with FIO (USB ports, status LEDs, and a power button). These models support adding drive bays by using the 3.5" 8-bay backplane kit (4XH7A08770), 3.5" 12-bay backplane kit (4XH7A08771), or 3.5" AnyBay 12-bay backplane kit (4XH7A08785).
- The SAS/SATA and AnyBay backplane upgrade kits include drive backplanes and required SAS cables, NVMe cables, power cables, and drive bay fillers; storage controllers are not included.
- Previously configured models that are based on the 24x 2.5" chassis (feature code AUVV) can be upgraded to 20 or 24 U.2 NVMe PCIe drive bays by using the U.2 NVMe 20-Bay Backplane Upgrade Kit (4XH7A09819) or U.2 NVMe 24-Bay Backplane Upgrade Kit (4XH7A08810), respectively. Both kits include drive backplanes and required NVMe cables, power cables, drive bay fillers, and NVMe switch adapters. The U.2 NVMe 24-Bay Backplane Upgrade Kit also includes the x16/x8/x16 Riser Card 1 (4XH7A09902).
- For models with 16/20/24x 2.5" U.2 NVMe PCIe drive bays (either factory-installed or upgraded in the field), the following conditions must be met:
  - Two processors with up to 165 W TDP installed.
  - No GPU adapters installed.
  - No PCIe flash adapters installed.
  - No PCIe adapters with more than 25 W TDP installed.
  - 1100 W or 1600 W power supplies installed.
  - Ambient temperature of up to 30 °C (86 °F).
  - The server performance might be impacted in case of a system fan failure.

  Note: For additional configuration details, refer to the Controllers for internal storage and I/O expansion sections.
- For customers in China, the ThinkSystem SR650 Rear HDD Kit - Fanless feature lets add rear drives without additional fans under the following conditions:
  - Processor TDP cannot exceed 125 W
  - Ambient temperature up to 30 °C (86 °F)
  - The acoustic noise may increase
- The 3.5" Rear HDD/SSD Kit is connected to a separate port on the internal storage controller.
- The 3.5" Rear HDD/SSD Kit is installed in place of the PCIe Riser Card 1; PCIe slots 1, 2, and 3 are not present.
- Lenovo AnyBay allows a choice of drive interface types in the same drive bay: SAS drives, SATA drives, or NVMe PCIe drives.
- U.2 NVMe PCIe SSDs in the 8/16/24-drive bay configurations that contain *four AnyBay drive bays* require either the second processor (enables the onboard NVMe controller) or the 1610-4P NVMe Switch Adapter to be installed. **Note:** In the 8/16/24-drive bay configurations that contain *four AnyBay drive bays*, the 1610-4P NVMe Switch Adapter is supported only in the configurations with one processor.
- Models with 12x 3.5-inch drive bays (8x SAS/SATA + 4x AnyBay) and an 8-port SAS RAID controller or HBA support only NVMe drives in the AnyBay drive bays.
- The M.2 Enablement Kit (7Y37A01092) supports up to one M.2 SATA SSD which is connected to the SATA port on the Intel Platform Controller Hub (PCH).
- The M.2 with Mirroring Enablement Kit (7Y37A01093) is connected to the Intel PCH via the PCIe link, and the kit supports up to two M.2 SATA SSDs that can be configured in a RAID-1 or RAID-0 drive group, or they can operate as separate drives.

The following tables list supported internal storage configurations with the SAS/SATA and AnyBay backplanes.

Internal storage configurations tables convention: The numbers in brackets (x or x+y or x+y+z) in the Storage controller column specify the quantity of drive bays connected to each of the controllers.

Table 19. Internal storage configurations: Up to 16 SFF front drive bays without rear drive bays

Hot-swap drive bay configuration	Backplane kit type and quantity			Storage controller type and quantity
	8x2.5" SATA/ SAS	8x2.5" Any Bay	2x3.5" Rear HDD	
16x 2.5" chassis (Feature code AUVX) or 24x 2.5" chassis (Feature code AUVV)				
8x 2.5" SAS/SATA (front)	1	0	0	1x RAID 530-8i/16i (8)
				1x RAID 730-8i 1GB or 2GB (8)
				1x RAID 930-8i/16i/24i (8)
				1x 430-8i/16i HBA (8)
4x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front)	0	1	0	1x RAID 730-8i 2GB/RAID 930-8i/16i/24i (8) + 1x Onboard/1610-4P NVMe (4)
				1x 430-8i/16i HBA (8) + 1x Onboard/1610-4P NVMe (4)
16x 2.5" SAS/SATA (front)	2	0	0	1x RAID 530-16i (16)
				1x RAID 930-16i/24i (16)
				1x RAID 530-8i/730-8i 1GB (8) + 1x 430-8i HBA (8)
				2x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8+8)
				2x 430-8i HBA (8+8)
12x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front)	1	1	0	1x RAID 930-16i/24i (16) + 1x Onboard/1610-4P NVMe (4)
				1x RAID 530-16i (16) + 1x Onboard/1610-4P NVMe (4)
				1x 430-16i HBA (16) + 1x Onboard/1610-4P NVMe (4)
8x 2.5" SAS/SATA (front) + 8x 2.5" AnyBay (front)	0	2	0	1x RAID 530-16i (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
				1x RAID 930-16i/24i (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
				1x 430-16i HBA (16) + 1x Onboard NVMe (4) +1x 1610-4P NVMe (4)
				2x RAID 730-8i 2GB/930-8i (8+8) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
				2x 430-8i HBA (8+8) + 1x Onboard NVMe (4) +1x 1610-4P NVMe (4)

Table 20. Internal storage configurations: Up to 16 SFF front and 2 LFF rear drive bays

Hot-swap drive bay configuration	Backplane kit type and quantity			Storage controller type and quantity
	8x2.5" SATA/ SAS	8x2.5" Any Bay	2x3.5" Rear HDD	
16x 2.5" chassis (Feature code AUVX) or 24x 2.5" chassis (Feature code AUVV)				
8x 2.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)	1	0	1	1x RAID 530-16i (10)
				1x RAID 930-16i/24i (10)
				1x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8) + 1x 430-8i HBA (2)
				1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530-8i (2)
				1x 430-8i HBA (8) + 1x RAID 530-8i (2)
				1x 430-16i HBA (10)
				2x RAID 530-8i (8+2)
				2x 430-8i HBA (8+2)
4x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	0	1	1	1x RAID 730-8i 2GB/930-8i (8) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
				1x RAID 530-16i (10) + 1x Onboard/1610-4P NVMe (4)
				1x RAID 930-16i/24i (10) + 1x Onboard/1610-4P NVMe (4)
				1x 430-8i HBA (8) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
				1x 430-16i HBA (10) + 1x Onboard/1610-4P NVMe (4)
16x 2.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)	2	0	1	1x RAID 530/930-16i (16) + 1x RAID 530-8i/430-8i HBA (2)
				1x RAID 930-24i (18)
				1x 430-16i HBA (16) + 1x RAID 530-8i/430-8i HBA (2)
				2x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8+8) + 1x 430-8i HBA (2)
				2x RAID 730-8i 2GB/930-8i (8+8) + 1x RAID 530-8i (2)
				2x 430-8i HBA (8+8) + 1x RAID 530-8i (2)
				3x RAID 530-8i (8+8+2)
				3x 430-8i HBA (8+8+2)
12x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	1	1	1	1x RAID 530/930-16i (16) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
				1x 430-16i HBA (16) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
				1x RAID 930-24i (18) + 1x Onboard/1610-4P NVMe (4)
8x 2.5" SAS/SATA (front) + 8x 2.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	0	2	1	1x RAID 530/930-16i (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) +1x RAID 530-8i/430-8i HBA (2)
				1x 430-16i HBA (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) +1x RAID 530-8i/430-8i HBA (2)
				1x RAID 930-24i (18) + 1x Onboard NVMe (4) +1x 1610-4P NVMe (4)
				2x RAID 730-8i 2GB/930-8i (8+8) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) +1x RAID 530-8i/430-8i HBA (2)
				2x 430-8i HBA (8+8) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) +1x RAID 530-8i/430-8i HBA (2)

Table 21. Internal storage configurations: Up to 24 SFF front drive bays without rear drive bays

Hot-swap drive bay configuration	Backplane kit type and quantity				Storage controller type and quantity
	8x2.5" SATA/ SAS	8x2.5" Any Bay	8x2.5" NVMe	2x3.5" Rear HDD	
24x 2.5" chassis (Feature code AUVV)					
24x 2.5" SAS/SATA (front)	3	0	0	0	1x RAID 930-24i (24)
					1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530/930-16i (16)
					3x RAID 730-8i 2GB/930-8i (8+8+8)
					1x 430-8i HBA (8) + 1x 430-16i HBA (16)
					3x 430-8i HBA (8+8+8)
20x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front)	2	1	0	0	1x RAID 930-24i (24) + 1x Onboard/1610-4P NVMe (4)
					1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530/930-16i (16) + 1x Onboard/1610-4P NVMe (4)
					3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x Onboard/1610-4P NVMe (4)
					3x 430-8i HBA (8+8+8) + 1x Onboard/1610-4P NVMe (4)
16x 2.5" SAS/SATA (front) + 8x 2.5" AnyBay (front)	1	2	0	0	1x RAID 930-24i (24) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
					3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x Onboard NVMe (4) +1x 1610-4P NVMe (4)
					1x 430-8i HBA (8) + 1x 430-16i HBA (16) + 1x Onboard NVMe (4) +1x 1610-4P NVMe (4)
12x 2.5" SAS/SATA (front) + 12x 2.5" AnyBay (front)	0	3	0	0	1x RAID 930-24i (24) + 1x Onboard NVMe (4) + 2x 1610-4P NVMe (4+4)
					3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x Onboard NVMe (4) + 2x 1610-4P NVMe (4+4)
					1x 430-8i HBA (8) + 1x 430-16i HBA (8+8) + 1x Onboard NVMe (4) +2x 1610-4P NVMe (4+4)
					3x 430-8i HBA (8+8+8) + 1x Onboard NVMe (4) + 2x 1610-4P NVMe (4+4)
16x 2.5" U.2 NVMe (front)	0	0	2	0	2x 810-4P NVMe (4+4) + 2x 1610-4P NVMe (4+4)
16x 2.5" U.2 NVMe (front) + 8x 2.5" SAS/SATA (front)	1	0	2	0	2x 810-4P NVMe (4+4) + 2x 1610-4P NVMe (4+4) + 1x RAID 530-8i/730-8i 1GB
					2x 810-4P NVMe (4+4) + 2x 1610-4P NVMe (4+4) + 1x RAID 730-8i 2GB/930-8i
					2x 810-4P NVMe (4+4) + 2x 1610-4P NVMe (4+4) +1x 430-8i HBA
20x 2.5" U.2 NVMe (front)	0	0	3	0	1x Onboard NVMe (4) + 2x 810-4P NVMe (4+4) + 3x 1610-4P NVMe (4+4+4)
24x 2.5" U.2 NVMe (front)	0	0	3	0	4x 810-4P NVMe (4+4+4+4) + 1x 1610-8P NVMe (8)

Table 22. Internal storage configurations: Up to 24 SFF front and 2 LFF rear drive bays

Hot-swap drive bay configuration	Backplane kit type and quantity			Storage controller type and quantity
	8x2.5" SATA/ SAS	8x2.5" Any Bay	2x3.5" Rear HDD	
24x 2.5" chassis (Feature code AUVV)				
24x 2.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)	3	0	1	1x RAID 930-24i (24) + 1x RAID 530-8i/430-8i HBA (2)
				1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530/930-16i (16) + 1x RAID 530-8i (2)
				1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 930-16i (16) + 1x 430-8i HBA (2)
				1x 430-8i HBA (8) + 1x 430-16i HBA (16) + 1x RAID 530-8i (2)
				2x RAID 530/930-16i (16+10)
				2x 430-16i HBA (16+10)
				2x 430-8i HBA (8+2) + 1x 430-16i HBA (16)
				3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x RAID 530-8i (2)
				3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x 430-8i HBA (2)
				3x 430-8i HBA (8+8+8) + 1x RAID 530-8i (2)
				4x 430-8i HBA (8+8+8+2)
20x 2.5" SAS/SATA (front) + 4x 2.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	2	1	1	1x RAID 930-24i (24) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i (2)
				1x RAID 930-24i (24) + 1x Onboard/1610-4P NVMe (4) + 1x 430-8i HBA (2)
				1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530/930-16i (16) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i (2)
				1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530/930-16i (16) + 1x Onboard/1610-4P NVMe (4) + 1x 430-8i HBA (2)
				2x RAID 530/930-16i (16+10) + 1x Onboard/1610-4P NVMe (4)
				2x 430-16i HBA (16+10) + 1x Onboard/1610-4P NVMe (4)
				3x RAID 730-8i 2GB/930-8i (8+8+8) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
				3x 430-8i HBA (8+8+8) + 1x Onboard/1610-4P NVMe (4) + 1x RAID 530-8i/430-8i HBA (2)
16x 2.5" SAS/SATA (front) + 8x 2.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	1	2	1	1x RAID 930-24i (24) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) + 1x RAID 530-8i (2)
				1x 430-8i HBA (8) + 1x 430-16i HBA (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4) + 1x RAID 530-8i (2)
				2x RAID 530/930-16i (16+10) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
				2x 430-8i HBA (8+2) + 1x 430-16i HBA (16) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)
				2x 430-16i HBA (16+10) + 1x Onboard NVMe (4) + 1x 1610-4P NVMe (4)

Table 23. Internal storage configurations: Up to 12 LFF front and 2 LFF rear drive bays

Hot-swap drive bay configuration	Backplane kit type and quantity				Storage controller type and quantity
	8x3.5" SATA/ SAS	12x3.5" SATA/ SAS	12x3.5" Any Bay	2x3.5" Rear HDD	
12x 3.5" chassis (Feature code AUVW)					
8x 3.5" SAS/SATA (front)	1	0	0	0	1x RAID 530/930-16i (8)
					1x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8)
					1x 430-8i HBA (8)
8x 3.5" SAS/SATA (front) + 2x 3.5" SAS/SATA (rear)	1	0	0	1	1x RAID 530/930-16i (10)
					1x 430-16i HBA (10)
					1x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8) + 1x 430-8i HBA (2)
					1x RAID 730-8i 2GB/930-8i (8) + 1x RAID 530-8i (2)
					1x RAID 530/930-16i (8) + 1x RAID 530-8i (2)
					1x 430-8i HBA (8) + 1x RAID 530-8i (2)
					2x RAID 530-8i (8+2)
					2x 430-8i HBA (8+2)
12x 3.5" SAS/SATA (front)	0	1	0	0	1x RAID 530/930-16i (12)
					1x 430-16i HBA (12)
8x 3.5" SAS/SATA (front) + 4x 3.5" AnyBay (front)	0	0	1	0	1x RAID 530/930-16i (12) + 1x Onboard/1610-4P NVMe (4)
					1x 430-16i HBA (12) + 1x Onboard/1610-4P NVMe (4)
8x 3.5" SAS/SATA (front) + 4x 3.5" AnyBay (NVMe only) (front)*	0	0	1	0	1x RAID 530-8i/730-8i 1GB or 2GB/930-8i (8) + 1x Onboard/1610-4P NVMe (4)
					1x 430-8i HBA (8) + 1x Onboard/1610-4P NVMe (4)
12x 3.5" SAS/SATA (front) + 2x 3.5". SAS/SATA (rear)	0	1	0	1	1x RAID 530/930-16i (14)
					1x 430-16i HBA (14)
					1x RAID 530/930-16i (12) + 1x RAID 530-8i (2)
					1x 430-16i HBA (12) + 1x RAID 530-8i (2)
8x 3.5" SAS/SATA (front) + 4x 3.5" AnyBay (front) + 2x 3.5" SAS/SATA (rear)	0	0	1	1	1x RAID 530/930-16i (14) + 1x Onboard/1610-4P NVMe (4)
					1x 430-16i HBA (14) + 1x Onboard/1610-4P NVMe (4)

* Four NVMe SSDs are required in the 3.5" AnyBay configuration with an 8-port storage controller.

In addition to the configurations described above, the SR650 server also supports internal storage configurations with the 3.5" AnyBay 12-Bay Backplane w/Expander to enable support for up to 12 SAS or SATA drives with the 8-port RAID 530/730/930-8i controllers.

Configuration availability: Internal storage configurations with the 3.5" AnyBay 12-Bay Backplane w/Expander and 8-port RAID 530/730/930-8i controllers are available in PRC only.

The following table lists the 3.5" AnyBay 12-Bay Backplane w/Expander for the SR650 server.

Table 24. 3.5" AnyBay 12-Bay Backplane w/Expander

Description	Part number	Feature code	Maximum quantity
ThinkSystem SR650 3.5" AnyBay 12-Bay Backplane w/Expander	None*	BD3Q	1

* The backplane kit can be factory-installed in standard or custom (CTO or Special Bid) models, and it does not have an option part number assigned.

Configuration notes:

- The 3.5" AnyBay 12-Bay Backplane w/Expander provides 8x 3.5" SAS/SATA (front) + 4x 3.5" AnyBay (front) drive bays.
- The following 8-port RAID adapters are supported in the configurations with the 3.5" AnyBay 12-Bay Backplane w/Expander:
  - RAID 530-8i
  - RAID 730-8i 1GB
  - RAID 730-8i 2GB
  - RAID 930-8i 2GB
- The onboard NVMe interface provides 4x PCIe 3.0 x4 ports for JBOD (non-RAID) connectivity to NVMe PCIe SSDs in the AnyBay drive bays.
- The 3.5" Rear HDD/SSD Kit is not supported with the 3.5" AnyBay 12-Bay Backplane w/Expander.

Controllers for internal storage

The following table lists the storage controllers and options for internal storage of the SR650 server.

Table 25. RAID controllers and HBAs for internal storage

Description	Part number	Feature code	Maximum quantity	I/O slots supported
12 Gb SAS/SATA RAID controllers				
ThinkSystem RAID 530-8i PCIe 12Gb Adapter	7Y37A01082	AUNG	2	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 530-16i PCIe 12Gb Adapter	4Y37A09727	B6CE	2	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter	7Y37A01083	AUNH	3	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter	4Y37A09722	B4RQ	3	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter	7Y37A01084	AUNJ	3	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 930-16i 4GB Flash PCIe 12Gb Adapter	7Y37A01085	AUNK	2	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 930-16i 8GB Flash PCIe 12Gb Adapter	4Y37A09721	B31E	2	7, 4, 2, 3, 1, 5, 6
ThinkSystem RAID 930-24i 4GB Flash PCIe 12Gb Adapter	7Y37A01086	AUV1	1	1, 2, 3, 5, 6
12 Gb SAS/SATA non-RAID HBAs				
ThinkSystem 430-8i SAS/SATA 12Gb HBA	7Y37A01088	AUNL	3	7, 4, 2, 3, 1, 5, 6
ThinkSystem 430-16i SAS/SATA 12Gb HBA	7Y37A01089	AUNM	2	7, 4, 2, 3, 1, 5, 6
NVMe PCIe interfaces (non-RAID)				
Onboard NVMe interface (4-port)	None	None	1	-
ThinkSystem 810-4P NVMe Switch Adapter	None*	B22D	4	2, 4, 7, 6
ThinkSystem 1610-4P NVMe Switch Adapter	7Y37A01081	AUV2	3	1, 5, 6
ThinkSystem 1610-8P NVMe Switch Adapter	None^	B4PA	1	1

* The 810-4P NVMe adapter can be factory-installed, or it is included in the 20-drive and 24-drive U.2 NVMe upgrade kits for field upgrades.
^ The 1610-8P NVMe adapter can be factory-installed, or it is included in the 24-drive NVMe upgrade kit for field upgrades.

Configuration notes:

- Low profile SAS RAID controllers and HBAs for internal storage are supported in the PCIe x8 slots on the system board and full-high PCIe x8 and x16 slots supplied by the riser card 1. Full-height SAS RAID controllers for internal storage (RAID 930-24i) are supported in the full-height PCIe x8 and x16 slots supplied by the riser card 1.
- If the RAID 930-24i controller is used in the configurations with 24 front drives and 2 rear drives, the RAID 930-24i controller that connects the front drive bays must be installed in the PCIe slot 5, and the RAID 530-8i controller or 430-8i HBA that connects the rear drive bays must be installed in the onboard PCIe slot 7.
- Either RAID 530-8i or RAID 730-8i 1GB controllers can be used in the server, but not both types.
- The RAID 730-8i 2GB controller cannot be used in the server configurations with the RAID 930-8i or RAID 730-8i 1GB controllers.
- The RAID 730-8i 1GB controller does not support the 3.5" Rear HDD Kit.
- In the configurations with 2.5-inch AnyBay drive bays, the 1610-4P NVMe Switch Adapter is supported in the full-height PCIe x16 slots supplied by the riser cards 1 and 2.

    - In the configurations with one processor, the 1610-4P NVMe Switch Adapter provides 4x PCIe 3.0 x4 ports for JBOD (non-RAID) connectivity to U.2 NVMe PCIe SSDs in four AnyBay drive bays, and it is supported in the PCIe x16 slot 1 supplied by the x16/x8 Riser Card 1 (the 1610-4P NVMe Switch Adapter has a PCIe 3.0 x16 host interface).
    - In the configurations with two processors, the onboard NVMe interface and up to two 1610-4P NVMe Switch Adapters provide 4x PCIe 3.0 x4 ports each for JBOD (non-RAID) connectivity to U.2 NVMe PCIe SSDs in the AnyBay drive bays. Two 1610-4P NVMe Switch Adapters are supported in the PCIe x16 slots 1 and 5 or 1 and 6 only.
- Configurations with 16x 2.5-inch U.2 NVMe PCIe drive bays use the following interfaces and adapters for balanced JBOD (non-RAID) connectivity to up to 16x U.2 NVMe PCIe SSDs (up to eight SSDs per processor) without oversubscription:
    - The onboard NVMe interface (Processor 2) that provides four PCIe 3.0 x4 ports for connections to four SSDs without oversubscription.
    - Two 810-4P NVMe Switch adapters installed in the PCIe x8 Slots 4 and 7 (Processor 1) that provide two PCIe 3.0 x4 ports each for connections to four SSDs (two SSDs per 810-4P) without oversubscription.
    - Two 1610-4P NVMe Switch adapters installed in the PCIe x16 Slot 1 (Processor 1) and PCIe x16 Slot 6 (Processor 2) that provide four PCIe 3.0 x4 ports each for connections to eight SSDs (four SSDs per 1610-4P) without oversubscription.
    - If the additional 8-bay SAS/SATA backplane is installed, it is connected to a supported internal storage controller installed in the PCIe x8 slot 3.
- Configurations with 20x 2.5-inch U.2 NVMe PCIe drive bays use the following interfaces and adapters for JBOD (non-RAID) connectivity to up to 20x U.2 NVMe PCIe SSDs (up to eight SSDs per Processor 1, and up to 12 SSDs per Processor 2) without oversubscription:
    - The onboard NVMe interface (Processor 2) that provides four PCIe 3.0 x4 ports for connections to four SSDs without oversubscription.
    - Two 810-4P NVMe Switch adapters installed in the PCIe x8 Slots 4 and 7 (Processor 1) that provide two PCIe 3.0 x4 ports each for connections to four SSDs (two SSDs per 810-4P) without oversubscription.
    - Three 1610-4P NVMe Switch adapters installed in the PCIe x16 Slot 1 (Processor 1) and PCIe x16 Slots 5 and 6 (Processor 2) that provide four PCIe 3.0 x4 ports each for connections to twelve SSDs (four SSDs per 1610-4P) without oversubscription.
- Configurations with 24x 2.5-inch U.2 NVMe PCIe drive bays use the following interfaces and adapters for balanced JBOD (non-RAID) connectivity to up to 24x U.2 NVMe PCIe SSDs (up to 12 SSDs per processor) with 2:1 oversubscription:
    - One 1610-8P NVMe Switch Adapter installed in the PCIe x16 Slot 1 (Processor 2) that provides eight PCIe 3.0 x4 ports for connections to eight SSDs with 2:1 oversubscription.
    - Four 810-4P NVMe Switch adapters installed in the PCIe x8 Slots 2, 4, and 7 (Processor 1) and PCIe x16 Slot 6 (Processor 2) that provide four PCIe 3.0 x4 ports each for connections to 16 SSDs (four SSDs per 810-4P) with 2:1 oversubscription.
- In the configurations without GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, RAID 930-24i, and RAID 930-8e controllers in the server must not exceed 4 (up to 4 supercapacitors can be mounted in the server).
- In the configurations with GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, RAID 930-24i, and RAID 930-8e controllers in the server must not exceed 3 (up to 3 supercapacitors can be mounted in the server).

For more information about the server configurations with 16/20/24x 2.5-inch U.2 NVMe PCIe drive bays, refer to the *NVMe-Rich Configurations of the ThinkSystem SR650* article:
http://lenovopress.com/LP0904

The following table summarizes features of supported SAS/SATA storage controllers.

Table 26. Storage controller features and specifications (LP = Low profile, FHHL = Full-height half-length)

Feature	RAID 530-8i	RAID 530-16i	RAID 730-8i 1GB	RAID 730-8i 2GB	RAID 930-8i	RAID 930-16i	RAID 930-24i	430-8i HBA	430-16i HBA
Form factor	PCIe LP		PCIe LP	PCIe LP	PCIe LP	PCIe LP	PCIe FHHL	PCIe LP	
SAS controller	SAS3408	SAS3416	SAS3108	SAS3108	SAS3508	SAS3516	SAS3508	SAS3408	SAS3416
SAS expander	None		None	None	None	None	SAS35X36R	None	
Host interface	PCIe 3.0 x8		PCIe 3.0 x8	PCIe 3.0 x8				PCIe 3.0 x8	
Port interface	12 Gb SAS		12 Gb SAS	12 Gb SAS				12 Gb SAS	
Number of ports	8	16	8	8	8	16	24	8	16
Connector type	SFF-8643 x4		SFF-8643 x4	SFF-8643 x4				SFF-8643 x4	
Number of connectors	2	4	2	2	2	4	6	2	4
Drive interface	SAS, SATA		SAS, SATA	SAS, SATA				SAS, SATA	
Drive type	HDD, SSD, SED		HDD, SSD	HDD, SSD, SED				HDD, SSD, SED*	
Hot-swap drive support	Yes		Yes	Yes				Yes	
Number of drives	8	16	8	8	8	16	24	8	16
RAID levels	0/1/10/5/50	0/1/10	0/1/10/5/50	0/1/10/5/50/6/60				None	
JBOD mode	Yes		Yes	Yes				Yes	
Cache	None		1 GB	2 GB	2 GB	4 GB; 8 GB	4 GB	None	
Cache protection	None		None	Flash backup (Included)				None	
SED key management (SafeStore)	Yes		No	Yes				No	
SSD I/O acceleration (FastPath)	Yes		No	Yes				No	
SSD Caching (CacheCade Pro 2.0)	No		No	No				No	
Consistency check	Yes		Yes	Yes				No	
Patrol read	Yes		Yes	Yes				No	
Online capacity expansion	Yes		Yes	Yes				No	
Online RAID level migration	Yes		Yes	Yes				No	
Global Hot Spare	Yes		Yes	Yes				No	
Auto-rebuild	Yes		Yes	Yes				No	

* HBAs do not support key management for SEDs; third-party host software is responsible for managing the keys.
** The SSD caching feature has been phased out in the new generation of advanced RAID controllers.

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

- RAID adapters
  http://lenovopress.com/servers/options/raid#rt=product-guide
- Host bus adapters
  http://lenovopress.com/servers/options/hba#rt=product-guide

Drives for internal storage

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

2.5-inch hot-swap drives:

- Table 27: 2.5-inch hot-swap 12 Gb SAS HDDs
- Table 28: 2.5-inch hot-swap 6 Gb SATA HDDs
- Table 29: 2.5-inch hot-swap 12 Gb SAS SSDs
- Table 30: 2.5-inch hot-swap 6 Gb SATA SSDs
- Table 31: 2.5-inch hot-swap PCIe 4.0 NVMe SSDs
- Table 32: 2.5-inch hot-swap PCIe 3.0 NVMe SSDs

3.5-inch hot-swap drives:

- Table 33: 3.5-inch hot-swap 12 Gb SAS HDDs
- Table 34: 3.5-inch hot-swap 6 Gb SATA HDDs
- Table 35: 3.5-inch hot-swap 12 Gb SAS SSDs
- Table 36: 3.5-inch hot-swap 6 Gb SATA SSDs
- Table 37: 3.5-inch PCIe 4.0 NVMe SSDs
- Table 38: 3.5-inch hot-swap PCIe 3.0 NVMe SSDs

M.2 drives:

- Table 39: M.2 SATA drives

Tip: The use of M.2 drives requires an additional adapter as described in the Internal storage section.

PCIe 4.0 NVMe drive support: When installed in this server, PCIe 4.0 NVMe drives will operate at PCIe 3.0 speeds.

Table 27. 2.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap HDDs - 12 Gb SAS 10K			
7XB7A00024	AULY	ThinkSystem 2.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00026	AUM0	ThinkSystem 2.5" 900GB 10K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	24
7XB7A00069	B0YS	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD	24
2.5-inch hot-swap HDDs - 12 Gb SAS 15K			
7XB7A00021	AULV	ThinkSystem 2.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00022	AULW	ThinkSystem 2.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00023	AULX	ThinkSystem 2.5" 900GB 15K SAS 12Gb Hot Swap 512e HDD	24
2.5-inch hot-swap HDDs - 12 Gb NL SAS			
7XB7A00034	AUM6	ThinkSystem 2.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	24
7XB7A00035	AUM7	ThinkSystem 2.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	24
2.5-inch hot-swap SED HDDs - 12 Gb SAS 10K			
7XB7A00030	AUM4	ThinkSystem 2.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD SED	24
7XB7A00031	AUM5	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD SED	24
7XB7A00033	B0YX	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD SED	24
7XB7A00070	B0YV	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD FIPS	24
2.5-inch hot-swap SED HDDs - 12 Gb NL SAS			
7XB7A00064	B0YM	ThinkSystem 2.5" 2TB 7.2K SAS 12Gb Hot Swap 512e HDD FIPS	24

Table 28. 2.5-inch hot-swap 6 Gb SATA HDDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap HDDs - 6 Gb NL SATA			
7XB7A00036	AUUE	ThinkSystem 2.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	24
7XB7A00037	AUUJ	ThinkSystem 2.5" 2TB 7.2K SATA 6Gb Hot Swap 512e HDD	24

Table 29. 2.5-inch hot-swap 12 Gb SAS SSDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap SSDs - 12 Gb SAS - Performance (10+ DWPD)			
4XB7A10219	B4Y4	ThinkSystem 2.5" SS530 400GB Performance SAS 12Gb Hot Swap SSD	24
4XB7A10230	B4Y5	ThinkSystem 2.5" SS530 800GB Performance SAS 12Gb Hot Swap SSD	24
4XB7A10231	B4Y6	ThinkSystem 2.5" SS530 1.6TB Performance SAS 12Gb Hot Swap SSD	24
4XB7A10232	B4Y7	ThinkSystem 2.5" SS530 3.2TB Performance SAS 12Gb Hot Swap SSD	24
2.5-inch hot-swap SSDs - 12 Gb SAS - Mainstream (3-5 DWPD)			
4XB7A17062	B8HU	ThinkSystem 2.5" PM1645a 800GB Mainstream SAS 12Gb Hot Swap SSD	24
4XB7A17063	B8J4	ThinkSystem 2.5" PM1645a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	24
4XB7A17064	B8JD	ThinkSystem 2.5" PM1645a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	24
4XB7A13654	B4A1	ThinkSystem 2.5" PM1645 1.6TB Mainstream SAS 12Gb Hot Swap SSD	24
4XB7A13655	B4A2	ThinkSystem 2.5" PM1645 3.2TB Mainstream SAS 12Gb Hot Swap SSD	24
2.5-inch hot-swap SSDs - 12 Gb SAS - Entry / Capacity (<3 DWPD)			
4XB7A38175	B91A	ThinkSystem 2.5" PM1643a 960GB Entry SAS 12Gb Hot Swap SSD	24
4XB7A38176	B91B	ThinkSystem 2.5" PM1643a 1.92TB Entry SAS 12Gb Hot Swap SSD	24
4XB7A17054	B91C	ThinkSystem 2.5" PM1643a 3.84TB Entry SAS 12Gb Hot Swap SSD	24
4XB7A17055	B91D	ThinkSystem 2.5" PM1643a 7.68TB Entry SAS 12Gb Hot Swap SSD	24
4XB7A17056	BC4R	ThinkSystem 2.5" PM1643a 15.36TB Entry SAS 12Gb Hot Swap SSD	24
4XB7A17168	B6TL	ThinkSystem 2.5" PM1643 960GB Entry SAS 12Gb Hot Swap SSD	24
4XB7A13645	B4A7	ThinkSystem 2.5" PM1643 3.84TB Capacity SAS 12Gb Hot Swap SSD	24

Table 30. 2.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature	Description	Maximum supported
2.5-inch hot-swap SSDs - 6 Gb SATA - Mainstream (3-5 DWPD)			
4XB7A17087	B8J1	ThinkSystem 2.5" 5300 240GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A17088	B8HY	ThinkSystem 2.5" 5300 480GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A17089	B8J6	ThinkSystem 2.5" 5300 960GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A17090	B8JE	ThinkSystem 2.5" 5300 1.92TB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A17091	B8J7	ThinkSystem 2.5" 5300 3.84TB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A13633	B49L	ThinkSystem 2.5" Intel S4610 240GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A13634	B49M	ThinkSystem 2.5" Intel S4610 480GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A13635	B49N	ThinkSystem 2.5" Intel S4610 960GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A13636	B49P	ThinkSystem 2.5" Intel S4610 1.92TB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A13637	B49Q	ThinkSystem 2.5" Intel S4610 3.84TB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A10237	B488	ThinkSystem 2.5" 5200 240GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A10238	B489	ThinkSystem 2.5" 5200 480GB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A10239	B48A	ThinkSystem 2.5" 5200 960GB Mainstream SATA 6Gb Hot Swap SSD	24

Part number	Feature	Description	Maximum supported
4XB7A10240	B48B	ThinkSystem 2.5" 5200 1.92TB Mainstream SATA 6Gb Hot Swap SSD	24
4XB7A10241	B48C	ThinkSystem 2.5" 5200 3.84TB Mainstream SATA 6Gb Hot Swap SSD	24
2.5-inch hot-swap SSDs - 6 Gb SATA - Entry (<3 DWPD)			
4XB7A38271	BCTC	ThinkSystem 2.5" Multi Vendor 240GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A38272	BCTD	ThinkSystem 2.5" Multi Vendor 480GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A38273	BCTE	ThinkSystem 2.5" Multi Vendor 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A38274	BCTF	ThinkSystem 2.5" Multi Vendor 1.92TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A38275	BCTG	ThinkSystem 2.5" Multi Vendor 3.84TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17075	B8HV	ThinkSystem 2.5" 5300 240GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17076	B8JM	ThinkSystem 2.5" 5300 480GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17077	B8HP	ThinkSystem 2.5" 5300 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17078	B8J5	ThinkSystem 2.5" 5300 1.92TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17079	B8JP	ThinkSystem 2.5" 5300 3.84TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A17080	B8J2	ThinkSystem 2.5" 5300 7.68TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A38185	B9AC	ThinkSystem 2.5" 5210 960GB Entry SATA 6Gb Hot Swap QLC SSD	24
4XB7A38144	B7EW	ThinkSystem 2.5" 5210 1.92TB Entry SATA 6Gb Hot Swap QLC SSD	24
4XB7A38145	B7EX	ThinkSystem 2.5" 5210 3.84TB Entry SATA 6Gb Hot Swap QLC SSD	24
4XB7A38146	B7EY	ThinkSystem 2.5" 5210 7.68TB Entry SATA 6Gb Hot Swap QLC SSD	24
4XB7A10247	B498	ThinkSystem 2.5" Intel S4510 240GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10248	B499	ThinkSystem 2.5" Intel S4510 480GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10249	B49A	ThinkSystem 2.5" Intel S4510 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A13622	B49B	ThinkSystem 2.5" Intel S4510 1.92TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A13623	B49C	ThinkSystem 2.5" Intel S4510 3.84TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10195	B34H	ThinkSystem 2.5" PM883 240GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10196	B34J	ThinkSystem 2.5" PM883 480GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10197	B34K	ThinkSystem 2.5" PM883 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10198	B34L	ThinkSystem 2.5" PM883 1.92TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10199	B34M	ThinkSystem 2.5" PM883 3.84TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10200	B4D2	ThinkSystem 2.5" PM883 7.68TB Entry SATA 6Gb Hot Swap SSD	24
7SD7A05740	B0Z0	ThinkSystem 2.5" Intel S4500 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10154	B2X3	ThinkSystem 2.5" 5200 960GB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10155	B2X4	ThinkSystem 2.5" 5200 1.92TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10156	B2X5	ThinkSystem 2.5" 5200 3.84TB Entry SATA 6Gb Hot Swap SSD	24
4XB7A10157	B2X6	ThinkSystem 2.5" 5200 7.68TB Entry SATA 6Gb Hot Swap SSD	24
2.5-inch hot-swap SED SSDs - 6 Gb SATA - Mainstream (3-5 DWPD)			
4XB7A38193	B93K	ThinkSystem 2.5" 5300 1.92TB Mainstream SATA 6Gb Hot Swap SSD SED	24
4XB7A64222	BEMB	ThinkSystem 2.5" 5300 3.84TB Mainstream SATA 6Gb Hot Swap SSD SED	24
4XB7A14063	B6K0	ThinkSystem 2.5" 5200 1.92TB Mainstream SATA 6Gb Hot Swap SSD SED	24
2.5-inch hot-swap SED SSDs - 6 Gb SATA - Entry (<3 DWPD)			
4XB7A38141	BE29	ThinkSystem 2.5" 5300 960GB Entry SATA 6Gb Hot Swap SSD SED	24
4XB7A38191	B93L	ThinkSystem 2.5" 5300 3.84TB Entry SATA 6Gb Hot Swap SSD SED	24
4XB7A38192	B93M	ThinkSystem 2.5" 5300 7.68TB Entry SATA 6Gb Hot Swap SSD SED	24
4XB7A13966	B4G8	ThinkSystem 2.5" 5200 480GB Entry SATA 6Gb Hot Swap SSD SED	24

Table 31. 2.5-inch hot-swap PCIe 4.0 NVMe SSDs (operate at PCIe 3.0 speeds in this server)

Part number	Feature	Description	Maximum supported
2.5-inch SSDs - PCIe 4.0 NVMe - Mainstream (3-5 DWPD)			
4XB7A17152	BCFV	ThinkSystem U.2 Intel P5600 1.6TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17153	BCFR	ThinkSystem U.2 Intel P5600 3.2TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17154	BCFS	ThinkSystem U.2 Intel P5600 6.4TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A64175	BE03	ThinkSystem U.3 Kioxia CM6-V 800GB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17112	B96Z	ThinkSystem U.3 Kioxia CM6-V 1.6TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17113	B96T	ThinkSystem U.3 Kioxia CM6-V 3.2TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17114	B96P	ThinkSystem U.3 Kioxia CM6-V 6.4TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	24
2.5-inch SSDs - PCIe 4.0 NVMe - Entry (<3 DWPD)			
4XB7A17145	BCFT	ThinkSystem U.2 Intel P5500 1.92TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17146	BCFW	ThinkSystem U.2 Intel P5500 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A17147	BCFU	ThinkSystem U.2 Intel P5500 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A38197	BC4Z	ThinkSystem U.2 PM1733 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A38283	BE2E	ThinkSystem U.2 PM1733 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A38284	BE2F	ThinkSystem U.2 PM1733 15.36TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A64141	BE2G	ThinkSystem U.3 CM6-R 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
4XB7A64142	BE2H	ThinkSystem U.3 CM6-R 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD	24
2.5-inch hot-swap SED SSDs - PCIe 4.0 NVMe - Entry (<3 DWPD)			
4XB7A38257	BE2A	ThinkSystem U.2 PM1733 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD SED	24
4XB7A38258	BE2B	ThinkSystem U.2 PM1733 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD SED	24
4XB7A38269	BE2C	ThinkSystem U.3 CM6-R 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD SED	24
4XB7A38270	BE2D	ThinkSystem U.3 CM6-R 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD SED	24

Table 32. 2.5-inch hot-swap PCIe 3.0 NVMe SSDs

Part number	Feature	Description	Maximum supported
2.5-inch SSDs - PCIe 3.0 NVMe - Performance (10+ DWPD)			
7N47A00081	AUMJ	ThinkSystem U.2 Intel Optane P4800X 375GB Performance NVMe PCIe 3.0 x4 Hot Swap SSD	24
7N47A00083	B2ZJ	ThinkSystem U.2 Intel Optane P4800X 750GB Performance NVMe PCIe 3.0 x4 Hot Swap SSD	24
2.5-inch SSDs - PCIe 3.0 NVMe - Mainstream (3-5 DWPD)			
4XB7A13936	B589	ThinkSystem U.2 Intel P4610 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A13937	B58A	ThinkSystem U.2 Intel P4610 3.2TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A13938	B58B	ThinkSystem U.2 Intel P4610 6.4TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A08516	B21W	ThinkSystem U.2 Toshiba CM5-V 800GB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A08517	B21X	ThinkSystem U.2 Toshiba CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A08518	B21Y	ThinkSystem U.2 Toshiba CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A08519	B2XJ	ThinkSystem U.2 Toshiba CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	24
2.5-inch SSDs - PCIe 3.0 NVMe - Entry (<3 DWPD)			
4XB7A10202	B58F	ThinkSystem U.2 Intel P4510 1.0TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A10204	B58G	ThinkSystem U.2 Intel P4510 2.0TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A10205	B58H	ThinkSystem U.2 Intel P4510 4.0TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A08513	B58J	ThinkSystem U.2 Intel P4510 8.0TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A10175	B34N	ThinkSystem U.2 PM983 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A10176	B34P	ThinkSystem U.2 PM983 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
4XB7A10177	B4D3	ThinkSystem U.2 PM983 7.68TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
7SD7A05777	B11E	ThinkSystem U.2 Intel P4500 4.0TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	24
2.5-inch SED SSDs - PCIe 3.0 NVMe - Entry (<3 DWPD)			
4XB7A14060	B6K4	ThinkSystem U.2 CM5-R 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD SED	24

* Not supported in the configurations with 16/20/24x 2.5" U.2 NVMe PCIe drive bays.

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

Table 33. 3.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap HDDs - 12 Gb SAS 10K			
7XB7A00063	B1JJ	ThinkSystem 3.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD	14
3.5-inch hot-swap HDDs - 12 Gb SAS 15K			
7XB7A00038	AUU2	ThinkSystem 3.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	14
7XB7A00039	AUU3	ThinkSystem 3.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	14
7XB7A00040	AUUC	ThinkSystem 3.5" 900GB 15K SAS 12Gb Hot Swap 512e HDD	14
3.5-inch hot-swap HDDs - 12 Gb NL SAS			
7XB7A00041	AUU4	ThinkSystem 3.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	14
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	14
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	14
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
7XB7A00045	B0YR	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
7XB7A00067	B117	ThinkSystem 3.5" 12TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
4XB7A13906	B496	ThinkSystem 3.5" 14TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
4XB7A13911	B7EZ	ThinkSystem 3.5" 16TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
4XB7A38266	BCFP	ThinkSystem 3.5" 18TB 7.2K SAS 12Gb Hot Swap 512e HDD	14
3.5-inch hot-swap SED HDDs - 12 Gb NL SAS			
7XB7A00065	B0YN	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512e HDD FIPS	14
7XB7A00047	AUUH	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD FIPS	14
7XB7A00048	B0YP	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD FIPS	14
7XB7A00066	B0YQ	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD FIPS	14

Table 34. 3.5-inch hot-swap 6 Gb SATA HDDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap HDDs - 6 Gb NL SATA			
7XB7A00049	AUUF	ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	14
7XB7A00050	AUUD	ThinkSystem 3.5" 2TB 7.2K SATA 6Gb Hot Swap 512n HDD	14
7XB7A00051	AUU8	ThinkSystem 3.5" 4TB 7.2K SATA 6Gb Hot Swap 512n HDD	14
7XB7A00052	AUUA	ThinkSystem 3.5" 6TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
7XB7A00053	AUU9	ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
7XB7A00054	AUUB	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
7XB7A00068	B118	ThinkSystem 3.5" 12TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
4XB7A13907	B497	ThinkSystem 3.5" 14TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
4XB7A13914	B7F0	ThinkSystem 3.5" 16TB 7.2K SATA 6Gb Hot Swap 512e HDD	14
4XB7A38130	BCFH	ThinkSystem 3.5" 18TB 7.2K SATA 6Gb Hot Swap 512e HDD	14

Table 35. 3.5-inch hot-swap 12 Gb SAS SSDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap SSDs - 12 Gb SAS - Performance (10+ DWPD)			
4XB7A10234	B4Y8	ThinkSystem 3.5" SS530 800GB Performance SAS 12Gb Hot Swap SSD	14
4XB7A10235	B4Y9	ThinkSystem 3.5" SS530 1.6TB Performance SAS 12Gb Hot Swap SSD	14
4XB7A10236	B4YA	ThinkSystem 3.5" SS530 3.2TB Performance SAS 12Gb Hot Swap SSD	14
3.5-inch hot-swap SSDs - 12 Gb SAS - Mainstream (3-5 DWPD)			
4XB7A17066	B8HT	ThinkSystem 3.5" PM1645a 800GB Mainstream SAS 12Gb Hot Swap SSD	14
4XB7A17043	B8JN	ThinkSystem 3.5" PM1645a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	14
4XB7A17067	B8JK	ThinkSystem 3.5" PM1645a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	14
4XB7A13658	B4A4	ThinkSystem 3.5" PM1645 1.6TB Mainstream SAS 12Gb Hot Swap SSD	14
4XB7A13659	B4A5	ThinkSystem 3.5" PM1645 3.2TB Mainstream SAS 12Gb Hot Swap SSD	14
3.5-inch hot-swap SSDs - 12 Gb SAS - Entry / Capacity (<3 DWPD)			
4XB7A17058	B91E	ThinkSystem 3.5" PM1643a 3.84TB Entry SAS 12Gb Hot Swap SSD	14
4XB7A17059	BEVK	ThinkSystem 3.5" PM1643a 7.68TB Entry SAS 12Gb Hot Swap SSD	14
4XB7A13649	B4A8	ThinkSystem 3.5" PM1643 3.84TB Capacity SAS 12Gb Hot Swap SSD	24

Table 36. 3.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature	Description	Maximum supported
3.5-inch hot-swap SSDs - 6 Gb SATA - Mainstream (3-5 DWPD)			
4XB7A17096	B8JL	ThinkSystem 3.5" 5300 240GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A17097	B8JF	ThinkSystem 3.5" 5300 480GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A17098	B8J0	ThinkSystem 3.5" 5300 960GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A17099	B8HR	ThinkSystem 3.5" 5300 1.92TB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A17100	B8HX	ThinkSystem 3.5" 5300 3.84TB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A13639	B49R	ThinkSystem 3.5" Intel S4610 240GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A13640	B49S	ThinkSystem 3.5" Intel S4610 480GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A13641	B49T	ThinkSystem 3.5" Intel S4610 960GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A13642	B49U	ThinkSystem 3.5" Intel S4610 1.92TB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A13643	B49V	ThinkSystem 3.5" Intel S4610 3.84TB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A10242	B48D	ThinkSystem 3.5" 5200 240GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A10243	B48E	ThinkSystem 3.5" 5200 480GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A10244	B48F	ThinkSystem 3.5" 5200 960GB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A10245	B48G	ThinkSystem 3.5" 5200 1.92TB Mainstream SATA 6Gb Hot Swap SSD	14
4XB7A10246	B48H	ThinkSystem 3.5" 5200 3.84TB Mainstream SATA 6Gb Hot Swap SSD	14
3.5-inch hot-swap SSDs - 6 Gb SATA - Entry (<3 DWPD)			
4XB7A38276	BCTH	ThinkSystem 3.5" Multi Vendor 240GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A38277	BCTJ	ThinkSystem 3.5" Multi Vendor 480GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A38278	BCTK	ThinkSystem 3.5" Multi Vendor 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A38279	BCTL	ThinkSystem 3.5" Multi Vendor 1.92TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A38281	BCTM	ThinkSystem 3.5" Multi Vendor 3.84TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17081	B8JB	ThinkSystem 3.5" 5300 240GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17082	B8J9	ThinkSystem 3.5" 5300 480GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17083	B8JC	ThinkSystem 3.5" 5300 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17084	B8HZ	ThinkSystem 3.5" 5300 1.92TB Entry SATA 6Gb Hot Swap SSD	14

Part number	Feature	Description	Maximum supported
4XB7A17085	B8HQ	ThinkSystem 3.5" 5300 3.84TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17086	B8J3	ThinkSystem 3.5" 5300 7.68TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A13625	B49D	ThinkSystem 3.5" Intel S4510 240GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A13626	B49E	ThinkSystem 3.5" Intel S4510 480GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A13627	B49F	ThinkSystem 3.5" Intel S4510 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A13628	B49G	ThinkSystem 3.5" Intel S4510 1.92TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A13629	B49H	ThinkSystem 3.5" Intel S4510 3.84TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17176	B6TM	ThinkSystem 3.5" PM883 240GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17177	B6TN	ThinkSystem 3.5" PM883 480GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17178	B6TP	ThinkSystem 3.5" PM883 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17179	B6JY	ThinkSystem 3.5" PM883 1.92TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A17180	B6JZ	ThinkSystem 3.5" PM883 3.84TB Entry SATA 6Gb Hot Swap SSD	14
7SD7A05735	B0Z5	ThinkSystem 3.5" Intel S4500 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A10159	B2X8	ThinkSystem 3.5" 5200 960GB Entry SATA 6Gb Hot Swap SSD	14
4XB7A10160	B2X9	ThinkSystem 3.5" 5200 1.92TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A10161	B2XA	ThinkSystem 3.5" 5200 3.84TB Entry SATA 6Gb Hot Swap SSD	14
4XB7A10162	B2XB	ThinkSystem 3.5" 5200 7.68TB Entry SATA 6Gb Hot Swap SSD	14

Table 37. 3.5-inch PCIe 4.0 NVMe SSDs

Part number	Feature	Description	Maximum supported
3.5-inch SSDs - PCIe 4.0 NVMe - Mainstream (3-5 DWPD)			
4XB7A17155	BCFM	ThinkSystem 3.5" Intel P5600 1.6TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	14
4XB7A17156	BCFJ	ThinkSystem 3.5" Intel P5600 3.2TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	14
4XB7A17157	BCFQ	ThinkSystem 3.5" Intel P5600 6.4TB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	14
4XB7A64176	BE04	ThinkSystem 3.5" Kioxia CM6-V 800GB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	14
4XB7A17115	B96V	ThinkSystem 3.5" Kioxia CM6-V 1.6TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	14
4XB7A17116	B96K	ThinkSystem 3.5" Kioxia CM6-V 3.2TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	14
4XB7A17117	B96W	ThinkSystem 3.5" Kioxia CM6-V 6.4TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	14

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

Table 38. 3.5-inch hot-swap PCIe 3.0 NVMe SSDs

Part number	Feature	Description	Maximum supported
3.5-inch SSDs - PCIe 3.0 NVMe - Mainstream (3-5 DWPD)			
4XB7A13944	B58C	ThinkSystem 3.5" Intel P4610 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A13945	B58D	ThinkSystem 3.5" Intel P4610 3.2TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A13946	B58E	ThinkSystem 3.5" Intel P4610 6.4TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A08532	B21Z	ThinkSystem 3.5" Toshiba CM5-V 800GB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A08533	B220	ThinkSystem 3.5" Toshiba CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A08534	B221	ThinkSystem 3.5" Toshiba CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A08535	B2XK	ThinkSystem 3.5" Toshiba CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	4
3.5-inch SSDs - PCIe 3.0 NVMe - Entry (<3 DWPD)			
4XB7A10178	B34Q	ThinkSystem 3.5" PM983 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A10179	B34R	ThinkSystem 3.5" PM983 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	4
4XB7A10180	B4D4	ThinkSystem 3.5" PM983 7.68TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	4

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

Table 39. M.2 SATA drives

Part number	Feature	Description	Maximum supported
M.2 SSDs - 6 Gb SATA - Entry (<3 DWPD)			
7N47A00129	AUUL	ThinkSystem M.2 32GB SATA 6Gbps Non-Hot Swap SSD	2
7N47A00130	AUUV	ThinkSystem M.2 128GB SATA 6Gbps Non-Hot Swap SSD	2
7SD7A05703	B11V	ThinkSystem M.2 5100 480GB SATA 6Gbps Non-Hot Swap SSD	2
4XB7A17071	B8HS	ThinkSystem M.2 5300 240GB SATA 6Gbps Non-Hot Swap SSD	2
4XB7A17073	B919	ThinkSystem M.2 5300 480GB SATA 6Gbps Non-Hot Swap SSD	2

USB memory key

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

Table 40. USB memory key

Part number	Feature	Description
00ML200	None*	32GB Enterprise Value USB Memory Key

* Field upgrade only.

Optical drives

The SR650 server supports the external USB optical drive option listed in the following table.

Table 41. Optical drive

Description	Part number	Feature code	Maximum quantity
ThinkSystem External USB DVD RW Optical Disk Drive	7XA7A05926	AVV8	1

The External USB DVD RW Optical Disk Drive supports the following types of media: CD-ROM, CD-R, CD-RW, DVD-R, DVD+R, DVD-ROM, DVD-RW, and DVD+RW.

I/O expansion

The SR650 server supports one LOM card slot and up to seven PCIe slots: one slot on the system planar that is dedicated to an internal storage controller, one regular PCIe slot on the system planar, and up to five PCIe slots with different riser cards installed into two riser sockets on the system planar (one riser socket supports installation of one riser card).

The slot form factors are as follows:

- LOM card slot
- Slot 1: PCIe 3.0 x16 or PCIe 3.0 x8; full-height, half-length (PCIe x16 slot can be single- or double-wide)
- Slot 2: PCIe 3.0 x8; full-height, half-length (not present if Slot 1 is PCIe x16 double-wide or Slot 3 is ML2 x16)
- Slot 3: PCIe 3.0 x8, or PCIe 3.0 x16, or ML2 x8, or ML2 x16; full-height, half-length
- Slot 4: PCIe 3.0 x8; low profile (vertical slot on system planar)
- Slot 5: PCIe 3.0 x16; full-height, half-length
- Slot 6: PCIe 3.0 x16; full-height, half-length
- Slot 7: PCIe 3.0 x8 (for an internal storage controller)

Configuration notes:

- Slots 5 and 6 require the second processor to be installed.
- Single-wide PCIe 3.0 x16 Slot 1 requires the second processor to be installed.
- The following configurations require the single-wide PCIe 3.0 x16 Slot 1:
  - 24 NVMe PCIe drive bays.
  - Two double-wide GPUs and one PCIe x16 adapter.
- Slots 1 - 3 are not present if the Rear HDD Kit is installed.
- Slots 1, 5, and 6 can be enabled for full-length PCIe adapters (such as GPU adapters):
  - Factory-installed GPUs: When a GPU adapter is selected, all required parts are derived.
  - Factory-enabled full-length support (no adapters included): Select the feature code B3RY, and all required parts will be derived based on the number of processors and PCIe riser cards selected.
  - Field upgrades: Refer to Cooling for upgrade kit requirements.

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

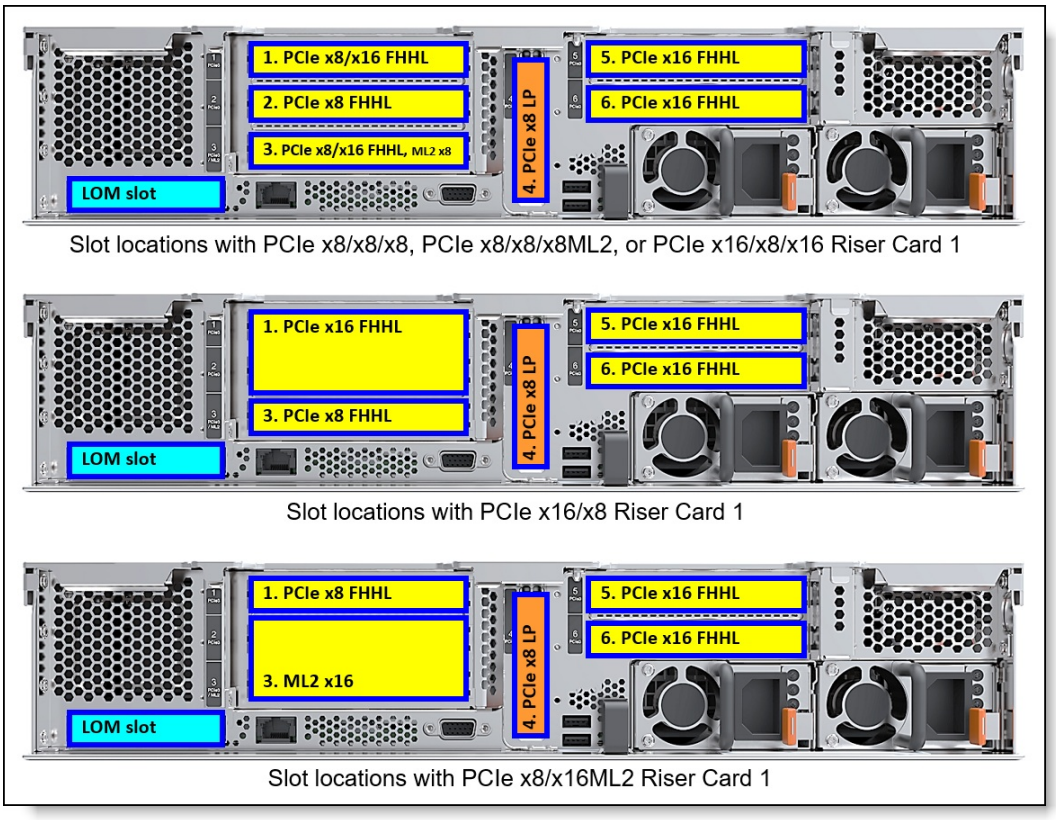


Figure 11. Slot locations

Riser 1 supplies slots 1, 2, and 3, and Riser 2 supplies slots 5 and 6. The slots that are available for use depend on the number of riser cards that are installed and whether the second processor is installed, as shown in the following table.

Table 42. Slots available for use

Riser Card 1	Riser Card 2	Slots available for use	
		Processor 1	Processor 2
None	None	LOM, 4, 7	-
None	PCIe x16/x16	LOM, 4, 7	5, 6
PCIe x8/x8/x8 or PCIe x8/x8/x8ML2	None	LOM, 1, 2, 3, 4, 7	-
PCIe x16/x8 or PCIe x8/x16ML2	None	LOM, 1, 3, 4, 7	-
PCIe x8/x8/x8 or PCIe x8/x8/x8ML2	PCIe x16/x16	LOM, 1, 2, 3, 4, 7	5, 6
PCIe x16/x8 or PCIe x8/x16ML2	PCIe x16/x16	LOM, 1, 3, 4, 7	5, 6
PCIe x16/x8/x16	PCIe x16/x16	LOM, 2, 3, 4, 7	1, 5, 6

The following table lists available PCIe riser card options.

Table 43. PCIe riser cards and miscellaneous options

Description	Part number	Feature code	Maximum quantity
x8 Riser Card 1 options (Riser card 1 supplies slots 1, 2, and 3)			
ThinkSystem 2U x8/x8/x8 PCIe FH Riser 1	7XH7A02677	AUR4	1
ThinkSystem 2U x8/x8/x8ML2 PCIe FH Riser 1	7XH7A02680	AUR7	1
ThinkSystem SR650 x16/x8/x16 PCIe FH Riser 1	4XH7A09902	B4PB	1
x16 Riser Card 1 options (Riser card 1 supplies slots 1 and 3)			
ThinkSystem 2U x16/x8 PCIe FH Riser 1	7XH7A02678	AUR3	1
ThinkSystem SR650 x8/x16ML2 PCIe FH Riser 1 Kit	7XH7A02681	AURB	1
Riser Card 2 option (Riser card 2 supplies slots 5 and 6)			
ThinkSystem SR550/SR650 (x16/x8)/(x16/x16) PCIe FH Riser 2 Kit	7XH7A02679	AURC	1
Serial port upgrade kit			
ThinkSystem COM Port Upgrade Kit	7Z17A02577	AUSL	1

Configuration notes:

- If the PCIe x16/x8/x16 Riser Card (4XH7A09902) is installed, the onboard NVMe interface cannot be used for connections to U.2 NVMe or AnyBay drive bays.
- In the configurations with 16x 2.5-inch U.2 NVMe PCIe drive bays, the PCIe 3.0 x8 Slot 3 and PCIe 3.0 x16 Slot 5 are available, and the remaining slots are occupied by the NVMe switch adapters.
  Note: If the additional 8-bay SAS/SATA backplane is installed, only the PCIe 3.0 x16 Slot 5 is available (the PCIe 3.0 x8 Slot 3 is occupied by an internal storage controller).
- In the configurations with 20x 2.5-inch U.2 NVMe PCIe drive bays, the PCIe 3.0 x8 Slot 3 is available, and the remaining slots are occupied by the NVMe switch adapters.
- In the configurations with 24x 2.5-inch U.2 NVMe PCIe drive bays, the PCIe 3.0 x16 Slots 3 and 5 are available, and the remaining slots are occupied by the NVMe switch adapters.
- The COM Port Upgrade Kit, part number 7Z17A02577, is used for mounting the external serial port on the rear of the SR650 server, and it includes the bracket and the cable. The COM Port option is mounted in place of one of the PCIe slots 1 - 6, and that PCIe slot cannot be used.

Network adapters

The SR650 server supports up to four onboard network ports with optional LOM cards that use the Intel Ethernet Connection X722 1/10 GbE technology integrated into the Intel C624 Platform Controller Hub (PCH). The server also supports ML2 adapters that are installed in the custom ML2 slot provided by an ML2 riser card. The LOM cards and ML2 network adapters support direct connectivity to the XClarity Controller via the Network Controller Sideband Interface (NSCI) for out-of-band systems management.

The integrated Intel Ethernet Connection X722 has the following features:

- Four 1/10 Gb Ethernet capable ports (no 10/100 Mb Ethernet support)
- NIC Teaming (load balancing and failover)
- Data Center Bridging
- iWARP (RDMA over IP)
- VMDq and SR-IOV virtualization (10 Gb speeds only, 4 PFs, 128 VFs per device)
- IEEE 802.1q Virtual Local Area Networks (VLANs)
- NVGRE, VXLAN, IPinGRE, and MACinUDP network virtualization
- IEEE 802.1Qbg Edge Virtual Bridging
- TCP, IP, and UDP checksum offload
- Large Send Offload (LSO) and Generic Send Offload (GSO)
- Receive Side Scaling (RSS) for TCP and UDP traffic
- Jumbo frames up to 9.5 Kbytes

The following table lists the network adapters that are supported with the SR650 server.

Table 44. Network adapters

Description	Part number	Feature code	Max qty#	I/O slots supported
LOM cards - 1 Gb Ethernet				
ThinkSystem 1Gb 2-port RJ45 LOM	7ZT7A00544	AUKG	1	LOM slot
ThinkSystem 1Gb 4-port RJ45 LOM	7ZT7A00545	AUKH	1	LOM slot
LOM cards - 10 Gb Ethernet				
ThinkSystem 10Gb 2-port Base-T LOM	7ZT7A00548	AUKL	1	LOM slot
ThinkSystem 10Gb 2-port SFP+ LOM	7ZT7A00546	AUKJ	1*	LOM slot
ThinkSystem 10Gb 4-port Base-T LOM	7ZT7A00549	AUKM	1	LOM slot
ThinkSystem 10Gb 4-port SFP+ LOM	7ZT7A00547	AUKK	1*	LOM slot
ML2 adapters - 10 Gb Ethernet				
Broadcom NX-E ML2 10Gb 2-Port Base-T Ethernet Adapter	7ZT7A00497	AUKQ	1	3 (ML2)
Emulex VFA5.2 ML2 Dual Port 10GbE SFP+ Adapter	00AG560	AT7U	1*	3 (ML2)
Emulex VFA5.2 ML2 2x10 GbE SFP+ Adapter and FCoE/iSCSI SW	01CV770	AU7Z	1*	3 (ML2)
Intel X710-DA2 ML2 2x10GbE SFP+ Adapter	00JY940	ATRH	1*	3 (ML2)
ML2 adapters - 25 Gb Ethernet				
Mellanox ConnectX-4 Lx 10/25GbE SFP28 1-port ML2 Ethernet Adapter	00MN990	ATZR	1*	3 (ML2)
Mellanox ConnectX-4 Lx 10/25GbE SFP28 2-port ML2 Ethernet Adapter	7ZT7A00507	AUKU	1*	3 (ML2)
ML2 adapters - FDR InfiniBand				
Mellanox ConnectX-3 Pro ML2 FDR 2-Port QSFP VPI Adapter	7ZT7A00501	AUKR	1*	3 (ML2)
PCIe Low Profile adapters - 1 Gb Ethernet				
Broadcom 5720 1GbE RJ45 2-Port PCIe Ethernet Adapter	7ZT7A00482	AUZX	4 / 6	4, 2, 6, 3, 5, 1
Broadcom 5719 1GbE RJ45 4-Port PCIe Ethernet Adapter	7ZT7A00484	AUZV	4 / 6	4, 2, 6, 3, 5, 1
ThinkSystem I350-F1 PCIe 1Gb 1-Port SFP Ethernet Adapter	7ZT7A00533	AUZZ	4 / 6	4, 2, 6, 3, 5, 1
ThinkSystem I350-T2 PCIe 1Gb 2-Port RJ45 Ethernet Adapter	7ZT7A00534	AUZY	4 / 6	4, 2, 6, 3, 5, 1
ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter	7ZT7A00535	AUZW	4 / 6	4, 2, 6, 3, 5, 1
PCIe Low Profile adapters - 10 Gb Ethernet				
Broadcom 57416 10GBASE-T 2-Port PCIe Ethernet Adapter	7ZT7A00496	AUKP	4 / 6	4, 2, 6, 3, 5, 1
Emulex VFA5.2 2x10 GbE SFP+ PCIe Adapter	00AG570	AT7S	4 / 6*	4, 2, 6, 3, 5, 1

Description	Part number	Feature code	Max qty#	I/O slots supported
Emulex VFA5.2 2x10 GbE SFP+ Adapter and FCoE/iSCSI SW	00AG580	AT7T	4 / 6*	4, 2, 6, 3, 5, 1
Intel X550-T2 Dual Port 10GBase-T Adapter	00MM860	ATPX	4 / 6	4, 2, 6, 3, 5, 1
Intel X710-DA2 PCIe 10Gb 2-Port SFP+ Ethernet Adapter	7ZT7A00537	AUKX	4 / 6*	4, 2, 6, 3, 5, 1
QLogic QL41134 PCIe 10Gb 4-Port Base-T Ethernet Adapter	4XC7A08225	B31G	4 / 6	4, 2, 6, 3, 5, 1
PCIe Full Height adapters - 10 Gb Ethernet				
Emulex OCe14104B-NX PCIe 10Gb 4-Port SFP+ Ethernet Adapter	7ZT7A00493	AUKN	3 / 5*	2, 6, 3, 5, 1
PCIe Low Profile adapters - 25 Gb Ethernet				
Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter	7ZT7A00505	AUKS	4 / 6*	4, 2, 6, 3, 5, 1
Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	4XC7A08238	B5T0	4 / 6*	4, 2, 6, 3, 5, 1
Intel XXV710-DA2 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	7XC7A05523	B0WY	4 / 6*	4, 2, 6, 3, 5, 1
Mellanox ConnectX-4 Lx 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	01GR250	AUAJ	4 / 6*	4, 2, 6, 3, 5, 1
Mellanox ConnectX-5 EN 10/25GbE SFP28 2-port PCIe Ethernet Adapter	4XC7A62574	BEAP	4 / 6*	4, 2, 6, 3, 5, 1
Mellanox Innova-2 ConnectX-5 FPGA 25GbE 2-port Adapter	4XC7A16683	B5XZ	1 / 3*	1, 5, 6†
QLogic QL41262 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	4XC7A08228	B21R	4 / 6*	4, 2, 6, 3, 5, 1
PCIe Low Profile adapters - 40 Gb Ethernet				
Mellanox ConnectX-4 Lx 1x40GbE QSFP+ Adapter	00MM950	ATRN	4 / 6*	4, 2, 6, 3, 5, 1
Mellanox ConnectX-5 Ex 25/40GbE 2-port Low-Latency Adapter	4XC7A08229	B31C	1 / 3*^	1, 5, 6†
PCIe Low Profile adapters - FDR InfiniBand				
Mellanox ConnectX-4 PCIe FDR 1-Port QSFP VPI Adapter	7XC7A05524	B0WX	4 / 6*	4, 2, 6, 3, 5, 1
Mellanox ConnectX-4 PCIe FDR 2-Port QSFP VPI Adapter	7ZT7A00500	AUVG	4 / 6*	4, 2, 6, 3, 5, 1
PCIe x16 Low Profile adapters - 100 Gb Ethernet / EDR InfiniBand				
Mellanox ConnectX-4 2x100GbE/EDR IB QSFP28 VPI Adapter	00MM960	ATRP	1 / 3*	1, 5, 6†
PCIe x16 Low Profile adapters - HDR InfiniBand				
Mellanox ConnectX-6 HDR QSFP56 1-port PCIe 4 InfiniBand Adapter	4C57A15326	B4RC	1 / 1*	1†‡
Mellanox HDR/200GbE 2x PCIe Aux Kit	4C57A14179	B4RB	1 / 1*	5, 6†‡
Mellanox ConnectX-6 HDR100 QSFP56 1-port PCIe InfiniBand Adapter	4C57A14177	B4R9	1 / 3*	1, 5, 6†
Mellanox ConnectX-6 HDR100 QSFP56 2-port PCIe InfiniBand Adapter	4C57A14178	B4RA	1 / 3*	1, 5, 6†
PCIe Low Profile adapters - Omni-Path				
Intel OPA 100 Series Single-port PCIe 3.0 x8 HFA	00WE023	AU0A	4 / 6*	4, 2, 6, 3, 5, 1
Intel OPA 100 Series Single-port PCIe 3.0 x16 HFA	00WE027	AU0B	1 / 3*	1, 5, 6†

The maximum quantity shown is with one processor / two processors (this does not apply to LOM cards and ML2 adapters).
* The adapter comes without transceivers or cables; for ordering transceivers or cables, see the product guide for the adapter.
† The adapter is supported in the PCIe x16 slots supplied by the riser cards 1 and 2.
^ The 25 GbE connectivity requires the optional Mellanox QSA 100G to 25G Cable Adapter (4G17A10853) (one per port); the supported cables include 25 GbE passive DAC and active optical cables (25 GbE transceivers not supported)
‡ The ConnectX-6 HDR adapter is supported only in the configurations with two processors, and it requires the HDR/200GbE 2x PCIe Aux Kit.

Configuration notes:

- ML2 network adapters are supported in the ML2 x8 slot 3 supplied by the x8/x8/x8ML2 Riser Card 1 (7XH7A02680).
- PCIe full-height network adapters are supported in the full-height PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- PCIe x16 Low Profile network adapters are supported in the full-height PCIe x16 slots supplied by the riser cards 1 and 2.
- PCIe x8 or x4 Low Profile network adapters are supported in the low profile PCIe x8 slot 4 on the system board and full-height PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- The Mellanox HDR and HDR100 InfiniBand QSFP56 adapters are supported only in the configurations with up to 16x 2.5-inch or 8x 3.5-inch drive bays and only with an ambient temperature of up to 35 °C (95 °F). Not supported in 12x 3.5-inch or 24x 2.5-inch configurations.

- In the configurations with two double-wide GPU adapters and a PCIe x16 adapter, the following adapters are supported in the PCIe 3.0 x16 slot 3 supplied by the PCIe x16/x8/x16 Riser Card (4XH7A09902):
  - Mellanox ConnectX-4 1x100GbE/EDR IB QSFP28 VPI Adapter (00KH924)
  - Mellanox ConnectX-4 2x100GbE/EDR IB QSFP28 VPI Adapter (00MM960)
  - Mellanox ConnectX-5 Ex 25/40GbE 2-port Low-Latency Adapter (4XC7A08229)
  - Intel OPA 100 Series Single-port PCIe 3.0 x16 HFA (00WE027)
- Supported transceivers or DAC cables should be purchased for the SFP+, SFP28, QSFP+, and QSFP28 adapters, and UTP Category 6 or Category 5e cables should be purchased for the 10 GbE (Cat6) or 1 GbE (Cat5e or Cat6) RJ-45 adapters. The maximum number of transceivers or cables that are supported per adapter equals the quantity of the adapter ports, and all adapter ports must have the same type of the transceiver or cable selected. See the product guide for the adapter for the list of supported transceivers and cables.

For more information, see the list of Product Guides in the Ethernet Adapters category:
http://lenovopress.com/servers/options/ethernet#rt=product-guide

SAS adapters for external storage

The following table lists SAS RAID controllers and HBAs for external storage attachments that are supported by the SR650 server.

Table 45. SAS RAID adapters and HBAs for external storage

Description	Part number	Feature code	Maximum quantity*	I/O slots supported
12 Gbps SAS RAID adapters				
ThinkSystem RAID 930-8e 4GB Flash PCIe 12Gb Adapter	7Y37A01087	AUNQ	4 / 4	4, 2, 3, 5, 1
12 Gbps SAS HBAs				
ThinkSystem 430-8e SAS/SATA 12Gb HBA	7Y37A01090	AUNR	4 / 5	4, 2, 3, 5, 1
ThinkSystem 430-16e SAS/SATA 12Gb HBA	7Y37A01091	AUNN	4 / 5	4, 2, 3, 5, 1

* The maximum quantity shown is with one processor / two processors.

Configuration notes:

- Low profile SAS RAID controllers and HBAs for external storage are supported in the low profile PCIe x8 slot 4 on the system board and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2 (except slot 6).
- In the configurations without GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, RAID 930-24i, and RAID 930-8e controllers in a supported combination in the server must not exceed 4 (up to 4 supercapacitors can be mounted in the server).
- In the configurations with GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, RAID 930-24i, and RAID 930-8e controllers in a supported combination in the server must not exceed 3 (up to 3 supercapacitors can be mounted in the server).

The following table summarizes features of supported RAID controllers and HBAs for external storage.

Table 46. Features and specifications of the RAID controllers and HBAs for external storage

Feature	RAID 930-8e	430-8e HBA	430-16e HBA
Form factor	PCIe LP	PCIe LP	PCIe LP
SAS controller chip	SAS3516	SAS3408	SAS3416
Host interface	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gb SAS	12 Gb SAS	12 Gb SAS
Number of ports	8	8	16
Connector type	SFF-8644 x4	SFF-8644 x4	SFF-8644 x4
Number of connectors	2	2	4
Drive interface	SAS, SATA	SAS, SATA	SAS, SATA
Drive type	HDD, SSD, SED	HDD, SSD, SED*	HDD, SSD, SED*
Hot-swap drive support	Yes	Yes	Yes
Number of devices	240	1024	1024

Feature	RAID 930-8e	430-8e HBA	430-16e HBA
RAID levels	0/1/10/5/50/6/60	None	None
JBOD mode	Yes	Yes	Yes
Cache	4 GB	None	None
Cache protection	Flash backup (Included)	None	None
SED key management (SafeStore)	Yes	No	No
SSD I/O acceleration (FastPath)	Yes	No	No
SSD Caching (CacheCade Pro 2.0)	No**	No	No
Consistency check	Yes	No	No
Patrol read	Yes	No	No
Online capacity expansion	Yes	No	No
Online RAID level migration	Yes	No	No
Global Hot Spare	Yes	No	No
Auto-rebuild	Yes	No	No

* HBAs do not support key management for SEDs; third-party host software is responsible for managing the keys.
** The SSD caching feature has been phased out in the new generation of advanced RAID controllers.

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

- RAID adapters
  http://lenovopress.com/servers/options/raid#rt=product-guide
- Host bus adapters
  http://lenovopress.com/servers/options/hba#rt=product-guide

Fibre Channel host bus adapters

The following table lists Fibre Channel HBAs supported by the SR650 server.

Table 47. Fibre Channel HBAs

Description	Part number	Feature code	Maximum quantity*	I/O slots supported
32 Gb Fibre Channel - PCIe				
Emulex LPe35000 32Gb 1-port PCIe Fibre Channel Adapter	4XC7A08250	B5SX	4 / 6	4, 2, 6, 3, 5, 1
Emulex LPe35002 32Gb 2-port PCIe Fibre Channel Adapter	4XC7A08251	B5SY	4 / 6	4, 2, 6, 3, 5, 1
QLogic QLE2740 PCIe 32Gb 1-Port SFP+ FC HBA	7ZT7A00516	AUNS	4 / 6	4, 2, 6, 3, 5, 1
QLogic QLE2742 PCIe 32Gb 2-Port SFP+ FC HBA	7ZT7A00518	AUNU	4 / 6	4, 2, 6, 3, 5, 1
16 Gb Fibre Channel - PCIe				
Emulex 16Gb Gen6 FC Single-port HBA	01CV830	ATZU	4 / 6	4, 2, 6, 3, 5, 1
Emulex 16Gb Gen6 FC Dual-port HBA	01CV840	ATZV	4 / 6	4, 2, 6, 3, 5, 1
QLogic 16Gb Enhanced Gen5 FC Single-port HBA	01CV750	ATZB	4 / 6	4, 2, 6, 3, 5, 1
QLogic 16Gb Enhanced Gen5 FC Dual-port HBA	01CV760	ATZC	4 / 6	4, 2, 6, 3, 5, 1
8 Gb Fibre Channel - PCIe (available only in PRC and AP)				
Emulex LPe12000-M8-L PCIe 8Gb 1-Port SFP+ FC HBA	4XC7A08220	B0WZ	4 / 6	4, 2, 6, 3, 5, 1
Emulex LPe12002-M8-L PCIe 8Gb 2-Port SFP+ FC HBA	4XC7A08221	B0X0	4 / 6	4, 2, 6, 3, 5, 1

* The maximum quantity shown is with one processor / two processors.

Configuration note: FC HBAs are supported in the low profile PCIe x8 slot 4 on the system board and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2.

For more information, see the list of Product Guides in the Host bus adapters category:
http://lenovopress.com/servers/options/hba#rt=product-guide

Flash storage adapters

The SR650 server supports the flash storage adapters listed in the following table.

Table 48. Flash storage adapters

Description	Part number	Feature code	Maximum quantity*	I/O slots supported
Mainstream Flash Adapters - CM5-V				
CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	4XB7A38234	BCGJ	4 / 6	4, 2, 6, 3, 5, 1
CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	4XB7A38237	BCGK	4 / 6	4, 2, 6, 3, 5, 1
CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	4XB7A38240	BCGL	4 / 6	4, 2, 6, 3, 5, 1
Mainstream Flash Adapters - P4600				
Intel P4600 2.0TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	7SD7A05769	B11X	4 / 6	4, 2, 6, 3, 5, 1

* The maximum quantity shown is with one processor / two processors.

Configuration notes:

- Flash storage adapters are supported in the low profile PCIe x8 slot on the system board and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- Flash storage adapters are supported only in the environments with an ambient temperature of up to 35 °C (95 °F).
- Flash storage adapters are supported only with processors of up to 165 W TDP.
- Flash storage adapters are not supported with persistent memory

For more information, see the list of Product Guides in the Flash storage adapters category:
http://lenovopress.com/servers/options/ssdadapter#rt=product-guide

GPU adapters

The SR650 server supports graphics processing units (GPUs) listed in the following table.

Table 49. GPU adapters

Description	Part number	Feature code	Maximum quantity*	I/O slots supported
Low profile PCIe 3.0 x16 single-wide GPU adapters				
ThinkSystem NVIDIA Quadro P620 2GB PCIe Active GPU	4X67A11584	B31D	1 / 3	1, 5, 6
ThinkSystem NVIDIA Tesla T4 16GB PCIe Passive GPU	4X67A14926	B4YB	3 / 5	1, 2, 3, 5, 6
Full-height, full-length PCIe 3.0 x16 double-wide GPU adapters				
ThinkSystem AMD Radeon Instinct MI25 16GB PCIe Passive GPU	7C57A02897	B228	1 / 2	1, 5
ThinkSystem NVIDIA Quadro P6000 24GB GPU, PCIe (active)	7C57A02895	B2V5	1 / 2	1, 5
ThinkSystem NVIDIA Quadro RTX 5000 16GB PCIe Active GPU	4X67A17267	B6CH	1 / 2	1, 5
ThinkSystem NVIDIA Tesla M10 32GB PCIe Passive GPU	7C57A02891	B15V	1 / 2	1, 5
ThinkSystem NVIDIA Tesla P40 24GB PCIe Passive GPU	7C57A02888	B15U	1 / 2	1, 5
ThinkSystem NVIDIA Tesla V100 16GB PCIe Passive GPU	4C57A09498	B1JY	1 / 2	1, 5
ThinkSystem NVIDIA Tesla V100 32GB PCIe Passive GPU	4X67A12088	B34S	1 / 2	1, 5
ThinkSystem NVIDIA Tesla V100S 32GB PCIe Passive GPU	4X67A13124	BB2E	1 / 2	1, 5
Full-height, half-length PCIe 3.0 x16 single-wide GPU adapters				
ThinkSystem NVIDIA Tesla V100 FHHL 16GB PCIe GPU	4X67A11524	B32D	1 / 3	1, 5, 6
Full-height, full-length PCIe 3.0 x16 single-wide GPU adapters				
ThinkSystem NVIDIA Quadro P4000 8GB PCIe Active GPU	4V17A10255	B225	1 / 3	1, 5, 6
ThinkSystem NVIDIA Quadro RTX 4000 8GB PCIe Active GPU	4X67A14934	B6CG	1 / 3	1, 5, 6

* The maximum quantity shown is with one processor / two processors.

Configuration notes:

- All GPU adapters in the server must be of the same model; mixing different GPU adapter models is not supported.
- The GPU adapters require the PCIe x16 riser cards (except T4 GPU adapters).
- The T4 GPU adapters are supported only in the specific I/O slots, as follows:
  - 1x T4 GPU adapter (one or two processors):
    - PCIe 3.0 x16 Slot 1 on the x16/x8 Riser Card 1 (7XH7A02678); or
    - PCIe 3.0 x8 Slot 1 on the x8/x8/x8 Riser Card 1 (7XH7A02677).
  - 2x T4 GPU adapters:
    - One processor: PCIe 3.0 x8 Slots 1 and 2 on the x8/x8/x8 Riser Card 1 (7XH7A02677).
    - Two processors:
      - PCIe 3.0 x16 or x8 Slot 1 on one of the following riser cards:
        - PCIe 3.0 x16 Slot 1 on the x16/x8 Riser Card 1 (7XH7A02678); or
        - PCIe 3.0 x8 Slot 1 on the x8/x8/x8 Riser Card 1 (7XH7A02677).
      - PCIe 3.0 x16 Slot 5 on the x16/x16 Riser Card 2 (7XH7A02679).
    - **Note:** Slot 6 must remain unoccupied in the configurations with two T4 GPU adapters.
  - 3x T4 GPU adapters:
    - One processor: PCIe 3.0 x8 Slots 1, 2, and 3 on the x8/x8/x8 Riser Card 1 (7XH7A02677).
    - Two processors:
      - PCIe 3.0 x16 or x8 Slot 1 on one of the following riser cards:
        - PCIe 3.0 x16 Slot 1 on the x16/x8 Riser Card 1 (7XH7A02678); or
        - PCIe 3.0 x8 Slot 1 on the x8/x8/x8 Riser Card 1 (7XH7A02677).
      - PCIe 3.0 x16 Slots 5 and 6 on the x16/x16 Riser Card 2 (7XH7A02679).
  - 4x T4 GPU adapters (require two processors):
    - PCIe 3.0 x8 or x16 Slot 1 and PCIe 3.0 x8 Slot 2 on one of the following riser cards:
      - x8/x8/x8 Riser Card 1 (7XH7A02677); or
      - x16/x8/x16 Riser Card 1 (4XH7A09902).
    - PCIe 3.0 x16 Slots 5 and 6 on the x16/x16 Riser Card 2 (7XH7A02679).

    - 5x T4 GPU adapters (require two processors):
        - PCIe 3.0 x8 or x16 Slots 1 and 3, and PCIe 3.0 x8 Slot 2 on one of the following riser cards:
            - x8/x8/x8 Riser Card 1 (7XH7A02677); or
            - x16/x8/x16 Riser Card 1 (4XH7A09902).
        - PCIe 3.0 x16 Slots 5 and 6 on the x16/x16 Riser Card 2 (7XH7A02679).
- The GPU adapters are supported with the following drive bay configurations:
    - Processors of up to 150 W TDP:
        - 8x or 16x 2.5-inch SAS/SATA & AnyBay drive bays (support for up to 4x or 8x NVMe SSDs).
        - 8x 3.5-inch SAS/SATA drive bays.
    - Processors of more than 150 W and up to 205 W TDP with up to four T4 GPU adapters, or processors of more than 150 W and up to 165 W TDP:
        - 8x 2.5-inch SAS/SATA drive bays (no support for NVMe SSDs) in the environments with the ambient temperature of up to 30 °C (86 °F).
    - **Note:** The P620, P4000, P6000, V100 FHHL, and V340 GPU adapters are supported only with the processors of up to 150 W TDP.
- If a double-wide GPU adapter is installed in the PCIe slot 5, the PCIe slot 6 cannot be used.
- The P620 GPU adapters do not require any thermal kits. The GPU adapters other than P620 may require one of the optional GPU Thermal Kits (see Cooling for details).
- GPU adapters are supported only with the 1100 W or 1600 W power supplies.
- GPU adapters (except V100 FHHL and T4 GPU adapters) are supported only in the ASHRAE A2 environments (up to 35 °C [95 °F]); the V100 FHHL and T4 GPU adapters are supported only in the environments with the ambient temperature of up to 30 °C (86 °F).
- Configurations with two double-wide GPU adapters and a PCIe x16 adapter are supported only in the environments with the ambient temperature of up to 30 °C (86 °F), and with SAS/SATA drive bays only (no AnyBay or U.2 NVMe support).
- If the GPU adapters are installed, the server performance might be impacted in case of a system fan failure.
- The GPU adapters are not supported with the T-suffix processors.
- The GPU adapters are not supported with the persistent memory modules.
- The GPU adapters are not supported with the PCIe flash storage adapters.
- The GPU adapters are not supported with the Rear HDD Kit.
- The maximum server memory that can be installed with the NVIDIA Tesla M10 GPU is 1 TB.

Lenovo GPU adapter options come with the necessary power cables for internal cabling. Lenovo also offers an optional GPU power cable kit (see the following table) that can be used in certain customer-specific configurations with GPU adapters not supplied by Lenovo.

Table 50. GPU cable kit option

Description	Part number	Feature code
ThinkSystem SR650 GPU Cable Kit	4XH7A08794	B44X

Cooling

The SR650 server supports up to six hot-swap system fans that provide N+1 cooling redundancy: Models with one processor ship with five system fans, and models with two processors ship with six system fans.

Configuration note: The server performance might be impacted in case of a system fan failure in the following server configurations:

- Processors with 200 W or 205 W TDP, or Gold 6230N, 6240Y, 6244, or 6250 processors are installed.
- Persistent memory modules are installed.
- GPU adapters are installed.
- 16/20/24x 2.5" U.2 NVMe PCIe drive bays at the ambient temperature of more than 30 °C (86 °F).

The following table shows additional cooling options.

Table 51. Cooling options

Description	Part number	Feature code	Maximum quantity
ThinkSystem SR650 FAN Option Kit	4F17A12349	AUSG	1
ThinkSystem M.2 SSD Thermal Kit	4XH7A08791	B31F	1
ThinkSystem SR650 GPU Thermal Kit	7XH7A05897	None	1
ThinkSystem SR650 2nd GPU Upgrade Kit	7XH7A05899	AURU	1
ThinkSystem SR650 GPU 1U Heatsink Option Kit	7XH7A05898	None	1
ThinkSystem SR650 V100 FHHL Air Duct Companion Kit	4XH7A08792	B37F	2

Configuration notes:

- The SR650 FAN Option Kit (4F17A12349) includes one system fan that is required for field upgrades that add a second processor to the server. If two processors are selected in the initial server configurations, the fan for the second processor is derived by the configurator.
- The M.2 SSD Thermal Kit (4XH7A08791) is required when at least one M.2 5100 or 5300 SSD is installed in the server; however, the SSD Thermal Kit is not required in the server configurations with the GPU Thermal Kit (7XH7A05897) (factory-installed or field upgrade). If required, the M.2 SSD Thermal Kit is derived by the configurator for initial server configurations, or it should be purchased for M.2 5100 or 5300 SSDs for field upgrades.
- The P620 GPU adapters do not require any thermal kits.
- The full-length PCIe adapters and GPU adapters other than P620 require one of the following thermal kits depending on the configuration:
    - The GPU Thermal Kit (7XH7A05897) is required when adding GPUs or full-length PCIe adapters to the SR650 server models without factory-installed GPUs or factory-enabled full-length support. The kit provides support for up to three GPUs or full-length adapters in the PCIe x16 slots 1, 5, and 6, and it contains an air duct, two low-profile heatsinks, and two full-length card holders.
    - The 2nd GPU Upgrade Kit (7XH7A05899) is required when adding more GPUs or full-length adapters to the SR650 server models with one riser card and the factory-enabled full-length support or factory-installed GPUs. The kit provides support for the additional GPUs or full-length adapters, and it contains a full-length card holder (the second riser card is not included in the kit).
    - The GPU 1U Heatsink Option Kit (7XH7A05898) is required when adding the second processor to the SR650 server models with one processor and the factory-enabled full-length support or factory-installed GPUs. The kit contains a low-profile heatsink for the second processor option.
- The V100 FHHL GPU adapters require the following quantities of the V100 FHHL Air Duct Companion Kit (4XH7A08792) in addition to one of the thermal kits described above:
    - 1x V100 FHHL GPU adapter: 1x Air Duct Companion Kit.
    - 2x or 3x V100 FHHL GPU adapters: 2x Air Duct Companion Kits.

Power supplies and cables

The SR650 server supports up to two redundant power supplies and is capable of N+N redundancy depending on the configuration. A second power supply can be added to the models that come with one power supply.

The following table lists the power supply options.

Table 52. Power supplies

Description	Part number	Feature code	Maximum quantity
ThinkSystem 550W (230V/115V) Platinum Hot-Swap Power Supply	7N67A00882	AVWC	2
ThinkSystem 750W (230/115V) Platinum Hot-Swap Power Supply	7N67A00883	AVWD	2
ThinkSystem 750W (230V) Titanium Hot-Swap Power Supply	7N67A00884	AVWE	2
ThinkSystem 1100W (230V/115V) Platinum Hot-Swap Power Supply	7N67A00885	AVWF	2
ThinkSystem 1600W (230V) Platinum Hot-Swap Power Supply	7N67A00886	AVWG	2
ThinkSystem 1100W -48V DC Power Supply	4P57A15363	B4Z5	2

Configuration notes:

- Minimum of 1 and maximum of 2 power supplies per system.
- If 2 are installed, power supplies must be identical.
- AC power supplies support AC (Worldwide) and HVDC (PRC only) power sources
- AC power supplies have a C14 connector. The -48V DC power supply has a Weidmuller TOP 4GS/3 7.6 terminal.

Important: The Standalone Solution Configuration Tool (SSCT) and Lenovo Data Center Solution Configurator (DCSC) power supply selection rules allow a subset of possible configurations due to power restrictions. Configurations that cannot be built in SSCT or DCSC due to power restrictions may still be supported. To verify support and ensure that the right power supply is chosen for optimal performance, you should always validate your server configuration using the latest version of the Lenovo Capacity Planner:
http://datacentersupport.lenovo.com/us/en/solutions/lnvo-lcp

The SR650 server ship standard with or without a power cord (model dependent). A hot-swap power supply option ships without a power cord.

The following table lists the AC rack power cables and AC line cords that can be ordered for the SR650 server.

Table 53. AC power cables

Description	Part number	Feature code
Rack power cables		
1.0m, 10A/125-250V, C13 to IEC 320-C14 Rack Power Cable	00Y3043	A4VP
1.2m, 16A/100-250V, 2 Short C13s to Short C20 Rack Power Cable	47C2491	A3SW
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7937	6201
2.0m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08365	B0N4
2.0m, 13A/125V-10A/250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08369	6570
2.5m, 16A/100-250V, 2 Long C13s to Short C20 Rack Power Cable	47C2492	A3SX
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08366	6311
2.8m, 13A/125V-10A/250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08370	6400
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	39Y7938	6204
2.8m, 16A/100-250V, 2 Short C13s to Long C20 Rack Power Cable	47C2493	A3SY
4.1m, 16A/100-250V, 2 Long C13s to Long C20 Rack Power Cable	47C2494	A3SZ
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7932	6263
4.3m, 13A/125V-10A/250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08371	6583
Line cords		
Argentina 2.8m, 10A/250V, C13 to IRAM 2073 Line Cord	39Y7930	6222
Argentina 4.3m, 10A/250V, C13 to IRAM 2073 Line Cord	81Y2384	6492

Description	Part number	Feature code
Australia/New Zealand 2.8m, 10A/250V, C13 to AS/NZS 3112 Line Cord	39Y7924	6211
Australia/New Zealand 4.3m, 10A/250V, C13 to AS/NZS 3112 Line Cord	81Y2383	6574
Brazil 2.8m, 10A/250V, C13 to NBR 14136 Line Cord	69Y1988	6532
Brazil 4.3m, 10A/250V, C13 to NBR14136 Line Cord	81Y2387	6404
China 1.8m, 10A/250V, C13 to GB 2099.1 Line Cord	4L67A69954	6361
China 2.8m, 10A/250V, C13 to GB 2099.1 Line Cord	39Y7928	6210
China 4.3m, 10A/250V, C13 to GB 2099.1 Line Cord	81Y2378	6580
Denmark 2.8m, 10A/250V, C13 to DK2-5a Line Cord	39Y7918	6213
Denmark 4.3m, 10A/250V, C13 to DK2-5a Line Cord	81Y2382	6575
Europe 2.8m, 10A/250V, C13 to CEE7-VII Line Cord	39Y7917	6212
Europe 4.3m, 10A/250V, C13 to CEE7-VII Line Cord	81Y2376	6572
India 2.8m, 10A/250V, C13 to IS 6538 Line Cord	39Y7927	6269
India 4.3m, 10A/250V, C13 to IS 6538 Line Cord	81Y2386	6567
Israel 2.8m, 10A/250V, C13 to SI 32 Line Cord	39Y7920	6218
Israel 4.3m, 10A/250V, C13 to SI 32 Line Cord	81Y2381	6579
Italy 2.8m, 10A/250V, C13 to CEI 23-16 Line Cord	39Y7921	6217
Italy 4.3m, 10A/250V, C13 to CEI 23-16 Line Cord	81Y2380	6493
Japan 2.8m, 12A/125V, C13 to JIS C-8303 Line cord	46M2593	6314
Japan 2.8m, 12A/250V, C13 to JIS C-8303 Line Cord	4L67A08357	5472
Japan 4.3m, 12A/125V, C13 to JIS C-8303 Line Cord	39Y7926	6335
Japan 4.3m, 12A/250V, C13 to JIS C-8303 Line Cord	4L67A08362	6495
Korea 2.8m, 12A/250V, C13 to KS C8305 Line Cord	39Y7925	6219
Korea 4.3m, 12A/250V, C13 to KS C8305 Line Cord	81Y2385	6494
South Africa 2.8m, 10A/250V, C13 to SABS 164 Line Cord	39Y7922	6214
South Africa 4.3m, 10A/250V, C13 to SABS 164 Line Cord	81Y2379	6576
Switzerland 2.8m, 10A/250V, C13 to SEV 1011-S24507 Line Cord	39Y7919	6216
Switzerland 4.3m, 10A/250V, C13 to SEV 1011-S24507 Line Cord	81Y2390	6578
Taiwan 2.8m, 10A/125V, C13 to CNS 10917-3 Line Cord	23R7158	6386
Taiwan 2.8m, 10A/250V, C13 to CNS 10917-3 Line Cord	81Y2375	6317
Taiwan 2.8m, 15A/125V, C13 to CNS 10917-3 Line Cord	81Y2374	6402
Taiwan 4.3m, 10A/125V, C13 to CNS 10917-3 Line Cord	4L67A08363	AX8B
Taiwan 4.3m, 10A/250V, C13 to CNS 10917-3 Line Cord	81Y2389	6531
Taiwan 4.3m, 15A/125V, C13 to CNS 10917-3 Line Cord	81Y2388	6530
United Kingdom 2.8m, 10A/250V, C13 to BS 1363/A Line Cord	39Y7923	6215
United Kingdom 4.3m, 10A/250V, C13 to BS 1363/A Line Cord	81Y2377	6577
United States 2.8m, 10A/125V, C13 to NEMA 5-15P Line Cord	90Y3016	6313
United States 2.8m, 10A/250V, C13 to NEMA 6-15P Line Cord	46M2592	A1RF
United States 2.8m, 13A/125V, C13 to NEMA 5-15P Line Cord	00WH545	6401
United States 4.3m, 10A/125V, C13 to NEMA 5-15P Line Cord	4L67A08359	6370
United States 4.3m, 10A/250V, C13 to NEMA 6-15P Line Cord	4L67A08361	6373
United States 4.3m, 13A/125V, C13 to NEMA 5-15P Line Cord	4L67A08360	AX8A

Configuration note: If the 1100 W AC power supplies (7N67A00885) in the SR650 server are connected to a low-voltage power source (100 - 125 V), the only supported power cables are those that are rated above 10 A; cables that are rated at 10 A are not supported.

Systems management

The SR650 supports the following systems management tools:

- Lenovo XClarity Controller
- Light path diagnostics
- Lenovo XClarity Provisioning Manager
- Lenovo XClarity Essentials
- Lenovo XClarity Administrator
- Lenovo XClarity Integrators
- Lenovo XClarity Energy Manager
- Lenovo Capacity Planner

Lenovo XClarity Controller

The SR650 server contains Lenovo XClarity Controller (XCC), which provides advanced service-processor control, monitoring, and alerting functions. XClarity Controller offers three functional levels: Standard, Advanced, and Enterprise.

By default, the SR650 server includes XClarity Controller Standard features, and it can be upgraded to Advanced or Enterprise functionality by using the Features on Demand (FoD) upgrades.

XClarity Controller Standard offers the following capabilities:

- Gathering and viewing system information and inventory
- Monitoring system status and health
- Alerting and notifications
- Event logging
- Configuring network connectivity
- Configuring security
- Updating system firmware
- Configuring server settings and devices
- Real-time power usage monitoring
- Remotely controlling server power (Power on, Power off, Restart)
- Managing FoD activation keys
- Redirecting serial console via IPMI
- Capturing the video display contents when an operating system hang condition is detected

XClarity Controller Advanced Upgrade adds the following functionality to the Standard features:

- Remotely viewing video with the following graphics resolutions:
    - Up to 1600x1200 with up to 23 bits per pixel; or
    - Up to 1920x1200 with up to 15 bits per pixel
- Remotely accessing the server using the keyboard and mouse from a remote client
- Remotely deploying an operating system
- Syslog alerting
- Redirecting serial console via SSH
- Displaying graphics for real-time and historical power usage data and temperature

XClarity Controller Enterprise Upgrade adds the following functionality to the Advanced features:

- Capping power usage
- 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
- Collaborating across up to six users of the virtual console
- Controlling quality and bandwidth usage

The XClarity Controller provides remote server management through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Simple Network Management Protocol (SNMP) Version 3
- Common Information Model (CIM)
- Data Center Manageability Interface (DCMI) Version 1.5
- Redfish REpresentational State Transfer (REST) API
- Web browser with HTML5 support
- Command-line interface
- Virtual Operator Panel with XClarity Mobile App via the front USB port with XClarity Controller access

Virtual Operator Panel provides quick access to system status, firmware, network, health, and alerts information. With proper authentication, it also allows to configure systems management and network settings and to control system power (Power on, Power off, Restart). The Virtual Operator Panel can be accessed from the XClarity Mobile App running on the Android or iOS mobile device that is connected to the front USB port with XClarity Controller access (See Components and connectors).

Note: Depending on the system settings, the front USB port can be assigned to XClarity Controller for management functions, or to the system as a regular USB 2.0 port, or switched between two functions by using the system ID button.

The following table lists the XClarity Controller FoD upgrades.

Table 54. XClarity Controller FoD upgrades

Description	Part number	Feature code	Maximum quantity
ThinkSystem XClarity Controller Standard to Advanced Upgrade	4L47A09132	AVUT	1
ThinkSystem XClarity Controller Standard to Enterprise Upgrade	None*	AUPW	1
ThinkSystem XClarity Controller Advanced to Enterprise Upgrade	4L47A09133	None**	1

* Factory-installed only.
** Field upgrade only.

Configuration notes:

- For factory-installed upgrades, either Standard to Advanced Upgrade (feature AVUT) or Standard to Enterprise Upgrade (feature AUPW) can be selected, but not both.
- For field upgrades, the Advanced to Enterprise Upgrade (4L47A09133) requires the Standard to Advanced Upgrade to be activated on the server previously with either the factory-installed feature AVUT or field upgrade 4L47A09132.

Light path diagnostics

All SR650 server models include basic light path diagnostics, which provides the system LEDs on the front of the server (see Components and connectors) and the LEDs near the monitored components (for example, the DIMM error LEDs on the system board).

Lenovo XClarity Provisioning Manager

Lenovo XClarity Provisioning Manager is a UEFI-embedded GUI application that combines the functions of configuring system setup settings, configuring RAID, and updating applications and firmware. It also enables you to install the supported operating systems and associated device drivers, run diagnostics, and collect service data.

Lenovo XClarity Provisioning Manager has the following features:

- Automatic hardware detection
- Collecting and viewing system inventory information
- Configuring UEFI system setup settings
- Updating the system firmware
- Configuring RAID by using the RAID Setup Wizard or Advanced mode
- Installing an operating system and device drivers automatically or manually
- Running diagnostics and collecting service data

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 XClarity Essentials OneCLI
  OneCLI is a collection of server management tools that utilize a command line interface program to manage firmware, hardware, and operating systems. It provides functions to collect full system health information (including health status), configure system setting, and update system firmware and drivers.
- Lenovo XClarity 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 XClarity 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 Administrator

Lenovo XClarity is a centralized systems management solution that helps administrators deliver infrastructure faster. This solution integrates easily with Lenovo x86 servers, RackSwitch switches, and DS Series storage, providing automated agent-less discovery, monitoring, firmware updates, configuration management, and bare metal deployment of operating systems and hypervisors across multiple servers.

Lenovo XClarity Administrator is an optional software component for the SR650 server which can be downloaded and used at no charge to discover and monitor the SR650 and manage firmware upgrades for them.

If software support is required for Lenovo XClarity Administrator, or Lenovo XClarity Administrator premium features (such as configuration management and operating system deployment) are required, or both, 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 geo-specific Lenovo XClarity software license options.

Table 55. Lenovo XClarity software options

Description	Part number (NA, AP, Japan)*	Part number (EMEA, LA)**	Quantity
Lenovo XClarity Pro, per Managed Endpoint w/1 Yr SW S&S	00MT201	00MT207	1
Lenovo XClarity Pro, per Managed Endpoint w/3 Yr SW S&S	00MT202	00MT208	1
Lenovo XClarity Pro, per Managed Endpoint w/5 Yr SW S&S	00MT203	00MT209	1

* NA = North America; AP = Asia Pacific
** EMEA = Europe, Middle East, Africa; LA = Latin America

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

- Auto-discovery and monitoring of Lenovo x86 servers, RackSwitch switches, Flex System chassis, and DS Series storage 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 offers at no charge (if software support is required, a Lenovo XClarity Pro software subscription license should be ordered) two software plug-in modules, Lenovo XClarity Integrators, to manage physical infrastructure from leading external virtualization management software tools from Microsoft and VMware:

- Lenovo XClarity Integrator for Microsoft System Center
- Lenovo XClarity Integrator for VMware vCenter

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, refer to the Lenovo XClarity Integrators web page:
http://www3.lenovo.com/us/en/data-center/software/systems-management/xclarity-integrators

Lenovo XClarity Energy Manager

Lenovo XClarity Energy Manager provides a stand-alone, web-based agent-less power management console that provides real time data and enables you to observe, plan and manage power and cooling for Lenovo servers. Using built-in intelligence, it identifies server power consumption trends and ideal power settings and performs cooling analysis so that you can define and optimize power-saving policies.

Lenovo XClarity Energy Manager offers the following capabilities:

- Monitors room, row, rack, and device levels in the data center
- Reports vital server information, such as power, temperature and resource utilization
- Monitors inlet temperature to locate hot spots, reducing the risk of data or device damage
- Provides finely-grained controls to limit platform power in compliance with IT policy
- Generates alerts when a user-defined threshold is reached

Lenovo XClarity Energy Manager is an optional software component for the SR650 server that is licensed on a per managed node basis, that is, each managed server requires a license. The 1-node Energy Manager license is included in the XClarity Controller Enterprise upgrade.

To manage systems without XClarity Controller Enterprise licenses, a node license pack should be purchased. The following table lists the geo-specific Lenovo XClarity Energy Manager software license options.

Table 56. Lenovo XClarity Energy Manager software options

Description	Part number (NA, AP, Japan)*	Part number (EMEA, LA)**	Quantity
Lenovo XClarity Energy Manager, 1 Node w/ 1 Yr S&S	01DA225	01DA228	1

* NA = North America; AP = Asia Pacific.
** EMEA = Europe, Middle East, Africa; LA = Latin America.

For more information, refer to the Lenovo XClarity Energy Manager web page:
http://datacentersupport.lenovo.com/us/en/solutions/lnvo-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/lnvo-lcp

Security

The ThinkSystem SR650 server offers the following security features:

- Power-on password
- Administrator's password
- Secure firmware updates
- Onboard Trusted Platform Module (TPM) version 1.2 or 2.0 (configurable UEFI system setting)
- Trusted Cryptographic Module (TCM) (optional; PRC only)
- Nationz Trusted Platform Module v2.0 (optional; PRC only)
- Lockable front bezel (optional)
- Security Key Lifecycle Manager (SKLM) encryption key management for SEDs - FoD upgrade (optional)
- Lenovo Business Vantage security software (optional; PRC only)

The following table lists the security options that are available for the ThinkSystem SR650 server.

Table 57. Security options

Description	Part number	Feature code	Maximum quantity
Lockable front bezel			
ThinkSystem 2U Security Bezel	7Z17A02580	AURX	1
Trusted Cryptographic Module (PRC only)			
ThinkSystem Trusted Cryptographic Module	None*	AVKE	1
Trusted Platform Module (PRC only)			
ThinkSystem Nationz Trusted Platform Module v2.0	None*	B22N	1
Security Key Lifecycle Manager - FoD (United States, Canada, Asia Pacific, and Japan)			
SKLM for System x/ThinkSystem w/SEDs - FoD per Install w/1Yr S&S	00D9998	A5U1	1
SKLM for System x/ThinkSystem w/SEDs - FoD per Install w/3Yr S&S	00D9999	AS6C	1
Security Key Lifecycle Manager - FoD (Latin America, Europe, Middle East, and Africa)			
SKLM for System x/ThinkSystem w/SEDs - FoD per Install w/1Yr S&S	00FP648	A5U1	1
SKLM for System x/ThinkSystem w/SEDs - FoD per Install w/3Yr S&S	00FP649	AS6C	1

* Factory-installed only; no field upgrade.

Lenovo Business Vantage is a security software tool suite (available only in PRC) designed to work with the TCM or Nationz TPM for enhanced security, to keep user data safe, and to erase confidential data completely from a drive.

Lenovo Business Vantage provides the following features:

- Encrypts files to ensure data safety by using the TCM or Nationz TPM.
- Erases confidential data from a drive.
- Prohibits unauthorized access to the USB port of devices.
- Encrypts files to ensure data security on a USB storage device.

For more information, refer to the Lenovo Business Vantage web page:
http://support.lenovo.com.cn/lenovo/wsi/es/es.html

Rack installation

The following table lists the rack installation options that are available for the ThinkSystem SR650 server.

Table 58. Rack installation options

Description	Part number	Feature code	Maximum quantity
4-post rail kits			
ThinkSystem Tool-less Slide Rail	7M27A05702	AXCA	1
ThinkSystem Tool-less Slide Rail Kit with 2U CMA	7M27A05700	AXCH	1
ThinkSystem Screw-in Slide Rail	4M17A07274	AXFN	1
ThinkSystem Screw-in Slide Rail Kit with 2U CMA	4M17A07280	B0TD	1
ThinkSystem Tool-less Friction Rail	4M17A07273	AXFM	1
Cable management arm (CMA) upgrade			
ThinkSystem 2U CMA Upgrade Kit for Tool-less Slide Rail	7M27A05698	None^	1*
ThinkSystem 2U CMA Upgrade Kit for Screw-in Slide Rail	4M17A07275	AXFU	1**
Front VGA port			
ThinkSystem SR550/SR590/SR650 EIA Latch w/ VGA Upgrade Kit	7Z17A02578	AUS8	1

^ Field upgrade only.
* The CMA Upgrade Kit for Tool-less Slide Rail is supported with the Tool-less Slide Rail (7M27A05702) only.
** The CMA Upgrade Kit for Screw-in Slide Rail is supported with the Screw-in Slide Rail (4M17A07274) only.

The following table summarizes the rail kit features and specifications.

Table 59. Rail kit features and specifications summary

	Tool-less Slide Rail		Screw-in Slide Rail		
Feature	**Without CMA**	**With CMA**	**Without CMA**	**With CMA**	**Tool-less Friction Rail**
Part number	7M27A05702	7M27A05700	4M17A07274	4M17A07280	4M17A07273
CMA	7M27A05698	Included	4M17A07275	Included	No support
Rail length	730 mm (28.74 in.)	807 mm (31.8 in.)	836.8 mm (32.9 in.)	836.8 mm (32.9 in.)	728.1 mm (28.7 in.)
Rail type	Full-out slide (ball bearing)		Full-out slide (ball bearing)		Half-out slide (friction)
Tool-less installation	Yes		No		Yes
In-rack server maintenance	Yes		Yes		No
1U PDU support	Yes		Yes		Yes
0U PDU support	Limited*		Limited*		Limited**
Rack type	IBM and Lenovo 4-post, IEC standard-compliant		IBM and Lenovo 4-post, IEC standard-compliant		IBM and Lenovo 4-post, IEC standard-compliant
Mounting holes	Square or round		Square, round, or threaded		Square or round
Mounting flange thickness	2 mm (0.08 in.) – 3.3 mm (0.13 in.)		2 mm (0.08 in.) – 3.3 mm (0.13 in.)		2 mm (0.08 in.) – 3.3 mm (0.13 in.)
Distance between front and rear mounting flanges^	609.6 mm (24 in.) – 863.6 mm (34 in.)		609.6 mm (24 in.) – 812.8 mm (32 in.)		609.6 mm (24 in.) – 863.6 mm (34 in.)

* If a 0U PDU is used, the rack cabinet must be at least 1100 mm (43.31 in.) deep if no CMA is used, or at least 1200 mm (47.24 in.) deep if a CMA is used.
** If a 0U PDU used, the rack must be at least 1000 mm (39.37 in.) deep.
^ Measured when mounted on the rack, from the front surface of the front mounting flange to the rear most point of the rail.

Operating systems

The server supports the following operating systems:

- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- Red Hat Enterprise Linux 7.6
- Red Hat Enterprise Linux 7.7
- Red Hat Enterprise Linux 7.8
- Red Hat Enterprise Linux 8.0
- Red Hat Enterprise Linux 8.1
- Red Hat Enterprise Linux 8.2
- SUSE Linux Enterprise Server 12 SP4
- SUSE Linux Enterprise Server 12 SP5
- SUSE Linux Enterprise Server 12 Xen SP4
- SUSE Linux Enterprise Server 12 Xen SP5
- SUSE Linux Enterprise Server 15
- SUSE Linux Enterprise Server 15 SP1
- SUSE Linux Enterprise Server 15 SP2
- SUSE Linux Enterprise Server 15 Xen
- SUSE Linux Enterprise Server 15 Xen SP1
- SUSE Linux Enterprise Server 15 Xen SP2
- VMware ESXi 6.5 U2
- VMware ESXi 6.5 U3
- VMware ESXi 6.7 U1
- VMware ESXi 6.7 U2
- VMware ESXi 6.7 U3
- VMware ESXi 7.0
- VMware ESXi 7.0 U1

For a complete list of supported, certified and tested operating systems, plus additional details and links to relevant web sites, see the Operating System Interoperability Guide: https://lenovopress.com/osig#servers=sr650-7x05-7x06-sp-gen-2

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

Table 60. VMware ESXi preload

Part number	Feature code	Description
CTO only	B3VW	VMware ESXi 6.5 U2 (Factory Installed)
CTO only	B6U0	VMware ESXi 6.5 U3 (factory installed)
CTO only	B3VX	VMware ESXi 6.7 (Factory Installed)
CTO only	B4XA	VMware ESXi 6.7 U1 (Factory Installed)
CTO only	B6U1	VMware ESXi 6.7 U2 (factory installed)
CTO only	B88T	VMware ESXi 6.7 U3 (factory installed)
CTO only	BBZG	VMware ESXi 7.0 (Factory Installed)

Physical specifications

The SR650 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: 445 mm (17.5 inches)
- Height: 87 mm (3.4 inches)
- Depth: 764 mm (30.1 inches)

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

Table 61. 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
445 mm	X_c = Width, to the outer most chassis body feature
87 mm	Y_a = Height, from the bottom of chassis to the top of the chassis
698 mm	Z_a = Depth, from the rack flange mating surface to the rearmost I/O port surface
730 mm	Z_b = Depth, from the rack flange mating surface to the rearmost feature of the chassis body
727 mm	Z_c = Depth, from the rack flange mating surface to the rearmost feature such as power supply handle
34 mm	Z_d = Depth, from the forwardmost feature on front of EIA flange to the rack flange mating surface
47 mm	Z_e = Depth, from the front of security bezel (if applicable) or forwardmost feature to the rack flange mating surface

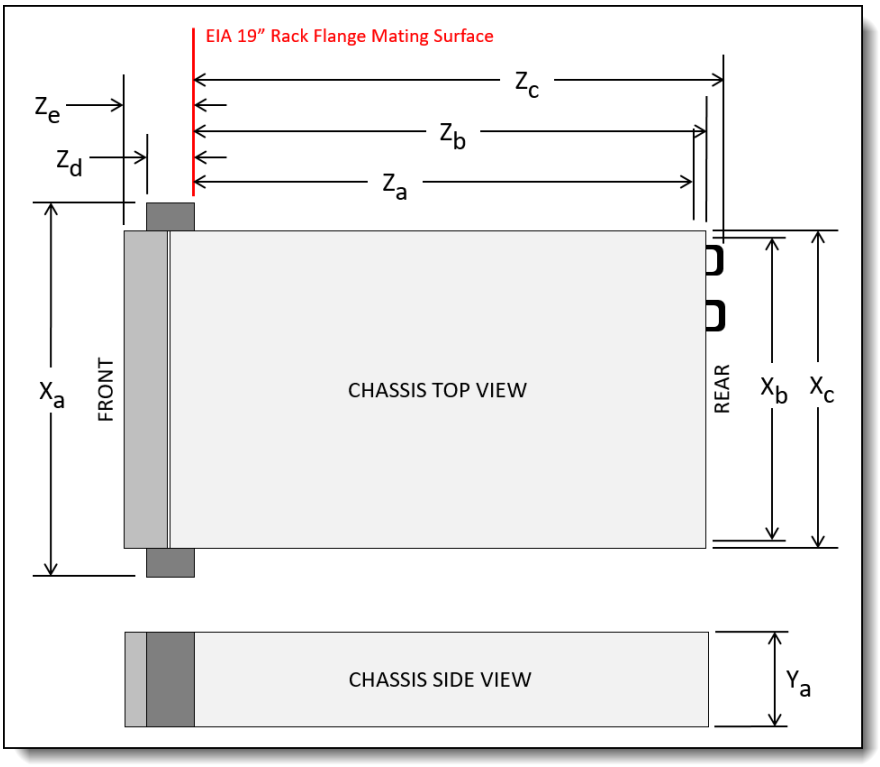


Figure 12. Server dimensions

The shipping dimensions (cardboard packaging) are as follows:

- Width: 592 mm (23.3 inches)
- Height: 282 mm (11.1 inches)
- Depth: 992 mm (39.1 inches)

The server has the following weight:

- Minimum configuration: 19 kg (41.9 lb)
- Maximum configuration: 32 kg (70.5 lb)

Operating environment

The SR650 server complies with ASHRAE class A2 specifications. The server performance might be impacted when the operating temperature is outside the ASHRAE A2 specifications. Depending on the hardware configuration, some server models comply with ASHRAE class A3 and class A4 specifications.

To comply with ASHRAE class A3 and class A4 specifications, the server models must meet the following hardware configuration requirements at the same time:

- Two power supplies installed
- NVMe drives not installed
- M.2 5100 or 5300 SSDs not installed
- QLogic QL41134 PCIe 10Gb 4-Port Base-T Ethernet Adapter not installed
- Mellanox ConnectX-6 and Innova-2 FPGA adapters not installed
- PCIe flash adapters not installed
- Persistent memory modules not installed
- Graphic processing units (GPUs) not installed
- Processors with TDP more than or equal to 150 W, or Gold 6230N processors not installed

The SR650 server is supported in the following environment:

- Air temperature:
  - Operating:
    - ASHRAE Class A4: 5 °C - 45 °C (41 °F - 113 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 125-m (410-ft) increase in altitude
    - ASHRAE Class A3: 5 °C - 40 °C (41 °F - 104 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 175-m (574-ft) increase in altitude
    - ASHRAE Class A2: 10 °C - 35 °C (50 °F - 95 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 300-m (984-ft) increase in altitude
  - Non-operating: 5 °C - 45 °C (41 °F - 113 °F)
  - Storage: -40 °C - +60 °C (-40 °F - 140 °F)
- Maximum altitude: 3,050 m (10,000 ft)
- Humidity:
  - Operating:
    - ASHRAE Class A4: 8% - 90% (non-condensing); maximum dew point: 24 °C (75 °F)
    - ASHRAE Class A3: 8% - 85% (non-condensing); maximum dew point: 24 °C (75 °F)
    - ASHRAE Class A2: 8% - 80% (non-condensing); maximum dew point: 21 °C (70 °F)
  - Storage: 8% - 90% (non-condensing)
- Electrical:
  - 100 - 127 (nominal) V AC; 50 Hz / 60 Hz
  - 200 - 240 (nominal) V AC; 50 Hz / 60 Hz
  - 180 - 300 V DC (HVDC; supported in PRC only)
- Acoustics:
  - Minimum configuration:
    - Operating: 5.1 bels
    - Idle: 4.9 bels
  - Maximum configuration:
    - Operating: 6.2 bels
    - Idle: 6.1 bels
- 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
    - 23 kg - 31 kg: 35 G for 152 in./sec velocity change across 6 surfaces

The following table lists the maximum system power load, rated inlet current, and system heat output based on the power supply and source voltage.

Table 62. Rated system power, inlet current, and system heat output

Power supply	Source voltage	Maximum power load per system (two power supplies)	Rated current per inlet	System heat output
550 W Platinum	100 - 127 V AC	722 W	6.2 A	2463 BTU/hour
	200 - 240 V AC	704 W	3 A	2402 BTU/hour
	180 - 300 V DC	702 W	2.5 A	2395 BTU/hour
750 W Platinum	100 - 127 V AC	984 W	8.4 A	3357 BTU/hour
	200 - 240 V AC	958 W	4.1 A	3269 BTU/hour
	180 - 300 V DC	958 W	3.5 A	3269 BTU/hour
750 W Titanium	200 - 240 V AC	949 W	4.1 A	3238 BTU/hour
	180 - 300 V DC	948 W	3.5 A	3235 BTU/hour
1100 W Platinum	100 - 127 V AC	1382 W	12 A	4715 BTU/hour
	200 - 240 V AC	1408 W	6 A	4804 BTU/hour
	180 - 300 V DC	1408 W	5.1 A	4804 BTU/hour
1600 W Platinum	200 - 240 V AC	2068 W	8.7 A	7056 BTU/hour
	180 - 300 V DC	2024 W	7.3 A	6906 BTU/hour

Warranty and support

The SR650 server has a one-year (7X05) or three-year (Machine Type 7X06) customer-replaceable unit (CRU) and onsite limited (for field-replaceable units [FRUs] only) warranty 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 a customer's data center, with an experience consistently ranked number one in customer satisfaction worldwide.

The following Lenovo support services are available:

- **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 capabilities:
  - Direct technician-to-technician access through a dedicated phone line.
  - 24x7x365 remote support.
  - Single point of contact service.
  - End to end case management.
  - 3rd Party collaborative software support.
  - Online case tools and live chat support.
  - On-demand remote system analysis.
- **Warranty Upgrades (Preconfigured Support)** are available to meet the on-site response time targets that match the criticality of customer's 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, with optional YourDrive YourData.
  - **Essential Service:** 24x7 service coverage with 4-hour onsite response or 24-hour committed repair (available only in select regions), bundled with YourDrive YourData.
  - **Advanced Service:** 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select regions), bundled with YourDrive YourData.

- **Managed Services**
  Lenovo Managed Services provide continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of a customer's 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 and operating system device driver levels, and software as needed. Lenovo will also maintain records of latest patches, critical updates, and firmware levels, to ensure customer's systems are providing business value through optimized performance.

- **Technical Account Management (TAM)**
  A Lenovo Technical Account Manager helps customers optimize operations of their data centers based on a deep understanding of customer's business. Customers gain direct access to a Lenovo TAM, who serves as their single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time. Also, a TAM helps proactively make service recommendations and manage service relationship with Lenovo to make certain that customer's needs are met.

- **Enterprise Software Support**
  Lenovo Enterprise Software Support is an additional support service that provides 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 compatibility and interoperability issues, isolate causes of problems, report defects to software vendors, and more.

- **YourDrive YourData**
  Lenovo's YourDrive YourData service is a multi-drive retention offering that ensures that customer's data is always under their control, regardless of the number of drives that are installed in their Lenovo server. In the unlikely event of a drive failure, customers retain possession of their drive while Lenovo replaces the failed drive part. Customer's data stays safely on customer premises, in their hands. The YourDrive YourData service can be purchased in convenient bundles with Foundation, Essential, or Advanced Service upgrades and extensions.

- **Health Check**
  Having a trusted partner who can perform regular and detailed health checks is central to maintaining efficiency and ensuring that customer 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.

Some regions might have different warranty terms and conditions than the standard warranty. This is due to local business practices or laws in the specific region. Local service teams can assist in explaining region-specific terms when needed. 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 support services are region-specific. Not all support services are available in every region. For information about Lenovo support services that are available in a specific region, refer to the following resources:

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

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

- Lenovo Statement of Limited Warranty for Data Center Group (DCG) 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 customer success. Lenovo's goal for customers is to reduce capital outlays, mitigate IT risks, and accelerate time to productivity.

Here is a more in-depth look at what Lenovo can do for their customers:

- **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 customers. For more information, see the ARS page, http://lenovopress.com/lp1266.

- **Assessment Services**
  An assessment helps solve customer IT challenges through an onsite, multi-day session with a Lenovo technology expert. Lenovo performs 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, no matter how large or small, get a better return on their IT investment and overcome challenges in the ever-changing technology landscape.

- **Design Services**
  Professional Services consultants perform infrastructure design and implementation planning to support customer's 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 customer's server, storage, or networking hardware. Working at a time convenient for the customer (business hours or off shift), the technician will unpack and inspect the systems on customer 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 customers to focus on other priorities.

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

- **Integration, Migration, and Expansion Services**
  Integration, Migration, and Expansion Services allow to move existing physical and virtual workloads easily, or to determine technical requirements to support increased workloads while maximizing performance. These services include tuning, validation, and documenting ongoing run processes, and they leverage migration assessment planning documents to perform necessary migrations.

Some service options may not be available in every region. For more information about Lenovo service offerings that are available in a specific region, contact a local Lenovo sales representative or business partner.

Regulatory compliance

The ThinkSystem SR650 server conforms to the following regulations:

- United States: FCC Part 15, Class A; UL 60950-1
- Canada: ICES-003/NMB-03, Class A; CAN/CSA-C22.2 60950-1
- Mexico: NOM-19
- Argentina: IEC60950-1
- European Union: CE Mark (EN55022 Class A, IEC/EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- Germany: TUV-GS (IEC/EN 60950-1, EK1-ITB2000)
- Russia, Kazakhstan, Belarus: EAC (TR CU 004/2011, TR CU 020/2011)
- China: CCC GB4943.1, GB9254 Class A, GB17625.1
- India: BIS
- Japan: VCCI, Class A
- Taiwan: BSMI CNS13438, Class A; CNS14336-1
- Korea: KN22, Class A; KN24
- Australia/New Zealand: AS/NZS CISPR 22 Class A
- Reduction of Hazardous Substances (ROHS)
- Energy Star 3.0 (excluding configurations with Bronze 3204, Gold 5222, or Platinum 8256 processors)

Note: For more information on the Energy Star 3.0 certification, refer to the *Energy Star 3.0 Certifications for ThinkSystem Servers* publication:
http://lenovopress.com/lp1230

External drive enclosures

The following table lists the 12 Gbps SAS external drive enclosures that are offered by Lenovo that can be used with the ThinkSystem SR650 server for storage expansion.

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

Table 63. External drive enclosures

Description	Part number		
	Worldwide	Japan	PRC
Lenovo Storage D1212 LFF Disk Expansion with Dual SAS IO Modules	4587A11	4587A1J	4587A1C
Lenovo Storage D1224 SFF Disk Expansion with Dual SAS IO Modules	4587A31	4587A3J	4587A3C
Lenovo Storage D3284 4TB x 84 HD Expansion Enclosure	641311F		
Lenovo Storage D3284 6TB x 84 HD Expansion Enclosure	641312F		
Lenovo Storage D3284 8TB x 84 HD Expansion Enclosure	641313F		
Lenovo Storage D3284 10TB x 84 HD Expansion Enclosure	641314F		

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

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

External storage systems

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

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

External backup units

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

Table 64. External backup options

Part number	Description
External RDX USB drives	
4T27A10725	ThinkSystem RDX External USB 3.0 Dock
External SAS tape backup drives	
6160S6E	IBM TS2260 Tape Drive Model H6S
6160S7E	IBM TS2270 Tape Drive Model H7S
6160S8E	IBM TS2280 Tape Drive Model H8S
External SAS tape backup autoloaders	
6171S5R	IBM TS2900 Tape Autoloader w/LTO5 HH SAS
6171S6R	IBM TS2900 Tape Autoloader w/LTO6 HH SAS
6171S7R	IBM TS2900 Tape Autoloader w/LTO7 HH SAS
External tape backup libraries	
6741A1F	IBM TS4300 3U Tape Library-Base Unit
6741A3F	IBM TS4300 3U Tape Library-Expansion Unit
Full High 8 Gb Fibre Channel for TS4300	
01KP954	LTO 8 FH Fibre Channel Drive
01KP938	LTO 7 FH Fibre Channel Drive
01KP935	LTO 6 FH Fibre Channel Drive
Half High 8 Gb Fibre Channel for TS4300	
01KP952	LTO 8 HH Fibre Channel Drive
01KP936	LTO 7 HH Fibre Channel Drive
01KP933	LTO 6 HH Fibre Channel Drive
Half High 6 Gb SAS for TS4300	
01KP953	LTO 8 HH SAS Drive
01KP937	LTO 7 HH SAS Drive
01KP934	LTO 6 HH SAS Drive

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

Fibre Channel SAN switches

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

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

Rack cabinets

The following table lists the rack cabinets that are currently offered by Lenovo that can be used for mounting the ThinkSystem SR650 servers and other IT infrastructure building blocks.

Table 65. Rack cabinets

Description	Part number
12U 1200mm Deep Micro Datacenter Rack (no sidewall compartments), 1YR Warranty	7D2B0001WW
12U 1200mm Deep Micro Datacenter Rack (no sidewall compartments), 3YR Warranty	7D2N0001WW
18U 1200mm Deep Micro Datacenter Rack (no sidewall compartments), 1YR Warranty	7D2C0001WW
18U 1200mm Deep Micro Datacenter Rack (no sidewall compartments), 3YR Warranty	7D2P0001WW
25U S2 Standard Rack (1000 mm deep; 2 sidewall compartments)	93072RX
25U Static S2 Standard Rack (1000 mm deep; 2 sidewall compartments)	93072PX
42U S2 Standard Rack (1000 mm deep; 6 sidewall compartments)	93074RX
42U 1100mm Enterprise V2 Dynamic Rack (6 sidewall compartments)	93634PX
42U 1100mm Enterprise V2 Dynamic Expansion Rack (6 sidewall compartments)	93634EX
42U 1200mm Deep Dynamic Rack (6 sidewall compartments)	93604PX
42U 1200mm Deep Static Rack (6 sidewall compartments)	93614PX
42U Enterprise Rack (1105 mm deep; 4 sidewall compartments)	93084PX
42U Enterprise Expansion Rack (1105 mm deep; 4 sidewall compartments)	93084EX

For more information, see the list of Product Guides in the Rack cabinets category:
http://lenovopress.com/servers/options/racks#rt=product-guide

KVM switches and consoles

The following table lists the KVM switches and consoles that are offered by Lenovo that can be used for providing console access to the ThinkSystem SR650 servers.

Table 66. KVM switch and console options

Description	Part number
Consoles	
1U 18.5" Standard Console (without keyboard)	17238BX
Console keyboards	
ThinkSystem Keyboard w/ Int. Pointing Device USB - Arabic 253 RoHS v2	7ZB7A05469
ThinkSystem Keyboard w/ Int. Pointing Device USB - Belg/UK 120 RoHS v2	7ZB7A05468
ThinkSystem Keyboard w/ Int. Pointing Device USB - Czech 489 RoHS v2	7ZB7A05206
ThinkSystem Keyboard w/ Int. Pointing Device USB - Danish 159 RoHS v2	7ZB7A05207
ThinkSystem Keyboard w/ Int. Pointing Device USB - Dutch 143 RoHS v2	7ZB7A05208
ThinkSystem Keyboard w/ Int. Pointing Device USB - Fr/Canada 445 RoHS v2	7ZB7A05210
ThinkSystem Keyboard w/ Int. Pointing Device USB - French 189 RoHS v2	7ZB7A05209
ThinkSystem Keyboard w/ Int. Pointing Device USB - German 129 RoHS v2	7ZB7A05211
ThinkSystem Keyboard w/ Int. Pointing Device USB - Greek 219 RoHS v2	7ZB7A05212
ThinkSystem Keyboard w/ Int. Pointing Device USB - Hebrew 212 RoHS v2	7ZB7A05213
ThinkSystem Keyboard w/ Int. Pointing Device USB - Hungarian 208 RoHS v2	7ZB7A05214
ThinkSystem Keyboard w/ Int. Pointing Device USB - Italian 141 RoHS v2	7ZB7A05215
ThinkSystem Keyboard w/ Int. Pointing Device USB - Japanese 194 RoHS v2	7ZB7A05216
ThinkSystem Keyboard w/ Int. Pointing Device USB - Korean 413 RoHS v2	7ZB7A05217
ThinkSystem Keyboard w/ Int. Pointing Device USB - LA Span 171 RoHS v2	7ZB7A05218
ThinkSystem Keyboard w/ Int. Pointing Device USB - Norwegian 155 RoHS v2	7ZB7A05219
ThinkSystem Keyboard w/ Int. Pointing Device USB - Polish 214 RoHS v2	7ZB7A05220

Description	Part number
ThinkSystem Keyboard w/ Int. Pointing Device USB - Portugese 163 RoHS v2	7ZB7A05221
ThinkSystem Keyboard w/ Int. Pointing Device USB - Russian 441 RoHS v2	7ZB7A05222
ThinkSystem Keyboard w/ Int. Pointing Device USB - Slovak 245 RoHS v2	7ZB7A05223
ThinkSystem Keyboard w/ Int. Pointing Device USB - Slovenian 234 RoHS v2	7ZB7A05231
ThinkSystem Keyboard w/ Int. Pointing Device USB - Spanish 172 RoHS v2	7ZB7A05224
ThinkSystem Keyboard w/ Int. Pointing Device USB - Swed/Finn 153 RoHS v2	7ZB7A05225
ThinkSystem Keyboard w/ Int. Pointing Device USB - Swiss F/G 150 RoHS v2	7ZB7A05226
ThinkSystem Keyboard w/ Int. Pointing Device USB - Thai 191 RoHS v2	7ZB7A05227
ThinkSystem Keyboard w/ Int. Pointing Device USB - Trad Chinese/US 467 RoHS v2	7ZB7A05467
ThinkSystem Keyboard w/ Int. Pointing Device USB - Turkish 179 RoHS v2	7ZB7A05228
ThinkSystem Keyboard w/ Int. Pointing Device USB - UK Eng 166 RoHS v2	7ZB7A05229
ThinkSystem Keyboard w/ Int. Pointing Device USB - US Eng 103P RoHS v2	7ZB7A05470
ThinkSystem Keyboard w/ Int. Pointing Device USB - US Euro 103P RoHS v2	7ZB7A05230
Console switches and cables - ThinkSystem Digital KVM	
ThinkSystem Digital 2x1x16 KVM Switch (DVI video output port)	1754D1T
ThinkSystem VGA to DVI Conversion Cable	4X97A11108
ThinkSystem Single-USB Conversion Cable for Digital KVM	4X97A11109
ThinkSystem Dual-USB Conversion Cable for Digital KVM	4X97A11107
Console switches and cables - ThinkSystem Analog KVM	
ThinkSystem Analog 1x8 KVM Switch (DVI video output port)	1754A1T
ThinkSystem VGA to DVI Conversion Cable	4X97A11108
ThinkSystem USB Conversion Cable for Analog KVM	4X97A11106
Console switches and cables - Global Console Managers	
Global 2x2x16 Console Manager (GCM16) (VGA video output port)	1754D1X
Global 4x2x32 Console Manager (GCM32) (VGA video output port)	1754D2X
Virtual Media Conversion Option Gen2 (VCO2)	46M5383
Serial Conversion Option (SCO)	46M5382
Console switches and cables - Local Console Managers	
Local 1x8 Console Manager (LCM8) (VGA video output port)	1754A1X
Local 2x16 Console Manager (LCM16) (VGA video output port)	1754A2X
Virtual Media Conversion Option Gen2 (VCO2)	46M5383

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

Power distribution units

The following table lists the power distribution units (PDUs) that are currently offered by Lenovo that can be used for distributing electrical power to the ThinkSystem SR650 servers and other IT infrastructure building blocks mounted in a rack cabinet.

Table 67. Power distribution units

Description	Part number
0U Basic PDUs	
0U 36 C13/6 C19 24A/200-240V 1 Phase PDU with NEMA L6-30P line cord	00YJ776
0U 36 C13/6 C19 32A/200-240V 1 Phase PDU with IEC60309 332P6 line cord	00YJ777
0U 21 C13/12 C19 32A/200-240V/346-415V 3 Phase PDU with IEC60309 532P6 line cord	00YJ778
0U 21 C13/12 C19 48A/200-240V 3 Phase PDU with IEC60309 460P9 line cord	00YJ779

Description	Part number
Switched and Monitored PDUs	
0U 20 C13/4 C19 Switched and Monitored 24A/200-240V/1Ph PDU w/ NEMA L6-30P line cord	00YJ781
0U 20 C13/4 C19 Switched and Monitored 32A/200-240V/1Ph PDU w/ IEC60309 332P6 line cord	00YJ780
0U 18 C13/6 C19 Switched / Monitored 32A/200-240V/346-415V/3Ph PDU w/ IEC60309 532P6 cord	00YJ782
0U 12 C13/12 C19 Switched and Monitored 48A/200-240V/3Ph PDU w/ IEC60309 460P9 line cord	00YJ783
1U 9 C19/3 C13 Switched and Monitored DPI PDU (without line cord)	46M4002
1U 9 C19/3 C13 Switched and Monitored 60A 3Ph PDU with IEC 309 3P+Gnd cord	46M4003
1U 12 C13 Switched and Monitored DPI PDU (without line cord)	46M4004
1U 12 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord	46M4005
Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)	
Ultra Density Enterprise C19/C13 PDU Module (without line cord)	71762NX
Ultra Density Enterprise C19/C13 PDU 60A/208V/3ph with IEC 309 3P+Gnd line cord	71763NU
C13 Enterprise PDUs (12x IEC 320 C13 outlets)	
DPI C13 Enterprise PDU+ (without line cord)	39M2816
DPI Single Phase C13 Enterprise PDU (without line cord)	39Y8941
C19 Enterprise PDUs (6x IEC 320 C19 outlets)	
DPI Single Phase C19 Enterprise PDU (without line cord)	39Y8948
DPI 60A 3 Phase C19 Enterprise PDU with IEC 309 3P+G (208 V) fixed line cord	39Y8923
Front-end PDUs (3x IEC 320 C19 outlets)	
DPI 30amp/125V Front-end PDU with NEMA L5-30P line cord	39Y8938
DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord	39Y8939
DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8934
DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8940
DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8935
Universal PDUs (7x IEC 320 C13 outlets)	
DPI Universal 7 C13 PDU (with 2 m IEC 320-C19 to C20 rack power cord)	00YE443
NEMA PDUs (6x NEMA 5-15R outlets)	
DPI 100-127V PDU with fixed NEMA L5-15P line cord	39Y8905
Line cords for PDUs that ship without a line cord	
DPI 30a Line Cord (NEMA L6-30P)	40K9614
DPI 32a Line Cord (IEC 309 P+N+G)	40K9612
DPI 32a Line Cord (IEC 309 3P+N+G)	40K9611
DPI 60a Cord (IEC 309 2P+G)	40K9615
DPI 63a Cord (IEC 309 P+N+G)	40K9613
DPI Australian/NZ 3112 Line Cord (32A)	40K9617
DPI Korean 8305 Line Cord (30A)	40K9618

For more information, see the list of Product Guides in the PDU category:
http://lenovopress.com/servers/options/pdu#rt=product-guide

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are currently offered by Lenovo that can be used for providing electrical power protection to the ThinkSystem SR650 servers and other IT infrastructure building blocks.

Table 68. Uninterruptible power supply units

Description	Part number
Worldwide models	
RT1.5kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA5-15R 12A outlets)	55941AX
RT1.5kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A outlets)	55941KX
RT2.2kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-20R 16A outlets)	55942AX
RT2.2kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55942KX
RT3kVA 2U Rack or Tower UPS (100-125VAC) (6x NEMA5-20R 16A, 1x NEMA L5-30R 24A outlets)	55943AX
RT3kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55943KX
RT5kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55945KX
RT6kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55946KX
RT8kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55948KX
RT11kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55949KX
RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55948PX
RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55949PX
ASEAN, HTK, INDIA, and PRC models	
ThinkSystem RT3kVA 2U Standard UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)	55943KT
ThinkSystem RT3kVA 2U Long Backup UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)	55943LT
ThinkSystem RT6kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)	55946KT
ThinkSystem RT10kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)	5594XKT

For more information, see the list of Product Guides in the Uninterruptible Power Supply Units category:
http://lenovopress.com/servers/options/ups#rt=product-guide

Lenovo Financial Services

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

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

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

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

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

For your region-specific offers please ask your Lenovo sales representative or your technology provider about the use of Lenovo Financial Services. For more information, see the following Lenovo website:
http://www.lenovo.com/us/en/landingpage/lenovo-financial-services

Related publications and links

For more information, see these resources:

- Lenovo ThinkSystem SR650 product page
  http://www3.lenovo.com/us/en/p/77XX7SRSR65
- Lenovo Data Center Solution Configurator (DCSC):
  http://dcsc.lenovo.com
- *PSREF: Product Specifications Reference for ThinkSystem SR650*
  http://psref.lenovo.com/Product/ThinkSystem/ThinkSystem_SR650
- Lenovo Data Center Support - ThinkSystem SR650
  http://datacentersupport.lenovo.com/products/servers/thinksystem/sr650/7x05/downloads
  http://datacentersupport.lenovo.com/products/servers/thinksystem/sr650/7x06/downloads

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- ThinkSystem SR650 Server

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