Lenovo ThinkSystem SR590 Server (Xeon SP Gen 1 / Gen 2)

Product Guide (withdrawn product)

Lenovo ThinkSystem SR590 is a 2-socket 2U rack server for small businesses up to large enterprises that need industry-leading reliability, management, and security, as well as balancing performance and expandability. The SR590 server is designed to handle a wide range of workloads, such as virtualization and cloud computing, IT infrastructure, enterprise applications, collaboration/email, and web serving.

Featuring the second generation of the Intel Xeon Processor Scalable Family (Xeon SP Gen 2), the SR590 server offers balanced performance, storage capacity, and I/O expansion. The SR590 server supports up to two processors, up to 1 TB of memory capacity, up to 16x 2.5-inch or 14x 3.5-inch drive bays with an extensive choice of drive technologies including NVMe SSDs, and flexible I/O expansion options with a LOM slot and up to 6x PCIe slots. The next-generation Lenovo XClarity Controller, which is built into the SR590 server, provides advanced service processor control, monitoring, and alerting functions.

The following figure shows the ThinkSystem SR590 server with 3.5-inch front hot-swap drives. Other drive configurations are also available.

Figure 1. Lenovo ThinkSystem SR590 with 3.5-inch hot-swap drives

Did you know?

The SR590 server features a unique 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 SR590 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 SR590 server is designed to meet ASHRAE A4 standards (up to 45 °C) in select configurations, which enable customers to lower energy costs, while still maintaining world-class reliability.

Key features

The SR590 server offers a balance of processing power, storage capacity, and cost for small and medium businesses up to the large enterprise. 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 SR590 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 24-core processors, up to 35.75 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, 48 cores, and 96 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 1 TB of memory capacity.
- 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 2.75 TB of total server memory capacity, including RDIMMs and DCPMMs (DC persistent memory modules).
- Offers flexible and scalable internal storage in a 2U rack form factor with up to 16x 2.5-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 a unique AnyBay design.
- Provides I/O scalability with the LOM slot 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 SR590 server provides many features to simplify serviceability and increase system uptime:

- Designed to run 24 hours a day, 7 days a week
- 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 affordable data protection with software RAID and Simple Swap drives and advanced hardware RAID data redundancy with hot-swap drives.
- Provides availability for business-critical applications with redundant hot-swap power supplies and redundant hot-swap 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), 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 SR590 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 (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 SR590 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 SR590 server with up to 16x 2.5-inch drive bays.

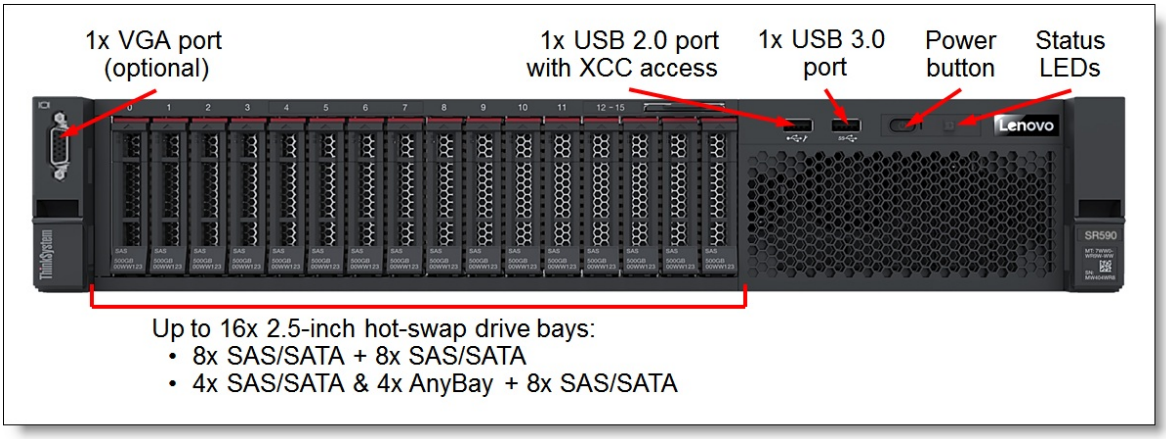

Figure 2. Front view of the SR590: Up to 16x 2.5-inch drive bays

The following figure shows the front of the SR590 server with 8x 3.5-inch drive bays.

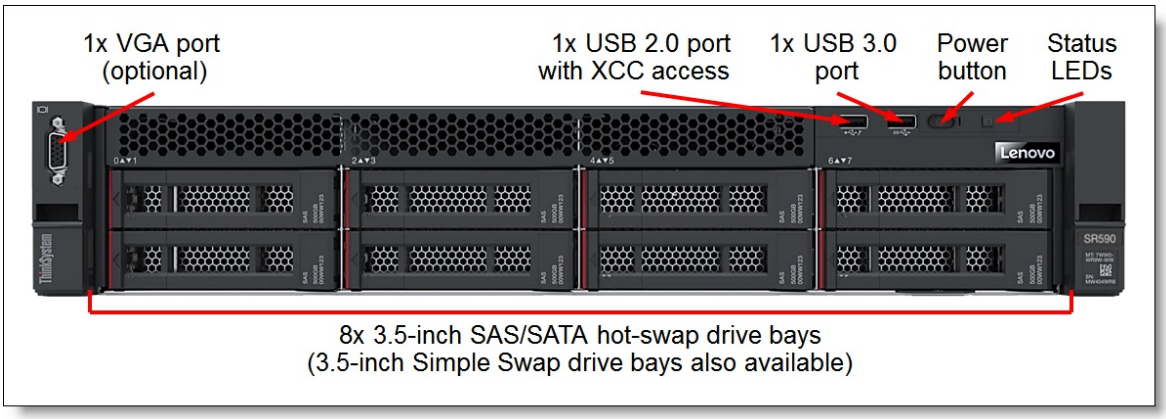

Figure 3. Front view of the SR590: 8x 3.5-inch drive bays

The following figure shows the front of the SR590 server with 12x 3.5-inch drive bays.

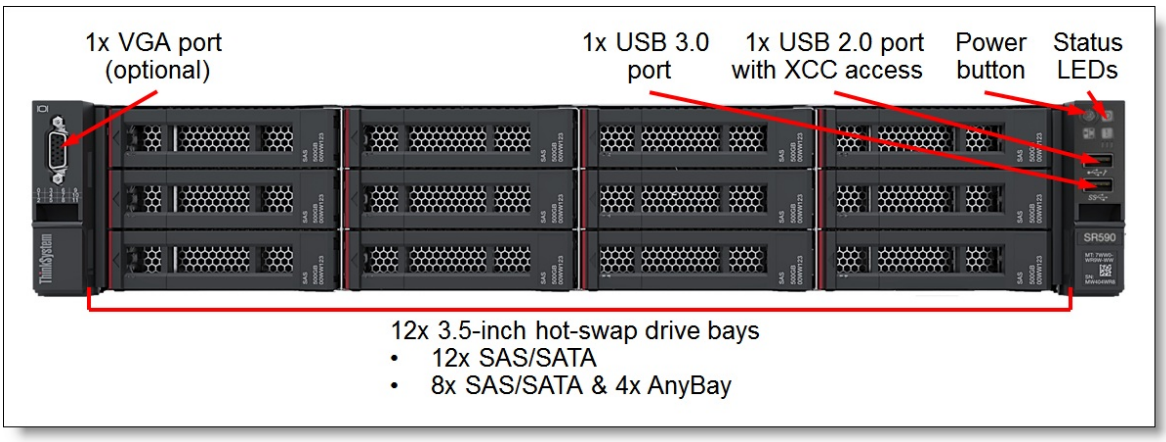

Figure 4. Front view of the SR590: 12x 3.5-inch drive bays

The front of the SR590 server includes the following components:

- Up to 16x 2.5-inch or 12x 3.5-inch hot-swap, or 8x 3.5-inch hot-swap or Simple 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 SR590 server.

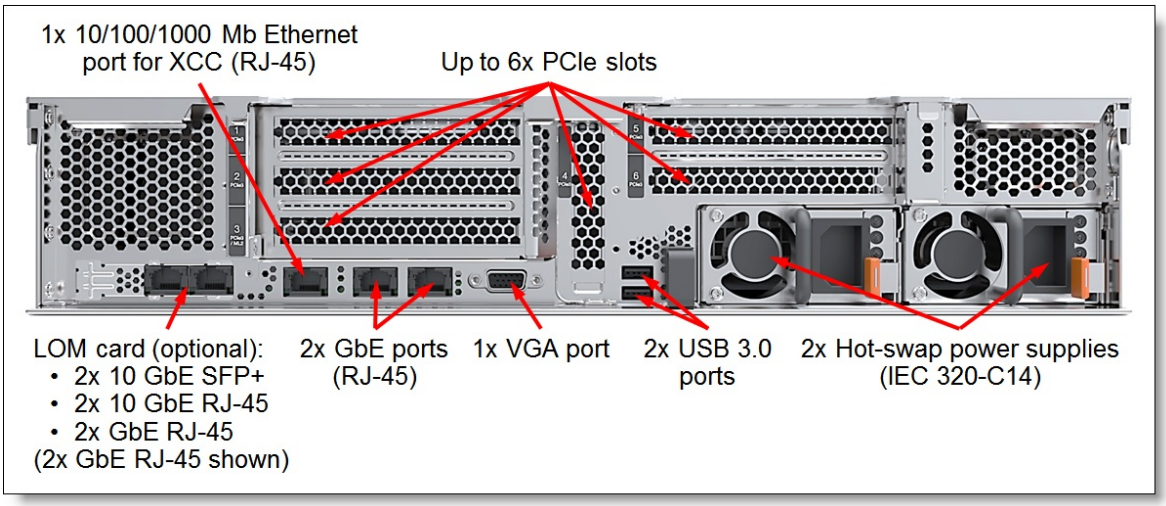

Figure 5. Rear view of the SR590

The rear of the SR590 server includes the following components:

- Up to six PCIe expansion slots (depending on the riser cards selected).
- One LOM card slot.
- Two 1 GbE onboard network ports.
- 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 SR590 server.

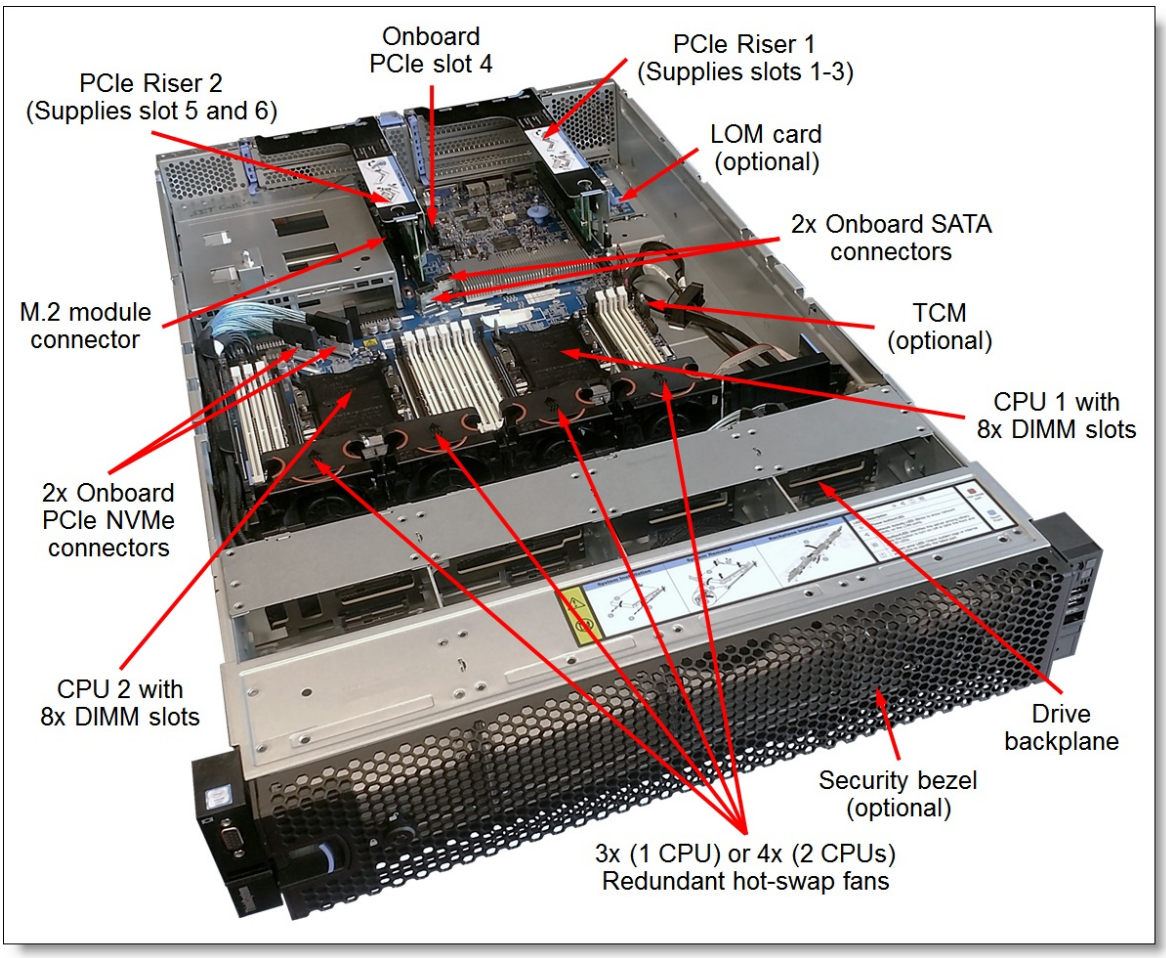

Figure 6. Internal view of the SR590

The following key components are located inside the SR590 server:

- Up to two processors.
- 16 DIMM slots (8 DIMM slots per processor).
- Drive backplanes.
- Two onboard NVMe PCIe connectors.
- One M.2 module connector.
- One LOM card connector.
- Two slots for PCIe riser cards.
- One TCM connector.
- Three (one processor) or four (two processors) hot-swap system fans.

Standard specifications

The following table lists the system specifications for the SR590 server.

Table 1. SR590 system specifications

Attribute	Specification
Machine types	7X98 - 1 year warranty 7X99 - 3 year warranty
Form factor	2U rack-mount.

Attribute	Specification
Processor	Up to two Intel Xeon Bronze, Silver, Gold, or Platinum Gen 2 processors of up to 150 W TDP: ● Up to 24 cores (2.1 GHz core speeds). ● Up to 3.8 GHz core speeds (4 cores). ● Two UPI links up to 10.4 GT/s each. ● Up to 35.75 MB cache. ● Up to 2933 MHz memory speed. 1st Gen Intel Xeon processors are also supported.
Chipset	Intel C622.
Memory	Up to 16 DIMM sockets (8 DIMMs per processor; 6 memory channels per processor with one DIMM per channel for four channels and two DIMMs per channel for two channels). Support for RDIMMs or LRDIMMs. Memory types cannot be intermixed. Memory speed up to 2933 MHz depending on the processor selected.
Persistent memory	Up to 4x 128 GB, 256 GB, or 512 GB TruDDR4 2666 MHz DCPMMs in the DIMM slots. Not supported with 1st Gen Intel Xeon SP processors.
Memory capacity	● Memory DIMMs only: Up to 1 TB with up to 16x 64 GB RDIMMs (Up to 512 GB per processor). ● Memory DIMMs and persistent memory modules: ○ App Direct Mode: Up to 2.75 TB with up to 12x 64 GB RDIMMs and up to 4x 512 GB DCPMMs (Up to 1.375 TB per processor). ○ Memory Mode: Up to 2 TB with up to 4x 512 GB DCPMMs (Up to 1 TB per processor). **Note:** Server configurations with more than 1 TB of memory capacity per socket (including DCPMMs and RDIMMs) require processors that support up to 2 TB (M-suffix) or 4.5 TB (L-suffix) per socket.
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 (DCPMMs are not mirrored). Memory sparing is not supported in the configurations with DCPMMs.
Drive bays	● Up to 16 SFF hot-swap drive bays: ○ 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA ○ 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA ● 8 LFF SATA Simple Swap drive bays ● 8 LFF SAS/SATA hot-swap drive bays ● 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: ○ 491.52TB using 16x 30.72TB 2.5-inch SAS/SATA SSDs ○ 32TB using 4x 8TB 2.5-inch NVMe SSDs ○ 38.4TB using 16x 2.4TB 2.5-inch HDDs ● 3.5-inch drives: ○ 280TB using 14x 20TB 3.5-inch HDDs ○ 215.04TB using 14x 15.36TB 3.5-inch SAS/SATA SSDs

Attribute	Specification
Storage controller	• 6 Gb Onboard SATA AHCI • 6 Gb Onboard SATA RAID (Intel RSTe) • 12 Gb SAS/SATA RAID adapters with up to 8GB flash-backed cache • 12 Gb SAS/SATA HBA (non-RAID) • Onboard PCIe NVMe (non-RAID, requires two processors) • 1610-4P NVMe Switch Adapter (non-RAID, only supported with one processor)
Optical drive bays	None. Support for an external USB DVD RW Optical Disk Drive (SeeOptical drives).

Network interfaces	• 2x Integrated 1 GbE RJ-45 ports (no 10/100 Mb support)
	• Onboard LOM slot for up to 4x 1/10 Gb Ethernet ports:
	  ◦ 2x 1 GbE RJ-45 ports (no 10/100 Mb support)
	  ◦ 2x 10 GbE RJ-45 ports (no 10/100 Mb support)
	  ◦ 2x 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.
	• 1x RJ-45 10/100/1000 Mb Ethernet systems management port.

I/O expansion slots	Up to six slots. Slot 4 is 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 is double-wide) • Slot 2: PCIe 3.0 x8; full-height, half-length (not present if the slot 1 is PCIe x16) • Slot 3: PCIe 3.0 x8 or ML2 x8; 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 x8; full-height, half-length Slot 5 requires the second processor to be installed.
Ports	• Front: 1x USB 2.0 port with XClarity Controller access, 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	Three (one processor) or four (two processors) hot-swap system fans with N+1 redundancy.
Power supply	Up to two redundant hot-swap 550 W or 750 W (100 - 240 V) High Efficiency Platinum or 750 W (200 - 240 V) High Efficiency Titanium AC power supplies. HVDC support (PRC only).
Video	Matrox G200 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 (select models), 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 (7X98) or three-year (7X99) customer-replaceable unit (CRU) and onsite limited warranty with 9x5 Next Business Day Parts Delivered.
Service and support	Optional service upgrades are available through Lenovo Services: 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 Your Data, Enterprise Software Support, and Basic Hardware Installation Services.

Attribute	Specification
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: 26 kg (57.3 lb)

Models

ThinkSystem SR590 models can be configured by using the Lenovo Data Center Solution Configurator (DCSC).

Configure-to-order (CTO) models are used to create models with factory-integrated server customizations. For CTO models, two types of base CTO models are available for the SR590 as listed in the columns in the following table:

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

Preconfigured server models may also be available for the SR590, however these are region-specific; that is, each region may define their own server models, and not all server models are available in every region.

The following table lists the base CTO models of the ThinkSystem SR590 server.

Table 2. Base CTO models

Machine Type/Model General purpose	Machine Type/Model for AI and HPC	Description
7X99CTO1WW	7X99CTOLWW	ThinkSystem SR590 – 3-year warranty
7X98CTO1WW	7X98CTOLWW	ThinkSystem SR590 – 1-year warranty

The following table lists the base chassis for CTO models of the SR590 server.

Table 3. Base chassis for CTO models

Feature code	Description
AXEB	ThinkSystem SR590 3.5" Chassis with 8 or 12 Bays
AXEA	ThinkSystem SR590 2.5" Chassis with 8 or 16 Bays
BMNG	ThinkSystem SR590 2.5" Chassis with 8 or 16 Bays v2

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

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

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

Common to all models:

- All models indicated as having the 750W power supply are using the Platinum power supply

Models for Australia and New Zealand

Table 4. Models for Australia and New Zealand

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A07LAU	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07RAU	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07CAU	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07JAU	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05MAU	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, 3x 600GB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide
7X99A078AU	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A079AU	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	Option	Option 3.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A07BAU	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07QAU	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05LAU	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A07UAU	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07WAU	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07XAU	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07YAU	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07KAU	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07NAU	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07GAU	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07PAU	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07EAU	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07FAU	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07DAU	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07VAU	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07MAU	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
7X99A07SAU	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07HAU	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07TAU	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

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

Models for South East Asian countries (ASEAN)

Table 5. Models for South East Asian countries (ASEAN)

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
TopSeller models with a 3-year warranty (machine type 7X99)										
7X99A04ZSG	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05WSG	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05BSG	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06USG	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A062SG	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06YSG	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A056SG	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05NSG	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A065SG	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06LSG	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05QSG	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05SSG	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A073SG	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A076SG	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06TSG	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A071SG	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05JSG	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05YSG	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A057SG	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05XSG	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
7X99A066SG	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06JSG	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

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

Models for Brazil

Table 6. Models for Brazil

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A08CBR	1x Silver 4210 10C 85W 2.2G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide
7X99A08DBR	1x Silver 4214 12C 85W 2.2G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide
7X99A08EBR	1x Silver 4216 16C 100W 2.1G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide

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

Models for EMEA region

Table 7. Models for EMEA region

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A08UEA	1x Bronze 3206R 8C 85W 1.9G	1x 16GB 2Rx8 2933	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08KEA	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A099EA	1x Silver 4208 8C 85W 2.1G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09BEA	1x Silver 4208 8C 85W 2.1G	1x 32GB 2933	940-8i 4GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09EEA	1x Silver 4208 8C 85W 2.1G	1x 32GB 2933	9350-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09HEA	1x Silver 4208 8C 85W 2.1G	1x 32GB 2933	9350-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09KEA	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	9350-8i	8x 2.5" SAS/16, 1x 1.2TB 10K	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A05MEA	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, 3x 600GB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide
7X99A078EA	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A079EA	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	Option	Option 3.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08LEA	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08TEA	1x Silver 4210R 10C 100W 2.4G	1x 16GB 2Rx8 2933	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08VEA	1x Silver 4210R 10C 100W 2.4G	1x 16GB 2Rx8 2933	930-8i	8x 2.5" SAS/16, 3x 600GB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
7X99A098EA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09AEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	940-8i 4GB	8x 2.5" SAS/16, 3x 600GB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide
7X99A09CEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	940-8i 4GB	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09FEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	9350-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A09GEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	5350-8i	8x 2.5" SAS/16, 2x 480GB MV SSD	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide
7X99A09JEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	9350-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W Titanium	Opt	Ent	Slide
7X99A09LEA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	9350-8i	8x 2.5" SAS/16, 1x 1.2TB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide
7X99A05LEA	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2666	930-8i	8x 2.5" SAS/16, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08SEA	1x Silver 4215R 8C 130W 3.2G	1x 16GB 2Rx8 2933	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A08WEA	1x Silver 4215R 8C 130W 3.2G	1x 16GB 2Rx8 2933	930-8i	8x 2.5" SAS/16, 3x 600GB 10K	Open	1x PCIe x8	2x 750W	Opt	Ent	Slide

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

Models for Hong Kong, Taiwan, Korea (HTK)

Table 8. Models for Hong Kong, Taiwan, Korea (HTK)

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
TopSeller models with a 3-year warranty (machine type 7X99)										
7X99A06FCN	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06PCN	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06ACN	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06HCN	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05CCN	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06SCN	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05ZCN	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A070CN	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05ACN	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05ECN	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05HCN	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A061CN	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A064CN	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06GCN	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05DCN	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06WCN	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06ECN	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06MCN	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A052CN	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06VCN	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A067CN	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A07ACN	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

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

Models for India

Table 9. Models for India

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
TopSeller models with a 3-year warranty (machine type 7X99)										
7X99A051SG	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A069SG	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A055SG	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06ZSG	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05TSG	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06XSG	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05PSG	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06KSG	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A058SG	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05VSG	1x Silver 4215 8C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A059SG	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06QSG	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A054SG	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A072SG	1x Gold 5215 10C 85W 2.5G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A060SG	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A06RSG	1x Gold 5217 8C 115W 3.0G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05RSG	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A077SG	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A053SG	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A05FSG	1x Gold 5220 18C 125W 2.2G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A050SG	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt
7X99A074SG	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	530-8i	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Yes	Std	Opt

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

Models for Japan

Table 10. Models for Japan

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A05UJP	1x Bronze 3204 6C 85W 1.9G	1x 16GB 1Rx4 2666	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A075JP	1x Bronze 3204 6C 85W 1.9G	1x 16GB 1Rx4 2666	730-8i 2GB	8x 3.5" SAS/8, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A068JP	1x Silver 4208 8C 85W 2.1G	1x 16GB 1Rx4 2666	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A05GJP	1x Silver 4210 10C 85W 2.2G	1x 16GB 1Rx4 2666	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A06CJP	1x Silver 4210 10C 85W 2.2G	1x 16GB 1Rx4 2666	930-16i 4GB	12x 3.5" SAS/12, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A093JP	1x Silver 4215R 8C 130W 3.2G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Adv	Slide
7X99A063JP	1x Silver 4216 16C 100W 2.1G	1x 16GB 1Rx4 2666	730-8i 2GB	8x 2.5" SAS/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A06DJP	1x Silver 4216 16C 100W 2.1G	1x 16GB 1Rx4 2666	930-16i 4GB	12x 3.5" SAS/12, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A094JP	1x Gold 5218R 20C 125W 2.1G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 550W	Opt	Adv	Slide
7X99A095JP	1x Gold 5220R 24C 150W 2.2G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Adv	Slide
7X99A06BJP	1x Gold 5222 4C 105W 3.8G	1x 16GB 1Rx4 2666	930-8i	8x 2.5" Any/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A096JP	1x Gold 6226R 16C 150W 2.9G	1x 16GB 1Rx4 2933	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Adv	Slide
7X99A05KJP	1x Gold 6230 20C 125W 2.1G	1x 16GB 2Rx8 2933	930-8i	8x 2.5" Any/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
7X99A092JP	1x Gold 6230R 26C 150W 2.1G	1x 16GB 1Rx4 2933	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 750W	Opt	Adv	Slide
7X99A06NJP	1x Gold 6252 24C 150W 2.1G	1x 16GB 2Rx8 2933	930-8i	8x 2.5" Any/16, Open bay	Open	4x PCIe x8	1x 750W	Opt	Std	Slide
TopSeller models with a 3-year warranty (machine type 7X99)										
7X99A090JP	1x Bronze 3206R 8C 85W 1.9G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 550W	Opt	Adv	Slide
7X99A08ZJP	1x Silver 4210R 10C 100W 2.4G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 550W	Opt	Adv	Slide
7X99A091JP	1x Silver 4214R 12C 100W 2.4G	1x 16GB 1Rx4 2666	Option	Option 2.5", Open bay	Open	1x PCIe x8	1x 550W	Opt	Adv	Slide

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

Models for Latin American countries (except Brazil)

Table 11. Models with a 3-year warranty for Latin American countries (except Brazil)

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A089LA	1x Silver 4210 10C 85W 2.2G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide
7X99A08ALA	1x Silver 4214 12C 85W 2.2G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide
7X99A08BLA	1x Silver 4216 16C 100W 2.1G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Slide
7X99100GLA	1x Silver 4210R 10C 100W 2.4G	1x 32GB 2933	730-8i 2GB	8x 2.5" SAS/16, Open bay	2x10Gb RJ45	4x PCIe x8	1x 750W	Yes	Std	Friction

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

Models for USA and Canada

Table 12. Models for USA and Canada

Model	Intel Xeon processor†	Memory	RAID	Drive bays and drives	LOM	Slots	Power supply	Front VGA	XCC	Rail kit
Standard models with a 3-year warranty (machine type 7X99)										
7X99A087NA	1x Bronze 3204 6C 85W 1.9G	1x 16GB 2Rx8 2666	530-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A086NA	1x Silver 4208 8C 85W 2.1G	1x 16GB 2Rx8 2666	530-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A080NA	1x Silver 4210 10C 85W 2.2G	1x 16GB 2Rx8 2666	530-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A084NA	1x Silver 4214 12C 85W 2.2G	1x 16GB 2Rx8 2666	530-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A083NA	1x Silver 4216 16C 100W 2.1G	1x 16GB 2Rx8 2666	930-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A082NA	1x Gold 5218 16C 125W 2.3G	1x 16GB 2Rx8 2666	930-16i 4GB	8xSAS+4xAny 3.5"/12, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A081NA	1x Gold 6230 20C 125W 2.1G	1x 32GB 2666	930-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide
7X99A085NA	1x Gold 6242 16C 150W 2.8G	1x 32GB 2666	930-8i	8x 3.5" SAS/8, Open bay	Open	1x PCIe x8	1x 750W	Opt	Ent	Slide

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

Processors

The SR590 server supports one or two Intel Xeon Bronze, Silver, Gold, or Platinum Gen 2 processors of up to 150 W TDP. The following table lists the specifications of the processors for the SR590 server.

Topics in this section:

Processor support: Both 1st Gen and 2nd Gen Intel Xeon SP processors are supported. For supported 1st Gen processors, see the Continued support for 1st Gen Intel Xeon Scalable processors section.

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
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
5215M	10 / 20	2.5 / 3.4 GHz	13.75 MB	2666 MHz	2 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
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

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
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
6209U	20 / 40	2.1 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	N/A	125 W	Y	Y	Y	Y	N	2	Y	Adv
6210U	20 / 40	2.5 / 3.9 GHz	27.5 MB	2933 MHz	1 TB	N/A	150 W	Y	Y	Y	Y	N	2	Y	Adv
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
6238M	22 / 44	2.1 / 3.7 GHz	30.25 MB	2933 MHz	2 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
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
6240M	18 / 36	2.6 / 3.9 GHz	24.75 MB	2933 MHz	2 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
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
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
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
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
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

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 SR590 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).

Note: The Intel Xeon Gold 6209U and 6210U processors are supported only in the uniprocessor configurations.

Table 14. Processor options

Part number	Feature code*	Description
Intel Xeon Bronze processors		
4XG7A37938	B4HU	SR550/SR590/SR650 Intel Xeon Bronze 3204 6C 85W 1.9GHz Processor w/o FAN
4XG7A37983	B7N3	SR550/SR590/SR650 Intel Xeon Bronze 3206R 8C 85W 1.9GHz Processor w/o FAN
Intel Xeon Silver processors		
4XG7A37935	B4HT	SR550/SR590/SR650 Intel Xeon Silver 4208 8C 85W 2.1GHz Processor w/o FAN
4XG7A37944	B4P4	SR550/SR590/SR650 Intel Xeon Silver 4209T 8C 70W 2.2GHz Processor w/o FAN
4XG7A37932	B4HS	SR550/SR590/SR650 Intel Xeon Silver 4210 10C 85W 2.2GHz Processor w/o FAN
4XG7A37981	B7N5	SR550/SR590/SR650 Intel Xeon Silver 4210R 10C 100W 2.4GHz Processor w/o FAN
4XG7A37929	B4HR	SR550/SR590/SR650 Intel Xeon Silver 4214 12C 85W 2.2GHz Processor w/o FAN
4XG7A37980	B7N6	SR550/SR590/SR650 Intel Xeon Silver 4214R 12C 100W 2.4GHz Processor w/o FAN
4XG7A37941	B4NW	SR550/SR590/SR650 Intel Xeon Silver 4214Y 12/10/8C 85W 2.2GHz Processor w/o FAN
4XG7A37926	B4HQ	SR550/SR590/SR650 Intel Xeon Silver 4215 8C 85W 2.5GHz Processor w/o FAN
4XG7A63274	BAZU	SR590/SR650 Intel Xeon Silver 4215R 8C 130W 3.2GHz Processor w/o FAN
4XG7A37923	B4HP	SR550/SR590/SR650 Intel Xeon Silver 4216 16C 100W 2.1GHz Processor w/o FAN
Intel Xeon Gold processors		
4XG7A37916	B4HN	SR550/SR590/SR650 Intel Xeon Gold 5215 10C 85W 2.5GHz Processor w/o FAN
4XG7A37913	B4P1	SR550/SR590/SR650 Intel Xeon Gold 5215M 10C 85W 2.5GHz Processor w/o FAN
4XG7A37910	B4P9	SR550/SR590/SR650 Intel Xeon Gold 5215L 10C 85W 2.5GHz Processor w/o FAN
4XG7A37919	B4HM	SR550/SR590/SR650 Intel Xeon Gold 5217 8C 115W 3.0GHz Processor w/o FAN
4XG7A37895	B4HL	SR550/SR590/SR650 Intel Xeon Gold 5218 16C 125W 2.3GHz Processor w/o FAN
4XG7A37958	B6BS	SR550/SR590/SR650 Intel Xeon Gold 5218B 16C 125W 2.3GHz Processor w/o FAN
4XG7A63272	BAZS	SR550/SR590/SR650 Intel Xeon Gold 5218R 20C 125W 2.1GHz Processor w/o FAN
4XG7A37955	B5S0	SR550/SR590/SR650 Intel Xeon Gold 5218T 16C 105W 2.1GHz Processor w/o FAN
4XG7A37892	B4HK	SR550/SR590/SR650 Intel Xeon Gold 5220 18C 125W 2.2GHz Processor w/o FAN
4XG7A37974	B7N9	SR590/SR650 Intel Xeon Gold 5220R 24C 150W 2.2GHz Processor w/o FAN
4XG7A38019	B6CW	SR550/SR590/SR650 Intel Xeon Gold 5220S 18C 125W 2.7GHz Processor w/o FAN
4XG7A38005	B6CQ	SR550/SR590/SR650 Intel Xeon Gold 5220T 18C 105W 1.9GHz Processor w/o FAN
4XG7A37951	B5S1	SR550/SR590/SR650 Intel Xeon Gold 5222 4C 105W 3.8GHz Processor w/o FAN
None**	BAZV	Intel Xeon Gold 6208U 16C 150W 2.9GHz Processor
None**	B6CX	Intel Xeon Gold 6209U 20C 125W 2.1GHz Processor
None**	B5RX	Intel Xeon Gold 6210U 20C 150W 2.5GHz Processor
4XG7A38023	B6CV	SR550/SR590/SR650 Intel Xeon Gold 6222V 20C 115W 1.8GHz Processor w/o FAN
4XG7A38021	B6CL	SR550/SR590/SR650 Intel Xeon Gold 6226 12C 125W 2.7GHz Processor w/o FAN
4XG7A38082	BAZW	SR590/SR650 Intel Xeon Gold 6226R 16C 150W 2.9GHz Processor w/o FAN
4XG7A37889	B4HJ	SR550/SR590/SR650 Intel Xeon Gold 6230 20C 125W 2.1GHz Processor w/o FAN
4XG7A38028	B5RY	SR550/SR590/SR650 Intel Xeon Gold 6230N 20C 125W 2.3GHz Processor w/o FAN
4XG7A38081	BAZX	SR590/SR650 Intel Xeon Gold 6230R 26C 150W 2.1GHz Processor w/o FAN
4XG7A38006	B6CP	SR550/SR590/SR650 Intel Xeon Gold 6230T 20C 125W 2.1GHz Processor w/o FAN
4XG7A38001	B6CK	SR590/SR650 Intel Xeon Gold 6234 8C 130W 3.3GHz Processor w/o FAN
4XG7A38008	B6CJ	SR590/SR650 Intel Xeon Gold 6238 22C 140W 2.1GHz Processor w/o FAN
4XG7A37999	B6CM	SR590/SR650 Intel Xeon Gold 6238M 22C 140W 2.1GHz Processor w/o FAN

Part number	Feature code*	Description
4XG7A38003	B6CR	SR590/SR650 Intel Xeon Gold 6238L 22C 140W 2.1GHz Processor w/o FAN
4XG7A37906	B4P2	SR550/SR590/SR650 Intel Xeon Gold 6238T 22C 125W 1.9GHz Processor w/o FAN
4XG7A37885	B4HH	SR590 Intel Xeon Gold 6240 18C 150W 2.6GHz Processor w/o FAN
4XG7A38013	B6CN	SR590/SR650 Intel Xeon Gold 6240M 18C 150W 2.6GHz Processor w/o FAN
4XG7A38015	B6CS	SR590/SR650 Intel Xeon Gold 6240L 18C 150W 2.6GHz Processor w/o FAN
4XG7A37903	B4NV	SR590/SR650 Intel Xeon Gold 6240Y 18/14/8C 150W 2.6GHz Processor w/o FAN
4XG7A37886	B4HG	SR590/SR650 Intel Xeon Gold 6242 16C 150W 2.8GHz Processor w/o FAN
4XG7A15874	B4HF	SR590/SR650 Intel Xeon Gold 6244 8C 150W 3.6GHz Processor w/o FAN
4XG7A15894	B4HE	SR590 Intel Xeon Gold 6248 20C 150W 2.5GHz Processor w/o FAN
4XG7A15891	B4HC	SR590 Intel Xeon Gold 6252 24C 150W 2.1GHz Processor w/o FAN
4XG7A38011	B6CT	SR590/SR650 Intel Xeon Gold 6252N 24C 150W 2.3GHz Processor w/o FAN
4XG7A38010	B6CU	SR590/SR650 Intel Xeon Gold 6262V 24C 135W 1.9GHz Processor w/o FAN
Intel Xeon Platinum processors		
4XG7A37898	B5RZ	SR550/SR590/SR650 Intel Xeon Platinum 8253 16C 125W 2.2GHz Processor w/o FAN
4XG7A37947	B5S2	SR550/SR590/SR650 Intel Xeon Platinum 8256 4C 105W 3.8GHz Processor w/o FAN

* 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.

Continued support for 1st Gen Intel Xeon Scalable processors

The SR590 also continues to support the 1st Gen Intel Xeon Scalable processors (formerly codenamed "Skylake") listed in the following table.

Table 15. Long-life 1st Gen Intel Xeon Scalable processors

Part number	Feature code	Description

* Only available as a field upgrade for existing customers. Not available in CTO (configure to order) configurations.

For specifications of these processors, see the Intel Xeon Scalable Processor Reference for Lenovo ThinkSystem Servers:
https://lenovopress.com/lp1262-intel-xeon-sp-processor-reference#term=SKL

UEFI operating modes

The SR590 offers preset operating modes that affect energy consumption and performance. These modes are a collection of predefined low-level UEFI settings that simplify the task of tuning the server to suit your business and workload requirements.

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

UK and EU customers: For compliance with the ERP Lot9 regulation, you should select feature BFYE. For some systems, you may not be able to make a selection, in which case, it will be automatically derived by the configurator.

Table 16. UEFI operating mode presets in DCSC

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

The preset modes for the SR590 are as follows:

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

For details about these preset modes, and all other performance and power efficiency UEFI settings offered in the SR590, see the paper "Tuning UEFI Settings for Performance and Energy Efficiency on Intel Xeon Scalable Processor-Based ThinkSystem Servers", available from https://lenovopress.lenovo.com/lp1477.

Memory

The SR590 server supports up to 1 TB of memory capacity (up to 512 GB per processor) with up to 16 TruDDR4 memory RDIMMs when two processors are installed or up to 8 RDIMMs when one processor is installed. Each processor has six memory channels (two integrated memory controllers with three memory channels per memory controller), and there is a one DIMM per channel for four channels and two DIMMs per channel for two channels for a total of 8 DIMMs per processor.

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 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 server. The table also indicates which processor generation is supported for each memory option.

Table 17. Memory options

Part number	Feature code	Description	Maximum quantity*	Gen 1 CPU	Gen 2 CPU
RDIMMs - 2933 MHz					
4ZC7A08706	B4H1	ThinkSystem 8GB TruDDR4 2933MHz (1Rx8 1.2V) RDIMM	8 / 16	No	Yes
4ZC7A08707	B4LY	ThinkSystem 16GB TruDDR4 2933MHz (1Rx4 1.2V) RDIMM	8 / 16	No	Yes
4ZC7A08708	B4H2	ThinkSystem 16GB TruDDR4 2933MHz (2Rx8 1.2V) RDIMM	8 / 16	No	Yes
4ZC7A08709	B4H3	ThinkSystem 32GB TruDDR4 2933MHz (2Rx4 1.2V) RDIMM	8 / 16	No	Yes
4ZC7A08710	B4H4	ThinkSystem 64GB TruDDR4 2933MHz (2Rx4 1.2V) RDIMM	8 / 16	No	Yes
RDIMMs - 2666 MHz					
7X77A01301	AUU1	ThinkSystem 8GB TruDDR4 2666 MHz (1Rx8 1.2V) RDIMM	8 / 16	Yes	No
7X77A01302	AUNB	ThinkSystem 16GB TruDDR4 2666 MHz (1Rx4 1.2V) RDIMM	8 / 16	Yes	Yes
7X77A01303	AUNC	ThinkSystem 16GB TruDDR4 2666 MHz (2Rx8 1.2V) RDIMM	8 / 16	Yes	Yes
7X77A01304	AUND	ThinkSystem 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM	8 / 16	Yes	Yes
4ZC7A08716	AUW5	ThinkSystem 64GB TruDDR4 2666MHz (4Rx4, 1.2V) 3DS RDIMM	8 / 16	No	Yes
LRDIMMs - 2666 MHz					
7X77A01305	AUNE	ThinkSystem 64GB TruDDR4 2666 MHz (4Rx4 1.2V) LRDIMM	8 / 16	Yes	No

* 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): 2666 MHz.

  Note: Maximum memory speed can be achieved when Max performance mode is enabled in UEFI.
- 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).
- 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) require processors that support up to 2 TB (M-suffix) or 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 or 4 per processor for mirroring across two memory channels, or in quantities of 3 or 6 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; single-rank DIMMs are not supported). With rank sparing, 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 (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 SR590 server supports up to two TruDDR4 DC Persistent Memory Modules (DCPMMs) when one processor is installed and up to four DCPMMs when two processors are installed (up to one DCPMM per processor's memory channel with two DIMM slots per channel) for a total of up to 2 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.

2nd Gen processors only: Persistent Memory is only supported with 2nd Generation Intel Xeon SP processors. Not supported with 1st Generation processors.

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 (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 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 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). The total memory capacity that is seen by the operating system includes the capacity of the DCPMMs and 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 SR590 server.

Table 18. DCPMM options

Description	Part number	Feature code	Maximum quantity*
ThinkSystem 128GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15110	B4LV	2 / 4
ThinkSystem 256GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15111	B4LW	2 / 4
ThinkSystem 512GB TruDDR4 2666MHz (1.2V) Intel Optane DC Persistent Memory	4ZC7A15112	B4LX	2 / 4

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

The following table lists supported combinations of the DCPMMs and RDIMMs available for the SR590 server.

Table 19. 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	6 / 12	16 GB, 32 GB, 64 GB
	1 / 2	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB
	2 / 4	128 GB, 256 GB, 512 GB	6 / 12	16 GB, 32 GB, 64 GB
Memory Mode	2 / 4	256 GB	6 / 12	16 GB
	2 / 4	512 GB	6 / 12	16 GB, 32 GB
Mixed Memory Mode	2 / 4	256 GB	6 / 12	16 GB
	2 / 4	512 GB	6 / 12	16 GB, 32 GB

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

Configuration notes:

- All DCPMMs in the server must be of the same capacity (the same part number or feature code).
- The RDIMMs are required in the configurations with DCPMMs, and all 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 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) require processors that support up to 2 TB (M-suffix) or 4.5 TB (L-suffix) per socket.

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

Internal storage

The SR590 server supports the following internal drive bay configurations:

1. Up to 16 SFF hot-swap drive bays:
   a. 8x 2.5" SAS/SATA + 8x 2.5" SAS/SATA
   b. 4x 2.5" SAS/SATA & 4x 2.5" AnyBay + 8x 2.5" SAS/SATA
2. 8 LFF SATA Simple Swap drive bays
3. 8 LFF SAS/SATA hot-swap drive bays
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 SR590 server models can be configured with one or two internal M.2 SATA SSDs. The server also supports configurations without drive bays.

The following figure shows the internal drive bay configurations.

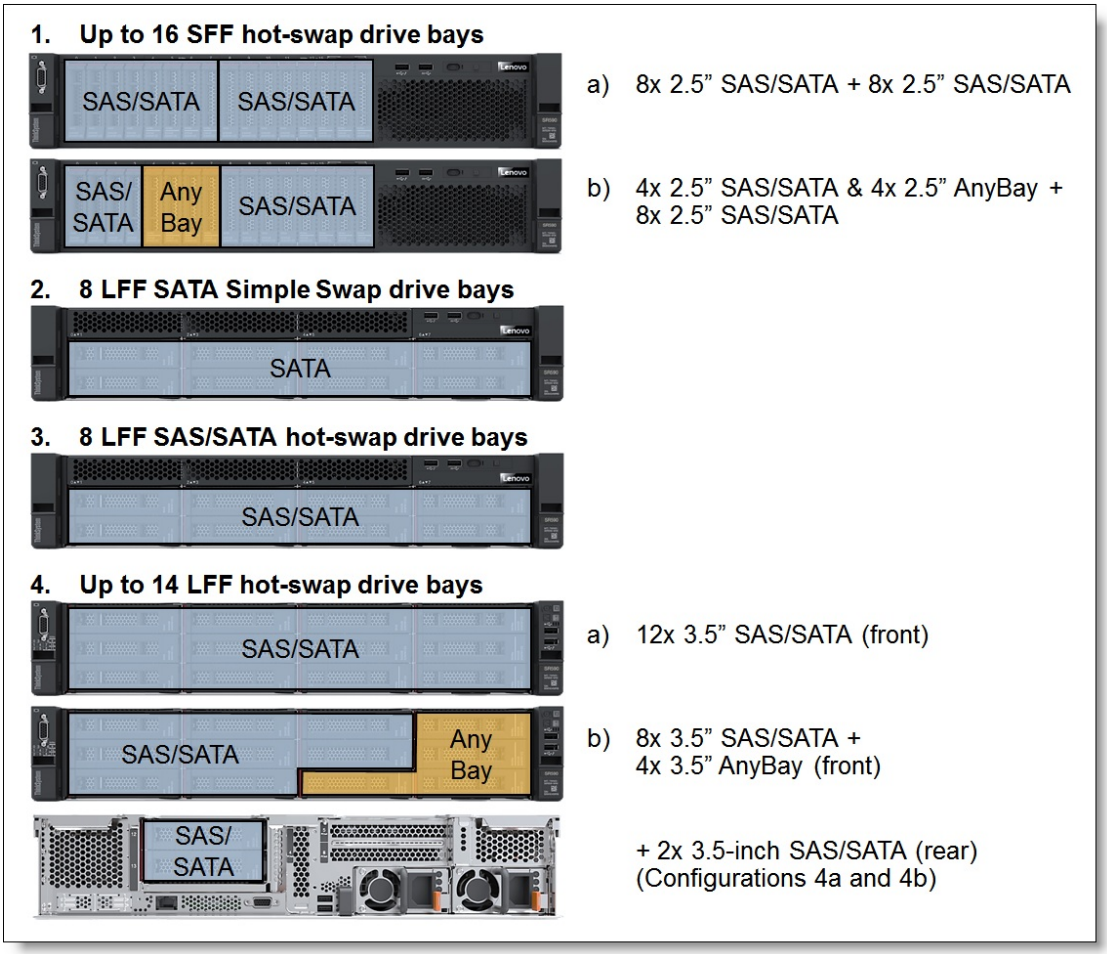

Figure 7. Internal drive bay configurations

In this section:

- Backplanes
- Supported drive bay combinations
- Field upgrades
- M.2 drives
- SED encryption key management with ISKLM

Backplanes

The following table lists the internal storage options.

Table 20. Internal storage options

Part number	Feature code	Description	Maximum quantity
Factory-installed backplane kits			
None*	AURA	ThinkSystem 2U/Twr 2.5" SATA/SAS 8-Bay Backplane	2
None*	AUR5	ThinkSystem 2U/Twr 2.5" AnyBay 8-Bay Backplane	1

Part number	Feature code	Description	Maximum quantity
None*	AUR6	ThinkSystem 2U 3.5" SATA/SAS 8-Bay Backplane	1
None*	AUR9	ThinkSystem 2U 3.5" SATA/SAS 12-Bay Backplane	1
None*	AUR8	ThinkSystem 2U 3.5" AnyBay 12-Bay Backplane	1
4XH7A80453	BMUW	ThinkSystem SR590/SR650 Rear HDD/SSD Kit v2	1
7XH7A06253	AURZ	ThinkSystem SR590/SR650 3.5" Rear HDD/SSD Kit	1
4XB7A80489	BN62	ThinkSystem SR590/SR650 Rear HDD Kit – Fanless v2 (PRC only)	1
4XB7A64318	BFK0	ThinkSystem SR590/SR650 Rear HDD Kit - Fanless (PRC only)	1

* For field upgrades, see the Field upgrades section

Configuration notes:

- U.2 NVMe PCIe SSDs in the AnyBay drive bays require either the second processor (enables the onboard NVMe controller) or the 1610-4P NVMe Switch Adapter to be installed. The 1610-4P NVMe Switch Adapter is supported only in the configurations with one processor.
- Models with 12x 3.5-inch drive bays and an 8-port SAS RAID controller or HBA support only NVMe drives in the AnyBay drive bays.

Supported drive bay combinations

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

Table 21. Internal storage configurations: 2.5-in. drive bays

Drive bay configuration	Backplane kit type and quantity		Storage controller type and quantity*
	2.5" SATA/SAS 8-Bay	2.5" AnyBay 8-Bay	
16x 2.5" chassis (Feature code BMNG or AXEA)			
8x 2.5-in. SAS/SATA hot-swap (front)	1	0	1x RAID 8i or HBA 8i (8)
			1x RAID 16i or HBA 16i (8)
4x 2.5-in. SAS/SATA + 4x 2.5-in. AnyBay hot-swap (front)	0	1	1x RAID 8i or HBA 8i (8) + Onboard NVMe (4)**
			1x RAID 16i or HBA 16i (8) + Onboard NVMe (4)**
			1x RAID 8i or HBA 16i (8) + 1x 1610-4P NVMe (4)^
16x 2.5-in. SAS/SATA hot-swap (front)	2	0	1x RAID 16i or HBA 16i (16)
			1x RAID 8i (8) + 1x HBA 8i (8)
			2x RAID 8i or 2x HBA 8i (8+8)
12x 2.5-in. SAS/SATA + 4x 2.5-in. AnyBay hot-swap (front)	1	1	1x RAID 16i or HBA 16i (16) + Onboard NVMe (4)**
			1x RAID 16i or HBA 16i (16) + 1x 1610-4P NVMe (4)^

* The numbers in brackets (x or x+y) specify the quantity of drive bays connected to each of the controllers.
** The onboard NVMe controller requires the second processors to be installed.
^ The 1610-4P NVMe Switch Adapter is supported only in the configurations with one processor.

Table 22. Internal storage configurations: 3.5-in. drive bays

Drive bay configuration	Backplane kit type and quantity				Storage controller type and quantity*
	3.5" SATA/SAS 8-Bay	3.5" SATA/SAS 12-Bay	3.5" AnyBay 12-Bay	3.5" Rear HDD	
12x 3.5" chassis (Feature code AXEB)					
8x 3.5-in. SATA Simple Swap	0	0	0	0	Onboard AHCI (non-RAID) / Intel RSTe (RAID) (8)
8x 3.5-in. SAS/SATA hot-swap (front)	1	0	0	0	1x RAID 8i or HBA 8i (8)
12x 3.5-in. SAS/SATA hot-swap (front)	0	1	0	0	1x RAID 16i or HBA 16i (12)
8x 3.5-in. SAS/SATA + 4x 3.5-in. AnyBay hot-swap (front)	0	0	1	0	1x RAID 16i or HBA 16i (12) + Onboard NVMe (4)**
					1x RAID 16i or HBA 16i (12) + 1x 1610-4P NVMe (4)^
8x 3.5-in. SAS/SATA + 4x 3.5-in. AnyBay (NVMe only) hot-swap (front)	0	0	1	0	1x RAID 8i or HBA 8i (8) + Onboard NVMe (4)**
12x 3.5-in. SAS/SATA hot-swap (front) + 2x 3.5-in. SAS/SATA hot-swap (rear)	0	1	0	1	1x RAID 16i or HBA 16i (14)
8x 3.5-in. SAS/SATA + 4x 3.5-in. AnyBay hot-swap (front) + 2x 3.5-in. SAS/SATA hot-swap (rear)	0	0	1	1	1x RAID 16i or HBA 16i (14) + Onboard NVMe (4)**
					1x RAID 16i or HBA 16i (14) + 1x 1610-4P NVMe (4)^

* The number in brackets (x) specifies the quantity of drive bays connected to each of the controllers.
** The onboard NVMe controller requires the second processors to be installed.
^ The 1610-4P NVMe Switch Adapter is supported only in the configurations with one processor.

Field upgrades

The following table lists the backplane options that can be installed as field upgrades.

Use with X40 adapters: These backplane kits in the table below include SAS/SATA cables for use with the onboard SATA controller or with RAID 930, 730, 530 adapters and 430 HBAs (collectively called X30 adapters). If you are adding or upgrading to RAID 940 adapters or 440 HBAs (collectively called X40 adapters), you will need to *also* order an X40 cable kit. See the Cable kits for 440 HBAs and RAID 940 adapters section for details.

Table 23. Field upgrades

Part number	Description	Maximum quantity
4XH7A08763	ThinkSystem SR590 2.5" SATA/SAS 8-Bay Backplane Kit	2
4XH7A08764	ThinkSystem SR590 2.5" AnyBay 8-Bay Backplane Kit	1
4XH7A08770	ThinkSystem SR550/SR590/SR650 3.5" SATA/SAS 8-Bay Backplane Upgrade Kit	1
4XH7A08771	ThinkSystem SR550/SR590/SR650 3.5" SATA/SAS 12-Bay Backplane Upgrade Kit	1
4XH7A08785	ThinkSystem SR590/SR650 3.5" AnyBay 12-Bay Backplane Upgrade Kit	1
4XH7A80453	ThinkSystem SR590/SR650 Rear HDD/SSD Kit v2	1

Part number	Description	Maximum quantity
7XH7A06253	ThinkSystem SR590/SR650 Rear HDD/SSD Kit	1
4XB7A80489	ThinkSystem SR590/SR650 Rear HDD Kit – Fanless v2 (PRC only)	1
4XB7A64318	ThinkSystem SR590/SR650 Rear HDD Kit - Fanless (PRC only)	1

Configuration notes:

- The backplane upgrade kits include drive backplanes and required SAS cables, power cables, and drive bay fillers; storage controllers are not included.
- The 2.5" SATA/SAS 8-Bay Backplane Kit (4XH7A08763) adds 8x 2.5" SAS/SATA hot-swap drive bays to the previously configured models that support drive bay expansion capabilities.
- The 2.5" AnyBay 8-Bay Backplane Kit (4XH7A08764) adds 4x 2.5" SAS/SATA & 4x 2.5" AnyBay hot-swap drive bays to the previously configured models that support drive bay expansion capabilities.
- Models without any drive bays that are based on the 16x 2.5" chassis (feature code BMNG or AXEA) support adding drive bays by using the 2.5" SAS/SATA 8-bay backplane kit (4XH7A08763) or 2.5" AnyBay 8-bay backplane kit (4XH7A08764).
- Models without any drive bays that are based on the 12x 3.5" chassis (feature code AXEB) 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).
- For customers in China, the ThinkSystem SR590/SR650 Rear HDD Kit - Fanless option (4XB7A64318) adds rear drives without additional fans. It is supported only under the following conditions:
  - Processor TDP cannot exceed 125 W
  - Ambient temperature up to 30 °C (86 °F)
  - The acoustic noise may increase
- 2x 3.5-inch rear drives are supported only on the models with 12x 3.5-inch hot-swap drive bays.
  - 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.
  - The 3.5" Rear HDD/SSD Kit is supported in the configurations with one processor of up to 105 W TDP or two processors of up to 125 W TDP.
- U.2 NVMe PCIe SSDs in the AnyBay drive bays require either the second processor (enables the onboard NVMe controller) or the 1610-4P NVMe Switch Adapter to be installed. The 1610-4P NVMe Switch Adapter is supported only in the configurations with one processor.
- Models with 12x 3.5-inch drive bays and an 8-port SAS RAID controller or HBA support only NVMe drives in the AnyBay drive bays.

Cable kits for 440 HBAs and RAID 940 adapters

The backplane kits listed in the preceding table include cables for use with the onboard SATA controller or with RAID 930, 730, 530 adapters and 430 HBAs (collectively called X30 adapters). If you wish to use the backplane kits with RAID 940 adapters or 440 HBAs (collectively called X40 adapters), then you will also need to order an additional X40 cable kit to use instead of the cables in the backplane kit.

Tip: When adding an X40 adapter, you will order both the backplane kit and the relevant X40 cable kit, however the SAS/SATA data cable(s) in the backplane kit will not be used.

Table 24. Cable kits for 440 HBAs and RAID 940 adapters

Backplane kits with X30 cables		X40 cable kits also needed	
4XH7A08763	ThinkSystem SR590 2.5" SATA/SAS 8-Bay Backplane Kit	4XH7A61097	ThinkSystem SR550/SR590/SR650 2.5" SAS/SATA/AnyBay 8-Bay X40 RAID Cable Kit
4XH7A08764	ThinkSystem SR590 2.5" AnyBay 8-Bay Backplane Kit	4XH7A61097	ThinkSystem SR550/SR590/SR650 2.5" SAS/SATA/AnyBay 8-Bay X40 RAID Cable Kit
4XH7A08770	ThinkSystem SR550/SR590/SR650 3.5" SATA/SAS 8-Bay Backplane Upgrade Kit	4XH7A61098	ThinkSystem SR550/SR590/SR650 3.5" SAS/SATA 8-Bay X40 RAID Cable Kit
4XH7A08771	ThinkSystem SR550/SR590/SR650 3.5" SATA/SAS 12-Bay Backplane Upgrade Kit	4XH7A61105	ThinkSystem SR590/SR650 3.5" SAS/SATA/AnyBay 12-Bay X40 RAID Cable Kit
4XH7A08785	ThinkSystem SR590/SR650 3.5" AnyBay 12-Bay Backplane Upgrade Kit	4XH7A61105	ThinkSystem SR590/SR650 3.5" SAS/SATA/AnyBay 12-Bay X40 RAID Cable Kit
4XH7A80453 or 7XH7A06253	ThinkSystem SR590/SR650 Rear HDD/SSD Kit	4XH7A61110	ThinkSystem SR590/SR630/SR650 SAS/SATA 2-Bay Rear BP X40 RAID Cable Kit
4XB7A80489 or 4XB7A64318	ThinkSystem SR590/SR650 Rear HDD Kit - Fanless (PRC only)	4XH7A61110	ThinkSystem SR590/SR630/SR650 SAS/SATA 2-Bay Rear BP X40 RAID Cable Kit

M.2 drives

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

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

There are two M.2 adapters supported, as listed in the following table.

Table 25. M.2 components

Part number	Feature code	Description	Maximum supported
7Y37A01092	AUMU	ThinkSystem M.2 Enablement Kit (contains the Single M.2 Boot Adapter; supports 1 drive)	1
7Y37A01093	AUMV	ThinkSystem M.2 with Mirroring Enablement Kit (contains the Dual M.2 Boot Adapter, supports 1 or 2 drives)	1

Supported drives are listed in the Internal drive options section.

For details about M.2 components, see the *ThinkSystem M.2 Drives and M.2 Adapters* product guide: https://lenovopress.com/lp0769-thinksystem-m2-drives-adapters

SED encryption key management with SKLM

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

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

Table 26. FoD upgrades for SKLM support

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

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

Table 27. IBM Security Key Lifecycle Manager licenses

Part number	Feature	Description
SKLM Basic Edition		
7S0A007FWW	S874	IBM Security Key Lifecycle Manager Basic Edition Install License + SW Subscription & Support 12 Months
7S0A008VWW	SDJR	IBM Security Key Lifecycle Manager Basic Edition Install License + SW Subscription & 3 Years Of Support
7S0A008WWW	SDJS	IBM Security Key Lifecycle Manager Basic Edition Install License + SW Subscription & 4 Years Of Support
7S0A008XWW	SDJT	IBM Security Key Lifecycle Manager Basic Edition Install License + SW Subscription & 5 Years Of Support
SKLM For Raw Decimal Terabyte Storage		
7S0A007HWW	S876	IBM Security Key Lifecycle Manager For Raw Decimal Terabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A008YWW	SDJU	IBM Security Key Lifecycle Manager For Raw Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 3 Years Of Support
7S0A008ZWW	SDJV	IBM Security Key Lifecycle Manager For Raw Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 4 Years Of Support
7S0A0090WW	SDJW	IBM Security Key Lifecycle Manager For Raw Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 5 Years Of Support
SKLM For Raw Decimal Petabyte Storage		
7S0A007KWW	S878	IBM Security Key Lifecycle Manager For Raw Decimal Petabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A0091WW	SDJX	IBM Security Key Lifecycle Manager For Raw Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 3 Years Of Support
7S0A0092WW	SDJY	IBM Security Key Lifecycle Manager For Raw Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 4 Years Of Support
7S0A0093WW	SDJZ	IBM Security Key Lifecycle Manager For Raw Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 5 Years Of Support

Part number	Feature	Description
SKLM For Usable Decimal Terabyte Storage		
7S0A007MWW	S87A	IBM Security Key Lifecycle Manager For Usable Decimal Terabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A0094WW	SDK0	IBM Security Key Lifecycle Manager For Usable Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 3 Years In Support
7S0A0095WW	SDK1	IBM Security Key Lifecycle Manager For Usable Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 4 Years In Support
7S0A0096WW	SDK2	IBM Security Key Lifecycle Manager For Usable Decimal Terabyte Storage Resource Value Unit License + SW Subscription & 5 Years In Support
SKLM For Usable Decimal Petabyte Storage		
7S0A007PWW	S87C	IBM Security Key Lifecycle Manager For Usable Decimal Petabyte Storage Resource Value Unit License + SW Subscription & Support 12 Months
7S0A0097WW	SDK3	IBM Security Key Lifecycle Manager For Usable Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 3 Years Of Support
7S0A0098WW	SDK4	IBM Security Key Lifecycle Manager For Usable Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 4 Years Of Support
7S0A0099WW	SDK5	IBM Security Key Lifecycle Manager For Usable Decimal Petabyte Storage Resource Value Unit License + SW Subscription & 5 Years Of Support

Controllers for internal storage

The following table lists the storage controllers and options for internal storage of the SR590 server.

Table 28. RAID controllers and HBAs for internal storage

Part number	Feature code	Description	Maximum quantity	I/O slots supported
6 Gbps SATA controllers				
Onboard*	Onboard*	Onboard AHCI (non-RAID) / Intel RSTe (RAID)	1	-
12 Gb SAS/SATA RAID controllers - 8-port adapters				
7Y37A01082	AUNG	ThinkSystem RAID 530-8i PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
4Y37A78834	BMFT	ThinkSystem RAID 540-8i PCIe Gen4 12Gb Adapter	2	4, 1, 2, 6, 5, 3
4Y37A09727	B6CE	ThinkSystem RAID 530-16i PCIe 12Gb Adapter	1	4, 1, 2, 6, 5, 3
4Y37A72482	BJHK	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
7Y37A01083	AUNH	ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
4Y37A09722	B4RQ	ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
7Y37A01084	AUNJ	ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
4Y37A72483	BJHL	ThinkSystem RAID 9350-8i 2GB Flash PCIe 12Gb Adapter	2	4, 1, 2, 6, 5, 3
4Y37A09728	B8NY	ThinkSystem RAID 940-8i 4GB Flash PCIe Gen4 12Gb Adapter	2	4, 1, 2, 6, 5, 3
12 Gb SAS/SATA RAID controllers - 16-port adapters				
4Y37A78835	BNAX	ThinkSystem RAID 540-16i PCIe Gen4 12Gb Adapter	1	4, 1, 2, 6, 5, 3
7Y37A01085	AUNK	ThinkSystem RAID 930-16i 4GB Flash PCIe 12Gb Adapter	1	4, 1, 2, 6, 5, 3
4Y37A72485	BJHN	ThinkSystem RAID 9350-16i 4GB Flash PCIe 12Gb Adapter	1	4, 1, 2, 6, 5, 3
4Y37A09721	B31E	ThinkSystem RAID 930-16i 8GB Flash PCIe 12Gb Adapter	1	4, 1, 2, 6, 5, 3
4Y37A78600	BM35	ThinkSystem RAID 940-16i 4GB Flash PCIe Gen4 12Gb Adapter	1	4, 1, 2, 6, 5, 3
4Y37A09730	B8NZ	ThinkSystem RAID 940-16i 8GB Flash PCIe Gen4 12Gb Adapter	1	4, 1, 2, 6, 5, 3
12 Gb SAS/SATA non-RAID HBAs				

Part number	Feature code	Description	Maximum quantity	I/O slots supported
7Y37A01088	AUNL	ThinkSystem 430-8i SAS/SATA 12Gb HBA	2	4, 1, 2, 6, 5, 3
4Y37A72480	BJHH	ThinkSystem 4350-8i SAS/SATA 12Gb HBA	2	4, 1, 2, 6, 5, 3
4Y37A78601	BM51	ThinkSystem 440-8i SAS/SATA PCIe Gen4 12Gb HBA	2	4, 1, 2, 6, 5, 3
7Y37A01089	AUNM	ThinkSystem 430-16i SAS/SATA 12Gb HBA	1	4, 1, 2, 6, 5, 3
4Y37A78602	BM50	ThinkSystem 440-16i SAS/SATA PCIe Gen4 12Gb HBA	1	4, 1, 2, 6, 5, 3
NVMe PCIe interfaces (non-RAID)				
None	None	Onboard NVMe interface (4-port)	1	-
7Y37A01081	AUV2	ThinkSystem 1610-4P NVMe Switch Adapter	1	1

* The onboard SATA controller integrated into the Intel C622 Platform Controller Hub (PCH) supports non-RAID (JBOD) AHCI mode or a hardware-assist, software RAID feature (Intel Rapid Storage Technology Enterprise [RSTe]).

For a comparison of the functions of the supported storage adapters, see the ThinkSystem RAID Adapter and HBA Reference:
https://lenovopress.com/lp1288-thinksystem-raid-adapter-and-hba-reference#sr590-support=SR590

Configuration notes:

- Low profile SAS RAID controllers and HBAs for internal storage are supported in the PCIe x8 slot 4 on the system board and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- The onboard NVMe interface provides 4x PCIe 3.0 x4 ports for JBOD (non-RAID) connectivity to U.2 NVMe PCIe SSDs in the AnyBay drive bays, and it requires the second processor to be installed.
- 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 the AnyBay drive bays, and it is supported in the PCIe x16 slot 1 supplied by the x16/x8 riser card 1 in the configurations with one processor only.
- A combination of the RAID 530-8i, 730-8i 1GB, 730-8i 2GB, and 930-8i controllers is not allowed in the server configuration; if two PCIe RAID 8i controllers are used in the server configuration, both RAID controllers must be of the same model.
- The onboard Intel RSTe is not supported by virtualization hypervisors, including VMware vSphere (ESXi), Linux KVM, Xen, and Microsoft Hyper-V.

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

Internal drive options

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

2.5-inch hot-swap drives:

- 2.5-inch hot-swap 12 Gb SAS HDDs
- 2.5-inch hot-swap 6 Gb SATA HDDs
- 2.5-inch hot-swap 24 Gb SAS SSDs
- 2.5-inch hot-swap 12 Gb SAS SSDs
- 2.5-inch hot-swap 6 Gb SATA SSDs
- 2.5-inch hot-swap PCIe 4.0 NVMe SSDs
- 2.5-inch hot-swap PCIe 3.0 NVMe SSDs

3.5-inch hot-swap drives:

- 3.5-inch hot-swap 12 Gb SAS HDDs
- 3.5-inch hot-swap 6 Gb SATA HDDs
- 3.5-inch hot-swap 24 Gb SAS SSDs
- 3.5-inch hot-swap 12 Gb SAS SSDs
- 3.5-inch hot-swap 6 Gb SATA SSDs
- 3.5-inch hot-swap PCIe 3.0 NVMe SSDs

Simple-swap drives:

- 3.5-inch simple-swap 6 Gb SATA HDDs
- 3.5-inch simple-swap 6 Gb SATA SSDs

M.2 drives:

- M.2 SATA drives

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

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

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

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

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap HDDs - 12 Gb SAS 15K				
7XB7A00021	AULV	ThinkSystem 2.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00022	AULW	ThinkSystem 2.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00023	AULX	ThinkSystem 2.5" 900GB 15K SAS 12Gb Hot Swap 512e HDD	No	16
2.5-inch hot-swap HDDs - 12 Gb SAS 10K				
7XB7A00024	AULY	ThinkSystem 2.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00025	AULZ	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00026	AUM0	ThinkSystem 2.5" 900GB 10K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00027	AUM1	ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00028	AUM2	ThinkSystem 2.5" 1.8TB 10K SAS 12Gb Hot Swap 512e HDD	No	16
7XB7A00069	B0YS	ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD	No	16
2.5-inch hot-swap HDDs - 12 Gb NL SAS				
7XB7A00034	AUM6	ThinkSystem 2.5" 1TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	16
7XB7A00035	AUM7	ThinkSystem 2.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	16
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	Support	16
7XB7A00031	AUM5	ThinkSystem 2.5" 600GB 10K SAS 12Gb Hot Swap 512n HDD SED	Support	16

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

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap HDDs - 6 Gb NL SATA				
7XB7A00036	AUUE	ThinkSystem 2.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	No	16
7XB7A00037	AUUJ	ThinkSystem 2.5" 2TB 7.2K SATA 6Gb Hot Swap 512e HDD	No	16

Table 31. 2.5-inch hot-swap 24 Gb SAS SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap SSDs - 24 Gb SAS - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A80340	BNW8	ThinkSystem 2.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	Support	16
4XB7A80341	BNW9	ThinkSystem 2.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	Support	16
4XB7A80342	BNW6	ThinkSystem 2.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	Support	16
4XB7A80343	BP3K	ThinkSystem 2.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	Support	16
2.5-inch hot-swap SSDs - 24 Gb SAS - Read Intensive/Entry/Capacity (<3 DWPD)				
4XB7A80318	BNWC	ThinkSystem 2.5" PM1653 960GB Read Intensive SAS 24Gb HS SSD	Support	16
4XB7A80319	BNWE	ThinkSystem 2.5" PM1653 1.92TB Read Intensive SAS 24Gb HS SSD	Support	16
4XB7A80320	BNWF	ThinkSystem 2.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD	Support	16
4XB7A80321	BP3E	ThinkSystem 2.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD	Support	16
4XB7A80322	BP3J	ThinkSystem 2.5" PM1653 15.36TB Read Intensive SAS 24Gb HS SSD	Support	16
4XB7A80323	BP3D	ThinkSystem 2.5" PM1653 30.72TB Read Intensive SAS 24Gb HS SSD	Support	16

Table 32. 2.5-inch hot-swap 12 Gb SAS SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap SSDs - 12 Gb SAS - Write Intensive/Performance (10+ DWPD)				
4XB7A83214	BR10	ThinkSystem 2.5" Nytro 3750 400GB Write Intensive SAS 12Gb HS SSD	Support	16
4XB7A83215	BR0Z	ThinkSystem 2.5" Nytro 3750 800GB Write Intensive SAS 12Gb HS SSD	Support	16
4XB7A83216	BR0Y	ThinkSystem 2.5" Nytro 3750 1.6TB Write Intensive SAS 12Gb HS SSD	Support	16
4XB7A83217	BR0X	ThinkSystem 2.5" Nytro 3750 3.2TB Write Intensive SAS 12Gb HS SSD	Support	16
4XB7A70006	BG07	ThinkSystem 2.5" Nytro 3732 400GB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A70005	BG06	ThinkSystem 2.5" Nytro 3732 800GB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A70007	BFZZ	ThinkSystem 2.5" Nytro 3732 800GB Performance SAS 12Gb Hot Swap SSD SED	Support	16
4XB7A70004	BG05	ThinkSystem 2.5" Nytro 3732 1.6TB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A70003	BG04	ThinkSystem 2.5" Nytro 3732 3.2TB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A10219	B4Y4	ThinkSystem 2.5" SS530 400GB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A10230	B4Y5	ThinkSystem 2.5" SS530 800GB Performance SAS 12Gb Hot Swap SSD	No	16
4XB7A10231	B4Y6	ThinkSystem 2.5" SS530 1.6TB Performance SAS 12Gb Hot Swap SSD	No	16

Part number	Feature code	Description	SED support	Max Qty
4XB7A10232	B4Y7	ThinkSystem 2.5" SS530 3.2TB Performance SAS 12Gb Hot Swap SSD	No	16
7N47A00124	AUMG	ThinkSystem 2.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD	No	16
7N47A00125	AUMH	ThinkSystem 2.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD	No	16
7N47A00126	AVRB	ThinkSystem 2.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD	No	16
7SD7A05754	B11P	ThinkSystem 2.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD FIPS	Support	16
7SD7A05753	B11Q	ThinkSystem 2.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD FIPS	Support	16
7SD7A05752	B11R	ThinkSystem 2.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD FIPS	Support	16
2.5-inch hot-swap SSDs - 12 Gb SAS - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17062	B8HU	ThinkSystem 2.5" PM1645a 800GB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A17063	B8J4	ThinkSystem 2.5" PM1645a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A17064	B8JD	ThinkSystem 2.5" PM1645a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A17065	B8JA	ThinkSystem 2.5" PM1645a 6.4TB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A13653	B4A0	ThinkSystem 2.5" PM1645 800GB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A13654	B4A1	ThinkSystem 2.5" PM1645 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	16
4XB7A13655	B4A2	ThinkSystem 2.5" PM1645 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	16
7N47A00117	AUMC	ThinkSystem 2.5" PM1635a 400GB Mainstream SAS 12Gb Hot Swap SSD	No	16
7N47A00118	AUMD	ThinkSystem 2.5" PM1635a 800GB Mainstream SAS 12Gb Hot Swap SSD	No	16
7N47A00119	AVRG	ThinkSystem 2.5" PM1635a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	16
7N47A00120	AVRJ	ThinkSystem 2.5" PM1635a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	16
2.5-inch hot-swap SSDs - 12 Gb SAS - Read Intensive/Entry/Capacity (<3 DWPD)				
4XB7A38175	B91A	ThinkSystem 2.5" PM1643a 960GB Entry SAS 12Gb Hot Swap SSD	No	16
4XB7A38176	B91B	ThinkSystem 2.5" PM1643a 1.92TB Entry SAS 12Gb Hot Swap SSD	No	16
4XB7A17054	B91C	ThinkSystem 2.5" PM1643a 3.84TB Entry SAS 12Gb Hot Swap SSD	No	16
4XB7A17055	B91D	ThinkSystem 2.5" PM1643a 7.68TB Entry SAS 12Gb Hot Swap SSD	No	16
4XB7A17056	BC4R	ThinkSystem 2.5" PM1643a 15.36TB Entry SAS 12Gb Hot Swap SSD	No	16
4XB7A13645	B4A7	ThinkSystem 2.5" PM1643 3.84TB Capacity SAS 12Gb Hot Swap SSD	No	16
4XB7A13646	B4A6	ThinkSystem 2.5" PM1643 7.68TB Capacity SAS 12Gb Hot Swap SSD	No	16
7N47A00121	AUMK	ThinkSystem 2.5" PM1633a 3.84TB Capacity SAS 12Gb Hot Swap SSD	No	16
7N47A00122	AUML	ThinkSystem 2.5" PM1633a 7.68TB Capacity SAS 12Gb Hot Swap SSD	No	16

Table 33. 2.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch hot-swap SSDs - 6 Gb SATA - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A82289	BQ21	ThinkSystem 2.5" 5400 MAX 480GB Mixed Use SATA 6Gb HS SSD	Support	16
4XB7A82290	BQ24	ThinkSystem 2.5" 5400 MAX 960GB Mixed Use SATA 6Gb HS SSD	Support	16
4XB7A82291	BQ22	ThinkSystem 2.5" 5400 MAX 1.92TB Mixed Use SATA 6Gb HS SSD	Support	16
4XB7A82292	BQ23	ThinkSystem 2.5" 5400 MAX 3.84TB Mixed Use SATA 6Gb HS SSD	Support	16

Part number	Feature code	Description	SED support	Max Qty
4XB7A17125	BA7Q	ThinkSystem 2.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A17126	BA4T	ThinkSystem 2.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A17127	BA4U	ThinkSystem 2.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A17128	BK7L	ThinkSystem 2.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A17087	B8J1	ThinkSystem 2.5" 5300 240GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A17088	B8HY	ThinkSystem 2.5" 5300 480GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A17089	B8J6	ThinkSystem 2.5" 5300 960GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A17090	B8JE	ThinkSystem 2.5" 5300 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A17091	B8J7	ThinkSystem 2.5" 5300 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A13633	B49L	ThinkSystem 2.5" S4610 240GB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A13634	B49M	ThinkSystem 2.5" S4610 480GB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A13635	B49N	ThinkSystem 2.5" S4610 960GB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A13637	B49Q	ThinkSystem 2.5" S4610 3.84TB Mixed Use SATA 6Gb HS SSD	No	16
4XB7A10237	B488	ThinkSystem 2.5" 5200 240GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A10238	B489	ThinkSystem 2.5" 5200 480GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A10239	B48A	ThinkSystem 2.5" 5200 960GB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A10240	B48B	ThinkSystem 2.5" 5200 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	16
4XB7A10241	B48C	ThinkSystem 2.5" 5200 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05723	B0ZP	ThinkSystem 2.5" Intel S4600 240GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05722	B0ZQ	ThinkSystem 2.5" Intel S4600 480GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05721	B0ZR	ThinkSystem 2.5" Intel S4600 960GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05720	B0ZS	ThinkSystem 2.5" Intel S4600 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05765	B10W	ThinkSystem 2.5" 5100 240GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05764	B10X	ThinkSystem 2.5" 5100 480GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05763	B10Y	ThinkSystem 2.5" 5100 960GB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05762	B10Z	ThinkSystem 2.5" 5100 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	16
7SD7A05761	B110	ThinkSystem 2.5" 5100 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	16
2.5-inch hot-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A82258	BQ1Q	ThinkSystem 2.5" 5400 PRO 240GB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A82259	BQ1P	ThinkSystem 2.5" 5400 PRO 480GB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A82260	BQ1R	ThinkSystem 2.5" 5400 PRO 960GB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A82261	BQ1X	ThinkSystem 2.5" 5400 PRO 1.92TB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A82262	BQ1S	ThinkSystem 2.5" 5400 PRO 3.84TB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A82263	BQ1T	ThinkSystem 2.5" 5400 PRO 7.68TB Read Intensive SATA 6Gb HS SSD	Support	16
4XB7A72438	BM8B	ThinkSystem 2.5" PM893 480GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A72439	BM8A	ThinkSystem 2.5" PM893 960GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A72440	BM89	ThinkSystem 2.5" PM893 1.92TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A72441	BM88	ThinkSystem 2.5" PM893 3.84TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A72442	BM87	ThinkSystem 2.5" PM893 7.68TB Read Intensive SATA 6Gb HS SSD	No	16

Part number	Feature code	Description	SED support	Max Qty
4XB7A17072	B99D	ThinkSystem 2.5" S4520 240GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A17101	BA7G	ThinkSystem 2.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A17102	BA7H	ThinkSystem 2.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A17103	BA7J	ThinkSystem 2.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A17104	BK77	ThinkSystem 2.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A17105	BK78	ThinkSystem 2.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A38271	BCTC	ThinkSystem 2.5" Multi Vendor 240GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A38272	BCTD	ThinkSystem 2.5" Multi Vendor 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A38273	BCTE	ThinkSystem 2.5" Multi Vendor 960GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A38274	BCTF	ThinkSystem 2.5" Multi Vendor 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A38275	BCTG	ThinkSystem 2.5" Multi Vendor 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17075	B8HV	ThinkSystem 2.5" 5300 240GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17076	B8JM	ThinkSystem 2.5" 5300 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17077	B8HP	ThinkSystem 2.5" 5300 960GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17078	B8J5	ThinkSystem 2.5" 5300 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17079	B8JP	ThinkSystem 2.5" 5300 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A17080	B8J2	ThinkSystem 2.5" 5300 7.68TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A38185	B9AC	ThinkSystem 2.5" 5210 960GB Entry SATA 6Gb Hot Swap QLC SSD	No	16
4XB7A38144	B7EW	ThinkSystem 2.5" 5210 1.92TB Entry SATA 6Gb Hot Swap QLC SSD	No	16
4XB7A38145	B7EX	ThinkSystem 2.5" 5210 3.84TB Entry SATA 6Gb Hot Swap QLC SSD	No	16
4XB7A38146	B7EY	ThinkSystem 2.5" 5210 7.68TB Entry SATA 6Gb Hot Swap QLC SSD	No	16
4XB7A10247	B498	ThinkSystem 2.5" S4510 240GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A10248	B499	ThinkSystem 2.5" S4510 480GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A10249	B49A	ThinkSystem 2.5" S4510 960GB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A13622	B49B	ThinkSystem 2.5" S4510 1.92TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A13623	B49C	ThinkSystem 2.5" S4510 3.84TB Read Intensive SATA 6Gb HS SSD	No	16
4XB7A10195	B34H	ThinkSystem 2.5" PM883 240GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10196	B34J	ThinkSystem 2.5" PM883 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10197	B34K	ThinkSystem 2.5" PM883 960GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10198	B34L	ThinkSystem 2.5" PM883 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10199	B34M	ThinkSystem 2.5" PM883 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10200	B4D2	ThinkSystem 2.5" PM883 7.68TB Entry SATA 6Gb Hot Swap SSD	No	16
7SD7A05742	B0YY	ThinkSystem 2.5" Intel S4500 240GB Entry SATA 6Gb Hot Swap SSD	No	16
7SD7A05741	B0YZ	ThinkSystem 2.5" Intel S4500 480GB Entry SATA 6Gb Hot Swap SSD	No	16
7SD7A05740	B0Z0	ThinkSystem 2.5" Intel S4500 960GB Entry SATA 6Gb Hot Swap SSD	No	16
7SD7A05739	B0Z1	ThinkSystem 2.5" Intel S4500 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16
7SD7A05738	B0Z2	ThinkSystem 2.5" Intel S4500 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
7N47A00111	AUUQ	ThinkSystem 2.5" PM863a 240GB Entry SATA 6Gb Hot Swap SSD	No	16
7N47A00112	AUM9	ThinkSystem 2.5" PM863a 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10153	B2X2	ThinkSystem 2.5" 5200 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10154	B2X3	ThinkSystem 2.5" 5200 960GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10155	B2X4	ThinkSystem 2.5" 5200 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16

Part number	Feature code	Description	SED support	Max Qty
4XB7A10156	B2X5	ThinkSystem 2.5" 5200 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A10157	B2X6	ThinkSystem 2.5" 5200 7.68TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A08502	B10N	ThinkSystem 2.5" 5100 480GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A08503	B10P	ThinkSystem 2.5" 5100 960GB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A08504	B10Q	ThinkSystem 2.5" 5100 1.92TB Entry SATA 6Gb Hot Swap SSD	No	16
4XB7A08505	B10R	ThinkSystem 2.5" 5100 3.84TB Entry SATA 6Gb Hot Swap SSD	No	16
7N47A00099	AUM8	ThinkSystem 2.5" Intel S3520 240GB Entry SATA 6Gb Hot Swap SSD	No	16
7N47A00100	AUUZ	ThinkSystem 2.5" Intel S3520 480GB Entry SATA 6Gb Hot Swap SSD	No	16

Table 34. 2.5-inch hot-swap PCIe 4.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch SSDs - U.2 PCIe 4.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17129	BNEG	ThinkSystem 2.5" U.2 P5620 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A17130	BNEH	ThinkSystem 2.5" U.2 P5620 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A17133	BNEZ	ThinkSystem 2.5" U.2 P5620 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A17152	BCFV	ThinkSystem 2.5" U.2 P5600 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	No	4
4XB7A17153	BCFR	ThinkSystem 2.5" U.2 P5600 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	No	4
4XB7A17154	BCFS	ThinkSystem 2.5" U.2 P5600 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	No	4
2.5-inch SSDs - U.3 PCIe 4.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A79639	BNF1	ThinkSystem 2.5" U.3 7450 MAX 800GB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13967	BNEJ	ThinkSystem 2.5" U.3 7450 MAX 1.6TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13970	BNEY	ThinkSystem 2.5" U.3 7450 MAX 3.2TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13971	BNEL	ThinkSystem 2.5" U.3 7450 MAX 6.4TB Mixed Use NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A64175	BE03	ThinkSystem U.3 Kioxia CM6-V 800GB Mainstream NVMe PCIe 4.0 x4 Hot Swap SSD	No	4
4XB7A17112	B96Z	ThinkSystem U.3 Kioxia CM6-V 1.6TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	No	4
4XB7A17113	B96T	ThinkSystem U.3 Kioxia CM6-V 3.2TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	No	4
4XB7A17114	B96P	ThinkSystem U.3 Kioxia CM6-V 6.4TB Mainstream NVMe PCIe4.0 x4 Hot Swap SSD	No	4
2.5-inch SSDs - U.2 PCIe 4.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A13941	BMGD	ThinkSystem 2.5" U.2 P5520 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13942	BMGE	ThinkSystem 2.5" U.2 P5520 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13943	BNEF	ThinkSystem 2.5" U.2 P5520 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A13631	BNEQ	ThinkSystem 2.5" U.2 P5520 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4

Part number	Feature code	Description	SED support	Max Qty
4XB7A17145	BCFT	ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	4
4XB7A17146	BCFW	ThinkSystem 2.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	4
4XB7A17147	BCFU	ThinkSystem 2.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	No	4
2.5-inch SSDs - U.3 PCIe 4.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A79646	BNF3	ThinkSystem 2.5" U.3 7450 PRO 960GB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A79647	BNF2	ThinkSystem 2.5" U.3 7450 PRO 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A79648	BNF5	ThinkSystem 2.5" U.3 7450 PRO 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A79649	BNF4	ThinkSystem 2.5" U.3 7450 PRO 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4
4XB7A83097	BQAV	ThinkSystem 2.5" U.3 7450 PRO 15.36TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	Support	4

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

Table 35. 2.5-inch hot-swap PCIe 3.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
2.5-inch SSDs - U.2 PCIe 3.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A13936	B589	ThinkSystem U.2 Intel P4610 1.6TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	No	4
4XB7A13937	B58A	ThinkSystem U.2 Intel P4610 3.2TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	No	4
4XB7A13938	B58B	ThinkSystem U.2 Intel P4610 6.4TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	No	4
4XB7A08516	B21W	ThinkSystem U.2 Toshiba CM5-V 800GB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
4XB7A08517	B21X	ThinkSystem U.2 Toshiba CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
4XB7A08518	B21Y	ThinkSystem U.2 Toshiba CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
4XB7A08519	B2XJ	ThinkSystem U.2 Toshiba CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7N47A00095	AUUY	ThinkSystem U.2 PX04PMB 960GB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7N47A00096	AUMF	ThinkSystem U.2 PX04PMB 1.92TB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7SD7A05772	B11J	ThinkSystem U.2 Intel P4600 1.6TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	No	4
7SD7A05771	B11K	ThinkSystem U.2 Intel P4600 3.2TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	No	4
2.5-inch SSDs - U.2 PCIe 3.0 NVMe - Read Intensive/Entry (<3 DWPD)				
4XB7A10202	B58F	ThinkSystem U.2 Intel P4510 1.0TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4
4XB7A10204	B58G	ThinkSystem 2.5" U.2 P4510 2.0TB Read Intensive NVMe PCIe 3.0 x4 HS SSD	No	4
4XB7A08513	B58J	ThinkSystem U.2 Intel P4510 8.0TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4
4XB7A10175	B34N	ThinkSystem U.2 PM983 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
4XB7A10176	B34P	ThinkSystem U.2 PM983 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
4XB7A10177	B4D3	ThinkSystem U.2 PM983 7.68TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4
7N47A00984	AUV0	ThinkSystem U.2 PM963 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7N47A00985	AUUU	ThinkSystem U.2 PM963 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7SD7A05779	B11C	ThinkSystem U.2 Intel P4500 1.0TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4
7SD7A05778	B11D	ThinkSystem U.2 Intel P4500 2.0TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4
7SD7A05777	B11E	ThinkSystem U.2 Intel P4500 4.0TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	No	4

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

Table 36. 3.5-inch hot-swap 12 Gb SAS HDDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap HDDs - 12 Gb SAS 10K				
7XB7A00063	B1JJ	ThinkSystem 3.5" 300GB 10K SAS 12Gb Hot Swap 512n HDD	No	14
3.5-inch hot-swap HDDs - 12 Gb SAS 15K				
7XB7A00038	AUU2	ThinkSystem 3.5" 300GB 15K SAS 12Gb Hot Swap 512n HDD	No	14
7XB7A00039	AUU3	ThinkSystem 3.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD	No	14
7XB7A00040	AUUC	ThinkSystem 3.5" 900GB 15K SAS 12Gb Hot Swap 512e HDD	No	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	No	14
7XB7A00042	AUU5	ThinkSystem 3.5" 2TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	14
7XB7A00043	AUU6	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD	No	14
7XB7A00044	AUU7	ThinkSystem 3.5" 6TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
7XB7A00045	B0YR	ThinkSystem 3.5" 8TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
7XB7A00046	AUUG	ThinkSystem 3.5" 10TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
7XB7A00067	B117	ThinkSystem 3.5" 12TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
4XB7A13906	B496	ThinkSystem 3.5" 14TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
4XB7A13911	B7EZ	ThinkSystem 3.5" 16TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
4XB7A38266	BCFP	ThinkSystem 3.5" 18TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
4XB7A80353	BPKU	ThinkSystem 3.5" 20TB 7.2K SAS 12Gb Hot Swap 512e HDD	No	14
3.5-inch hot-swap SED HDDs - 12 Gb NL SAS				
7XB7A00047	AUUH	ThinkSystem 3.5" 4TB 7.2K SAS 12Gb Hot Swap 512n HDD FIPS	Support	14

Table 37. 3.5-inch hot-swap 6 Gb SATA HDDs

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

Table 38. 3.5-inch hot-swap 24 Gb SAS SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap SSDs - 24 Gb SAS - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A80344	BNW7	ThinkSystem 3.5" PM1655 800GB Mixed Use SAS 24Gb HS SSD	Support	14
4XB7A80345	BNWA	ThinkSystem 3.5" PM1655 1.6TB Mixed Use SAS 24Gb HS SSD	Support	14
4XB7A80346	BNWB	ThinkSystem 3.5" PM1655 3.2TB Mixed Use SAS 24Gb HS SSD	Support	14
4XB7A80347	BP3G	ThinkSystem 3.5" PM1655 6.4TB Mixed Use SAS 24Gb HS SSD	Support	14
3.5-inch hot-swap SSDs - 24 Gb SAS - Read Intensive/Entry/Capacity (<3 DWPD)				
4XB7A80324	BNWD	ThinkSystem 3.5" PM1653 960GB Read Intensive SAS 24Gb HS SSD	Support	14
4XB7A80325	BNWG	ThinkSystem 3.5" PM1653 1.92TB Read Intensive SAS 24Gb HS SSD	Support	14
4XB7A80326	BNWH	ThinkSystem 3.5" PM1653 3.84TB Read Intensive SAS 24Gb HS SSD	Support	14
4XB7A80327	BP3F	ThinkSystem 3.5" PM1653 7.68TB Read Intensive SAS 24Gb HS SSD	Support	14
4XB7A80328	BP3H	ThinkSystem 3.5" PM1653 15.36TB Read Intensive SAS 24Gb HS SSD	Support	14

Table 39. 3.5-inch hot-swap 12 Gb SAS SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap SSDs - 12 Gb SAS - Write Intensive/Performance (10+ DWPD)				
4XB7A83218	BR0W	ThinkSystem 3.5" Nytro 3750 400GB Write Intensive SAS 12Gb HS SSD	Support	14
4XB7A83219	BR0V	ThinkSystem 3.5" Nytro 3750 800GB Write Intensive SAS 12Gb HS SSD	Support	14
4XB7A83220	BR0U	ThinkSystem 3.5" Nytro 3750 1.6TB Write Intensive SAS 12Gb HS SSD	Support	14
4XB7A83221	BR0T	ThinkSystem 3.5" Nytro 3750 3.2TB Write Intensive SAS 12Gb HS SSD	Support	14
4XB7A70011	BG03	ThinkSystem 3.5" Nytro 3732 400GB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A70010	BG02	ThinkSystem 3.5" Nytro 3732 800GB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A70009	BG01	ThinkSystem 3.5" Nytro 3732 1.6TB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A70008	BG00	ThinkSystem 3.5" Nytro 3732 3.2TB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A10234	B4Y8	ThinkSystem 3.5" SS530 800GB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A10235	B4Y9	ThinkSystem 3.5" SS530 1.6TB Performance SAS 12Gb Hot Swap SSD	No	14
4XB7A10236	B4YA	ThinkSystem 3.5" SS530 3.2TB Performance SAS 12Gb Hot Swap SSD	No	14
7N47A00997	B16Z	ThinkSystem 3.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD	No	14
7N47A00998	B170	ThinkSystem 3.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD	No	14
7N47A00999	B171	ThinkSystem 3.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD	No	14
7SD7A05751	B11S	ThinkSystem 3.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD FIPS	Support	14
7SD7A05750	B11T	ThinkSystem 3.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD FIPS	Support	14
7SD7A05749	B11U	ThinkSystem 3.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD FIPS	Support	14

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap SSDs - 12 Gb SAS - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17066	B8HT	ThinkSystem 3.5" PM1645a 800GB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A17043	B8JN	ThinkSystem 3.5" PM1645a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A17067	B8JK	ThinkSystem 3.5" PM1645a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A17068	B8JG	ThinkSystem 3.5" PM1645a 6.4TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A13657	B4A3	ThinkSystem 3.5" PM1645 800GB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A13658	B4A4	ThinkSystem 3.5" PM1645 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A13659	B4A5	ThinkSystem 3.5" PM1645 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A10188	B2XD	ThinkSystem 3.5" PM1635a 800GB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A10187	B2XE	ThinkSystem 3.5" PM1635a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	No	14
4XB7A10189	B2XL	ThinkSystem 3.5" PM1635a 3.2TB Mainstream SAS 12Gb Hot Swap SSD	No	14
3.5-inch hot-swap SSDs - 12 Gb SAS - Read Intensive/Entry/Capacity (<3 DWPD)				
4XB7A17058	B91E	ThinkSystem 3.5" PM1643a 3.84TB Entry SAS 12Gb Hot Swap SSD	No	14
4XB7A17059	BEVK	ThinkSystem 3.5" PM1643a 7.68TB Entry SAS 12Gb Hot Swap SSD	No	14
4XB7A13649	B4A8	ThinkSystem 3.5" PM1643 3.84TB Capacity SAS 12Gb Hot Swap SSD	No	14
4XB7A10173	B2XC	ThinkSystem 3.5" PM1633a 3.84TB Capacity SAS 12Gb Hot Swap SSD	No	14

Table 40. 3.5-inch hot-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch hot-swap SSDs - 6 Gb SATA - Mixed Use/Mainstream (3-5 DWPD)				
4XB7A17137	BA4W	ThinkSystem 3.5" S4620 480GB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A17138	BA4X	ThinkSystem 3.5" S4620 960GB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A17139	BA4Y	ThinkSystem 3.5" S4620 1.92TB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A17140	BK7P	ThinkSystem 3.5" S4620 3.84TB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A17096	B8JL	ThinkSystem 3.5" 5300 240GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A17097	B8JF	ThinkSystem 3.5" 5300 480GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A17098	B8J0	ThinkSystem 3.5" 5300 960GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A17099	B8HR	ThinkSystem 3.5" 5300 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A17100	B8HX	ThinkSystem 3.5" 5300 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A13639	B49R	ThinkSystem 3.5" S4610 240GB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A13640	B49S	ThinkSystem 3.5" S4610 480GB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A13641	B49T	ThinkSystem 3.5" S4610 960GB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A13643	B49V	ThinkSystem 3.5" S4610 3.84TB Mixed Use SATA 6Gb HS SSD	No	14
4XB7A10242	B48D	ThinkSystem 3.5" 5200 240GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A10243	B48E	ThinkSystem 3.5" 5200 480GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A10244	B48F	ThinkSystem 3.5" 5200 960GB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A10245	B48G	ThinkSystem 3.5" 5200 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	14
4XB7A10246	B48H	ThinkSystem 3.5" 5200 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05718	B0ZT	ThinkSystem 3.5" Intel S4600 240GB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05717	B0ZU	ThinkSystem 3.5" Intel S4600 480GB Mainstream SATA 6Gb Hot Swap SSD	No	14

Part number	Feature code	Description	SED support	Max Qty
7SD7A05716	B0ZV	ThinkSystem 3.5" Intel S4600 960GB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05715	B109	ThinkSystem 3.5" Intel S4600 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05760	B111	ThinkSystem 3.5" 5100 240GB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05759	B112	ThinkSystem 3.5" 5100 480GB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05758	B113	ThinkSystem 3.5" 5100 960GB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05757	B114	ThinkSystem 3.5" 5100 1.92TB Mainstream SATA 6Gb Hot Swap SSD	No	14
7SD7A05756	B115	ThinkSystem 3.5" 5100 3.84TB Mainstream SATA 6Gb Hot Swap SSD	No	14
3.5-inch hot-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A17118	BA7K	ThinkSystem 3.5" S4520 240GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17119	BA7L	ThinkSystem 3.5" S4520 480GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17120	BA7M	ThinkSystem 3.5" S4520 960GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17121	BA7N	ThinkSystem 3.5" S4520 1.92TB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17122	BK7F	ThinkSystem 3.5" S4520 3.84TB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17123	BK7G	ThinkSystem 3.5" S4520 7.68TB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A38276	BCTH	ThinkSystem 3.5" Multi Vendor 240GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A38277	BCTJ	ThinkSystem 3.5" Multi Vendor 480GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A38278	BCTK	ThinkSystem 3.5" Multi Vendor 960GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A38279	BCTL	ThinkSystem 3.5" Multi Vendor 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A38281	BCTM	ThinkSystem 3.5" Multi Vendor 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17081	B8JB	ThinkSystem 3.5" 5300 240GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17082	B8J9	ThinkSystem 3.5" 5300 480GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17083	B8JC	ThinkSystem 3.5" 5300 960GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17084	B8HZ	ThinkSystem 3.5" 5300 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17085	B8HQ	ThinkSystem 3.5" 5300 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17086	B8J3	ThinkSystem 3.5" 5300 7.68TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A13625	B49D	ThinkSystem 3.5" S4510 240GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A13626	B49E	ThinkSystem 3.5" S4510 480GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A13627	B49F	ThinkSystem 3.5" S4510 960GB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A13628	B49G	ThinkSystem 3.5" S4510 1.92TB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A13629	B49H	ThinkSystem 3.5" S4510 3.84TB Read Intensive SATA 6Gb HS SSD	No	14
4XB7A17176	B6TM	ThinkSystem 3.5" PM883 240GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17177	B6TN	ThinkSystem 3.5" PM883 480GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17178	B6TP	ThinkSystem 3.5" PM883 960GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17179	B6JY	ThinkSystem 3.5" PM883 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A17180	B6JZ	ThinkSystem 3.5" PM883 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14
7N47A00115	AUUS	ThinkSystem 3.5" PM863a 240GB Entry SATA 6Gb Hot Swap SSD	No	14
7N47A00116	AUUN	ThinkSystem 3.5" PM863a 480GB Entry SATA 6Gb Hot Swap SSD	No	14
7N47A00106	AUUT	ThinkSystem 3.5" Intel S3520 480GB Entry SATA 6Gb Hot Swap SSD	No	14
7N47A00105	AUUW	ThinkSystem 3.5" Intel S3520 240GB Entry SATA 6Gb Hot Swap SSD	No	14
7SD7A05737	B0Z3	ThinkSystem 3.5" Intel S4500 240GB Entry SATA 6Gb Hot Swap SSD	No	14
7SD7A05736	B0Z4	ThinkSystem 3.5" Intel S4500 480GB Entry SATA 6Gb Hot Swap SSD	No	14

Part number	Feature code	Description	SED support	Max Qty
7SD7A05735	B0Z5	ThinkSystem 3.5" Intel S4500 960GB Entry SATA 6Gb Hot Swap SSD	No	14
7SD7A05734	B0Z6	ThinkSystem 3.5" Intel S4500 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
7SD7A05733	B0Z7	ThinkSystem 3.5" Intel S4500 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A10158	B2X7	ThinkSystem 3.5" 5200 480GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A10159	B2X8	ThinkSystem 3.5" 5200 960GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A10160	B2X9	ThinkSystem 3.5" 5200 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A10161	B2XA	ThinkSystem 3.5" 5200 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A10162	B2XB	ThinkSystem 3.5" 5200 7.68TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A08506	B10S	ThinkSystem 3.5" 5100 480GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A08507	B10T	ThinkSystem 3.5" 5100 960GB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A08508	B10U	ThinkSystem 3.5" 5100 1.92TB Entry SATA 6Gb Hot Swap SSD	No	14
4XB7A08509	B10V	ThinkSystem 3.5" 5100 3.84TB Entry SATA 6Gb Hot Swap SSD	No	14

Table 41. 3.5-inch hot-swap PCIe 3.0 NVMe SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch SSDs - U.2 PCIe 3.0 NVMe - Mixed Use/Mainstream (3-5 DWPD)				
7N47A00982	AUUM	ThinkSystem 3.5" PX04PMB 960GB Mainstream NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
3.5-inch SSDs - U.2 PCIe 3.0 NVMe - Read Intensive/Entry (<3 DWPD)				
7N47A00987	AUUX	ThinkSystem 3.5" PM963 1.92TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4
7N47A00988	AUVZ	ThinkSystem 3.5" PM963 3.84TB Entry NVMe PCIe 3.0 x4 Hot Swap SSD	No	4

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

Table 42. 3.5-inch simple-swap 6 Gb SATA HDDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch simple-swap HDDs - 6 Gb NL SATA				
7XB7A00055	AUZS	ThinkSystem 1TB 7.2K 6Gbps SATA 3.5" Simple Swap 512n HDD	No	8
7XB7A00056	AUZT	ThinkSystem 2TB 7.2K 6Gbps SATA 3.5" Simple Swap 512n HDD	No	8
7XB7A00057	AUZU	ThinkSystem 4TB 7.2K 6Gbps SATA 3.5" Simple Swap 512n HDD	No	8
7XB7A00058	AXC7	ThinkSystem 6TB 7.2K 6Gbps SATA 3.5" Simple Swap 512e HDD	No	8
7XB7A00059	AXC6	ThinkSystem 8TB 7.2K 6Gbps SATA 3.5" Simple Swap 512e HDD	No	8
7XB7A00060	AXC8	ThinkSystem 3.5" 10TB 7.2K SATA 6Gb Simple Swap 512e HDD	No	8

Table 43. 3.5-inch simple-swap 6 Gb SATA SSDs

Part number	Feature code	Description	SED support	Max Qty
3.5-inch simple-swap SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A08491	B2XM	ThinkSystem 3.5" Intel S4500 240GB Entry SATA 6Gb Simple Swap SSD	No	8
4XB7A08492	B2XN	ThinkSystem 3.5" Intel S4500 480GB Entry SATA 6Gb Simple Swap SSD	No	8

Table 44. M.2 SATA drives

Part number	Feature code	Description	SED support	Max Qty
M.2 SSDs - 6 Gb SATA - Read Intensive/Entry (<3 DWPD)				
4XB7A82286	BQ1Z	ThinkSystem M.2 5400 PRO 240GB Read Intensive SATA 6Gb NHS SSD	Support	2*
4XB7A82287	BQ1Y	ThinkSystem M.2 5400 PRO 480GB Read Intensive SATA 6Gb NHS SSD	Support	2*
7N47A00129	AUUL	ThinkSystem M.2 32GB SATA 6Gbps Non-Hot Swap SSD	No	2
7N47A00130	AUUV	ThinkSystem M.2 128GB SATA 6Gbps Non-Hot Swap SSD	No	2
4XB7A14049	B5S4	ThinkSystem M.2 5100 240GB SATA 6Gbps Non-Hot Swap SSD	No	2*
7SD7A05703	B11V	ThinkSystem M.2 5100 480GB SATA 6Gbps Non-Hot Swap SSD	No	2*
4XB7A17071	B8HS	ThinkSystem M.2 5300 240GB SATA 6Gbps Non-Hot Swap SSD	No	2*
4XB7A17073	B919	ThinkSystem M.2 5300 480GB SATA 6Gbps Non-Hot Swap SSD	No	2*

* The 5100, 5300, or 5400 M.2 drives may require the SSD Thermal Kit, 4XH7A08791. See the Cooling section for details.

Optical drives

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

Table 45. External optical drive

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

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

I/O expansion

The SR590 server supports one LOM card slot and up to six PCIe slots: one 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 is double-wide) (x16 physical connector)
- Slot 2: PCIe 3.0 x8; full-height, half-length (not present if the slot 1 is PCIe x16) (x16 physical connector)
- Slot 3: PCIe 3.0 x8 or ML2 x8; full-height, half-length (x16 physical connector except ML2 which is x8)
- 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 x8; full-height, half-length (x16 physical connector)

Notes:

- Slot 5 requires the second processor to be installed.
- Slot 4 is not present if the COM Port Upgrade Kit is installed.

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

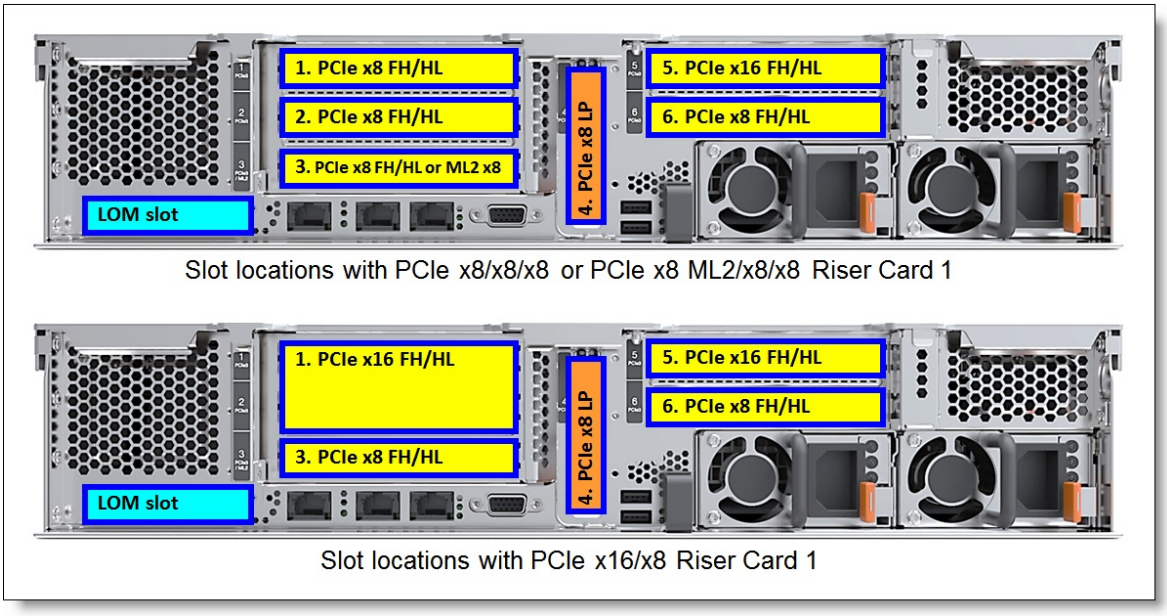

Figure 8. Slot locations

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 46. Slots available for use

		Slots available for use	
Riser Card 1	**Riser Card 2**	**Processor 1**	**Processor 2**
None	None	LOM, 4	-
None	PCIe x16/x8	LOM, 4, 6	5
PCIe x8/x8/x8 or PCIe x8 ML2/x8/x8	None	LOM, 1, 2, 3, 4	-
PCIe x8/x8/x8 or PCIe x8 ML2/x8/x8	PCIe x16/x8	LOM, 1, 2, 3, 4, 6	5
PCIe x16/x8	None	LOM, 1, 3, 4	-
PCIe x16/x8	PCIe x16/x8	LOM, 1, 3, 4, 6	5

The following table lists available PCIe riser card options.

Table 47. PCIe riser cards and miscellaneous options

Part number	Feature code	Description	Maximum quantity
x8 Riser Card 1 options (Riser card supplies slots 1, 2, and 3)			
4XH7A08777	B261	ThinkSystem SR590 x8/x8/x8 PCIe Riser 1 (x16/x16/x16 physical connectors)	1
4XH7A08778	B263	ThinkSystem SR590 x8 ML2/x8/x8 PCIe Riser 1 (x8/x16/x16 physical connectors)	1
x16 Riser Card 1 option (Riser card supplies slots 1 and 3)			
4XH7A08779	B260	ThinkSystem SR590 x16/x8 PCIe Riser 1 (x16/x16 physical connectors)	1
Riser Card 2 option (Riser card supplies slots 5 and 6)			
4XH7A08780	B262	ThinkSystem SR590 x16/x8 PCIe Riser 2 (x16/x16 physical connectors)	1
Serial port upgrade kit			
4Z17A80446	BMNJ	ThinkSystem COM Port Upgrade Kit v2	1
7Z17A02577	AUSL	ThinkSystem COM Port Upgrade Kit	1

The COM Port Upgrade Kit, part number 7Z17A02577, is used for mounting the external serial port on the rear of the SR590. This option includes the bracket and the cable. The COM Port option is mounted in place of the PCIe slot 4, and the PCIe slot 4 cannot be used.

Network adapters

The SR590 server has two onboard 1 GbE ports (no 10/100 Mb support) and up to two additional onboard 1/10 GbE network ports (no 10/100 Mb support) with optional LOM cards. Onboard ports and LOM cards use the Intel Ethernet Connection X722 1/10 GbE technology integrated into the Intel C622 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 support direct connectivity to the XClarity Controller via the Network Controller Sideband Interface (NSCI) for out-of-band systems management.

Note: ML2 network adapters do not support NSCI when used in the SR590 server.

The integrated Intel Ethernet Connection X722 has the following features:

- Two 1 Gb Ethernet ports (no 10/100 Mb Ethernet support)
- Two 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 SR590 server.

Table 48. Network adapters

Part number	Feature code	Description	Max qty#	I/O slots supported
LOM cards - 1 Gb Ethernet				

Part number	Feature code	Description	Max qty#	I/O slots supported
7ZT7A00544	AUKG	ThinkSystem 1Gb 2-port RJ45 LOM	1	LOM slot
LOM cards - 10 Gb Ethernet				
7ZT7A00548	AUKL	ThinkSystem 10Gb 2-port Base-T LOM	1	LOM slot
7ZT7A00546	AUKJ	ThinkSystem 10Gb 2-port SFP+ LOM	1*	LOM slot
ML2 adapters - Gigabit Ethernet				
7ZT7A00536	AUKW	ThinkSystem Intel I350-T4 ML2 1Gb 4-Port RJ45 Ethernet Adapter	1	3 (ML2)
ML2 adapters - 10 Gb Ethernet				
7ZT7A00497	AUKQ	Broadcom NX-E ML2 10Gb 2-Port Base-T Ethernet Adapter	1	3 (ML2)
00AG560	AT7U	Emulex VFA5.2 ML2 Dual Port 10GbE SFP+ Adapter	1*	3 (ML2)
01CV770	AU7Z	Emulex VFA5.2 ML2 2x10 GbE SFP+ Adapter and FCoE/iSCSI SW	1*	3 (ML2)
00JY940	ATRH	Intel X710-DA2 ML2 2x10GbE SFP+ Adapter	1*	3 (ML2)
PCIe Low Profile adapters - 1 Gb Ethernet				
7ZT7A00482	AUZX	Broadcom 5720 1GbE RJ45 2-Port PCIe Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
7ZT7A00484	AUZV	Broadcom 5719 1GbE RJ45 4-Port PCIe Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
7ZT7A00533	AUZZ	ThinkSystem I350-F1 PCIe 1Gb 1-Port SFP Ethernet Adapter	5 / 6	4, 1, 2, 3, 5, 6
7ZT7A00534	AUZY	ThinkSystem I350-T2 PCIe 1Gb 2-Port RJ45 Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
7ZT7A00535	AUZW	ThinkSystem I350-T4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XC7A62589†	BE8A†	SiNEAD I350-C4 PCIe 1Gb 4-Port RJ45 Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
PCIe Low Profile adapters - 10 Gb Ethernet				
7ZT7A00496	AUKP	Broadcom 57416 10GBASE-T 2-Port PCIe Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
00AG570	AT7S	Emulex VFA5.2 2x10 GbE SFP+ PCIe Adapter	5 / 6*	4, 1, 2, 3, 5, 6
00AG580	AT7T	Emulex VFA5.2 2x10 GbE SFP+ Adapter and FCoE/iSCSI SW	5 / 6*	4, 1, 2, 3, 5, 6
00MM860	ATPX	Intel X550-T2 Dual Port 10GBase-T Adapter	5 / 6	4, 2, 3, 6, 1, 5
7ZT7A00537	AUKX	Intel X710-DA2 PCIe 10Gb 2-Port SFP+ Ethernet Adapter	5 / 6*	4, 1, 2, 3, 5, 6
4XC7A79699	BMXB	ThinkSystem Intel X710-T4L 10GBase-T 4-Port PCIe Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XC7A08225	B31G	QLogic QL41134 PCIe 10Gb 4-Port Base-T Ethernet Adapter	5 / 6	4, 2, 3, 6, 1, 5
PCIe Full Height adapters - 10 Gb Ethernet				
7ZT7A00493	AUKN	Emulex OCe14104B-NX PCIe 10Gb 4-Port SFP+ Ethernet Adapter	4 / 5*	1, 2, 3, 5, 6
PCIe Low Profile adapters - 25 Gb Ethernet				
7ZT7A00505	AUKS	Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter	5 / 6*	4, 1, 2, 3, 5, 6
4XC7A08238	B5T0	Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	5 / 6*	4, 1, 2, 3, 5, 6
4XC7A08228	B21R	QLogic QL41262 10/25GbE SFP28 2-Port PCIe Ethernet Adapter	5 / 6*	4, 1, 2, 3, 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 adapter product guide for details.
† The SiNEAD I350-C4 adapter is only available for customers in Mainland China (PRC). Not supported installed with Intel I350 adapters.

Configuration notes:

- ML2 network adapters are supported in the ML2 x8 slot 3 supplied by the x8 ML2/x8/x8 Riser Card 1 (4XH7A08778).
- 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 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.
- Some adapters require supported transceivers or DAC cables to be purchased for the adapter. 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.

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 SR590 server.

Table 49. SAS RAID adapters and HBAs for external storage

Part number	Feature code	Description	Maximum quantity*	I/O slots supported
12 Gbps SAS RAID adapters				
7Y37A01087	AUNQ	ThinkSystem RAID 930-8e 4GB Flash PCIe 12Gb Adapter	3 / 3	4, 1, 2, 3, 5
4Y37A78836	BNWJ	ThinkSystem RAID 940-8e 4GB Flash PCIe Gen4 12Gb Adapter	3 / 3	4, 1, 2, 3, 5
12 Gbps SAS HBAs				
7Y37A01090	AUNR	ThinkSystem 430-8e SAS/SATA 12Gb HBA	4 / 5	4, 1, 2, 3, 5
7Y37A01091	AUNN	ThinkSystem 430-16e SAS/SATA 12Gb HBA	4 / 5	4, 1, 2, 3, 5
4Y37A78837	BNWK	ThinkSystem 440-8e SAS/SATA PCIe Gen4 12Gb HBA	4 / 5	4, 1, 2, 3, 5
4Y37A09724	B8P7	ThinkSystem 440-16e SAS/SATA PCIe Gen4 12Gb HBA	4 / 5	4, 1, 2, 3, 5

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

For a comparison of the functions of the supported storage adapters, see the ThinkSystem RAID Adapter and HBA Reference:
https://lenovopress.com/lp1288#sr590-support=SR590&internal-or-external-ports=External

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.
- The total quantity of the RAID 730-8i 2GB, 930-8i, 930-16i, and 930-8e controllers in the server must not exceed 3 (up to 3 supercapacitors can be mounted in the server).

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

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

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

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

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 SR590 server.

Table 50. Fibre Channel HBAs

Part number	Feature code	Description	Maximum quantity*	I/O slots supported
16 Gb Fibre Channel - PCIe				
01CV830	ATZU	Emulex 16Gb Gen6 FC Single-port HBA	5 / 6	4, 1, 2, 3, 5, 6
01CV840	ATZV	Emulex 16Gb Gen6 FC Dual-port HBA	5 / 6	4, 1, 2, 3, 5, 6
01CV750	ATZB	QLogic 16Gb Enhanced Gen5 FC Single-port HBA	5 / 6	4, 1, 2, 3, 5, 6
01CV760	ATZC	QLogic 16Gb Enhanced Gen5 FC Dual-port HBA	5 / 6	4, 1, 2, 3, 5, 6
8 Gb Fibre Channel - PCIe (available only in PRC and Asia Pacific)				
4XC7A08220	B0WZ	Emulex LPe12000-M8-L PCIe 8Gb 1-Port SFP+ FC HBA	5 / 6	4, 1, 2, 3, 5, 6
4XC7A08221	B0X0	Emulex LPe12002-M8-L PCIe 8Gb 2-Port SFP+ FC HBA	5 / 6	4, 1, 2, 3, 5, 6

* 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 SR590 server supports the flash storage adapters listed in the following table.

Table 51. Flash storage adapters

Part number	Feature code	Description	Maximum quantity*	I/O slots supported
Mainstream Flash Adapters - PM1735				
4XB7A14075	B8JH	ThinkSystem HHHL PM1735 1.6TB Mainstream NVMe PCIe4.0 x8 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A14076	B8HW	ThinkSystem HHHL PM1735 3.2TB Mainstream NVMe PCIe4.0 x8 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A14077	B96M	ThinkSystem HHHL PM1735 6.4TB Mainstream NVMe PCIe4.0 x8 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
Mainstream Flash Adapters - CM5-V				
4XB7A38234	BCGJ	CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A38237	BCGK	CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A38240	BCGL	CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
Mainstream Flash Adapters - CM5-V				
4XB7A08520	B32L	CM5-V 1.6TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A08521	B32M	CM5-V 3.2TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
4XB7A08522	B32N	CM5-V 6.4TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
Mainstream Flash Adapters - P4600				
7SD7A05769	B11X	Intel P4600 2.0TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
7SD7A05768	B11Y	Intel P4600 4.0TB Mainstream NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
Entry Flash Adapters - P4500				
7SD7A05776	B11Z	Intel P4500 4.0TB Entry NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5
7SD7A05775	B120	Intel P4500 8.0TB Entry NVMe PCIe 3.0 x4 Flash Adapter	5 / 6	4, 2, 3, 6, 1, 5

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

Configuration note: Flash storage adapters 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 Flash storage adapters category:
http://lenovopress.com/servers/options/ssdadapter#rt=product-guide

Cooling

The SR590 server supports up to four hot-swap system fans that provide N+1 cooling redundancy. Models with one processor include three system fans, and Models with two processors include four system fans.

In the case of a system fan failure, performance might be impacted if any of the following processors are installed:

- 2nd Gen processors: Intel Xeon Gold 6210U, 6240, 6242, 6248, or 6252 processors are installed with 12x 3.5-inch drive bays
- 1st Gen processors: Intel Xeon 5122, 6140, 6152, 8156, 8158, 8160, or 8164 processors with 12x 3.5-inch drive bays

The installation of a 2nd processor requires an extra cooling fan be installed. For CTO orders, fans are derived by the configurator. For field upgrades, 1st Gen Xeon processor option part numbers include this fan however 2nd Gen Xeon processor options do not included the fan and it must be ordered separately using the SR590 Fan Option Kit (4F17A12351).

Table 52. Cooling options

Part number	Feature code	Description	Maximum quantity
4F17A12351	AXE9	ThinkSystem SR590 Fan Option Kit (for 2nd Gen processors only) Contains 1 system fan	1
4XH7A08791	B31F	ThinkSystem SR650/SR550/SR590 M.2 Thermal Kit	1

Configuration notes:

- The ThinkSystem SR650/SR550/SR590 M.2 Thermal Kit (4XH7A08791) is required in the configurations with at least one M.2 5100, 5300, or 5400 SSD is installed in the server with 12x LFF front drive bays.
- The M.2 SSD Thermal Kit is derived by the configurator if M.2 5100 or 5300 SSDs are selected in the initial configurations for server models with 12x LFF front drive bays. For field upgrades, the M.2 SSD Thermal Kit should be purchased with M.2 5100 or 5300 SSDs for server models with 12x LFF front drive bays.

Power supplies and cables

The SR590 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 53. Power supplies

Part number	Feature code	Description	Maximum quantity
7N67A00882	AXE8	ThinkSystem 550W (230V/115V) Platinum Hot-Swap Power Supply	2
7N67A00883	AXE6	ThinkSystem 750W (230/115V) Platinum Hot-Swap Power Supply	2
7N67A00884	AXE7	ThinkSystem 750W (230V) Titanium Hot-Swap Power Supply	2
4P57A82020	BR1Y	ThinkSystem V1 750W (230Vac) Titanium Hot Swap Power Supply	2

Configuration notes:

- Minimum of 1 and maximum of 2 power supplies per system.
- If 2 are installed, power supplies must be identical.
- Power supplies support AC (Worldwide) and HVDC (PRC only) power sources.

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

Power cords

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

115V customers: If you plan to use the 1100W power supply with a low-range (100-127V) power source, select a power cable that is rated above 10A. Power cables that are rated at 10A or below are not supported with low-range power.

Table 54. Power cords

Part number	Feature code	Description
Rack cables - C13 to C14		
SL67B08593	BPHZ	0.5m, 10A/100-250V, C13 to C14 Jumper Cord
00Y3043	A4VP	1.0m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08367	B0N5	1.0m, 13A/100-250V, C13 to C14 Jumper Cord
39Y7937	6201	1.5m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08368	B0N6	1.5m, 13A/100-250V, C13 to C14 Jumper Cord
4L67A08365	B0N4	2.0m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08369	6570	2.0m, 13A/100-250V, C13 to C14 Jumper Cord
4L67A08366	6311	2.8m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08370	6400	2.8m, 13A/100-250V, C13 to C14 Jumper Cord
39Y7932	6263	4.3m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08371	6583	4.3m, 13A/100-250V, C13 to C14 Rack Power Cable
Rack cables - C13 to C14 (Y-cable)		
00Y3046	A4VQ	1.345m, 2X C13 to C14 Jumper Cord, Rack Power Cable
00Y3047	A4VR	2.054m, 2X C13 to C14 Jumper Cord, Rack Power Cable
Rack cables - C13 to C20		
39Y7938	6204	2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable
Rack cables - C13 to C20 (Y-cable)		
47C2491	A3SW	1.2m, 16A/100-250V, 2 Short C13s to Short C20 Rack Power Cable
47C2492	A3SX	2.5m, 16A/100-250V, 2 Long C13s to Short C20 Rack Power Cable
47C2493	A3SY	2.8m, 16A/100-250V, 2 Short C13s to Long C20 Rack Power Cable
47C2494	A3SZ	4.1m, 16A/100-250V, 2 Long C13s to Long C20 Rack Power Cable
Line cords		
39Y7930	6222	2.8m, 10A/250V, C13 to IRAM 2073 (Argentina) Line Cord
81Y2384	6492	4.3m 10A/220V, C13 to IRAM 2073 (Argentina) Line Cord
39Y7924	6211	2.8m, 10A/250V, C13 to AS/NZ 3112 (Australia/NZ) Line Cord
81Y2383	6574	4.3m, 10A/230V, C13 to AS/NZS 3112 (Aus/NZ) Line Cord
69Y1988	6532	2.8m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
81Y2387	6404	4.3m, 10A/250V, C13 - 2P+Gnd (Brazil) Line Cord
39Y7928	6210	2.8m, 10A/220V, C13 to GB 2099.1 (China) Line Cord

Part number	Feature code	Description
81Y2378	6580	4.3m, 10A/220V, C13 to GB 2099.1 (China) Line Cord
39Y7918	6213	2.8m, 10A/250V, C13 to DK2-5a (Denmark) Line Cord
81Y2382	6575	4.3m, 10A/230V, C13 to DK2-5a (Denmark) Line Cord
39Y7917	6212	2.8m, 10A/230V, C13 to CEE7-VII (Europe) Line Cord
81Y2376	6572	4.3m, 10A/230V, C13 to CEE7-VII (Europe) Line Cord
39Y7927	6269	2.8m, 10A/250V, C13(2P+Gnd) (India) Line Cord
81Y2386	6567	4.3m, 10A/240V, C13 to IS 6538 (India) Line Cord
39Y7920	6218	2.8m, 10A/250V, C13 to SI 32 (Israel) Line Cord
81Y2381	6579	4.3m, 10A/230V, C13 to SI 32 (Israel) Line Cord
39Y7921	6217	2.8m, 220-240V, C13 to CEI 23-16 (Italy/Chile) Line Cord
81Y2380	6493	4.3m, 10A/230V, C13 to CEI 23-16 (Italy/Chile) Line Cord
46M2593	A1RE	2.8m, 12A/125V, C13 to JIS C-8303 (Japan) Line Cord
4L67A08362	6495	4.3m, 12A/200V, C13 to JIS C-8303 (Japan) Line Cord
39Y7926	6335	4.3m, 12A/100V, C13 to JIS C-8303 (Japan) Line Cord
39Y7922	6214	2.8m, 10A/250V, C13 to SABS 164 (S Africa) Line Cord
81Y2379	6576	4.3m, 10A/230V, C13 to SABS 164 (South Africa) Line Cord
39Y7925	6219	2.8m, 220-240V, C13 to KETI (S Korea) Line Cord
81Y2385	6494	4.3m, 12A/220V, C13 to KSC 8305 (S. Korea) Line Cord
39Y7919	6216	2.8m, 10A/250V, C13 to SEV 1011-S24507 (Swiss) Line Cord
81Y2390	6578	4.3m, 10A/230V, C13 to SEV 1011-S24507 (Sws) Line Cord
23R7158	6386	2.8m, 10A/125V, C13 to CNS 10917-3 (Taiwan) Line Cord
81Y2375	6317	2.8m, 10A/240V, C13 to CNS 10917-3 (Taiwan) Line Cord
81Y2374	6402	2.8m, 13A/125V, C13 to CNS 60799 (Taiwan) Line Cord
4L67A08363	AX8B	4.3m, 10A 125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2389	6531	4.3m, 10A/250V, C13 to 76 CNS 10917-3 (Taiwan) Line Cord
81Y2388	6530	4.3m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord
39Y7923	6215	2.8m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
81Y2377	6577	4.3m, 10A/230V, C13 to BS 1363/A (UK) Line Cord
90Y3016	6313	2.8m, 10A/120V, C13 to NEMA 5-15P (US) Line Cord
46M2592	A1RF	2.8m, 10A/250V, C13 to NEMA 6-15P Line Cord
00WH545	6401	2.8m, 13A/120V, C13 to NEMA 5-15P (US) Line Cord
4L67A08359	6370	4.3m, 10A/125V, C13 to NEMA 5-15P (US) Line Cord
4L67A08361	6373	4.3m, 10A/250V, C13 to NEMA 6-15P (US) Line Cord
4L67A08360	AX8A	4.3m, 13A/120V, C13 to NEMA 5-15P (US) Line Cord

Systems management

The SR590 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 S590 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 SR590 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.

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

Table 55. IPMI-over-LAN settings

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

The following table lists the XClarity Controller FoD upgrades.

Table 56. 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 SR590 server models include basic light path diagnostics, which provides the system error LED on the Operator information panel on the front of the server 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 (LXPM) is a UEFI-based application embedded in ThinkSystem servers and accessible via the F1 key during system boot.

LXPM provides the following functions:

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

Lenovo XClarity Essentials

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

- Lenovo Essentials OneCLI

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

- Lenovo Essentials UpdateXpress

  The UpdateXpress tool is a standalone GUI application for firmware and device driver updates that enables you to maintain your server firmware and device drivers up-to-date and help you avoid unnecessary server outages. The tool acquires and deploys individual updates and UpdateXpress System Packs (UXSPs) which are integration-tested bundles.

- Lenovo Essentials Bootable Media Creator

  The Bootable Media Creator (BOMC) tool is used to create bootable media for offline firmware update.

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

Lenovo XClarity Administrator

Lenovo XClarity Administrator is a centralized resource management solution designed to reduce complexity, speed response, and enhance the availability of Lenovo systems and solutions. It provides agent-free hardware management for ThinkSystem servers. The administration dashboard is based on HTML 5 and allows fast location of resources so tasks can be run quickly.

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

Lenovo XClarity Administrator is an optional software component for the SR590. The software can be downloaded and used at no charge to discover and monitor the SR590 and to manage firmware upgrades.

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

The following table lists the Lenovo XClarity software license options.

Table 57. Lenovo XClarity Pro ordering information

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

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

- Auto-discovery and monitoring of Lenovo systems
- Firmware updates and compliance enforcement
- External alerts and notifications via SNMP traps, syslog remote logging, and e-mail
- Secure connections to managed endpoints
- NIST 800-131A or FIPS 140-3 compliant cryptographic standards between the management solution and managed endpoints
- Integration into existing higher-level management systems such as cloud automation and orchestration tools through REST APIs, providing extensive external visibility and control over hardware resources
- An intuitive, easy-to-use GUI
- Scripting with Windows PowerShell, providing command-line visibility and control over hardware resources

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

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

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

Lenovo XClarity Integrators

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

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

Lenovo XClarity Integrators offer the following additional features:

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

For more information about all the available Lenovo XClarity Integrators, see the Lenovo XClarity Administrator Product Guide: https://lenovopress.com/tips1200-lenovo-xclarity-administrator

Lenovo XClarity Energy Manager

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

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

Table 58. Lenovo XClarity Energy Manager

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

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

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

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 SR590 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; available in PRC only)
- Nationz Trusted Platform Module v2.0 (optional; available in PRC only)
- Lockable front bezel (optional)
- Self-encrypting drives (SEDs) with support for enterprise key managers - see the SED encryption key management section
- Lenovo Business Vantage security software (optional; available in PRC only)

The server is NIST SP 800-147B compliant.

The following table lists the security options that are available for the SR590 server.

Table 59. Security options

Part number	Feature code	Description	Maximum quantity
Lockable front bezel			
7Z17A02580	AURX	ThinkSystem 2U Security Bezel	1
Trusted Cryptographic Module (PRC only)			
None*	AVKE	ThinkSystem Trusted Cryptographic Module	1
Trusted Platform Module (PRC only)			
None*	B22N	ThinkSystem Nationz Trusted Platform Module v2.0	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 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.
- Erases confidential data from a hard disk.
- Prohibits unauthorized access to the USB port of devices.
- Encrypts files to ensure data security on a USB storage device.

Intel Transparent Supply Chain

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

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

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

Table 60. Intel Transparent Supply Chain ordering information

Feature code	Description
BB0P	Intel Transparent Supply Chain

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

Rack installation

The following table lists the rack installation options that are available for the SR590 server.

Table 61. Rack installation options

Part number	Feature code	Description	Maximum quantity
4-post rail kits			
7M27A05702	AXCA	ThinkSystem Tool-less Slide Rail	1
7M27A05700	AXCH	ThinkSystem Tool-less Slide Rail Kit with 2U CMA	1
4M17A07274	AXFN	ThinkSystem Screw-in Slide Rail	1
4M17A07280	B0TD	ThinkSystem Screw-in Slide Rail Kit with 2U CMA	1
	AXFM	ThinkSystem Tool-less Friction Rail	1
4M17A07273	BK7W	ThinkSystem Toolless Friction Rail v2	1
Cable management arm (CMA) upgrade			
7M27A05698	B135	ThinkSystem 2U CMA Upgrade Kit for Tool-less Slide Rail	1*
4M17A07275	AXFU	ThinkSystem 2U CMA Upgrade Kit for Screw-in Slide Rail	1**
Front VGA port			
4XH7A83033	BMNL	ThinkSystem SR550/SR590/SR650 EIA Latch w/ VGA Upgrade Kit v2	1
7Z17A02578	AUS8	ThinkSystem 2U EIA Latch w/ VGA Upgrade Kit	1

* 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 62. Rail kit features and specifications summary

Feature	Tool-less Slide Rail		Screw-in Slide Rail		Tool-less Friction Rail
	Without CMA	With CMA	Without CMA	With CMA	
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 system support

The server with 2nd Gen processors supports the following operating systems:

- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- Microsoft Windows Server 2022
- Red Hat Enterprise Linux 7.6
- Red Hat Enterprise Linux 7.7
- Red Hat Enterprise Linux 7.8
- Red Hat Enterprise Linux 7.9
- Red Hat Enterprise Linux 8.0
- Red Hat Enterprise Linux 8.1
- Red Hat Enterprise Linux 8.2
- Red Hat Enterprise Linux 8.3
- Red Hat Enterprise Linux 8.4
- Red Hat Enterprise Linux 8.5
- Red Hat Enterprise Linux 8.6
- Red Hat Enterprise Linux 8.7
- Red Hat Enterprise Linux 8.8
- Red Hat Enterprise Linux 8.9
- Red Hat Enterprise Linux 9.0
- Red Hat Enterprise Linux 9.1
- Red Hat Enterprise Linux 9.2
- Red Hat Enterprise Linux 9.3
- 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 SP3
- SUSE Linux Enterprise Server 15 SP4
- SUSE Linux Enterprise Server 15 SP5
- SUSE Linux Enterprise Server 15 Xen
- SUSE Linux Enterprise Server 15 Xen SP1
- SUSE Linux Enterprise Server 15 Xen SP2
- SUSE Linux Enterprise Server 15 Xen SP3
- SUSE Linux Enterprise Server 15 Xen SP4
- SUSE Linux Enterprise Server 15 Xen SP5
- Ubuntu 22.04 LTS 64-bit
- 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
- VMware ESXi 7.0 U2
- VMware ESXi 7.0 U3
- VMware ESXi 8.0
- VMware ESXi 8.0 U1
- VMware ESXi 8.0 U2
- VMware ESXi 8.0 U3

The server with 1st Gen processors supports the following operating systems:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- Microsoft Windows Server 2022
- Microsoft Windows Server, version 1709
- Red Hat Enterprise Linux 6.9 x64
- Red Hat Enterprise Linux 6.10 x64
- Red Hat Enterprise Linux 7.4
- Red Hat Enterprise Linux 7.5
- Red Hat Enterprise Linux 7.6
- Red Hat Enterprise Linux 7.7
- Red Hat Enterprise Linux 7.8
- Red Hat Enterprise Linux 7.9
- Red Hat Enterprise Linux 8.0
- Red Hat Enterprise Linux 8.1
- Red Hat Enterprise Linux 8.2
- Red Hat Enterprise Linux 8.3
- Red Hat Enterprise Linux 8.4
- Red Hat Enterprise Linux 8.5
- Red Hat Enterprise Linux 8.6
- Red Hat Enterprise Linux 8.7
- Red Hat Enterprise Linux 8.8
- Red Hat Enterprise Linux 9.0
- Red Hat Enterprise Linux 9.1
- Red Hat Enterprise Linux 9.2
- SUSE Linux Enterprise Server 11 Xen x64 SP4
- SUSE Linux Enterprise Server 11 x64 SP4
- SUSE Linux Enterprise Server 12 SP3
- SUSE Linux Enterprise Server 12 SP4
- SUSE Linux Enterprise Server 12 SP5
- SUSE Linux Enterprise Server 12 Xen SP3
- 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 SP3
- SUSE Linux Enterprise Server 15 SP4
- SUSE Linux Enterprise Server 15 SP5
- SUSE Linux Enterprise Server 15 Xen
- SUSE Linux Enterprise Server 15 Xen SP1
- SUSE Linux Enterprise Server 15 Xen SP2
- SUSE Linux Enterprise Server 15 Xen SP3
- SUSE Linux Enterprise Server 15 Xen SP4
- SUSE Linux Enterprise Server 15 Xen SP5
- Ubuntu 22.04 LTS 64-bit
- VMware ESXi 6.0 U3
- VMware ESXi 6.5 U1
- VMware ESXi 6.5 U2
- VMware ESXi 6.5 U3
- VMware ESXi 6.7
- VMware ESXi 6.7 U1
- VMware ESXi 6.7 U2
- VMware ESXi 6.7 U3
- VMware ESXi 7.0
- VMware ESXi 7.0 U1
- VMware ESXi 7.0 U2
- VMware ESXi 7.0 U3
- VMware ESXi 8.0
- VMware ESXi 8.0 U1
- VMware ESXi 8.0 U2
- VMware ESXi 8.0 U3

For a complete list of supported, certified and tested operating systems, plus additional details and links to relevant web sites, see the Operating System Interoperability Guide:
https://lenovopress.com/osig#servers=sr590-7x98-7x99-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 63. 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)
CTO only	BE5E	VMware ESXi 7.0 U1 (Factory Installed)
CTO only	BHSR	VMware ESXi 7.0 U2 (Factory Installed)
CTO only	BMEY	VMware ESXi 7.0 U3 (Factory Installed)
CTO only	BMT5	VMware ESXi 8.0 (Factory Installed)
CTO only	BQ8S	VMware ESXi 8.0 U1 (Factory Installed)

Physical and electrical specifications

The SR590 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 64. 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
730 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

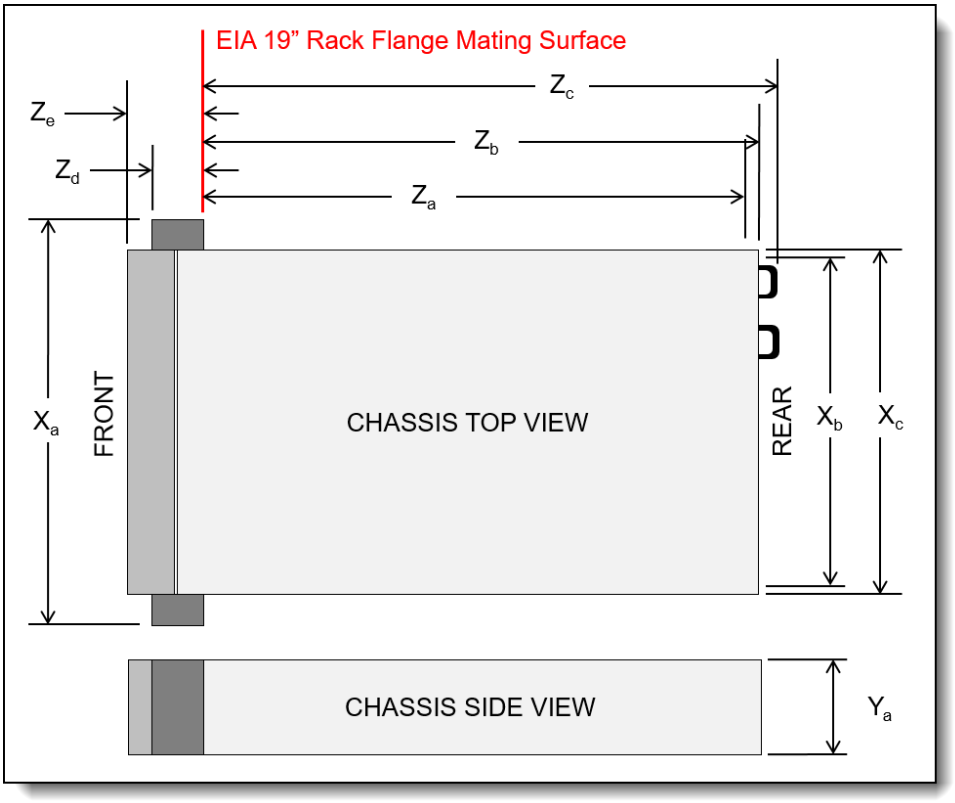

Figure 9. Server dimensions

The shipping (cardboard packaging) dimensions of the SR590 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: 26 kg (57.3 lb)

Electrical specifications for AC power supplies:

- 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)

Power load and inlet current

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 65. 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

Operating environment

The SR590 server complies with ASHRAE class A2 specifications. The server performance might be impacted when the operating temperature is outside the ASHRAE A2 specifications. Some server models comply with ASHRAE class A3 and class A4 specifications, provided the following hardware configuration requirements are met at the same time:

- Two power supplies installed
- Persistent memory modules not installed
- NVMe drives not installed
- Rear HDD kit not installed
- No system fan failure
- Intel Xeon Gold 6210U, 6240, 6242, 6248, or 6252 processors not installed

Configuration note: If an M.2 kit is installed the server models with 12x 3.5-inch drive bays, the operating environment should not exceed ASHRAE A3 specifications.

Temperature and humidity

The SR590 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)

Acoustical noise emissions

The server has the following acoustic noise emissions declaration:

- Minimum configuration:
    - Operating: 4.6 bels
    - Idle: 4.7 bels
- Maximum configuration:
    - Operating: 5.8 bels
    - Idle: 5.9 bels

Shock and vibration

The server has the following vibration and shock limits:

- Vibration:
    - Operating: 0.21 G rms at 5 Hz to 500 Hz for 15 minutes across 3 axes
    - Non-operating: 1.04 G rms at 2 Hz to 200 Hz for 15 minutes across 6 surfaces
- Shock:
    - Operating: 15 G for 3 milliseconds in each direction (positive and negative X, Y, and Z axes)
    - Non-operating:
        - 12 kg - 22 kg: 50 G for 152 in./sec velocity change across 6 surfaces
        - 23 kg - 31 kg: 35 G for 152 in./sec velocity change across 6 surfaces

Particulate contamination

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

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

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

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

Warranty and support

The SR590 server has a one-year (7X98) or three-year (Machine Type 7X99) 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 Infrastructure Solutions Group (ISG) Servers and System Storage
  http://pcsupport.lenovo.com/us/en/solutions/ht503310
- Lenovo Data Center Services Agreement
  http://support.lenovo.com/us/en/solutions/ht116628

Services

Lenovo Services is a dedicated partner to 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 SR590 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 SR590 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 66. 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, ThinkSystem DG Series and ThinkSystem DM Series external storage systems for high-performance storage. See the DE Series, DG Series and DM Series product guides for specific controller models, expansion enclosures and configuration options:

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

External backup units

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

Table 67. External backup options

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

Part number	Description
02JH836	LTO 9 HH SAS Drive

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

Fibre Channel SAN switches

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

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

Rack cabinets

The following table lists the rack cabinets that are currently offered by Lenovo that can be used for mounting the ThinkSystem SR590 servers and other IT infrastructure building blocks.

Table 68. 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 SR590 servers.

Table 69. 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

Description	Part number
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
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

Description	Part number
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 SR590 servers and other IT infrastructure building blocks mounted in a rack cabinet.

Table 70. 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
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

Description	Part number
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 power distribution units (PDUs) that are currently offered by Lenovo that can be used for distributing electrical power to the ThinkSystem SR590 servers and other IT infrastructure building blocks mounted in a rack cabinet.

Table 71. Uninterruptible power supply units

Description	Part number
Worldwide models	
RT1.5kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-15R 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 NEMA 5-20R 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

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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

Seller training courses

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

1. **Family Portfolio: ThinkSystem Rack and Tower Servers Powered by Intel**
   2025-06-23 | 25 minutes | Employees and Partners

   This course is designed to give Lenovo sales and partner representatives a foundation of the ThinkSystem Intel Rack and Tower server family.

   After completing this course, you will be able to:
   • Identify products within this ThinkSystem server family
   • Describe features of this family
   • Recognize when a specific product should be selected

   Tags: Server, ThinkSystem

   Published: 2025-06-23
   Length: 25 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1204r14

2. **ThinkSystem Rack and Tower Introduction for ISO Client Managers**
   2025-06-16 | 20 minutes | Employees Only

   In this course, you will learn about Lenovo's Data Center Portfolio, its ThinkSystem Family and the key features of the Rack and Tower servers. It will equip you with foundational knowledge which you can then expand upon by participating in the facilitated session of the curriculum.

   Tags: Server, ThinkSystem

   Published: 2025-06-16
   Length: 20 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DSRTO101r2_JP
3. **VTT HPC: AI and the Impact on the Environment**
   2025-06-11 | 58 minutes | Employees Only

   Please join us as Matthew Ziegler, Director of Lenovo Neptune and Sustainability speaks with us about AI and the Impact on the Environment.

   Topics will include:

   - Why is ESG essential for your customer?
   - How to find and read an eco declaration
   - What is a product carbon footprint?
   - Demo of the Lenovo Capacity Planner

   Tags: Advanced DataCenter, Artificial Intelligence (AI), Environmental Social Governance (ESG), High-Performance Computing (HPC), Server

   Published: 2025-06-11
   Length: 58 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DVHPC223

4. **Lenovo Data Center Product Portfolio**
   2025-06-11 | 20 minutes | Employees and Partners

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

   Course objectives:
   1.Identify product types within each data center family
   2.Describe the features of the product family or category
   3.Recognize when a specific product should be selected

   Tags: Advanced DataCenter, DataCenter Products, Server, ThinkAgile, ThinkEdge, ThinkSystem

   Published: 2025-06-11
   Length: 20 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1110r8

5. **Partner Technical Webinar - RTX Pro 6000**
   2025-05-22 | 60 minutes | Employees and Partners

   In this 60-minute replay, Allen Bourgoyne, Product Marketing for NVIDIA, presented the newly announced RTX Pro 6000 Blackwell Server Edition GPU.

   Tags: Artificial Intelligence (AI)

   Published: 2025-05-22
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: MAY1525

6. **Partner Technical Webinar - DCSC Improvements - MAY0225**
   2025-05-05 | 60 minutes | Employees and Partners

   In this 60-minute replay, new improvements to DCSC were reviewed. Joe Allen, Lenovo NA LETS, presented the new PCI wizard and discussed RAID adapters. Ryan Tuttle, Lenovo NA LETS presented Spreadsheet import, Autocorrect and Expanded selections on by default. Joe Murphy, Lenovo NA LETS closed out with review of Error Message improvements and location of ThinkAgile MX and VX in the DCSC menus.

   Tags: Technical Sales

   Published: 2025-05-05
   Length: 60 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: MAY0225

7. **Family Portfolio: Storage Controller Options**
   2025-03-03 | 25 minutes | Employees and Partners

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

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

   Tags: Sales, Storage

   Published: 2025-03-03
   Length: 25 minutes

   Start the training:
   Employee link: Grow@Lenovo
   Partner link: Lenovo 360 Learning Center

   Course code: SXXW1111r2

8. **ThinkSystem Rack and Tower Introduction for ISO Client Managers**
   2024-12-10 | 20 minutes | Employees Only

   In this course, you will learn about Lenovo's Data Center Portfolio, its ThinkSystem Family and the key features of the Rack and Tower servers. It will equip you with foundational knowledge which you can then expand upon by participating in the facilitated session of the curriculum.

   Course Objectives:
   • By the end of this course, you should be able to:
   • Identify Lenovo's main data center brands.
   • Describe the key components of the ThinkSystem Family servers.
   • Differentiate between the Rack and Tower servers of the ThinkSystem Family.
   • Understand the value Rack and Tower servers can provide to customers.

   Tags: Server, ThinkSystem

   Published: 2024-12-10
   Length: 20 minutes

   Start the training:
   Employee link: Grow@Lenovo

   Course code: DSRTO101r2

9. **Partner Technical Webinar - Server Update with Mark Bica**
2024-11-26 | 60 minutes | Employees and Partners

In this 60-minute replay, Mark Bica, Lenovo Product Manager gave an update on the server portfolio. Mark presented on the new V4 Intel servers with Xeon 6 CPUs. He reviewed where the new AMD 5th Gen EPYC CPUs will be used in our servers. He followed with a review of the GPU dense servers including SR680, SR680a, SR575 and SR780a. Mark concluded with a review of the SC777 and SC750 that were introduced at TechWorld.

Tags: Server

Published: 2024-11-26
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 112224

10. **Partner Technical Webinar - LenovoPress updates and LPH Demo**
2024-11-13 | 60 minutes | Employees and Partners

In this 60-minute replay, we had 3 topics. First, David Watts, Lenovo Sr Manager LenovoPress, gave an update on LenovoPress and improvements to finding Seller Training Courses (both partner and Lenovo). Next, Ryan Tuttle, Lenovo LETS Solution Architect, gave a demo of Lenovo Partner Hub (LPH) including how to find replays of Partner Webinars in LPL. Finally, Joe Murphy, Lenovo Sr Manager of LETS NA, gave a quick update on the new Stackable Warranty Options in DCSC.

Tags: Technical Sales

Published: 2024-11-13
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 110824

11. **Virtual Facilitated Session - ThinkSystem Rack and Tower Primer for ISO Client Managers**
2024-10-31 | 90 minutes | Employees Only

In this Virtual Instructor-Led Training Session, ISO Client Managers will be able to build on the knowledge gained in Module 1 (eLearning) of the ThinkSystem Rack and Tower Server Primer for ISO Client Managers curriculum.

IMPORTANT! Module 1 (eLearning) must be completed to be eligible to participate in this session. Please note that places are subject to availability. If you are selected, you will receive the invite to this session via email.

Tags: Sales, Server, ThinkSystem

Published: 2024-10-31
Length: 90 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DSRTO102

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

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

Tags: Technical Sales

Published: 2024-07-15
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: 071224

13. **SAP Webinar for Lenovo Sellers: Lenovo Portfolio Update for SAP Landscapes**
2024-06-04 | 60 minutes | Employees Only

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

Tags: SAP, ThinkAgile, ThinkEdge, ThinkSystem

Published: 2024-06-04
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DSAPF101

14. **VTT Cloud Architecture: NVIDIA Using Cloud for GPUs and AI**
2024-05-22 | 60 minutes | Employees Only

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

Tags: Artificial Intelligence (AI), Cloud, Nvidia, Software Defined Infrastruture (SDI), Technical Sales

Published: 2024-05-22
Length: 60 minutes

Start the training:
Employee link: Grow@Lenovo

Course code: DVCLD212

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

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

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

Tags: Server

Published: 2024-01-19
Length: 11 minutes

Start the training:
Employee link: Grow@Lenovo
Partner link: Lenovo 360 Learning Center

Course code: SXXW1100r3

Related publications and links

For more information, see these resources:

- ThinkSystem SR590 product page
https://www.lenovo.com/us/en/data-center/servers/racks/ThinkSystem-SR590/p/77XX7SRSR59
- Datasheet for the ThinkSystem SR590:
https://lenovopress.com/ds0016-lenovo-thinksystem-sr590
- 3D Interactive Tour of the ThinkSystem SR590:
https://lenovopress.com/lp0813-3d-tour-thinksystem-sr590-server
- Walkthrough Video for the ThinkSystem SR590:
https://lenovopress.com/lp0857-lenovo-thinksystem-sr590-server-video-walkthrough
- User Manuals for the ThinkSystem SR590:
https://thinksystem.lenovofiles.com/help/topic/7X98/introduction.html?cp=4_5
    - Quick Start Guide
    - Setup Guide
    - Rack Installation Guides
    - Maintenance Manual
    - Messages and Codes Reference
    - UEFI Manual
- Lenovo Data Center Support Downloads - ThinkSystem SR590:
http://datacentersupport.lenovo.com/products/servers/thinksystem/sr590/7x98/downloads
http://datacentersupport.lenovo.com/products/servers/thinksystem/sr590/7x99/downloads
- Lenovo Hardware Installation & Removal Videos on the ThinkSystem SR590:
    - YouTube: https://www.youtube.com/playlist?list=PLYV5R7hVcs-CWR-jaBNs-3tuilrybHfUJ
    - Youku: https://list.youku.com/albumlist/show/id_51276393
- Lenovo Data Center Solution Configurator (DCSC):
http://dcsc.lenovo.com

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- ThinkSystem SR590 Server

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This document, LP1048, was created or updated on August 1, 2023.

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