

Table 48. 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	2 / 2	2, 3, 1
12 Gbps SAS HBAs				
7Y37A01090	AUNR	ThinkSystem 430-8e SAS/SATA 12Gb HBA	2 / 2	2, 3, 1
7Y37A01091	AUNN	ThinkSystem 430-16e SAS/SATA 12Gb HBA	2 / 2	2, 3, 1
4Y37A09724	B8P7	ThinkSystem 440-16e SAS/SATA PCIe Gen4 12Gb HBA	2 / 2	2, 3, 1

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

For a comparison of the functions of the supported external storage adapters, see the ThinkSystem RAID Adapter and HBA Reference:

<https://lenovopress.com/lp1288#sr630-support=SR630&internal-or-external-ports=External>

**Configuration notes:**

- Low profile SAS RAID controllers and HBAs for external storage are supported in the low profile and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- In the configurations without GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, and RAID 930-8e controllers in the server must not exceed 2 (up to 2 supercapacitors can be mounted in the server).
- In the configurations with GPU installed, the total quantity of the RAID 730-8i 2GB, RAID 930-8i, RAID 930-16i, and RAID 930-8e controllers in the server must not exceed 1 (the storage controller can be installed only in the PCIe slot 1; the PCIe slots 3 and 4 cannot be used if the GPU adapter is installed).
- The RAID 930-8e controller cannot be used in the configurations with the RAID 730-8i 2GB controller.

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 SR630 server.

Table 49. Fibre Channel HBAs

Part number	Feature code	Description	Maximum quantity*	I/O slots supported
<b>64 Gb Fibre Channel - PCIe</b>				
4XC7A77485	BLC1	ThinkSystem Emulex LPe36002 64Gb 2-port PCIe Fibre Channel Adapter	2 / 3	2, 3, 1
<b>32 Gb Fibre Channel - PCIe</b>				
4XC7A08250	B5SX	Emulex LPe35000 32Gb 1-port PCIe Fibre Channel Adapter	2 / 3	2, 3, 1
4XC7A08251	B5SY	Emulex LPe35002 32Gb 2-port PCIe Fibre Channel Adapter	2 / 3	2, 3, 1
7ZT7A00519	AUNV	Emulex LPe32002-M2-L PCIe 32Gb 2-Port SFP+ FC HBA	2 / 3	2, 3, 1
7ZT7A00516	AUNS	QLogic QLE2740 PCIe 32Gb 1-Port SFP+ FC HBA	2 / 3	2, 3, 1
7ZT7A00518	AUNU	QLogic QLE2742 PCIe 32Gb 2-Port SFP+ FC HBA	2 / 3	2, 3, 1
<b>16 Gb Fibre Channel - PCIe</b>				
01CV830	ATZU	Emulex 16Gb Gen6 FC Single-port HBA	2 / 3	2, 3, 1
01CV840	ATZV	Emulex 16Gb Gen6 FC Dual-port HBA	2 / 3	2, 3, 1
01CV750	ATZB	QLogic 16Gb Enhanced Gen5 FC Single-port HBA	2 / 3	2, 3, 1
01CV760	ATZC	QLogic 16Gb Enhanced Gen5 FC Dual-port HBA	2 / 3	2, 3, 1
<b>8 Gb Fibre Channel - PCIe (available only in AP and PRC)</b>				
4XC7A08221	B0X0	Emulex LPe12002-M8-L PCIe 8Gb 2-Port SFP+ FC HBA	2 / 3	2, 3, 1

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

**Configuration note:** FC HBAs are supported in the low profile 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 SR630 server supports the flash storage adapters listed in the following table.

Table 50. Flash storage adapters

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

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

### Configuration notes:

- Flash storage adapters are supported in the low profile and full-high PCIe x8 and x16 slots supplied by the riser cards 1 and 2.
- The Flash storage adapters are supported only in the environments with the air temperature of up to 35 °C (95 °F).

For more information, see the list of Product Guides in the Flash storage adapters category:

<http://lenovopress.com/servers/options/ssdadapter#rd=product-guide>

## GPU adapters

The SR630 server supports graphics processing units (GPUs) listed in the following table.

Table 51. GPU adapters

Part number	Feature code	Description	Maximum quantity*	I/O slots supported
Full-height, full-length PCIe 3.0 x16 single-wide GPU adapters				
4X67A14934	B6CG	ThinkSystem NVIDIA Quadro RTX 4000 8GB PCIe Active GPU	1 / 1	2
Low profile PCIe 3.0 x16 single-wide GPU adapters				
4X67A11584	B31D	ThinkSystem NVIDIA Quadro P620 2GB PCIe Active GPU	2 / 3	3, 1, 2
4X67A14926	B4YB	ThinkSystem NVIDIA Tesla T4 16GB PCIe Passive GPU	1 / 2	3, 1
4X67A81547	BP05	ThinkSystem NVIDIA A2 16GB PCIe Gen4 Passive GPU	1 / 2	3, 1
GPU upgrade kits				
4XH7A08765	None**	ThinkSystem SR630 GPU Upgrade Kit	1	-

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

\*\* Field upgrade only.

### Configuration notes:

- The full-height GPU adapters require the PCIe x16 FH riser card for the PCIe slot 2, and the PCIe slot 3 cannot be used. The low profile GPU adapters are supported in the PCIe x8 and x16 low-profile slots supplied by the riser cards 1 and 2.
- The full-height GPU adapters require the GPU Upgrade Kit (4XH7A08765).
- If the full-height GPU adapter is installed, the internal slot for a storage controller cannot be used.

- The GPU adapters are *not* supported in the following configurations:
  - Rear HDD kit installed.
  - 10x U.2 PCIe NVMe drive bays installed.
  - DCPMMs installed.
- Configurations with any one GPU adapter or two P620 GPU adapters are supported only with the 750 W or 1100 W power supplies. Configurations with two P4 or three P620 GPU adapters are supported only with the 1100 W power supplies.
- The P2000 or P2200 GPU adapters are supported with the processors of up to 140 W TDP. The GPU adapters other than P2000 or P2200 are supported with the processors of up to 165 W TDP (excluding Gold 6240Y, 6244, 6246, and 6252N processors).
- The RTX4000 GPU adapter is supported with the processors of up to 165 W TDP in the configurations with 8x 2.5-inch drive bays, or with the processors of up to 150 W TDP in the configurations with 4x 3.5-inch SAS/SATA or AnyBay, or 6x 2.5-inch SAS/SATA & 4x 2.5-inch AnyBay drive bays.
- The GPU adapters are supported only in the ASHRAE A2 environments (up to 35 °C [95 °F]) with the following exceptions:
  - Two P4 or T4 or A2 GPU adapters are supported at the ambient temperature of up to 30 °C [86 °F]), and the server performance might be impacted in case of a system fan failure.
  - Three P620 adapters are supported at the ambient temperature of up to 30 °C [86 °F]).

## Cooling

The SR630 server supports up to seven hot-swap system fans that provide N+1 cooling redundancy. SR630 server models with one processor include five system fans, and server models with two processors include seven system fans. The fans are dual-rotor counter-rotating units, which means that the fans have two separate propellers, one in front of the other, and that the propellers rotate in opposite directions.

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

- 2nd Gen processors with 200 W or 205 W TDP, or Xeon 6240Y, 6244, 6246, or 6252N processors
- 1st Gen processors Xeon 6144, 6146, 6154, 8168, 8180, and 8180M

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 processor option part numbers include this fan however 2nd Gen processor options do not include the fan and it must be ordered separately using SR630 Fan Option Kit listed in the following table.

Table 52. Cooling options

Part number	Feature code	Description	Maximum quantity
4F17A12350	AUW7	ThinkSystem SR630 Fan Option Kit (2nd Gen processors only)	1

## Power supplies and cables

The SR630 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	AVW8	ThinkSystem 550W (230V/115V) Platinum Hot-Swap Power Supply	2
7N67A00883	AVWA	ThinkSystem 750W (230/115V) Platinum Hot-Swap Power Supply	2
7N67A00884	AVW9	ThinkSystem 750W (230V) Titanium Hot-Swap Power Supply	2
7N67A00885	AVWB	ThinkSystem 1100W (230V/115V) Platinum Hot-Swap Power Supply	2
4P57A15363*	B4Z5*	ThinkSystem 1100W -48V DC Power Supply	2

\* -48V DC power supply is only available via Special Bid

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

#### Configuration notes:

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

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

<http://datacentersupport.lenovo.com/us/en/solutions/invo-lcp>

#### Power cords

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

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

Table 54. Power cords

Part number	Feature code	Description
Rack cables		
00Y3043	A4VP	1.0m, 10A/100-250V, C13 to C14 Jumper Cord
39Y7937	6201	1.5m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08369	6570	2.0m, 13A/100-250V, C13 to C14 Jumper Cord
4L67A08366	6311	2.8m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08370	6400	2.8m, 13A/100-250V, C13 to C14 Jumper Cord
39Y7932	6263	4.3m, 10A/100-250V, C13 to C14 Jumper Cord
4L67A08371	6583	4.3m, 13A/100-250V, C13 to C14 Jumper Cord
Line cords		

Part number	Feature code	Description
39Y7930	6222	2.8m, 10A/250V, C13 to IEC 2073 (Argentina) Line Cord
81Y2384	6492	4.3m, 10A/250V, C13 to IEC 2073 (Argentina) Line Cord
39Y7924	6211	2.8m, 10A/250V, C13 to AS/NZS 3112 (Australia/NZ) Line Cord
81Y2383	6574	4.3m, 10A/250V, C13 to AS/NZS 3112 (Australia/NZ) Line Cord
69Y1988	6532	2.8m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
81Y2387	6404	4.3m, 10A/250V, C13 to NBR 14136 (Brazil) Line Cord
39Y7928	6210	2.8m, 10A/220V, C13 to GB 2099.1 (China) Line Cord
81Y2378	6580	4.3m, 10A/250V, C13 to GB 2099.1 (China) Line Cord
39Y7918	6213	2.8m, 10A/250V, C13 to DK2-5a (Denmark) Line Cord
81Y2382	6575	4.3m, 10A/250V, C13 to DK2-5a (Denmark) Line Cord
39Y7917	6212	2.8m, 10A/250V, C13 to CEE 7/7 (Europe) Line Cord
81Y2376	6572	4.3m, 10A/250V, C13 to CEE 7/7 (Europe) Line Cord
39Y7927	6269	2.8m, 10A/250V, C13 to IS 6538 (India) Line Cord
81Y2386	6567	4.3m, 10A/250V, C13 to IS 6538 (India) Line Cord
39Y7920	6218	2.8m, 10A/250V, C13 to SI 32 (Israel) Line Cord
81Y2381	6579	4.3m, 10A/250V, C13 to SI 32 (Israel) Line Cord
39Y7921	6217	2.8m, 10A/250V, C13 to CEI 23-16 (Italy) Line Cord
81Y2380	6493	4.3m, 10A/250V, C13 to CEI 23-16 (Italy) Line Cord
4L67A08362	6495	4.3m, 12A/200V, C13 to JIS C-8303 (Japan) Line Cord
39Y7922	6214	2.8m, 10A/250V, C13 to SABS 164-1 (South Africa) Line Cord
81Y2379	6576	4.3m, 10A/250V, C13 to SANS 164-1 (South Africa) Line Cord
39Y7926	6335	4.3m, 12A/100V, C13 to JIS C-8303 (Japan) Line Cord
39Y7925	6219	2.8m, 12A/220V, C13 to KSC 8305 (S. Korea) Line Cord
81Y2385	6494	4.3m, 12A/250V, C13 to KSC 8305 (S. Korea) Line Cord
39Y7919	6216	2.8m, 10A/250V, C13 to SEV 1011-S24507 (Swiss) Line Cord
81Y2390	6578	4.3m, 10A/250V, C13 to SEV 1011-S24507 (Swiss) Line Cord
23R7158	6386	2.8m, 10A/125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2375	6317	2.8m, 10A/250V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2374	6402	2.8m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord
4L67A08363	AX8B	4.3m, 10A/125V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2389	6531	4.3m, 10A/250V, C13 to CNS 10917 (Taiwan) Line Cord
81Y2388	6530	4.3m, 13A/125V, C13 to CNS 10917 (Taiwan) Line Cord
39Y7923	6215	2.8m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
81Y2377	6577	4.3m, 10A/250V, C13 to BS 1363/A (UK) Line Cord
90Y3016	6313	2.8M, 10A/125V, C13 to NEMA 5-15P (US) Line Cord
46M2592	A1RF	2.8m, 10A/250V, C13 to NEMA 6-15P (US) Line Cord
00WH545	6401	2.8M, 13A/125V, C13 to NEMA 5-15P (US) Line Cord
4L67A08359	6370	4.3m, 10A/125V, C13 to NEMA 5-15P (US) Line Cord
4L67A08361	6373	4.3m, 10A/250V, C13 to NEMA 6-15P (US) Line Cord
4L67A08360	AX8A	4.3m, 13A/125V, C13 to NEMA 5-15P (US) Line Cord

For the -48V DC Power Supply, the following power cable is supported.



Table 55. -48V DC power cable

Part number	Feature code	Description
CTO only	B93F	ThinkSystem 2.5m,DC Cable

## Systems management

The SR630 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 SR630 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 SR630 server includes XClarity Controller Standard features, and it can be upgraded to Advanced or Enterprise functionality by using the Features on Demand (FoD) upgrades.

XClarity Controller Standard offers the following capabilities:

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

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

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

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

- Capping power usage
- Mapping the ISO and image files located on the local client as virtual drives for use by the server
- Mounting the remote ISO and image files via HTTPS, SFTP, CIFS, and NFS
- Collaborating across up to six users of the virtual console
- Controlling quality and bandwidth usage

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

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

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

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

The following table lists the XClarity Controller FoD upgrades.

Table 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 SR630 server models include basic light path diagnostics, which provides the system LEDs on the front of the server (see [Components and connectors](#)) and the LEDs near the monitored components (for example, the DIMM error LEDs on the system board).



## Lenovo XClarity Provisioning Manager

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

Lenovo XClarity Provisioning Manager has the following features:

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

## Lenovo XClarity Essentials

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

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

For more information and downloads, visit the Lenovo XClarity Essentials web page:

<http://support.lenovo.com/us/en/documents/LNVC-center>

## Lenovo XClarity Administrator

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

Lenovo XClarity Administrator is an optional software component for the SR630 server which can be downloaded and used at no charge to discover and monitor the SR630 and manage firmware upgrades for them.

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

The following table lists the geo-specific Lenovo XClarity software license options.

Table 57. Lenovo XClarity software options

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

\* NA = North America; AP = Asia Pacific

\*\* EMEA = Europe, Middle East, Africa; LA = Latin America

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

- Auto-discovery and monitoring of Lenovo x86 servers, RackSwitch switches, Flex System chassis, and DS Series storage systems
- Firmware updates and compliance enforcement
- External alerts and notifications via SNMP traps, syslog remote logging, and e-mail
- Secure connections to managed endpoints
- NIST 800-131A or FIPS 140-2 compliant cryptographic standards between the management solution and managed endpoints
- Integration into existing higher-level management systems such as cloud automation and orchestration tools through REST APIs, providing extensive external visibility and control over hardware resources
- An intuitive, easy-to-use GUI
- Scripting with Windows PowerShell, providing command-line visibility and control over hardware resources

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

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

For more information, refer to the Lenovo XClarity Administrator Product Guide:

<http://lenovopress.com/tips1200>

### Lenovo XClarity Integrators

Lenovo offers at no charge (if software support is required, a Lenovo XClarity Pro software subscription license should be ordered) two software plug-in modules, Lenovo XClarity Integrators, to manage physical infrastructure from leading external virtualization management software tools from Microsoft and VMware:

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

Lenovo XClarity Integrators offer the following additional features:

- Ability to discover, manage, and monitor Lenovo server hardware from VMware vCenter or Microsoft System Center
- Deployment of firmware updates and configuration patterns to Lenovo x86 rack servers and Flex System from the virtualization management tool



- Non-disruptive server maintenance in clustered environments that reduces workload downtime by dynamically migrating workloads from affected hosts during rolling server updates or reboots
- Greater service level uptime and assurance in clustered environments during unplanned hardware events by dynamically triggering workload migration from impacted hosts when impending hardware failures are predicted

For more information about XClarity Integrators, refer to the Lenovo Systems Management web page:  
<https://www.lenovo.com/us/en/data-center/software/management/>

### Lenovo XClarity Energy Manager

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

Lenovo XClarity Energy Manager offers the following capabilities:

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

Lenovo XClarity Energy Manager is an optional software component for the SR630 server that is licensed on a per managed node basis, that is, each managed server requires a license. The 1-node Energy Manager license is included in the XClarity Controller Enterprise upgrade.

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

Table 58. Lenovo XClarity Energy Manager software options

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

\* NA = North America; AP = Asia Pacific.

\*\* EMEA = Europe, Middle East, Africa; LA = Latin America.

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

### 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 SR630 server offers the following security features:

- Power-on password
- Administrator's password
- Secure firmware updates
- Onboard Trusted Platform Module (TPM) version 1.2 or 2.0 (configurable UEFI system setting)
- Trusted Cryptographic Module (TCM) (optional; PRC only)
- Nationz Trusted Platform Module v2.0 (optional; PRC only)
- Lockable front bezel (optional)
- Self-encrypting drives (SEDs) with support for enterprise key managers - see the [SED encryption key management section](#)
- Lenovo Business Vantage security software (optional; PRC only)

The server is NIST SP 800-147B compliant.

The following table lists the security options that are available for the SR630 server.

Table 59. Security options

Part number	Feature code	Description	Maximum quantity
<b>Lockable front bezel</b>			
7Z17A02581	AUWR	ThinkSystem 1U Security Bezel	1
<b>Trusted Cryptographic Module (PRC only)</b>			
None*	AVKE	ThinkSystem Trusted Cryptographic Module	1
<b>Trusted Platform Module (PRC only)</b>			
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 or Nationz TPM for enhanced security, to keep user data safe, and to erase confidential data completely from a drive.

Lenovo Business Vantage provides the following features:

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

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

## 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 SR630 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
7M27A05701	AXCB	ThinkSystem Tool-less Slide Rail Kit with 1U CMA	1
4M17A07274	AXFN	ThinkSystem Screw-in Slide Rail	1
4M17A07281	B0TE	ThinkSystem Screw-in Slide Rail Kit with 1U CMA	1
4M17A07273	BK7W	ThinkSystem Toolless Friction Rail v2	1
Cable management arm (CMA) upgrade			
7M27A05699	None^	ThinkSystem 1U CMA Upgrade Kit for Tool-less Slide Rail	1*
4M17A07276	AXFP	ThinkSystem 1U CMA Upgrade Kit for Screw-in Slide Rail	1**
Front VGA port			
CTO only	BMNW	Front VGA Connector Upgrade Kit for 1U v2 (for 3.5" models)	
CTO only	AUWU	ThinkSystem SR530/SR630 Front VGA Connector (for 3.5" models)	1
4Z17A80447	BMNV	ThinkSystem SR530/SR570/SR630 Front VGA Connector Upgrade Kit v2 (for 2.5" models)	
7Z17A02579	AUWW	ThinkSystem SR530/SR570/SR630 Front VGA Connector Upgrade Kit (for 2.5" models)	1

^ Field upgrade only.

\* The CMA Upgrade Kit for Tool-less Slide Rail is supported with the Tool-less Slide Rail (7M27A05702) only.

\*\* The CMA Upgrade Kit for Screw-in Slide Rail is supported with the Screw-in Slide Rail (4M17A07274) only.

The following table summarizes the rail kit features and specifications.

Table 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	7M27A05701	4M17A07274	4M17A07281	4M17A07273
CMA	7M27A05699	Included	4M17A07276	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.)

Feature	Tool-less Slide Rail		Screw-in Slide Rail		Tool-less Friction Rail
	Without CMA	With CMA	Without CMA	With CMA	
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 <sup>^</sup>	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.

<sup>^</sup> Measured when mounted on the rack, from the front surface of the front mounting flange to the rear most point of the rail.

## Operating systems

The SR630 server with 2nd Gen Intel Xeon SP 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
- 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 Xen
- SUSE Linux Enterprise Server 15 Xen SP1
- SUSE Linux Enterprise Server 15 Xen SP2
- SUSE Linux Enterprise Server 15 Xen SP3
- 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

The SR630 server with 1st Gen Intel Xeon SP 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
- Microsoft Windows Server, version 1803
- Red Hat Enterprise Linux 6.10 x64
- Red Hat Enterprise Linux 6.9 x64
- Red Hat Enterprise Linux 7.3
- 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
- SUSE Linux Enterprise Server 11 Xen x64 SP4
- SUSE Linux Enterprise Server 11 x64 SP4
- SUSE Linux Enterprise Server 12 SP2
- SUSE Linux Enterprise Server 12 SP3
- SUSE Linux Enterprise Server 12 SP4
- SUSE Linux Enterprise Server 12 SP5
- SUSE Linux Enterprise Server 12 Xen SP2
- 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 Xen
- SUSE Linux Enterprise Server 15 Xen SP1
- SUSE Linux Enterprise Server 15 Xen SP2
- SUSE Linux Enterprise Server 15 Xen SP3
- VMware ESXi 6.0 U3
- VMware ESXi 6.5
- 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

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=sr630-7x01-7x02-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)

## Physical and electrical specifications

The SR630 has the following overall physical dimensions, excluding components that extend outside the standard chassis, such as EIA flanges, front security bezel (if any), and power supply handles:

- Width: 435 mm (17.1 inches)
- Height: 43 mm (1.7 inches)
- Depth: 750 mm (29.5 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
435 mm	$X_c$ = Width, to the outer most chassis body feature
43 mm	$Y_a$ = Height, from the bottom of chassis to the top of the chassis
715 mm	$Z_a$ = Depth, from the rack flange mating surface to the rearmost I/O port surface
716 mm	$Z_b$ = Depth, from the rack flange mating surface to the rearmost feature of the chassis body
744 mm	$Z_c$ = Depth, from the rack flange mating surface to the rearmost feature such as power supply handle
35 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



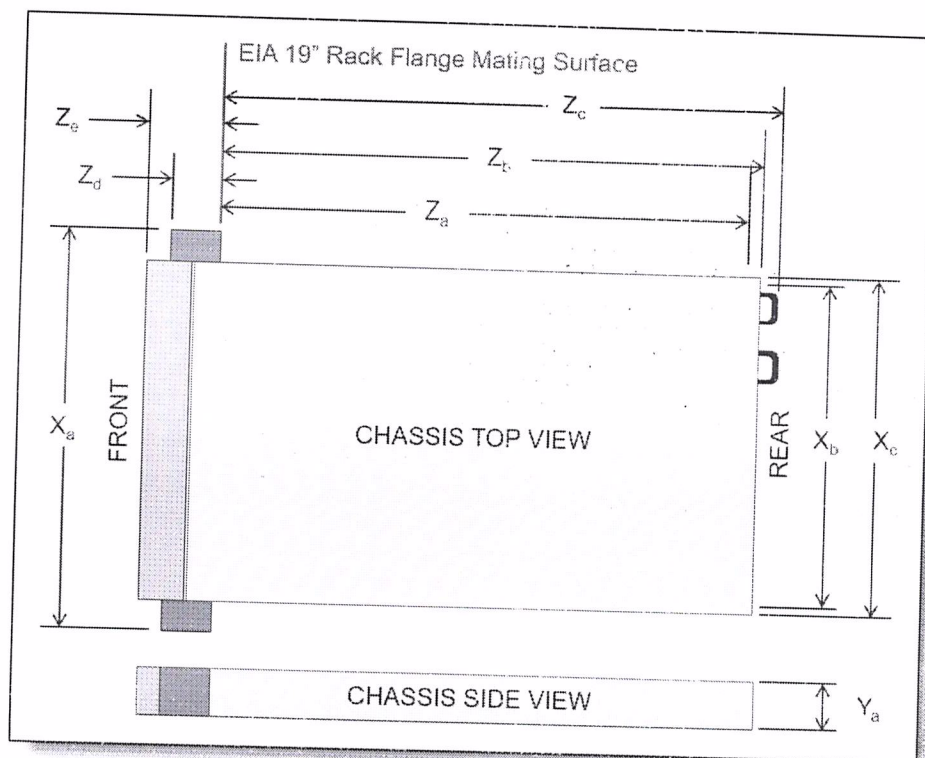


Figure 10. Server dimensions

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

- Width: 587 mm (23.1 inches)
- Height: 225 mm (8.9 inches)
- Depth: 998 mm (39.3 inches)

The server has the following weight:

- Minimum configuration: 11.9 kg (26.2 lb)
- Maximum configuration: 18.8 kg (41.4 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
1100 W Platinum	100 - 127 V AC	1382 W	12 A	4715 BTU/hour
	200 - 240 V AC	1408 W	6 A	4804 BTU/hour
	180 - 300 V DC	1408 W	5.1 A	4804 BTU/hour

## Operating environment

The SR630 server complies with ASHRAE class A2 specifications. The server performance might be impacted when the operating temperature is outside the ASHRAE A2 specifications. Depending on the hardware configuration, some server models comply with ASHRAE class A3 and class A4 specifications. To comply with ASHRAE class A3 and class A4 specifications, the server models must meet the following hardware configuration requirements at the same time:

- Two power supplies installed
- Persistent memory modules not installed
- NVMe drives not installed
- NVMe PCIe flash adapters not installed
- Graphic processing units (GPUs) not installed
- Processors with TDP more than or equal to 150 W not installed
- For 8x 2.5" and 10x 2.5" chassis only: A maximum of one supercapacitor module installed

## Temperature and humidity

The SR630 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: 5.3 bels
  - Idle: 4.9 bels
- Maximum configuration:
  - Operating: 6.0 bels
  - Idle: 5.8 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 reactivity rate of copper coupons shall be less than 200 Angstroms per month (Å/month)
  - The reactivity rate of silver coupons 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
  - Data centers must be free of zinc whiskers

For additional information, see the Specifications section of the Setup Guide for the server, available from the Lenovo ThinkSystem Information Center, <https://thinksystem.lenovofiles.com/help/index.jsp>

### Warranty and support

The SR630 server has a one-year (7X01) or three-year (Machine Type 7X02) warranty.