

## Lenovo ThinkServer RS160 (Intel Xeon E3-1200 v5/v6, Core i3, Pentium/Celeron G Series Processors) Product Guide (withdrawn product)

The Lenovo ThinkServer RS160 is the ideal right-sized, value-priced, single-socket 1U rack solution for small and medium businesses that need optimized performance and flexibility for future growth. With support for a memory capacity of up to 64 GB and internal storage of 24 TB, the RS160 is ideal for small- to medium-sized business, workgroups, distributed locations, and webscale workloads.

The RS160 offers a wide range of processors - from Intel Celeron to Intel Xeon E3-1200 v6. Also, it features integrated NICs and an additional PCIe expansion slot for advanced RAID protection or network scalability.

The ThinkServer Management Module (TMM), also known as Baseboard Management Controller (BMC), which is built into the RS160 offers advanced service-processor control, monitoring, and an alerting function.

The following figure shows the Lenovo ThinkServer RS160.



Figure 1. Lenovo ThinkServer RS160

### Did you know?

The RS160 offers enterprise-class management with an integrated ThinkServer Management Module.

The RS160 has just a 16.2-inch (411 mm) deep chassis and supports 4-post and 2-post racks, giving you more flexibility with your business footprint.

The RS160 offers energy efficiency and serviceability features, such as 80 PLUS Gold certified power supplies and sliding rails, that are not typically found in the single-socket value servers.

## Key features

The ThinkServer RS160 server is a compact, cost-effective, single-processor 1U rack server that has been optimized to provide enterprise-class features to small-to-medium-sized businesses, retail stores, or distributed enterprises.

### Scalability and performance

The RS160 offers numerous features to boost performance, improve scalability, and reduce costs:

- The Intel Xeon processor E3-1200 v6 improves productivity by offering affordable single-socket system performance with 4-core processors with up to 3.9 GHz core speeds and up to 8 MB cache.
- Choice of processors with up to four cores to enable the effective use of multithreaded applications.
- Intelligent and adaptive system performance with Intel Turbo Boost Technology 2.0 allows processor 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 use the hardware for virtualization workloads.
- Intel Advanced Vector Extensions (AVX) technology significantly improves floating point performance for compute-intensive technical and scientific applications.
- Up to four 2400 MHz DDR4 ECC UDIMMs provide speed, availability, and a capacity of up to 64 GB.
- The server offers PCI Express 3.0 I/O expansion capabilities that increase the theoretical maximum bandwidth by almost 100% (8 GTps per link using 128b/130b encoding) compared to the PCI Express 2.0 (5 GTps per link using 8b/10b encoding).
- With Intel Integrated I/O Technology, the PCI Express 3.0 controller is integrated into the Intel Xeon processor E3-1200 v6 product family. Such integration reduces I/O latency and increases overall system performance.
- Two 3.5-inch or four 2.5-inch non-hot-swap (NHS) drive bays provide sufficient internal storage capacity in a compact 1U form factor.
- The use of solid-state drives (SSDs) instead of, or along with, traditional spinning drives (hard disk drives or HDDs) can significantly improve I/O performance.

### Availability and serviceability

The RS160 provides many features to simplify serviceability and increase system uptime:

- The RS160 supports UDIMM memory with ECC protection which provides error correction not available in PC-class "servers" that use parity memory. Avoiding system crashes (and data loss) due to soft memory errors means greater system uptime.
- Tool-less cover removal provides easy access to upgrades and serviceable parts, such as memory and adapter cards.
- A choice of affordable onboard SATA RAID or advanced hardware RAID redundancy offers data protection and greater system uptime.
- The use of SSDs can provide better reliability than the use of traditional HDDs, for greater uptime.
- Built-in ThinkServer Management Module (TMM) continuously monitors system parameters, triggers alerts, and performs recovery actions in case of failure, to minimize downtime.
- The ThinkServer EasyUpdate firmware update tool enables you to keep your server firmware up-to-date and helps you avoid unnecessary server outages.
- The ThinkServer Diagnostics software speeds up troubleshooting tasks to reduce service time.
- One-year or three-year customer-replaceable unit (CRU) and onsite limited warranty with next

business day response. Optional service upgrades are available.

## Manageability and security

Powerful systems management features simplify local and remote management of the RS160:

- The server includes ThinkServer Management Module to monitor server availability and perform remote management.
- An integrated industry-standard Unified Extensible Firmware Interface (UEFI) enables improved setup, configuration, and updates, and simplifies error handling.
- The ThinkServer EasyStartup tool simplifies the process of configuring RAID and installing supported Microsoft Windows and Linux operating systems, VMware hypervisors, and device drivers on a ThinkServer system.
- An optional Trusted Platform Module (TPM) or Trusted Cryptographic Module (TCM) enables advanced cryptographic functionality, such as digital signatures and remote attestation.
- Industry-standard Advanced Encryption Standard New Instructions (AES-NI) support improves the speed and strength of encryption.
- Intel Execute Disable Bit functionality can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system.
- Intel Trusted Execution Technology provides enhanced security through hardware-based resistance to malicious software attacks. This enables an application to run in its own isolated space, protected from all other software running on a system.

## Energy efficiency

The RS160 offers the following energy-efficiency features to save energy, reduce operational costs, increase energy availability, and contribute to a green environment:

- 80 PLUS Gold-certified power supply enables greater energy savings while providing flexibility to meet your business needs.
- The ThinkServer Power Planner tool provides information about the power consumption and electric current calculation for the different configurations of servers and other devices, which helps plan deployment of servers and devices in an efficient way.
- Intel Intelligent Power Technology powers individual processor elements on and off as needed, to reduce power draw.
- The use of SSDs can help lower power consumption compared to traditional spinning 2.5-inch HDDs.

## Components and connectors

The following figure shows the front of the RS160.

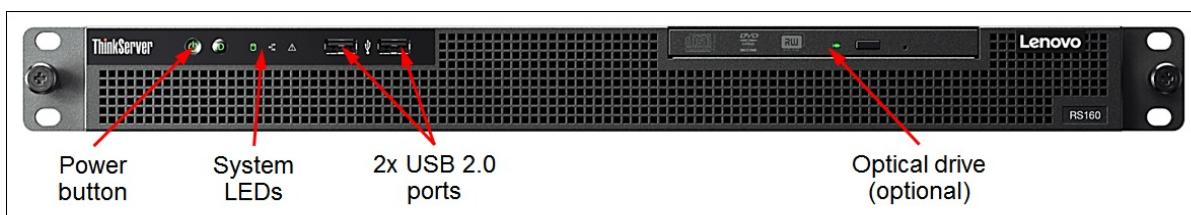


Figure 2. RS160 front view

The following figure shows the rear of the RS160.

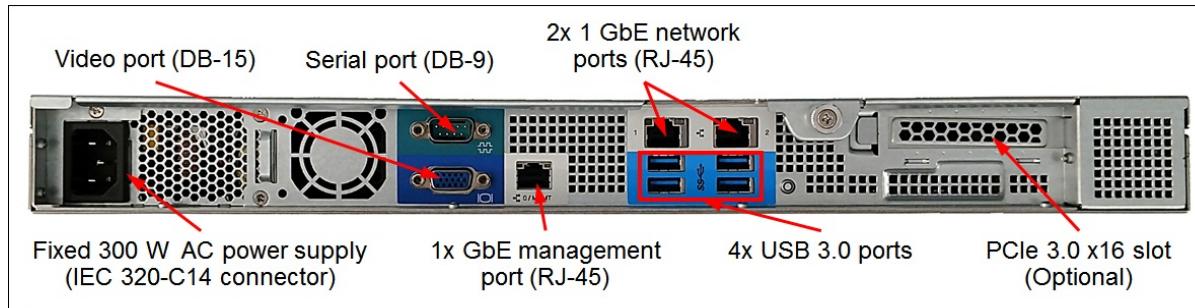


Figure 3. RS160 rear view

The following figure shows the internal components of the RS160.

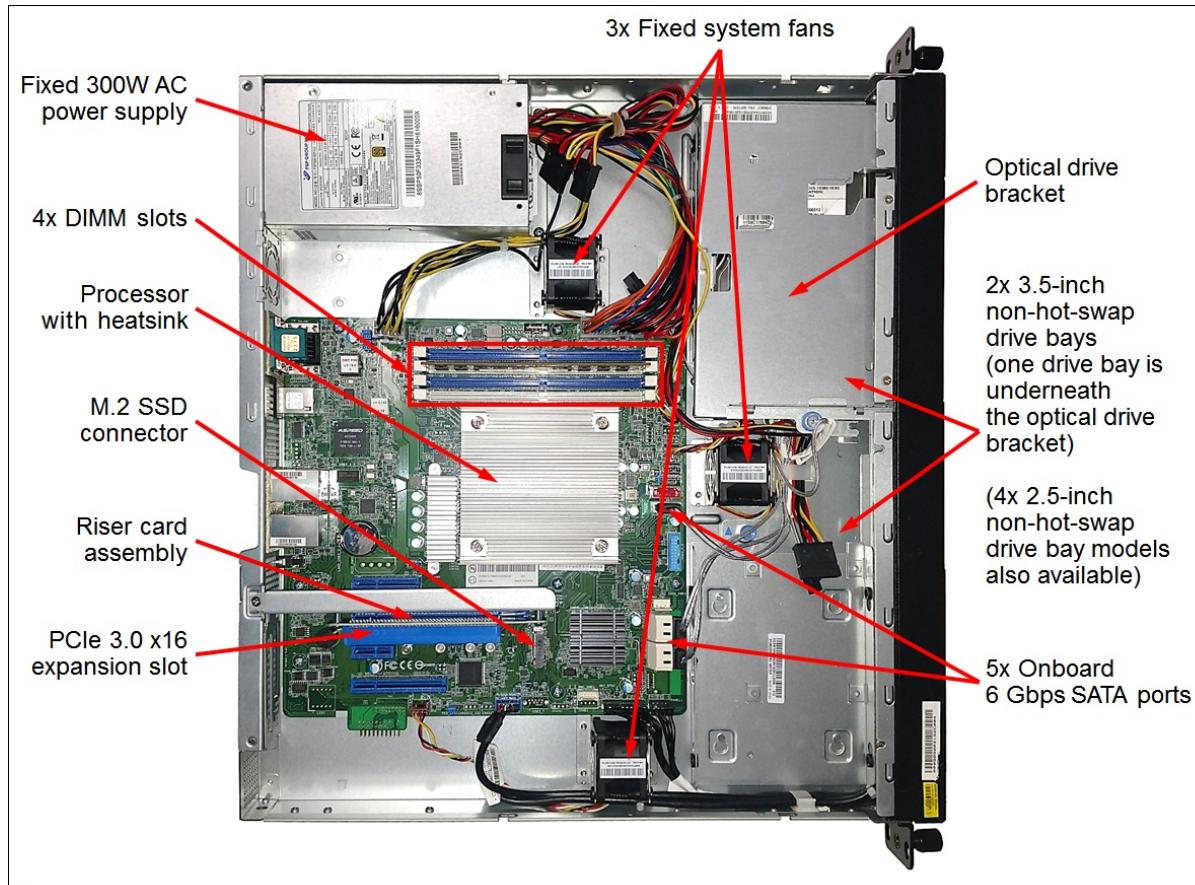


Figure 4. RS160 internal view

## System specifications

The following table lists the system specifications.

Table 1. System specifications

Components	Specification
Form factor	1U rack-mount
Processor	<p>One processor:</p> <ul style="list-style-type: none"> <li>Intel Xeon processor E3-1200 v6 product family with four cores up to 3.9 GHz, 8 MB cache, and up to 2400 MHz memory speed; or</li> <li>Intel Xeon processor E3-1200 v5 product family with four cores up to 3.7 GHz, 8 MB cache, and up to 2133 MHz memory speed; or</li> <li>Intel Core i3 processor 7100/7300 product families with two cores up to 4.1 GHz, up to 4 MB cache, and 2400 MHz memory speed; or</li> <li>Intel Core i3 processor 6100/6300 product families with two cores up to 3.9 GHz, up to 4 MB cache, and 2133 MHz memory speed; or</li> <li>Intel Pentium processor G4400/G4500/G4600 product families with two cores up to 3.7 GHz, 3 MB cache, and up to 2400 MHz memory speed; or</li> <li>Intel Celeron Processor G3900 product family with two cores up to 3.0 GHz, 2 MB cache, and up to 2133 MHz memory speed.</li> </ul>
Chipset	Intel C232.
Memory	Four DIMM sockets. Support for ECC UDIMMs. DIMM speeds up to 2400 MHz.
Memory capacity	Up to 64 GB with four 16 GB UDIMMs.
Memory protection	Error-correcting code (ECC) memory.
Drive bays	<ul style="list-style-type: none"> <li>2x 3.5-inch non-hot-swap SAS/SATA drive bays; or</li> <li>4x 2.5-inch non-hot-swap SAS/SATA drive bays</li> </ul> <p>One internal M.2 SSD connector.</p>
Drive types	<p>3.5-inch non-hot-swap drives:</p> <ul style="list-style-type: none"> <li>12 Gbps Nearline (NL) SAS HDDs up to 10 TB</li> <li>12 Gbps SAS HDDs up to 900 GB (2.5" HDD in a 3.5" tray)</li> <li>6 Gbps NL SATA HDDs up to 12 TB</li> <li>6 Gbps SATA SSDs up to 960 GB (2.5" SSD in a 3.5" tray)</li> </ul> <p>2.5-inch non-hot-swap drives:</p> <ul style="list-style-type: none"> <li>12 Gbps SAS HDDs up to 2.4 TB</li> <li>6 Gbps NL SATA HDDs up to 2 TB</li> <li>6 Gbps SATA SSDs up to 960 GB</li> </ul> <p>Internal M.2 SSDs:</p> <ul style="list-style-type: none"> <li>Up to 128 GB</li> </ul> <p>Intermix of SAS and NL SATA HDDs and SSDs is supported within a system, but not within a RAID array.</p>
Storage capacity	<p>3.5-inch non-hot-swap drives:</p> <ul style="list-style-type: none"> <li>Up to 24 TB with 2x 12 TB NL SAS/SATA HDDs</li> <li>Up to 1.8 TB with 2x 900 GB SAS HDDs</li> <li>Up to 1.92 TB with 2x 960 GB SATA SSDs</li> </ul> <p>2.5-inch non-hot-swap drives:</p> <ul style="list-style-type: none"> <li>Up to 8 TB with 4x 2 TB NL SATA HDDs</li> <li>Up to 9.6 TB with 4x 2.4 TB SAS HDDs</li> <li>Up to 3.84 TB with 4x 960 GB SATA SSDs</li> </ul>

Components	Specification
Storage controller	<ul style="list-style-type: none"> <li>Non-RAID with the integrated SATA controller.</li> <li>RAID 0, 1, 10, and 5 with RAID 121i.</li> <li>RAID 0, 1, 10 with RAID 520i. Optional RAID 5 upgrade.</li> <li>RAID 0, 1, 10, 5 with RAID 720i.</li> </ul>
Optical drive bays	One. Support for DVD-ROM or DVD-RW.
Backup drive bays	None.
Network interfaces	<ul style="list-style-type: none"> <li>Two integrated GbE (10/100/1000 Mbps) RJ-45 ports (Intel I210).</li> <li>One GbE (10/100/1000 Mbps) RJ-45 port for systems management.</li> </ul>
I/O expansion slots	Up to one PCIe 3.0 x16 (x16 wired) low-profile slot with an optional riser card.
Ports	<ul style="list-style-type: none"> <li>Front: 2x USB 2.0 ports.</li> <li>Rear: 4x USB 3.0 ports, 1x DB-15 VGA port, and 1x DB-9 serial port.</li> </ul>
Cooling	Three fixed system fans.
Power supply	One fixed 300 W AC (100 - 240 V) power supply (80 PLUS Gold).
Hot-swap parts	None.
Systems management	UEFI, system LEDs, ThinkServer Management Module (TMM) (also known as Baseboard Management Controller [BMC]; based on ASPEED AST2400) with remote presence (graphics, keyboard and mouse, virtual media), ThinkServer EasyStartup, ThinkServer EasyUpdate, ThinkServer Diagnostics, and ThinkServer Power Planner.
Security features	Power-on password, administrator's password. Optional Trusted Platform Module (TPM) version 1.2 or 2.0 (Worldwide except China). Optional Trusted Cryptographic Module (TCM) (China only).
Video	Graphics with 16 MB memory integrated into the ThinkServer Management Module. Maximum resolution is 1920x1200 at 60 Hz.
Operating systems	Microsoft Windows 10; Microsoft Windows Server 2012 R2 and 2016; Red Hat Enterprise Linux (RHEL) Server 7; SUSE Linux Enterprise Server (SLES) 11 and 12; VMware vSphere (ESXi) 6.0 and 6.5.
Warranty	One-year or three-year (model dependent) customer-replaceable unit (CRU) and on-site limited warranty with 9x5 next business day (NBD).
Service and support	Optional service upgrades (country-specific) are available through Lenovo Services offerings: 4-hour or 2-hour response time, warranty extension up to 5 years, Priority Technical Support, YourDrive YourData, and Enterprise Software Support.
Dimensions	Height: 43 mm (1.7 in.), width: 439 mm (17.3 in.), depth: 411 mm (16.2 in.)
Weight	Minimum: 6.2 kg (13.7 lb); maximum: 7.6 kg (16.8 lb)

## Models

RS160 server models are region-specific; that is, each region may define their own server models, and not all server models are available in every region. For a complete list of the RS160 models, contact a Lenovo or Lenovo Business Partner representative in your region.

The table shown in this section uses the following conventions:

- xx in the Model number (if present) represents a county-specific code (for example, xx=IA).
- TPM 2.0 module, 4-Post Rail Kit: Y = Included, N = Not included.
- WS2016 (Windows Server 2016) preload: S = Standard Edition, E = Essentials Edition; N = None.
- Power cord: C = 1.8 m line cord, R = 1.8 m C13-C14 rack power cable, N = None.

**Note:** Models for Japan come with the 2.8 m line cord.

The following table lists Relationship (Machine Types 70TD and 70TF) and TopSeller (Machine Types 70TE and 70TG) models of the RS160.

Table 2. ThinkServer RS160 Relationship and TopSeller models

Model number	Processor	UDIMM	RAID	NHS drive bays	Drives	GbE ports	I/O slots*	ODD	Fixed power supply	Warranty years	TPM 2.0 module	WS2016 preload	Power cord	4-post rail kit
Relationship models - Japan														
70TF000CJN	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
70TD000DJN	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
70TF000EJN	1x G4560 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
70TD000FJN	1x G4560 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
70TF000DJN	1x i3-7100 3.9GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
70TD000EJN	1x i3-7100 3.9GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	DVD-RW	1x 300W	1	N	N	C	Y
TopSeller - Asia Pacific: Indonesia (xx=IA), Malaysia (xx=MA), Philippines (xx=PA), Singapore (xx=SB), Thailand (xx=TA)														
70TG0026xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
70TE001Exx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
70TG0027xx	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
70TE001Fxx	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
70TE0023xx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
70TE0024xx	1x E3-1240 v6 3.7GHz	1x 16GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	DVD-ROM	1x 300W	3	N	N	R	Y
TopSeller - Australia														
70TG002JAZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y

Model number	Processor	UDIMM	RAID	NHS drive bays	Drives	GbE ports	I/O slots*	ODD	Fixed power supply	Warranty years	TPM 2.0 module	WS2016 preload	Power cord	4-post rail kit
70TG0020AZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE001QAZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TE0018AZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG0023AZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 520i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE001BAZ	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 520i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG0021AZ	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE0019AZ	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG0024AZ	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 520i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE001CAZ	1x E3-1225 v6 3.3GHz	1x 8GB	RAID 520i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG002KAZ	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TE001RAZ	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TG002LAZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TG0022AZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE001SAZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TE001AAZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG0025AZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 520i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TE001DAZ	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 520i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	R	N
70TG002MAZ	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
70TE001TAZ	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	R	Y
TopSeller - Europe, Middle East, Africa (EMEA)														
70TG002PEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TG0028EA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	3	Y	N	R	N
70TG002NEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TG0029EA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	0 / 1	Option	1x 300W	3	Y	N	R	N

Model number	Processor	UDIMM	RAID	NHS drive bays	Drives	GbE ports	I/O slots*	ODD	Fixed power supply	Warranty years	TPM 2.0 module	WS2016 preload	Power cord	4-post rail kit
70TG002VEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TG002UEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TG002TEA	1x E3-1220 v6 3.0GHz	1x 16GB	RAID 121i	2x 3.5"	2x 2TB	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TG002SEA	1x E3-1220 v6 3.0GHz	1x 16GB	RAID 121i	2x 3.5"	2x 2TB	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TE001VEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TE001UEA	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TG002REA	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TG002QEA	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TE0022EA	1x E3-1230 v6 3.5GHz	1x 16GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TE0021EA	1x E3-1230 v6 3.5GHz	1x 16GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TE001WEA	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TE001XEA	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
70TE001GEA	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	3	Y	N	R	N
70TE0020EA	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	1	Y	N	N	Y
70TE001YEA	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	1 / 1	Option	1x 300W	3	Y	N	N	Y
TopSeller - Latin America (no OS preload): Argentina (xx=AC), Chile (xx=CB), Mexico (xx=LD)														
70TG002Yxx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0036xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
70TG0030xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0037xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
70TG0031xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 2TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0038xx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 2TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
70TG0032xx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0039xx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y

Model number	Processor	UDIMM	RAID	NHS drive bays	Drives	GbE ports	I/O slots*	ODD	Fixed power supply	Warranty years	TPM 2.0 module	WS2016 preload	Power cord	4-post rail kit
70TG0033xx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG003Axx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
70TG003KAC	1x E3-1270 v6 3.8GHz	1x 16GB	RAID 121i	2x 3.5"	1x 2TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG003LAC	1x E3-1270 v6 3.8GHz	1x 16GB	RAID 121i	2x 3.5"	1x 4TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG002Wxx	1x G3950 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0034xx	1x G3950 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
70TG002Xxx	1x G4500 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	1	Y	N	C	Y
70TG0035xx	1x G4500 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	1x 1TB	2	1 / 1	DVD-RW	1x 300W	3	Y	N	C	Y
TopSeller - Latin America (OS preloaded): Argentina (xx=AR), Chile (xx=CL), Mexico (xx=LD)														
70TG003Bxx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	1	Y	E	C	Y
70TG003Fxx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	1	Y	S	C	Y
70TG003Dxx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	3	Y	E	C	Y
70TG003Hxx	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	3	Y	S	C	Y
70TG003Cxx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	1	Y	E	C	Y
70TG003Gxx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	1	Y	S	C	Y
70TG003Exx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	3	Y	E	C	Y
70TG003Jxx	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	2x 1TB RAID-1	2	1 / 1	DVD-RW	1x 300W	3	Y	S	C	Y
TopSeller - United States														
70TG001RUX	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TE000YUX	1x E3-1220 v6 3.0GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TG001SUX	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TE0010UX	1x E3-1230 v6 3.5GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TG001TUX	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TE0011UX	1x E3-1240 v6 3.7GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TG001UUX	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y

Model number	Processor	UDIMM	RAID	NHS drive bays	Drives	GbE ports	I/O slots*	ODD	Fixed power supply	Warranty years	TPM 2.0 module	WS2016 preload	Power cord	4-post rail kit
70TE0012UX	1x E3-1270 v6 3.8GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TG001VUX	1x E3-1280 v6 3.9GHz	1x 8GB	RAID 121i	2x 3.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y
70TE0013UX	1x E3-1280 v6 3.9GHz	1x 8GB	RAID 121i	4x 2.5"	Open bay	2	0 / 1	Option	1x 300W	1	Y	N	C	Y

\* Standard / maximum I/O slots. The RAID 520i card (if present) occupies the PCIe slot.

The ThinkServer RS160 models are shipped with the following items:

- *Electronic Publications Flyer*
- *ThinkServer EasyStartup Quick Start Guide* printed publication
- One power cord (select models)
- 4-Post Rail Kit (select models)

## Processors

The RS160 server supports one processor. The following table lists the specifications of the processors that are available for the RS160.

Table 3. Processor specifications (Hyper-Threading [HT], Turbo Boost [TB], Virtualization Technology [VT])

Processor model	Core frequency (Base / TB Max)	Cores / Threads	Cache	Max DDR4 frequency	Bus speed	TDP	ECC	HT	TB	VT-x	VT-d
<b>Intel Xeon processor E3-1200 v6 product family</b>											
E3-1220 v6	3.0 / 3.5 GHz	4 / 4	8 MB	2400 MHz	8 GT/s	72 W	Yes	No	Yes	Yes	Yes
E3-1225 v6	3.3 / 3.7 GHz	4 / 4	8 MB	2400 MHz	8 GT/s	73 W	Yes	No	Yes	Yes	Yes
E3-1230 v6	3.5 / 3.9 GHz	4 / 8	8 MB	2400 MHz	8 GT/s	72 W	Yes	Yes	Yes	Yes	Yes
E3-1240 v6	3.7 / 4.1 GHz	4 / 8	8 MB	2400 MHz	8 GT/s	72 W	Yes	Yes	Yes	Yes	Yes
E3-1270 v6	3.8 / 4.2 GHz	4 / 8	8 MB	2400 MHz	8 GT/s	72 W	Yes	Yes	Yes	Yes	Yes
E3-1280 v6	3.9 / 4.2 GHz	4 / 8	8 MB	2400 MHz	8 GT/s	72 W	Yes	Yes	Yes	Yes	Yes
<b>Intel Xeon processor E3-1200 v5 product family</b>											
E3-1220 v5	3.0 / 3.5 GHz	4 / 4	8 MB	2133 MHz	8 GT/s	80 W	Yes	No	Yes	Yes	Yes
E3-1225 v5	3.3 / 3.7 GHz	4 / 4	8 MB	2133 MHz	8 GT/s	80 W	Yes	No	Yes	Yes	Yes
E3-1230 v5	3.4 / 3.8 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	80 W	Yes	Yes	Yes	Yes	Yes
E3-1240 v5	3.5 / 3.9 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	80 W	Yes	Yes	Yes	Yes	Yes
E3-1240L v5	2.1 / 3.2 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	25 W	Yes	Yes	Yes	Yes	Yes
E3-1260L v5	2.9 / 3.9 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	45 W	Yes	Yes	Yes	Yes	Yes
E3-1270 v5	3.6 / 4 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	80 W	Yes	Yes	Yes	Yes	Yes
E3-1280 v5	3.7 / 4 GHz	4 / 8	8 MB	2133 MHz	8 GT/s	80 W	Yes	Yes	Yes	Yes	Yes
<b>Intel Core processors</b>											
i3-6100	3.7 GHz	2 / 4	3 MB	2133 MHz	8 GT/s	51 W	Yes	Yes	No	Yes	Yes
i3-6300	3.8 GHz	2 / 4	4 MB	2133 MHz	8 GT/s	51 W	Yes	Yes	No	Yes	Yes
i3-6320	3.9 GHz	2 / 4	4 MB	2133 MHz	8 GT/s	51 W	Yes	Yes	No	Yes	Yes

Processor model	Core frequency (Base / TB Max)	Cores / Threads	Cache	Max DDR4 frequency	Bus speed	TDP	ECC	HT	TB	VT-x	VT-d
i3-7100T	3.4 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	35 W	No	Yes	No	Yes	Yes
i3-7100	3.9 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	51 W	No	Yes	No	Yes	Yes
i3-7300T	3.5 GHz	2 / 4	4 MB	2400 MHz	8 GT/s	35 W	No	Yes	No	Yes	Yes
i3-7300	4.0 GHz	2 / 4	4 MB	2400 MHz	8 GT/s	51 W	No	Yes	No	Yes	Yes
i3-7320	4.1 GHz	2 / 4	4 MB	2400 MHz	8 GT/s	51 W	No	Yes	No	Yes	Yes
<b>Intel Pentium processors</b>											
G4400	3.3 GHz	2 / 2	3 MB	2133 MHz	8 GT/s	54 W	Yes	No	No	Yes	Yes
G4500	3.5 GHz	2 / 2	3 MB	2133 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes
G4520	3.6 GHz	2 / 2	3 MB	2133 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes
G4560T	2.9 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	35 W	Yes	Yes	No	Yes	Yes
G4560	3.5 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	54 W	Yes	Yes	No	Yes	Yes
G4600T	3.0 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	35 W	Yes	Yes	No	Yes	Yes
G4600	3.6 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	51 W	Yes	Yes	No	Yes	Yes
G4620	3.7 GHz	2 / 4	3 MB	2400 MHz	8 GT/s	51 W	Yes	Yes	No	Yes	Yes
<b>Intel Celeron processors</b>											
G3900T	2.6 GHz	2 / 2	2 MB	1866 MHz	8 GT/s	35 W	Yes	No	No	Yes	Yes
G3900	2.8 GHz	2 / 2	2 MB	1866 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes
G3920	2.9 GHz	2 / 2	2 MB	1866 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes
G3930T	2.7 GHz	2 / 2	2 MB	2133 MHz	8 GT/s	35 W	Yes	No	No	Yes	Yes
G3930	2.9 GHz	2 / 2	2 MB	2133 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes
G3950	3.0 GHz	2 / 2	2 MB	2133 MHz	8 GT/s	51 W	Yes	No	No	Yes	Yes

**Note:** The RS160 does not support Intel HD Graphics integrated into select processors. The server uses graphics integrated into the Baseboard Management Controller.

## Memory

The RS160 server has four DIMM slots, and it supports DDR4 UDIMMs with ECC memory protection. The processor has two memory channels and supports two DIMMs per channel.

Lenovo DDR4 memory is compatibility tested and tuned for optimal ThinkServer performance and throughput. From a service and support standpoint, Lenovo memory automatically assumes the system warranty, and Lenovo provides service and support worldwide.

The following rules apply when selecting the memory configuration:

- The RS160 server supports 2400 MHz UDIMMs.
- The RS160 server supports memory configurations with 1, 2, 3, or 4 UDIMMs.
- The RS160 server supports up to 2400 MHz memory speeds for one DIMM per channel and two DIMMs per channel configurations, provided that the processors support this memory speed (see [Processors](#) for details).

The following table summarizes memory speeds and capacities that are supported by the RS160 server.

Table 4. RS160 maximum memory speeds and capacities

DIMMs per channel	UDIMM	
	Memory bus speed	Maximum capacity
1 DPC	2400 MHz	32 GB (2x 16 GB)
2 DPC	2400 MHz	64 GB (4x 16 GB)

The following table lists the memory options that are available for the RS160 server.

Table 5. Memory options

Description	Part number	Maximum supported
ThinkServer 8GB DDR4-2400MHz (1Rx8) ECC UDIMM for 1P	4X70G88333	4
ThinkServer 16GB DDR4-2400MHz (2Rx8) ECC UDIMM for 1P	4X70G88334	4

## Internal storage

The RS160 server supports the following internal storage configurations:

- Two 3.5-inch large form factor (LFF) SAS/SATA NHS drive bays
- Four 2.5-inch small form factor (SFF) SAS/SATA NHS drive bays

The RS160 server has one optical drive bay for an optional DVD-ROM or DVD-RW drive. The server also supports up to one internal M.2 SATA SSD.

## Controllers for internal storage

The following table lists the internal RAID controllers and the additional options that are used for the internal drive storage of the RS160 server.

Table 6. Controllers for internal storage

Description	Part number	Maximum supported
Non-RAID internal storage controllers		
Onboard SATA controller (Non-RAID Intel SATA AHCI mode)	None*	1
RAID controllers		
ThinkServer RAID 120i Controller	None#	1
ThinkServer RAID 520i PCIe Adapter	4XC0G88840	1
ThinkServer RAID 720i PCIe Adapter	4XC0G88831	1
RAID 5 upgrade for the RAID 520i		
ThinkServer RAID 520i RAID 5 Upgrade	4XC0G88841	1
Cache upgrades for the RAID 720i		
ThinkServer RAID 720i 1GB Modular DRAM Upgrade	4XB0F28695	1
ThinkServer RAID 720i 1GB Modular Flash and Supercapacitor Upgrade	4XB0F28696	1
ThinkServer RAID 720i 2GB Modular Flash and Supercapacitor Upgrade	4XB0F28697	1
ThinkServer RAID 720i 4GB Modular Flash and Supercapacitor Upgrade	4XB0F28698	1

Description	Part number	Maximum supported
Spare supercapacitors		
ThinkServer CacheVault Data Protection Upgrade III	4X50G88110	1

# RAID 121i is an onboard hardware-assist RAID controller.

The RAID 121i is an onboard RAID controller that does *not* consume a PCIe slot. The RAID 520i and RAID 720i adapters are supported only in the PCIe expansion slot provided by the optional PCIe riser card.

**Important:** The RAID 121i controller is not supported by virtualization hypervisors, including VMware vSphere (ESXi), Linux KVM, Xen, and Microsoft Hyper-V.

The following table summarizes features of supported internal storage controllers.

Table 7. Internal storage controller features and specifications summary

Feature	Non-RAID (AHCI)	RAID 121i	RAID 520i	RAID 720i
Part number	None	None	4XC0G88840	4XC0G88831
Form factor	Onboard	Onboard	Low profile	Low profile
Controller chip	Not applicable*	Not applicable**	LSI SAS3008	LSI SAS3108
Host interface	Not applicable*	Not applicable**	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	6 Gbps SATA	6 Gbps SATA	12 Gbps SAS	12 Gbps SAS
Number of ports	5***	5***	8	8
Port connectors	5x L-shape SATA	5x L-shape SATA	2x Mini-SAS HD x4 (SFF-8643)	2x Mini-SAS HD x4 (SFF-8643)
Drive interface	SATA	SATA	SAS, SATA	SAS, SATA
Drive type	HDD	HDD, SSD	HDD, SSD	HDD, SSD
Optical drive support	Yes	Yes	No	No
Maximum drives	5***	5***	4	4
RAID levels	None	0/1/10/5	0/1/10, Optional 5 (4XC0G88841)	0/1/10/5
JBOD mode	Yes	Yes	Yes	Yes (without cache)
Cache	None	None	None	Optional: <ul style="list-style-type: none"> <li>• 1 GB non-backed (4XB0F28695)</li> <li>• 1 GB flash-backed (4XB0F28696)</li> <li>• 2 GB flash-backed (4XB0F28697)</li> <li>• 4 GB flash-backed (4XB0F28698)</li> </ul>
Cache protection	None	None	None	Yes (with flash backup)
FastPath	None	None	None	Yes (with flash backup)
CacheCade Pro 2.0	None	None	None	Yes (with flash backup)

\* The non-RAID Intel SATA AHCI mode of the SATA controller integrated into the Intel C232 Platform Controller Hub (PCH).

\*\* The RAID 121i is a hardware-assist, software RAID feature (Intel Rapid Storage Technology Enterprise [RSTe]) integrated into the Intel C232 Platform Controller Hub (PCH).

\*\*\* Up to four ports are used for SATA HDDs or SSDs, and the remaining port is used for an optical drive.

The following table lists supported combinations of the storage controllers and drive types for the RS160 drive bay configurations.

Table 8. Storage controllers, drive types, and internal drive bays

Drive bay configuration	Storage Controller	Drive type			
		SAS HDD	NL SATA HDD	SATA SSD	M.2 SSD
2x 3.5-inch SAS/SATA non-hot-swap	Non-RAID (AHCI)	No	Yes	Yes	No
	RAID 121i	No	Yes	Yes	No
	RAID 520i	Yes	Yes	Yes	No
	RAID 720i	Yes	Yes	Yes	No
4x 2.5-inch SAS/SATA non-hot-swap	Non-RAID (AHCI)	No	Yes	Yes	No
	RAID 121i	No	Yes	Yes	No
	RAID 520i	Yes	Yes	Yes	No
	RAID 720	Yes	Yes	Yes	No

## Drives for internal storage

The RS160 server supports the drive options that are listed in the following tables.

Table 9. Drive options for internal storage: 3.5-inch drives

Description	Part number	Maximum supported
<b>3.5-inch non-hot-swap HDDs - 12 Gbps NL SAS</b>		
ThinkServer 3.5" 1TB 7.2K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12298	2
ThinkServer 3.5" 2TB 7.2K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12299	2
ThinkServer 3.5" 4TB 7.2K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12300	2
ThinkServer 3.5" 6TB 7.2K Enterprise SAS 12Gbps 512e HDD for RS-Series	4XB0K12317	2
ThinkServer 3.5" 8TB 7.2K Enterprise SAS 12Gbps 512e HDD for RS-Series	4XB0K12318	2
ThinkServer 3.5" 10TB 7.2K Enterprise SAS 12Gbps 512e HDD for RS-Series	4XB0K12365	2*
<b>3.5-inch non-hot-swap HDDs - 6 Gbps NL SATA</b>		
ThinkServer 3.5" 1TB 7.2K Enterprise SATA 6Gbps HDD for RS-Series	4XB0K12293	2
ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps HDD for RS-Series	4XB0K12315	2
ThinkServer 3.5" 2TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12294	2
ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps HDD for RS-Series	4XB0K12316	2
ThinkServer 3.5" 4TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12295	2
ThinkServer 3.5" 6TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12296	2
ThinkServer 3.5" 8TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12297	2
ThinkServer 3.5" 10TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12366	2*
ThinkServer 3.5" 12TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0N68531	2
<b>3.5-inch non-hot-swap HDDs - 12 Gbps SAS</b>		
ThinkServer RS160 2.5" 900GB 15K Enterprise SAS 12Gbps 512e HDD w/3.5" Tray	4XB0K12374	2*
<b>3.5-inch non-hot-swap SSDs - S4600 Enterprise Mainstream 6 Gbps SATA (2.5" SSD in 3.5" drive tray)</b>		
ThinkServer 3.5" S4600 240GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68528	2*

Description	Part number	Maximum supported
ThinkServer 3.5" S4600 480GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68529	2*
ThinkServer 3.5" S4600 960GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68530	2*
3.5-inch non-hot-swap SSDs - 5100 Enterprise Entry 6 Gbps SATA (2.5" SSD in 3.5" drive tray)		
ThinkServer 3.5" 480GB 5100 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68499	2
ThinkServer 3.5" 960GB 5100 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68500	2
3.5-inch non-hot-swap SSDs - PM863a Enterprise Entry 6 Gbps SATA (2.5" SSD in 3.5" drive tray)		
ThinkServer RS160 2.5" 240GB PM863a Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12367	2*
ThinkServer RS160 2.5" 480GB PM863a Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12368	2*
ThinkServer RS160 2.5" 960GB PM863a Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12369	2*
3.5-inch non-hot-swap SSDs - S3520 Enterprise Entry 6 Gbps SATA (2.5" SSD in 3.5" drive tray)		
ThinkServer RS160 2.5" 240GB S3520 Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12378	2*
ThinkServer RS160 2.5" 480GB S3520 Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12379	2*
ThinkServer RS160 2.5" 960GB S3520 Enterprise Entry SATA 6Gb SSD w/3.5" Tray	4XB0K12380	2*
3.5-inch non-hot-swap SSDs - S4500 Enterprise Entry 6 Gbps SATA (2.5" SSD in 3.5" drive tray)		
ThinkServer 3.5" S4500 240GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68513	2*
ThinkServer 3.5" S4500 480GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68514	2*
ThinkServer 3.5" S4500 960GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68515	2*

\* Supported only with the E5-1200 v6, Core i3 2400 MHz, Pentium G 2400 MHz, and Celeron G 2133 MHz processors.

Table 10. Drive options for internal storage: 2.5-inch drives

Description	Part number	Maximum supported
2.5-inch non-hot-swap HDDs - 12 Gbps SAS		
ThinkServer 2.5" 300GB 10K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12303	4
ThinkServer 2.5" 600GB 10K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12304	4
ThinkServer 2.5" 900GB 10K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12305	4
ThinkServer 2.5" 900GB 15K Enterprise SAS 12Gbps 512e HDD for RS-Series	4XB0K12373	4*
ThinkServer 2.5" 1.2TB 10K Enterprise SAS 12Gbps HDD for RS-Series	4XB0K12306	4
ThinkServer 2.5" 2.4TB 10K Enterprise SAS 12Gbps 512e HDD for RS-Series	4XB0N68501	4*
2.5-inch non-hot-swap HDDs - 6 Gbps NL SATA		
ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12301	4
ThinkServer 2.5" 1TB 7.2K Enterprise SATA 6Gbps HDD for RS-Series	4XB0K12323	4
ThinkServer 2.5" 2TB 7.2K Enterprise SATA 6Gbps 512e HDD for RS-Series	4XB0K12302	4
2.5-inch non-hot-swap SSDs - S4600 Enterprise Mainstream 6 Gbps SATA		
ThinkServer 2.5" S4600 240GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68525	4*
ThinkServer 2.5" S4600 480GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68526	4*
ThinkServer 2.5" S4600 960GB Enterprise Mainstream SATA 6Gbps SSD for RS-Series	4XB0N68527	4*
2.5-inch non-hot-swap SSDs - 5100 Enterprise Entry 6 Gbps SATA		
ThinkServer 2.5" 480GB 5100 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68497	4
ThinkServer 2.5" 960GB 5100 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68498	4
2.5-inch non-hot-swap SSDs - PM863a Enterprise Entry 6 Gbps SATA		

Description	Part number	Maximum supported
ThinkServer 2.5" 240GB PM863a Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12370	4*
ThinkServer 2.5" 480GB PM863a Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12371	4*
ThinkServer 2.5" 960GB PM863a Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12372	4*
2.5-inch non-hot-swap SSDs - S3520 Enterprise Entry 6 Gbps SATA		
ThinkServer 2.5" 240GB S3520 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12375	4*
ThinkServer 2.5" 480GB S3520 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12376	4*
ThinkServer 2.5" 960GB S3520 Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0K12377	4*
2.5-inch non-hot-swap SSDs - S4500 Enterprise Entry 6 Gbps SATA		
ThinkServer 2.5" S4500 240GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68510	4*
ThinkServer 2.5" S4500 480GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68511	4*
ThinkServer 2.5" S4500 960GB Enterprise Entry SATA 6Gbps SSD for RS-Series	4XB0N68512	4*

\* Supported only with the E5-1200 v6, Core i3 2400 MHz, Pentium G 2400 MHz, and Celeron G 2133 MHz processors.

Table 11. Drive options for internal storage: M.2 drives

Description	Part number	Maximum supported
M.2 non-hot-swap SSDs - Value Read-Optimized 6 Gbps SATA		
ThinkServer M.2 32GB Value Read-Optimized SATA 6Gbps Solid State Drive	4XB0K12310	1
ThinkServer M.2 128GB Value Read-Optimized SATA 6Gbps Solid State Drive	4XB0K12311	1

## Optical drives

The RS160 server supports optical drive options listed in the following table.

Table 12. Optical drives

Description	Part number	Maximum supported
ThinkServer RS160 Slim SATA DVD-RW Optical Disk Drive	4XA0G88613	1
ThinkServer RS160 Slim SATA DVD-ROM Optical Disk Drive	4XA0G88614	1

The Slim SATA DVD-RW Optical Disk Drive supports the following types of media: CD-R, CD-ROM, CD-RW, DVD-R, DVD-R (dual-layer recording), DVD-RW, DVD+R, DVD+R (dual-layer recording), and DVD+RW.

The Slim SATA DVD-ROM Optical Disk Drive supports the following types of media: CD-R, CD-ROM, DVD-R, DVD-R (dual-layer recording), DVD+R, DVD+R (dual-layer recording).

## I/O expansion

The RS160 server supports one PCIe 3.0 x16 (x16-wired) low profile expansion slot (Refer to Components and connectors for slot location) with an optional PCIe x16 Riser Card installed in the riser slot on the system board. The following adapter types are supported in the PCIe slot:

- [Controllers for internal storage](#)
- [Network adapters](#)
- [SAS adapters for external storage](#)
- [Fibre Channel host bus adapters](#)

The following table lists the riser card option supported by the RS160.

Table 13. Riser cards

Description	Part number	Maximum supported
Lenovo ThinkServer RS160 x16 PCIe Riser Kit	4XC0G88857	1

## Network adapters

The RS160 server has two integrated Gigabit Ethernet ports based on the Intel I210 NIC. The integrated GbE ports have the following features:

- 1 Gb Ethernet IEEE 802.3, 802.3u, and 802.3ab PHY specifications compliant
- Integrated PHY for 10/100/1000 Mbps with speed and duplex auto-negotiation
- IEEE 802.3x and 802.3z flow control with software-controllable Rx thresholds and Tx pause frames
- Automatic cross-over detection function (MDI/MDI-X)
- Energy Efficient Ethernet (IEEE 802.3az)
- Wake on LAN
- VLAN tagging (IEEE 802.1Q)
- Class of Service (CoS) priority (IEEE 802.1p) marking
- TCP/UDP, IPv4 checksum offloads (Rx/ Tx/Large-send); extended Tx descriptors
- Receive Side Scaling
- Jumbo Frames (up to 9.5 KB)
- Timing and Synchronization (IEEE 802.1as / IEEE 1588)
- Load balancing and failover teaming support:
  - Adapter fault tolerance (AFT)
  - Switch fault tolerance (SFT)
  - Adaptive load balancing (ALB)
  - Virtual Machine load balancing (VMLB)
  - Link aggregation (static, IEEE 802.3ad)

The following table lists the network adapter options for the RS160 server.

Table 14. Network adapter options

Description	Part number	Maximum supported
ThinkServer I350-T2 PCIe 1Gb 2 Port Base-T Ethernet Adapter by Intel	4XC0F28730	1
ThinkServer I350-T4 PCIe 1Gb 4 Port Base-T Ethernet Adapter by Intel	4XC0F28731	1
ThinkServer X710-DA2 PCIe 10Gb 2 port Ethernet Adapter by Intel	4XC0G88852	1
ThinkServer 10Gb Optical Module by Intel (for the X710-DA2 adapter)	4XC0F28735	2

## SAS adapters for external storage

The following table lists the RAID adapter and HBA options that can be used for external storage attachments.

Table 15. RAID adapter and HBA options for external storage

Description	Part number	Maximum supported
RAID adapters - 12 Gb SAS		
ThinkServer 9380-8e PCIe 12Gb 8 port External SAS RAID Adapter by LSI-Avago (2x external Mini-SAS HD SFF-8644 connectors)	4XC0G88845	1
Options for RAID adapters		
Lenovo ThinkServer CacheVault Data Protection Upgrade II (Required for 4XC0G88845)	4XB0G45761	1
Host bus adapters - 12 Gb SAS		
ThinkServer 9300-8e PCIe 12Gb 8 Port External SAS Adapter by LSI (2x external Mini-SAS HD SFF-8644 connectors)	4XB0F28703	1

The following table summarizes features of supported SAS storage controllers.

Table 16. Storage controller features and specifications summary

Feature	9380-8e	9300-8e
Part number	4XB0F28645	4XB0F28703
Form factor	Low profile	Low profile
Controller chip	LSI SAS3108	LSI SAS3008
Host interface	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gbps SAS	12 Gbps SAS
Number of external ports	8	8
External port connectors	2x Mini-SAS HD (SFF-8644)	2x Mini-SAS HD (SFF-8644)
Drive interface	SAS, SATA	SAS, SATA
Drive type	HDD, SSD	HDD, SSD
Maximum number of devices	240	1024
RAID levels	0/1/10/5/10/6/60	None
JBOD mode	No	Yes
Cache	1 GB	None
Cache protection	Flash backup required (4XB0G45761)	None
FastPath	Included	None
CacheCade Pro 2.0	None	None

## Fibre Channel host bus adapters

The following table lists Fibre Channel host bus adapters (HBAs) supported by the RS160 server.

Table 17. Fibre Channel host bus adapter options

Description	Part number	Maximum supported
PCIe - Advanced 8 Gb FC		
ThinkServer LPe16000B-M8-L PCIe 1-Port 8Gb Fibre Channel HBA by Emulex	4XB0F28652	1

## Power supplies and cables

The RS160 server supports one 300 W AC fixed power supply. The power supply is 80 PLUS Gold certified.

**Important:** It is highly recommended to validate system configuration for specific power requirements by using the latest version of the ThinkServer Power Planner, which is available at this website:  
<http://support.lenovo.com/us/en/downloads/ds101155>

The following table lists rack power cables and line cords that can be ordered with the RS160.

Table 18. Power cable options

Description	Part number	Maximum supported
Rack power cords		
ThinkServer C13-C14 WW 250V 10A 1.8m Jumper Cord	4X90F92964	1
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	39Y7938	1
Line cords		
ThinkServer C13-BS_1363A UK 250V 10A 1.8m Power Cord	4X90F92970	1
ThinkServer C13-CE123_50 Italy 250V 10A 1.8m Power Cord	4X90F92975	1
ThinkServer C13-CEE_7.7 Europe 250V 10A 1.8m Power Cord	4X90F92974	1
ThinkServer C13-DK_2.5A Denmark 250V 10A 1.8m Power Cord	4X90F92971	1
ThinkServer C13-GB1002 PRC 250V 10A 1.8m Power Cord	4X90F92981	1
ThinkServer C13-IRAM_2073 LA 250V 10A 1.8m Power Cord	4X90F92977	1
ThinkServer C13-NEMA_5-15P US 125V 10A 1.8m Power Cord	4X90F92965	1
ThinkServer C13-SABS_164 South Africa 250V 6A 1.8m Power Cord	4X90F92978	1
ThinkServer C13-SI_32 Israel 250V 10A 1.8m Power Cord	4X90F92973	1
Japan 10A/100V C13 to JIS C-8302 power cable 2.8m	46M2593	1

## Systems management

The RS160 supports the following systems management tools:

- Lenovo ThinkServer Management Module
- Lenovo Software Tools
- Lenovo XClarity Administrator

### ThinkServer Management Module

The RS160 contains the ThinkServer Management Module (TMM), which provides service-processor control, monitoring, and alerting functions. The TMM offers the following capabilities:

- Gathering and viewing system information and inventory
- Monitoring system status and health
- Alerting and notifications
- Event logging
- Configuring TMM network connectivity and security
- Updating TMM firmware
- Remotely control server power (Power on, Power off, Restart)

As a standard feature, the TMM also provides virtual presence for remote server management capabilities. The TMM virtual presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1920x1200 at 60 Hz with up to 24 bits per pixel colors
- Remotely accessing the system by using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the system

The TMM can be accessed through a dedicated 10/100/1000 Mb Ethernet management port, and it provides remote server management through the following industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Embedded Web UI via HTTP/HTTPS
- Simple Network Management Protocol (SNMP) alerts

### Lenovo Software Tools

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

- ThinkServer EasyStartup

The ThinkServer EasyStartup tool simplifies the process of configuring RAID and installing supported Microsoft Windows and Linux operating systems, VMware hypervisors, and device drivers on a ThinkServer system.

- ThinkServer EasyUpdate

The ThinkServer EasyUpdate firmware update tool enables you to maintain your server firmware up-to-date and helps you avoid unnecessary server outages.

- ThinkServer Diagnostics

The ThinkServer Diagnostics software speeds up troubleshooting tasks to reduce service time by diagnosing server problems, performing diagnostic tests, and collecting system information and logs.

## Lenovo XClarity Administrator

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

Lenovo XClarity Administrator is an optional software component for the RS160 which can be downloaded and used at no charge to discover and monitor the server.

If software support is required for Lenovo XClarity Administrator, 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 19. Lenovo XClarity software options

Description	Part number (NA, AP, Japan)*	Part number (EMEA, LA)**	Quantity
Lenovo XClarity Pro, per Mngd Server w/1 Yr SW S&S	00MT201	00MT207	1
Lenovo XClarity Pro, per Mngd Server w/3 Yr SW S&S	00MT202	00MT208	1
Lenovo XClarity Pro, per Mngd Server 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 for the RS160 that are available at no charge for ThinkServer systems:

- Auto-discovery and monitoring of Lenovo x86 servers, RackSwitch switches, and Flex System chassis
- 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

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

<http://lenovopress.com/tips1200>

## Security

The RS160 server offers optional hardware security modules listed in the following table.

Table 20. Security options

Description	Part number	Maximum supported
Lenovo ThinkServer Gen 5 Trusted Platform Module v1.2 (Worldwide except China)	4XF0G45868	1
Lenovo ThinkServer Trusted Platform Module v2.0 (Worldwide except China)	4XF0G88938	1
Lenovo ThinkServer Gen 5 Trusted Cryptographic Module (China only)	4XF0G45869	1

## Rack installation

The following table lists the rack installation options that are available for the RS160 server.

Table 21. Rack installation options

Description	Part number
ThinkServer 2 Post Rail kit for RS-Series	4XF0F28767
ThinkServer 4 Post Rail kit for RS-Series	4XF0F28772

The following table summarizes the rail kit features and specifications.

Table 22. Rail kit features and specifications summary

Feature	ThinkServer 2 Post Rail Kit for RS-Series	ThinkServer 4 Post Rail Kit for RS-Series
Part number	4XF0F28767	4XF0F28772
Rail type	Ball bearing slide rail with stop latches	Ball bearing slide rail with stop latches
Toolless installation	No	No
CMA support	No	No
In-rack server maintenance	No	No
1U PDU support	Yes	Yes
0U PDU support	Yes	Yes
Rack type	Any 2-post	Lenovo 4-post, IEC standard-compliant
Mounting holes	Square or round (unthreaded)	Square or round (unthreaded)
Mounting flange thickness	2 mm (0.08 in.) – 3.2 mm (0.13 in.)	2 mm (0.08 in.) – 3.2 mm (0.13 in.)
Distance between front and rear mounting flanges	Not applicable	692.9 mm (27.28 in.) – 811.7 mm (31.95 in.)
Rail length*	483.9 mm (19.05 in.)	680 mm (26.77 in.)

\* Measured when mounted on the rack, from the front surface of the front mounting flange to the rear most point of the rail.

**Note:** Threaded mounting holes are not supported.

## Operating systems

The RS160 supports the following operating systems:

Table 23. Operating systems

Operating system	Intel Processor	
	E3-1200 v5, i3-6100/6300, G4400/G4500*, G3900/G3920	E3-1200 v6, i3-7100/7300, G4560/G4600, G3930/G3950
<b>Microsoft (client operating systems)</b>		
Windows 10 Professional (x64)	No	Yes
<b>Microsoft (server operating systems)</b>		
Windows Server 2016 Essentials, Standard, Hyper-V	Yes	Yes
Windows Server 2012 R2 Foundation, Essentials, Standard, Hyper-V	Yes	Yes
Windows Server 2012 Foundation, Essentials, Standard, Hyper-V	Yes	No
<b>SUSE</b>		
SUSE Linux Enterprise Server 12 SP2	Yes	Yes
SUSE Linux Enterprise Server 12 SP1	Yes	No
SUSE Linux Enterprise Server 11 SP4 (x64)	Yes	Yes
<b>Red Hat</b>		
Red Hat Enterprise Linux Server 7.3	Yes	Yes
Red Hat Enterprise Linux Server 7.2	Yes	No
Red Hat Enterprise Linux Server 6.8 (x64)	Yes	No
Red Hat Enterprise Linux Server 6.7 (x64)	Yes	No
<b>VMware</b>		
VMware vSphere 6.5 (ESXi)	Yes	Yes
VMware vSphere 6.0 (ESXi) Update 3	Yes	Yes
VMware vSphere 6.0 (ESXi) Update 2	Yes	No
VMware vSphere 6.0 (ESXi) Update 1	Yes	No

\* Includes Pentium G4500, G4500T, and G4520 processors.

**Important:** The RAID 121i controller is not supported by virtualization hypervisors, including VMware vSphere (ESXi), Linux KVM, Xen, and Microsoft Hyper-V.

For the latest information about the specific versions and service levels that are supported and any other prerequisites, see the Operating System Interoperability Guide: <http://lenovopress.com/redposig>.

## Physical specifications

The RS160 has the following dimensions and weight (approximate):

- Height: 43 mm (1.7 in.)
- Width: 439 mm (17.3 in.)
- Depth: 411 mm (16.2 in.)
- Weight:
  - Minimum: 6.2 kg (13.7 lb)
  - Maximum: 7.6 kg (16.8 lb)

## Operating environment

The RS160 server is supported in the following environment:

- Air temperature:
  - Operating: 10 °C - 35 °C (50 °F - 95 °F)
  - Storage: -40 °C - +60 °C (-40 °F - +140 °F) in the original shipping package
- Altitude: 0 m - 3,048 m (0 ft - 10,000 ft) in an unpressurized environment
- Humidity:
  - Operating: 8% - 80% (non-condensing)
  - Storage: 10% - 90% (non-condensing)
- Electrical:
  - 100 - 127 (nominal) V AC; 50 Hz or 60 Hz
  - 200 - 240 (nominal) V AC; 50 Hz or 60 Hz
- Noise level:
  - 4.2 bels (operating)
  - 3.7 bels (idle)

## Warranty

The RS160 has a one-year or three-year customer-replaceable unit (CRU) and onsite (for field-replaceable units [FRUs] only) limited warranty with standard call center support during normal business hours and 9x5 Next Business Day Parts Delivered. Also available are Lenovo Services warranty maintenance upgrades and post-warranty maintenance agreements, with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

Lenovo warranty service upgrade offerings are region-specific. Not all warranty service upgrades are available in every region. For more information about Lenovo warranty service upgrade offerings that are available in your region, visit the Lenovo Quick Pick website:

<http://lenovoquickpick.com>

The following table explains warranty service definitions in more detail.

Table 24. Warranty service definitions

Term	Description
Onsite Service	If a problem with your product cannot be resolved via telephone, a Service Technician will be dispatched to arrive at your location.
Parts Delivered	If a problem with your product cannot be resolved via telephone and a CRU part is required, Lenovo will send a replacement CRU to arrive at your location. If a problem with your product cannot be resolved via telephone and a FRU part is required, a Service Technician will be dispatched to arrive at your location.
Technician Installed Parts	If a problem with your product cannot be resolved via telephone, a Service Technician will be dispatched to arrive at your location.
Hours of coverage	<ul style="list-style-type: none"><li>• 9x5: 9 hours per day, 5 days per week, during normal business hours, excluding local public and national holidays</li><li>• 24x7: 24 hours per day, 7 days per week, 365 days per year.</li></ul>
Response time target	2 hours, 4 hours, or Next Business Day: The time period from when the telephone based troubleshooting is completed and logged, to the delivery of the CRU or arrival of a Service Technician and part at the Customer's location for repair.
Committed Repair	6 hours or 24 hours: The time period between the service request registration in Lenovo's call management system and the restoration of the product to conformance with its specification by a Service Technician.

The following Lenovo warranty service upgrades are available:

- **Warranty and maintenance service upgrades:**
  - Three, four, or five years of 9x5 or 24x7 service coverage
  - Parts delivered or technician installed parts from next business day to 4 or 2 hours
  - Committed repair service
  - Warranty extension of up to 5 years
  - Post warranty extensions
- **Committed Repair Service**

Committed Repair Services enhances the level of Warranty Service Upgrade or Post Warranty/Maintenance Service offering associated with the selected systems. Offerings vary and are available in select regions.

  - Priority handling to meet defined time frames to restore the failing machine to good working condition
  - 24x7x6 committed repair: Service performed 24 hours per day, 7 days per week, within 6 hours
  - 24x7x24 committed repair: Service performed 24 hours per day, 7 days per week, within 24 hours
- **YourDrive YourData**

Lenovo's YourDrive YourData service is a multi-drive retention offering that ensures your data is always under your control, regardless of the number of drives that are installed in your Lenovo server. In the unlikely event of a drive failure, you retain possession of your drive while Lenovo replaces the failed drive part. Your data stays safely on your premises, in your hands. The YourDrive YourData service can be purchased in convenient bundles with Lenovo warranty upgrades and extensions.
- **Hardware Support Preferred Access**

Lenovo's Hardware Support Preferred Access offering enhances our award-winning call center support to provide top priority queue assignment to specialized Lenovo technicians. Priority support accelerates call center troubleshooting to get your problems resolved quickly, and includes other value-added support for Lenovo provided software tools. Priority support can be purchased stand alone to match the base warranty of your system or in convenient bundles with our same-day response services.
- **Enterprise Software Support**

Lenovo Enterprise Server Software Support can help you troubleshoot your entire server software stack. Choose support for server operating systems from Microsoft, Red Hat, SUSE, and VMware; Microsoft server applications; or both operating systems and applications. Support staff can help answer troubleshooting and diagnostic questions, address product compatibility and interoperability issues, isolate causes of problems, report defects to software vendors, and more.
- **Hardware Installation Services**

Lenovo experts can seamlessly manage the physical installation of your server, storage, or networking hardware. Working at a time convenient for you (business hours or off shift), the technician will unpack and inspect the systems on your site, install options, mount in a rack cabinet, connect to power and network, check and update firmware to the latest levels, verify operation, and dispose of the packaging, allowing your team to focus on other priorities. Your new systems will be configured and ready for your software installation.

## Regulatory compliance

The RS160 server conforms to the following regulations:

- RoHS
- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, Class A
- EU Council Directive 2014/30/EU
- European Standard EN55022, Class A
- Korea Class A compliance
- Taiwan Class A compliance
- Japan VCCI, Class A

## External drive enclosures

The following table lists the relationship models of the 12 Gbps SAS external drive enclosures that are offered by Lenovo that can be used with the ThinkServer RS160 for storage expansion.

Table 25. D1212 and D1224 models

Description	Part number
LFF Relationship models	
D1212 LFF Chassis, Dual 3-port ESMs (US English documentation)	4587A11*
D1212 LFF Chassis, Dual 3-port ESMs (Simplified Chinese documentation)	4587A1C^
D1212 LFF Chassis, Dual 3-port ESMs (Japanese documentation)	4587A1J**
LFF TopSeller models - Brazil and Latin America	
D1212 LFF Chassis, Dual 3-port ESMs, 4x 2TB 3.5" HDDs, 4x 0.5m SAS cables	4587EAU
D1212 LFF Chassis, Dual 3-port ESMs, 4x 4TB 3.5" HDDs, 4x 0.5m SAS cables	4587EBU
D1212 LFF Chassis, Dual 3-port ESMs, 4x 6TB 3.5" HDDs, 4x 0.5m SAS cables	4587ECU
D1212 LFF Chassis, Dual 3-port ESMs, 4x 8TB 3.5" HDDs, 4x 0.5m SAS cables	4587EDU
D1212 LFF Chassis, Dual 3-port ESMs, 8x 2TB 3.5" HDDs, 4x 0.5m SAS cables	4587EEU
D1212 LFF Chassis, Dual 3-port ESMs, 8x 4TB 3.5" HDDs, 4x 0.5m SAS cables	4587EFU
D1212 LFF Chassis, Dual 3-port ESMs, 8x 6TB 3.5" HDDs, 4x 0.5m SAS cables	4587EGU
D1212 LFF Chassis, Dual 3-port ESMs, 8x 8TB 3.5" HDDs, 4x 0.5m SAS cables	4587EHU
D1212 LFF Chassis, Dual 3-port ESMs, 12x 2TB 3.5" HDDs, 4x 0.5m SAS cables	4587EIU
D1212 LFF Chassis, Dual 3-port ESMs, 12x 4TB 3.5" HDDs, 4x 0.5m SAS cables	4587EJU
D1212 LFF Chassis, Dual 3-port ESMs, 12x 6TB 3.5" HDDs, 4x 0.5m SAS cables	4587EKU
D1212 LFF Chassis, Dual 3-port ESMs, 12x 8TB 3.5" HDDs, 4x 0.5m SAS cables	4587ELU
LFF TopSeller models - North America (NA) and Europe, Middle East, and Africa (EMEA)	
Lenovo Storage D1212 LFF Dual ESM Disk Expansion Enclosure (US English documentation)	4587E11
SFF Relationship models	
D1224 SFF Chassis, Dual 3-port ESMs (US English documentation)	4587A31*
D1224 SFF Chassis, Dual 3-port ESMs (Simplified Chinese documentation)	4587A3C^
D1224 SFF Chassis, Dual 3-port ESMs (Japanese documentation)	4587A3J**
SFF TopSeller models - Brazil and Latin America	
D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 4x 0.5m SAS cables	4587E6U
D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 2x 400GB SSDs, 4x 0.5m SAS cables	4587E2U

Description	Part number
D1224 SFF Chassis, Dual 3-port ESMs, 9x 1.2TB 10K HDDs, 4x 400GB SSDs, 4x 0.5m SAS cables	4587E4U
D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 1x 0.5m SAS cable	4587E5U
D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 2x 400GB SSDs, 4x 0.5m SAS cables	4587E1U
D1224 SFF Chassis, Dual 3-port ESMs, 18x 1.2TB 10K HDDs, 4x 400GB SSDs, 4x 0.5m SAS cables	4587E3U
SFF TopSeller models - North America (NA) and Europe, Middle East, and Africa (EMEA)	
Lenovo Storage D1224 SFF Dual ESM Disk Expansion Enclosure (US English documentation)	4587E31

\* Available worldwide (except China and Japan)

^ Available only in China

\*\* Available only in Japan

For details about supported drives, adapters, and cables for the Lenovo Storage D1212 and D1224, see the Lenovo Press Product Guide:

<http://lenovopress.com/lp0512>

The following table lists the 12 Gbps SAS external high density drive enclosures that are offered by Lenovo that can be used with the ThinkServer RS160 for storage expansion.

Table 26. D3284 models

Description	Part number
Relationship models	
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
TopSeller models	
Lenovo Storage D3284 High Density Expansion Enclosure	6413E5F
Lenovo Storage D3284 4TB x 42 HD Expansion Enclosure	6413E1H
Lenovo Storage D3284 4TB x 84 HD Expansion Enclosure	6413E1F
Lenovo Storage D3284 6TB x 42 HD Expansion Enclosure	6413E2H
Lenovo Storage D3284 6TB x 84 HD Expansion Enclosure	6413E2F
Lenovo Storage D3284 8TB x 42 HD Expansion Enclosure	6413E3H
Lenovo Storage D3284 8TB x 84 HD Expansion Enclosure	6413E3F
Lenovo Storage D3284 10TB x 42 HD Expansion Enclosure	6413E4H
Lenovo Storage D3284 10TB x 84 HD Expansion Enclosure	6413E4F

For details about supported drives, adapters, and cables for the Lenovo Storage D3284, see the Lenovo Press Product Guide:

<http://lenovopress.com/lp0513>

## External storage systems

The RS160 can be attached to external storage systems using the following connectivity protocols:

- 12 Gb SAS with a supported external SAS HBA
- 1 Gb or 10 Gb Ethernet (NAS storage or S3 object storage)
- 1 Gb or 10 Gb iSCSI with an iSCSI software initiator in the operating system
- 8 Gb Fibre Channel with a supported FC HBA

The following table lists the external storage systems that are offered by Lenovo that can be used in RS160 solutions.

Table 27. External storage systems

Description	Part number
Lenovo ThinkSystem DS Series Storage (SAS connectivity)	
Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (US English documentation)	4599A41*
Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (Simplified Chinese documentation)	4599A4C^
Lenovo ThinkSystem DS2200 LFF SAS Dual Controller Unit (Japanese documentation)	4599A4J**
Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (US English documentation)	4599A21*
Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)	4599A2C^
Lenovo ThinkSystem DS2200 SFF SAS Dual Controller Unit (Japanese documentation)	4599A2J**
Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (US English documentation)	4617A41*
Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (Simplified Chinese documentation)	4617A4C^
Lenovo ThinkSystem DS4200 LFF SAS Dual Controller Unit (Japanese documentation)	4617A4J**
Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (US English documentation)	4617A21*
Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)	4617A2C^
Lenovo ThinkSystem DS4200 SFF SAS Dual Controller Unit (Japanese documentation)	4617A2J**
Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (US English documentation)	4619A21*
Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (Simplified Chinese documentation)	4619A2C^
Lenovo ThinkSystem DS6200 SFF SAS Dual Controller Unit (Japanese documentation)	4619A2J**
Lenovo ThinkSystem DS Series Storage (iSCSI or FC connectivity)	
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (US English documentation)	4599A31*
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4599A3C^
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4599A3J**
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4599A11*
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4599A1C^
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4599A1J**
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (US English documentation)	4617A31*
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4617A3C^
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4617A3J**
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4617A11*
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4617A1C^
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit (Japanese documentation)	4617A1J**
Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (US English documentation)	4619A11*
Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit (Simplified Chinese documentation)	4619A1C^
Lenovo Storage V Series (SAS, iSCSI, or FC connectivity)	
Lenovo Storage V3700 V2 LFF Control Enclosure	6535C1D
Lenovo Storage V3700 V2 LFF Control Enclosure (TopSeller)	6535EC1
Lenovo Storage V3700 V2 SFF Control Enclosure	6535C2D
Lenovo Storage V3700 V2 SFF Control Enclosure (TopSeller)	6535EC2
Lenovo Storage V3700 V2 XP LFF Control Enclosure	6535C3D
Lenovo Storage V3700 V2 XP LFF Control Enclosure (TopSeller)	6535EC3

Description	Part number
Lenovo Storage V3700 V2 XP SFF Control Enclosure	6535C4D
Lenovo Storage V3700 V2 XP SFF Control Enclosure (TopSeller)	6535EC4
Lenovo Storage V5030 LFF Control Enclosure 3Yr S&S	6536C12
Lenovo Storage V5030 LFF Control Enclosure 5Yr S&S	6536C32
Lenovo Storage V5030 SFF Control Enclosure 3Yr S&S	6536C22
Lenovo Storage V5030 SFF Control Enclosure 5Yr S&S	6536C42
Lenovo Storage V5030F SFF Control Enclosure 3Yr S&S	6536B1F
Lenovo Storage V5030F SFF Control Enclosure 5Yr S&S	6536B2F
Lenovo Storage V7000 SFF Control Enclosure 3Yr S&S PRC	6538R11^
Lenovo Storage V7000 SFF Control Enclosure 5Yr S&S PRC	6538R21^
Lenovo Storage V7000F SFF Control Enclosure 3Yr S&S PRC	6538R1G^
Lenovo Storage V7000F SFF Control Enclosure 5Yr S&S PRC	6538R2G^
IBM Storwize for Lenovo (SAS [except V7000], iSCSI, or FC connectivity)	
IBM Storwize V3500 3.5-inch Dual Control Storage Controller Unit	6096CU2^
IBM Storwize V3500 2.5-inch Dual Control Storage Controller Unit	6096CU3^
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA	6195C32†
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA, LA	6195C3L‡
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA	6195C52†
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA, LA	6195C5L‡
Lenovo Storage DX8200 Series (NAS, iSCSI connectivity; optional FC connectivity)	
Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 3yr SW S&S	5135A3x#
Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 4yr SW S&S	5135J3x#
Lenovo Storage DX8200D Storage Virtualization Entry, 4TB, 5yr SW S&S	51351Wx#
Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 3yr SW S&S	5135B3x#
Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 4yr SW S&S	5135L3x#
Lenovo Storage DX8200D Storage Virtualization Mid, 16TB, 5yr SW S&S	51352Wx#
Lenovo Storage DX8200D Storage Virtualization High, 64TB, 3yr SW S&S	5135C3x#
Lenovo Storage DX8200D Storage Virtualization High, 64TB, 4yr SW S&S	5135M3x#
Lenovo Storage DX8200D Storage Virtualization High, 64TB, 5yr SW S&S	51353Wx#
Lenovo Storage DX8200D ServerSAN Entry, 8TB, 3yr SW S&S	5135D3x#
Lenovo Storage DX8200D ServerSAN Entry, 8TB, 4yr SW S&S	5135N3x#
Lenovo Storage DX8200D ServerSAN Entry, 8TB, 5yr SW S&S	51354Wx#
Lenovo Storage DX8200D ServerSAN Mid, 16TB, 3yr SW S&S	5135F3x#
Lenovo Storage DX8200D ServerSAN Mid, 16TB, 4yr SW S&S	5135P3x#
Lenovo Storage DX8200D ServerSAN Mid, 16TB, 5yr SW S&S	51355Wx#
Lenovo Storage DX8200D ServerSAN High, 32TB, 3yr SW S&S	5135G3x#
Lenovo Storage DX8200D ServerSAN High, 32TB, 4yr SW S&S	5135Q3x#
Lenovo Storage DX8200D ServerSAN High, 32TB, 5yr SW S&S	51356Wx#
Lenovo Storage DX8200N with 1x N2226 HBA (Requires a supported external drive enclosure)	5128C1x#
Lenovo Storage DX8200N with 2x N2226 HBAs (Requires a supported external drive enclosure)	5128C2x#
Lenovo Storage DX8200C Series (S3 cloud storage)	

Description	Part number
Lenovo Storage DX8200C 56TB (14x 4TB HDDs) with Cloudian HyperStore - 3yr HW/SW S&S	5120D1x#
Lenovo Storage DX8200C 84TB (14x 6TB HDDs) with Cloudian HyperStore - 3yr HW/SW S&S	5120D2x#
Lenovo Storage DX8200C 112TB (14x 8TB HDDs) with Cloudian HyperStore - 3yr HW/SW S&S	5120D3x#
Lenovo Storage DX8200C 140TB (14x 10TB HDDs) with Cloudian HyperStore - 3yr HW/SW S&S	5120D4x#

\* Available worldwide (except China and Japan).

^ Available only in China.

\*\* Available only in Japan.

† Available worldwide except Latin America.

‡ Available only in Latin America.

# x represents a geo-specific letter (for example: U = North America, G = EMEA). Ask a Lenovo representative for specifics.

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

- Lenovo DS Series and V Series storage:  
<http://lenovopress.com/storage/san/lenovo#rt=product-guide>
- IBM Storwize for Lenovo storage:  
<http://lenovopress.com/storage/san/ibm#rt=product-guide>
- Lenovo Cloud storage:  
<http://lenovopress.com/storage/cloud#rt=product-guide>
- Lenovo NAS storage:  
<http://lenovopress.com/storage/nas#rt=product-guide>

## External backup units

The following table lists the backup units that are offered by Lenovo that can be used in RS160 solutions.

Table 28. External backup unit options

Description	Part number
External RDX unit	
ThinkServer External RDX Tape Drive	4XF0G88929
RDX cartridges	
ThinkServer 1TB 3Gbps RDX Cartridge	4XB0F28660
ThinkServer 2TB SATA 3Gbps RDX Cartridge	4XB0G88711
External SAS tape backup drives	
IBM TS2250 Tape Drive Model H5S	6160S5E
IBM TS2260 Tape Drive Model H6S	6160S6E
IBM TS2270 Tape Drive Model H7S	6160S7E
External SAS tape backup autoloaders	
IBM TS2900 Tape Autoloader w/LTO5 HH SAS	6171S5R
IBM TS2900 Tape Autoloader w/LTO6 HH SAS	6171S6R
IBM TS2900 Tape Autoloader w/LTO7 HH SAS	6171S7R
External tape backup libraries	
IBM TS3100 Tape Library Model L2U	61732UL
IBM TS3200 Tape Library Model L4U	61734UL
Fibre Channel tape backup drives for TS3100 and TS3200 Tape Libraries	
6173 LTO Ultrium 5 Fibre Channel Drive	00NA107
6173 LTO Ultrium 5 Half High Fibre Drive Sled	00NA113
6173 LTO Ultrium 6 Fibre Channel Drive	00NA115
6173 LTO Ultrium 6 Half High Fibre Drive Sled	00NA119
6173 LTO Ultrium 7 Fibre Channel Drive	00WF765
6173 LTO Ultrium 7 Half High Fibre Drive Sled	00WF769
SAS tape backup drives for TS3100 and TS3200 Tape Libraries	
6173 LTO Ultrium 5 SAS Drive Sled	00NA109
6173 LTO Ultrium 5 Half High SAS Drive Sled	00NA111
6173 LTO Ultrium 6 Half High SAS Drive Sled	00NA117
6173 LTO Ultrium 7 Half High SAS Drive Sled	00WF767

For more information, see the list of Product Guides in the Backup Units category:

<http://lenovopress.com/servers/options/backup>

## Ethernet LAN switches

The following table lists the top-of-rack Ethernet switches that are offered by Lenovo that can be used in RS160 solutions.

Table 29. Ethernet LAN switches

Description	Part number
1 Gb Ethernet switches	
Juniper EX2300-C PoE Switch	7165H1X
Juniper EX2300-24p PoE Switch	7165H2X
Lenovo RackSwitch G7028 (Rear to Front)	7159BAX
Lenovo RackSwitch G7052 (Rear to Front)	7159CAX
Lenovo RackSwitch G8052 (Rear to Front)	7159G52
10 Gb Ethernet switches	
Lenovo ThinkSystem NE1032 RackSwitch (Rear to Front)	7159A1X
Lenovo ThinkSystem NE1032T RackSwitch (Rear to Front)	7159B1X
Lenovo ThinkSystem NE1072T RackSwitch (Rear to Front)	7159C1X
Lenovo RackSwitch G8124E (Rear to Front)	7159BR6
Lenovo RackSwitch G8264 (Rear to Front)	7159G64
Lenovo RackSwitch G8264CS (Rear to Front)	7159DRX
Lenovo RackSwitch G8272 (Rear to Front)	7159CRW
Lenovo RackSwitch G8296 (Rear to Front)	7159GR6
25 Gb Ethernet switches	
Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)	7159E1X
40 Gb Ethernet switches	
Lenovo RackSwitch G8332 (Rear to Front)	7159BRX
100 Gb Ethernet switches	
Lenovo ThinkSystem NE10032 RackSwitch (Rear to Front)	7159D1X

For more information, see the list of Product Guides in the Top-of-rack Switches category:

<http://lenovopress.com/servers/options/switches#rt=product-guide>

## Fibre Channel SAN switches

The following table lists currently available Fibre Channel SAN switches that are offered by Lenovo that can be used with the RS160 in IT solutions.

Table 30. Fibre Channel SAN switches

Description	Part number
8 Gb FC	
Lenovo B300, 8 ports activated, 8x 8Gb SWL SFPs, 1 PS, Rail Kit	3873AR3
Lenovo B6505, 12 ports activated, 12x 8Gb SWL SFPs, 1 PS, Rail Kit	3873AR4
Lenovo B6510, 24 ports activated, 24x 8Gb SWL SFPs, 2 PS, Rail Kit	3873BR2
16 Gb FC	
Lenovo ThinkSystem DB610S, 8 ports activated, 8x 16Gb SWL SFPs, 1 PS, Rail Kit	6559D2Y
Lenovo ThinkSystem DB610S, 24 ports activated, 24x 16Gb SWL SFP, Enterprise SW, 1 PS, Rail Kit	6559D1Y
Lenovo B6505, 12 ports activated w/ 16Gb SWL SFPs, 1 PS, Rail Kit	3873AR5
Lenovo B6510, 24 ports activated w/ 16Gb SWL SFPs, 2 PS, Rail Kit	3873BR3
32 Gb FC	
Lenovo ThinkSystem DB610S, 8 ports activated, 1 PS, Rail Kit	6559D3Y
Lenovo ThinkSystem DB620S, 24 Ports Activated, 24x 32Gb SWL SFPs, 2 PS, Rail Kit	6415G11
Lenovo ThinkSystem DB620S, 48 Ports Activated, 48x 32Gb SWL SFPs, 2 PS, Rail Kit	6415G2A
Lenovo ThinkSystem DB400D 32Gb FC Director, up to 192 ports, 8U, Enterprise SW	6684B2A
Lenovo ThinkSystem DB800D 32Gb FC Director, up to 384 ports, 14U, Enterprise SW	6682B1A

For more information, see the list of Product Guides in the Rack SAN Switches category:  
<http://lenovopress.com/storage/switches/rack#rt=product-guide>

## Rack cabinets

The following table lists the rack cabinets that are offered by Lenovo that can be used in RS160 solutions.

Table 31. Rack cabinets

Description	Part number
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>

## KVM switches and consoles

The following table lists the console switches and monitor kits that are available from Lenovo that can be used in RS160 solutions.

Table 32. KVM switch and console options

Description	Part number
Consoles	
1U 18.5" Standard Console (without keyboard)	17238BX
Console keyboards	
Lenovo UltraNav Keyboard USB - US Eng	00MW310
Keyboard w/ Int. Pointing Device USB - Arabic 253 RoHS v2	46W6713
Keyboard w/ Int. Pointing Device USB - Belg/UK 120 RoHS v2	46W6714
Keyboard w/ Int. Pointing Device USB - Chinese/US 467 RoHS v2	46W6715
Keyboard w/ Int. Pointing Device USB - Czech 489 RoHS v2	46W6716
Keyboard w/ Int. Pointing Device USB - Danish 159 RoHS v2	46W6717
Keyboard w/ Int. Pointing Device USB - Dutch 143 RoHS v2	46W6718
Keyboard w/ Int. Pointing Device USB - French 189 RoHS v2	46W6719
Keyboard w/ Int. Pointing Device USB - Fr/Canada 445 RoHS v2	46W6720
Keyboard w/ Int. Pointing Device USB - German 129 RoHS v2	46W6721
Keyboard w/ Int. Pointing Device USB - Greek 219 RoHS v2	46W6722
Keyboard w/ Int. Pointing Device USB - Hebrew 212 RoHS v2	46W6723
Keyboard w/ Int. Pointing Device USB - Hungarian 208 RoHS v2	46W6724
Keyboard w/ Int. Pointing Device USB - Italian 141 RoHS v2	46W6725
Keyboard w/ Int. Pointing Device USB - Japanese 194 RoHS v2	46W6726
Keyboard w/ Int. Pointing Device USB - Korean 413 RoHS v2	46W6727
Keyboard w/ Int. Pointing Device USB - LA Span 171 RoHS v2	46W6728
Keyboard w/ Int. Pointing Device USB - Norwegian 155 RoHS v2	46W6729
Keyboard w/ Int. Pointing Device USB - Polish 214 RoHS v2	46W6730
Keyboard w/ Int. Pointing Device USB - Portugese 163 RoHS v2	46W6731
Keyboard w/ Int. Pointing Device USB - Russian 441 RoHS v2	46W6732
Keyboard w/ Int. Pointing Device USB - Slovak 245 RoHS v2	46W6733
Keyboard w/ Int. Pointing Device USB - Spanish 172 RoHS v2	46W6734
Keyboard w/ Int. Pointing Device USB - Swed/Finn 153 RoHS v2	46W6735
Keyboard w/ Int. Pointing Device USB - Swiss F/G 150 RoHS v2	46W6736
Keyboard w/ Int. Pointing Device USB - Thai 191 RoHS v2	46W6737
Keyboard w/ Int. Pointing Device USB - Turkish 179 RoHS v2	46W6738
Keyboard w/ Int. Pointing Device USB - UK Eng 166 RoHS v2	46W6739
Keyboard w/ Int. Pointing Device USB - US Euro 103P RoHS v2	46W6740
Keyboard w/ Int. Pointing Device USB - Slovenian 234 RoHS v2	46W6741
Console switches	
Global 4x2x32 Console Manager (GCM32)	1754D2X
Global 2x2x16 Console Manager (GCM16)	1754D1X
Local 2x16 Console Manager (LCM16)	1754A2X

Description	Part number
Local 1x8 Console Manager (LCM8)	1754A1X
Console cables	
Single Cable USB Conversion Option (UCO)	43V6147
USB Conversion Option (4 Pack UCO)	39M2895
Virtual Media Conversion Option Gen2 (VCO2)	46M5383
Serial Conversion Option (SCO)	46M5382

For more information, see the list of Product Guides in the KVM Switches and Consoles category:  
<http://lenovopress.com/servers/options/kvm>

## Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo that can be used in RS160 solutions.

Table 33. 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

Description	Part number
DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord	39Y8939
DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8934
DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8940
DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8935
Universal PDUs (7x IEC 320 C13 outlets)	
DPI Universal 7 C13 PDU (with 2 m IEC 320-C19 to C20 rack power cord)	00YE443
NEMA PDUs (6x NEMA 5-15R outlets)	
DPI 100-127V PDU with fixed NEMA L5-15P line cord	39Y8905
Line cords for PDUs that ship without a line cord	
DPI 30a Line Cord (NEMA L6-30P)	40K9614
DPI 32a Line Cord (IEC 309 P+N+G)	40K9612
DPI 32a Line Cord (IEC 309 3P+N+G)	40K9611
DPI 60a Cord (IEC 309 2P+G)	40K9615
DPI 63a Cord (IEC 309 P+N+G)	40K9613
DPI Australian/NZ 3112 Line Cord (32A)	40K9617
DPI Korean 8305 Line Cord (30A)	40K9618

For more information, see the list of Product Guides in the Power Distribution Units category:  
<http://lenovopress.com/servers/options/pdu>

## Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo that can be used in RS160 solutions.

Table 34. Uninterruptible power supply units

Description	Part number
RT1.5kVA 2U Rack or Tower UPS (100-125VAC)	55941AX
RT1.5kVA 2U Rack or Tower UPS (200-240VAC)	55941KX
RT2.2kVA 2U Rack or Tower UPS (100-125VAC)	55942AX
RT2.2kVA 2U Rack or Tower UPS (200-240VAC)	55942KX
RT3kVA 2U Rack or Tower UPS (100-125VAC)	55943AX
RT3kVA 2U Rack or Tower UPS (200-240VAC)	55943KX
RT5kVA 3U Rack or Tower UPS (200-240VAC)	55945KX
RT6kVA 3U Rack or Tower UPS (200-240VAC)	55946KX
RT8kVA 6U Rack or Tower UPS (200-240VAC)	55948KX
RT11kVA 6U Rack or Tower UPS (200-240VAC)	55949KX
RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)	55948PX
RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC)	55949PX

For more information, see the list of Product Guides in the Power infrastructure category:  
<http://lenovopress.com/servers/options/ups>

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## Related publications and links

For more information, see these resources:

- ThinkServer RS160 product page  
<https://www3.lenovo.com/us/en/data-center/servers/racks/ThinkServer-RS160/p/77LS7RS160S>
- ThinkServer RS160 PSREF page  
[http://psref.lenovo.com/Product/ThinkServer\\_RS160](http://psref.lenovo.com/Product/ThinkServer_RS160)
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- Lenovo Support for ThinkServer RS160  
<https://datacentersupport.lenovo.com/us/en/products/servers/thinkserver/rs160>
- Lenovo Quick Pick for ThinkServer RS160  
<http://www.lenovoquickpick.com/usa/system/thinkserver/rs-series/rs160>
- ThinkServer Power Planner  
<http://support.lenovo.com/us/en/downloads/ds101155>

## Related product families

Product families related to this document are the following:

- [1-Socket Rack Servers](#)

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