



Lenovo ThinkSystem SR950 New Options and Features for December 2017

Article

In December, several new storage options, CPUs and configuration upgrades became available for the ThinkSystem SR950. This article highlights the new options and features and provides the relevant part numbers.

SR950 4S Performance to 8S Upgrade

The ThinkSystem SR950 now allows upgrades from 4 Socket Performance and 4 Socket Performance-Storage Rich configurations to 8 Socket configurations. It requires a new upgrade kit, ThinkSystem SR950 4S Performance to 8S Upgrade Kit. This new kit provides the necessary mid-chassis interconnects required for an 8S SR950 server. This is particularly important to SAP HANA configurations that typically require a 4 Socket Performance configuration.



Figure 1. ThinkSystem SR950

Table 1. New upgrade paths - announced in December

Initial Configuration	Upgrade Configuration
Four Socket Performance – 4 CPUs	Eight Socket Storage Rich – 8 CPUs
Four Socket Performance Storage Rich – 4 CPUs	Eight Socket Storage Rich – 8 CPUs

The components need to upgrade a 4S Performance configuration to 8S are as follows:

- 4S Performance to 8S Upgrade Kit, 4TA7A10969 – to upgrade the mid chassis interconnects
- Upper Compute Tray – to support the new system boards, CPUs, DIMM
- One Compute System board – to add to the Upper Compute Tray (already comes with one Compute System board)

- Four matching 81xx CPUs – to become an 8S system
- Necessary RAID, Backplanes, Storage, DIMM, PCIe adapters
- Basic Lenovo Hardware Installation – to install the upgrade parts

The following table lists the ordering information for the upgrade kit.

Table 2. Upgrade kit

Description	Part number	Feature code
ThinkSystem SR950 4S Performance to 8S Upgrade Kit	4TA7A10969	B2NS

Refer to the Server Configuration Upgrades section of the [SR950 Product Guide](#) for the types of upgrades supported as well as the detailed steps and part numbers.

Additional SR950 Configuration Upgrades that have been available since SR950 launch are shown in the following table.

Table 3. Upgrade paths available since launch

Initial Configuration	Upgrade Configuration
Four Socket Performance – 2 CPUs	Four Socket Performance – 4 CPUs
Four Socket Upgradeable – 2 CPUs	Four Socket Upgradeable – 4 CPUs
Four Socket Upgradeable – 4 CPUs	Eight Socket Storage Rich – 8 CPUs
Four Socket Upgradeable – Storage Rich – 4 CPUs	Eight Socket Storage Rich – 8 CPUs

New Processors now available

The SR950 now supports four additional Intel Xeon Gold Scalable Family processors.



Table 4. New processor options

Description	Part number	Feature code
ThinkSystem SR950 Intel Xeon Gold 5119T 14C 85W 1.8GHz Processor Option Kit	4XG7A08864	AX7F
ThinkSystem SR950 Intel Xeon Gold 5117 14C 105W 2.0GHz Processor Option Kit	4XG7A09097	B20S
ThinkSystem SR950 Intel Xeon Gold 6144 8C 150W 3.5GHz Processor Option Kit	7XG7A05003	AX6X
ThinkSystem SR950 Intel Xeon Gold 6146 12C 165W 3.2GHz Processor Option Kit	7XG7A05004	AX6V

Intel P4500 Entry NVMe SSDs now available

The Intel P4500 Entry NVMe SSDs are general-purpose yet high-performance drives with a PCIe 3.0 x4 interface. They are designed for greater performance and endurance in a cost-effective design, and to support a broader set of workloads.



Figure 2. Intel P4500 Entry NVMe PCIe 3.0 x4 SSDs

The following table lists the part numbers.

Table 5.

Description	Part number	Feature code
ThinkSystem U.2 Intel P4500 1TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	7SD7A05779	B11C
ThinkSystem U.2 Intel P4500 2TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	7SD7A05778	B11D
ThinkSystem U.2 Intel P4500 4TB Entry NVMe PCIe3.0 x4 Hot Swap SSD	7SD7A05777	B11E

Intel S4500 Entry SATA SSD now available

The ThinkSystem Intel S4500 Entry SATA solid-state drives (SSDs) use Intel 3D NAND TLC Flash Memory technology with a 6Gbps SATA interface to provide an affordable solution with industry leading performance. The S4500 SSDs are optimized for read-intensive applications such as boot, web servers, lower data rate operational databases and analytics.



Figure 3. Intel S4500 Entry SATA SSD (without the hot-swap drive tray)

Table 6. Intel S4500 Entry SATA SSD options

Description	Part number	Feature code
ThinkSystem 2.5" Intel S4500 240GB Entry SATA 6Gb Hot Swap SSD	7SD7A05742	B0YY
ThinkSystem 2.5" Intel S4500 480GB Entry SATA 6Gb Hot Swap SSD	7SD7A05741	B0YZ
ThinkSystem 2.5" Intel S4500 960GB Entry SATA 6Gb Hot Swap SSD	7SD7A05740	B0Z0
ThinkSystem 2.5" Intel S4500 1.92TB Entry SATA 6Gb Hot Swap SSD	7SD7A05739	B0Z1
ThinkSystem 2.5" Intel S4500 3.84TB Entry SATA 6Gb Hot Swap SSD	7SD7A05738	B0Z2

Intel P4600 Mainstream NVMe SSDs now available

The Intel P4600 Mainstream NVMe SSDs are advanced data center SSDs optimized for mixed read-write performance, endurance, and strong data protection for Lenovo servers. They are designed for greater performance and endurance in a cost-effective design, and to support a broader set of workloads.



Figure 4. Intel P4600 Mainstream NVMe PCIe 3.0 x4 SSD

Table 7. Intel P4600 Mainstream NVMe SSD part numbers

Description	Part number	Feature code
ThinkSystem U.2 Intel P4600 1.6TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	7SD7A05772	B11J
ThinkSystem U.2 Intel P4600 3.2TB Mainstream NVMe PCIe3.0 x4 Hot Swap SSD	7SD7A05771	B11K

Intel S4600 Mainstream SATA SSDs now available

The ThinkSystem Intel S4600 Mainstream SATA solid-state drives (SSDs) are advanced data center SSDs optimized for mixed read-write performance, endurance and strong data protection. The Intel SSD S4600 drives with 3 full drives writes per day (DWD) are an excellent choice as cache in transactional application and high-speed storage for enterprise databases.



Figure 5. Intel S4600 Mainstream SATA SSD

Table 8. Intel S4600 part numbers

Description	Part number	Feature code
ThinkSystem 2.5" Intel S4600 240GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05723	B0ZP
ThinkSystem 2.5" Intel S4600 480GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05722	B0ZQ
ThinkSystem 2.5" Intel S4600 960GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05721	B0ZR
ThinkSystem 2.5" Intel S4600 1.92TB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05720	B0ZS

Intel P4800X Performance NVMe SSD now available

The ThinkSystem U.2 Intel P4800X Performance NVMe PCIe SSD is the ultimate in high performance solid state drives with ultra-low latency, very high bandwidth, and an endurance of 30 drive writes per day (DWPD), making this drive an excellent storage choice for write-intensive high-performance workloads.



Figure 6. Intel P4800X Performance NVMe PCIe SSD

The Intel P4800X SSD is a member of the Intel Optane family of data center solid state devices that are based on Intel-developed 3D XPoint memory, controller, interconnect technology and firmware, all providing significant gains in reducing latency and accelerating systems for workloads demanding large capacity and fast storage.

Table 9. Intel P4800X part number

Description	Part number	Feature code
ThinkSystem U.2 Intel P4800X 375GB Performance NVMe PCIe 3.0 x4 Hot Swap SSD	7N47A00081	AUMJ

5100 Entry SATA SSDs now available

The ThinkSystem 5100 Entry SATA solid-state drives (SSDs) use Micron NAND flash memory technology with a SATA 6Gbps interface to provide an affordable solution for read-intensive workloads



Figure 7. 5100 Entry SATA SSD

Table 10. 5100 Entry SATA SSD part numbers

Description	Part number	Feature code
ThinkSystem 2.5" 5100 480GB Entry SATA 6Gb Hot Swap SSD	4XB7A08502	B10N
ThinkSystem 2.5" 5100 960GB Entry SATA 6Gb Hot Swap SSD	4XB7A08503	B10P
ThinkSystem 2.5" 5100 1.92TB Entry SATA 6Gb Hot Swap SSD	4XB7A08504	B10Q
ThinkSystem 2.5" 5100 3.84TB Entry SATA 6Gb Hot Swap SSD	4XB7A08505	B10R

5100 Mainstream SATA SSDs now available

The ThinkSystem 5100 Mainstream SATA solid-state drives (SSDs) use Micron NAND flash memory technology with a SATA 6Gbps interface to provide an affordable solution for mixed read/write workloads.



Figure 8. 5100 Mainstream SATA SSD

Table 11. 5100 Mainstream SATA SSD part numbers

Description	Part number	Feature code
ThinkSystem 2.5" 5100 240GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05765	B10W
ThinkSystem 2.5" 5100 480GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05764	B10X
ThinkSystem 2.5" 5100 960GB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05763	B10Y
ThinkSystem 2.5" 5100 1.92TB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05762	B10Z
ThinkSystem 2.5" 5100 3.84TB Mainstream SATA 6Gb Hot Swap SSD	7SD7A05761	B110

ThinkSystem Performance SAS SSDs now available

The ThinkSystem 12 Gb SAS HUSMM32 Enterprise Performance solid-state drives (SSDs) use 3D MLC NAND flash memory technology with a 12 Gb SAS interface to provide a high-performance storage solution. These drives offer high endurance supporting up to 10 full drive writes per day (10 DWPD) over 5 years meaning they are ideal for write-intensive applications. Compared to the previous generation 12 Gb SAS SSDs, these new SSDs offer more than double the random IOPS performance and double the sequential throughput performance.



Figure 9. 12 Gb SAS Enterprise Performance SSD

Table 12. Part numbers

Description	Part number	Feature code
ThinkSystem 2.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD	7N47A00124	AUMG
ThinkSystem 2.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD	7N47A00125	AUMH
ThinkSystem 2.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD	7N47A00126	AVRB
ThinkSystem 2.5" HUSMM32 400GB Performance SAS 12Gb Hot Swap SSD FIPS	7SD7A05754	B11P
ThinkSystem 2.5" HUSMM32 800GB Performance SAS 12Gb Hot Swap SSD FIPS	7SD7A05753	B11Q
ThinkSystem 2.5" HUSMM32 1.6TB Performance SAS 12Gb Hot Swap SSD FIPS	7SD7A05752	B11R

ThinkSystem additional HDDs and SSDs now available

These ThinkSystem HDDs and SSD is now available for SR950.

Table 13. Additional HDDs and SSDs

Description	Part number	Feature code
ThinkSystem 2.5" PM1635a 1.6TB Mainstream SAS 12Gb Hot Swap SSD	7N47A00119	AVRG
ThinkSystem 2.5" 2.4TB 10K SAS 12Gb Hot Swap 512e HDD	7XB7A00069	BOYS
ThinkSystem 2.5" 1.2TB 10K SAS 12Gb Hot Swap 512n HDD SED	7XB7A00033	BOYX
ThinkSystem 2.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	7XB7A00036	AUUE
ThinkSystem 2.5" 2TB 7.2K SATA 6Gb Hot Swap 512e HDD	7XB7A00037	AUUJ

Conclusion

The SR950 is a very configurable system in terms of processors, memory, storage and I/O. Understanding the configurations, upgrades and available options will help you optimize the SR950 to best match your needs for performance, scalability and capabilities.

Further reading

For further reading, see these resources

- [Lenovo Press product guide on the SR950](#)
- [SR950 product web page](#)

This article is one in a series on the ThinkSystem SR950 and SR850 servers:

- [Five Highlights of the ThinkSystem SR950](#)
- [Five Highlights of the ThinkSystem SR850](#)
- [Choosing between Lenovo ThinkSystem SR850 and SR950](#)
- [Workloads for 4-Socket and 8-Socket Servers](#)
- [Usability in the Design of the ThinkSystem SR950](#)
- [The Value of Refreshing Your 4-Socket Servers with the ThinkSystem SR950](#)
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- [The Advantages of Keeping Mission Critical Workloads On-Premises vs Going to the Cloud](#)
- [SQL Server Migration and Lenovo ThinkSystem SR950](#)
- [RAS Features of the Intel Xeon Scalable Processors on Lenovo ThinkSystem Servers](#)

About the author

Randall Lundin is the Mission Critical Product Manager in the Lenovo Infrastructure Solutions Group. He is responsible for managing and planning Lenovo's 4-socket and 8-socket servers. Randall has also authored and contributed to numerous Lenovo Press publications in the Mission Critical space.

Related product families

Product families related to this document are the following:

- [Mission-Critical Rack Servers](#)
- [ThinkSystem SR950 Server](#)
- [4-Socket Rack Servers](#)
- [8-Socket Rack Servers](#)

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