

Choosing between Lenovo ThinkSystem SR850 and SR950

Article

Lenovo has two ThinkSystem 4-socket capable rack servers. Which one to choose for your 4-socket workloads might not be an obvious decision. This article helps explain the similarities and differences of the ThinkSystem SR850 and SR950 to help with this decision.

SR850 and SR950 overview

The Lenovo SR850 and SR950 are new 4-socket-capable rack servers with strong performance, memory and storage capabilities. Both servers support demanding workloads such as data analytics, large virtualization and enterprise databases

The Lenovo SR850 is a 2U Rack server capable of up to 4 processors and 48 DIMM. The SR850 features a CPU and Memory mezzanine board. Clients have flexibility to configure from 2 Socket 24 DIMM to 4S 48 DIMMs. The SR850 delivers exceptional price/ performance in a dense 2U rack server.



Figure 1. Lenovo ThinkSystem SR850

The Lenovo SR950 is a 4U Rack server capable of up to 8 processors and 96 DIMMs. The SR950 features a modular system with all components accessible via the front or rear of the server. Clients can configure multiple configurations from 2 sockets and 24 DIMM to 8 sockets and 96 DIMMs. The SR950 delivers the highest performance, greatest I/O capabilities and the most NVMe support.



Figure 2. Lenovo ThinkSystem SR950

Common features and capabilities

The SR850 and SR950 share many features and capabilities.

Table 1. Common features

Feature	Feature Description	Customer Benefit
XClarity	Single Management interface across portfolio	Easy to learn and manage - apply cross Lenovo portfolio.
Options	Shared HDD, SSD, PSU, RAID cards, PCIe, etc	Less option parts for clients and business partner to manage and stock
M.2	M.2 embedded OS	Allows for integrated boot media. M.2 provides lower cost, better performance and higher reliability than USB, SD card
NIC options	Modular LOM choices for customization (LOM, ML2, PCIe)	Lower cost I/O and greater choice. Only purchase what you need
Direct NVMe	Direct NVMe connector on the CPU board	Direct NVMe saves PCIe slots and lower cost of ownership compare to the NVMe switch card solution.
2S to 4S Upgrade	Simple 2S to 4S upgrade within the same system	Grow the system as your application needs increase. Only pay for what you need.
RAS	Intel Run Sure and Predictive Failure Analysis (PFA)	Provides outstanding system availability and uninterrupted application performance
Optional Front LCD	Front diagnostic LCD panel display	Used to quickly obtain system status, firmware levels, network information, and health information about the system.

SR850 and SR950 Differences

If you need an 8 socket configuration or the ability to upgrade to the 8 socket configuration in the future, the SR950 is your only choice. If you only need a 4-socket server, you have a choice between the SR850 and SR950. Below are the major differences to help you select between the SR850 and SR950 in a 4-socket configuration.

Table 2. Differences between the SR850 and SR950

Feature/ Capability	SR850 (4S configuration)	SR950 (4S configuration)
Size	2U rack mount	4U rack mount
Sockets	2 to 4 sockets	2 to 4 sockets with ability to upgrade to 8 sockets in future
Storage Bays	Up to 16 2.5" bays	Up to 24 2.5" bays
Memory	Up to 48 DIMM slots and supporting 128GB DIMMs post launch	Up to 48 DIMM slots and supporting 128GB DIMM at launch
NVMe	Up to 8 NVMe drives	Up to 12 NVMe drives
Rear Networking slots	Up to 10 (PCIe, LOM and ML2)	Up to 15 (PCIe, LOM and ML2)
High Bandwidth Networking	Up to 3 (x16) adapter slots in 4S	Up to 7 (x16) adapter slots in 4S
Intel Processor Support	Strong selection of 51xx, 61xx and 81xx CPUs up to 165W	Every available 51xx, 61xx and 81xx CPU including 205W CPUs
Intel 61xx and 81xx CPU Performance	Less performance on average than SR950 (equal performance if using 51xx CPUs)	Maximum system performance

Feature/ Capability	SR850 (4S configuration)	SR950 (4S configuration)
Power Supply	2 power supply bays including 750W PSU	4 power supply bays
SAP HANA	Certified for SAP HANA TDI	Certified SAP HANA Appliance
Cost	Lower base cost	Higher base cost

Further reading

For further reading, see these resources

- [Lenovo Press product guide on the SR850](#)
- [Lenovo Press product guide on the SR950](#)
- [SR850 product web page](#)
- [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](#)
- [ThinkSystem SR950 Memory Decisions](#)
- [ThinkSystem SR950 Server Configurations](#)
- [The Value of Refreshing Your 8-Socket Servers with the ThinkSystem SR950](#)
- [Lenovo ThinkSystem SR950 New Options and Features - December 2017](#)
- [ThinkSystem SR950 Performance Leadership](#)
- [Lenovo Servers for Mission Critical Workloads](#)
- [Microsoft and Lenovo ThinkSystem SR950 – A Perfect Match](#)
- [Accelerate Your 4- and 8-Socket Server Refresh Cycle](#)
- [SAP Business Process Applications and Lenovo ThinkSystem SR950 – A Perfect Match](#)
- [ThinkSystem SR950 New Options - March 2018](#)
- [SAP HANA and Lenovo ThinkSystem SR950 – A Perfect Match](#)
- [ThinkSystem SR950 Performance Leadership Continues](#)
- [New Solution for SAP HANA - Lenovo ThinkAgile HX](#)
- [The Advantages of Keeping Mission Critical Workloads On-Premises vs Going to the Cloud](#)
- [SQL Server Migration and Lenovo ThinkSystem SR950](#)

About the author

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Related product families

Product families related to this document are the following:

- [4-Socket Rack Servers](#)
- [8-Socket Rack Servers](#)
- [Mission Critical Servers](#)
- [ThinkSystem SR850 Server](#)
- [ThinkSystem SR950 Server](#)

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