

Lenovo ThinkSystem SR850

Perfectly balanced, optimized for growth



Growth is Inevitable

The Lenovo ThinkSystem SR850 is built to deliver the performance and reliability you require today, with the scalability and versatility you'll need as you advance toward the "future-defined" data center.

The flexible 2U SR850 can scale from two to four powerful Intel® Xeon® processor Scalable family CPUs, with up to 233 percent more cores and 400 percent more memory than the previous-generation server*, achieving up to 76 percent faster performance. Built for standard workloads like general business applications and server consolidation, it can also accommodate high-growth areas such as databases and virtualization. The agile design of ThinkSystem SR850 provides rapid upgrades for processors and memory, and its large, flexible storage capacity helps you keep pace with data growth.

Intelligently Designed for Value

When expansion is inevitable, systems have to respond quickly. However, if that response is beyond your budget, system capabilities don't really matter.

If you are locked into an inflexible proprietary ecosystem that makes growth painfully expensive, you could face daunting choices between progress and budget. ThinkSystem SR850 is smartly designed to deliver affordable scalability in a standard x86 platform.

In today's data-critical world, customers are looking for additional storage that's both high performing and flexible. SR850 provides the ultimate flexibility in processor, memory, and storage selection, to meet your workload requirements:

- Easy upgrade using a mezzanine design that snaps into place and adds two CPUs and 24 more DIMM slots
- Large memory capacity with 4 CPUs, ideal for a wide range of applications
- Lenovo AnyBay drive bays accommodate SAS, SATA, and NVMe storage devices in the same bays
- Direct-connect NVMe ports—Four direct motherboard connections for NVMe storage provide ultra-fast read/writes and reduce costs by eliminating PCIe switch adapters. Plus, storage can be tiered for faster application performance, to provide the most cost-effective solution.

Lenovo™



With four of the latest Intel® Xeon® processors installed, SR850 can support up to 6TB¹ of memory and 112 processing cores in only 2U of rack space. This enables you to run a wide variety of applications, from databases to client virtualization, to server consolidation projects. The SR850 design allows for drive configuration flexibility, as well as providing tremendous memory density, in the same 2U as many 2-socket servers.

These are merely a few of the incorporated technologies that create the exceptional performance, scalability, and value needed for enterprise-class workloads, both today and into the future.

The Confidence to Run Anything

Because your business depends on your systems, you need servers built for reliability. The Lenovo ThinkSystem SR850 delivers multiple layers of reliability from the processors up, so you can have the confidence that you're running your workloads on a platform built to stay up.

- Enterprise-class CPU reliability, availability, and serviceability (RAS) features
- Light path diagnostics—Onboard component LEDs to instantly identify components needing replacement, for faster serviceability and reduced downtime
- TPM 2.0—Secures and authenticates the system to prevent unauthorized intrusion
- Predictive Failure Analysis—Identifies a failing component prior to failure, to enable scheduled parts replacement—rather than reacting after a failure—and minimize or avoid downtime.

With reliability and security designed into the system, SR850 builds on industry-standard technologies to deliver an economical, dependable platform for the most demanding users and applications.

Optimized with the Future in Mind

The capability to expand your system goes beyond just putting more existing components inside. You must be able to take advantage of emerging technologies to

increase performance and capabilities for competitive advantage. SR850 has multiple features that enable you to take advantage of tomorrow's technologies:

- Unique dense scalability—from two CPUs and 24 DIMMs to four CPUs and 48 DIMMs, in a 2U system
- Up to eight NVMe storage bays for ultrafast read/write storage that can be tiered for greater application performance.
- Easy expansion with up to nine PCIe slots (including two x16), one LOM slot, and one ML2 slot
- M.2 storage for rapid OS boot, faster than either USB keys or SD cards; frees up drive bays for data storage

ThinkSystem Server Deployment and Management

Lenovo XClarity Controller is an all-new hardware embedded management engine built into every ThinkSystem server. Designed for data centers that put a premium on precision and efficiency, it has a simple, uncluttered graphical user interface. XClarity Controller is built for ease of interoperability, incorporating Redfish-compliant REST APIs. And it boots to the operating system in half the time of prior-generation servers, and with up to six times faster firmware updates.

Lenovo XClarity Administrator is a virtualized software application designed to centrally manage ThinkSystem servers, storage, and networking. It provides discovery and inventory management, software-based configuration patterns, policy-based firmware management, and provisioning of operating systems and hypervisors to multiple systems. It also serves as a centralized point of integration to extend your existing standardized data center processes. Running XClarity Integrators from your external IT applications, or integrating with open REST APIs, allows you to use familiar tools and consoles to deploy and manage Lenovo infrastructure.



Specifications

Form Factor/Height	2U rack server
Processor (Max)	2x or 4x Intel® Xeon® processor Scalable family CPUs, up to 165W
Memory (Max)	Up to 6TB [†] in 48x slots using 128GB [†] DIMMs; 2666MHz TruDDR4
Expansion Slots	Up to 9x PCIe plus 1x LOM; optional 1x ML2 slot
Internal Storage	Up to 16x 2.5-inch storage bays supporting SAS/SATA HDD and SSDs or up to 8x 2.5-inch NVMe SSD; plus up to 2x mirrored M.2 boot
Network Interface	Multiple options with 1GbE, 10GbE, 25GbE, 32GbE, 40GbE or InfiniBand PCIe adapters; one (2-/4-port) 1GbE or 10GbE LOM card
Power Supply (Std/Max)	2x hot-swap/redundant: 750W/1100W/1600W AC 80 PLUS Platinum
Security and Availability Features	TPM 1.2/2.0; PFA; HS/redundant drives, fans, and PSUs; internal light path diagnostic LEDs; front-access diagnostics via dedicated USB port; diagnostic LCD panel
RAID Support	Hardware RAID (up to 16 ports) with flash cache; up to 16-port HBAs
Systems Management	XClarity Controller embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management
Operating Systems Supported	Microsoft Windows Server, RHEL, SLES, VMware vSphere. Visit lenovopress.com/osig for more information.
Limited Warranty	1- and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades

* Compared to Lenovo System x3750 M4. [†] 3TB at GA; 128GB DIMMs available in the near future. Available prior to GA via special bid.

[‡] 2016-2017 Global Hardware, Server OS Reliability Report, ITIC; October 2016. [§] 2H16 Corporate IT Buying Behavior and Customer Satisfaction Study, TBR; December 2016

Featured Options

Mellanox ConnectX-4 2x100GbE/ EDR IB QSFP28 VPI Adapter	2.5-inch Intel S3610 800GB Mainstream SATA 6Gb Hot-Swap SSD	64GB TruDDR4 2666MHz (4Rx4 1.2V) LRDIMM
O0MM960	7N47A00103	7X77A01305
Highest throughput VPI adapter, supporting EDR InfiniBand and 100Gbps Ethernet	Engineered for mixed read-write performance, endurance and strong data protection	Increases reliability and performance for mission-critical workloads

Visit [Options](#) for more information.



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Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security. Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

Lenovo servers continue to be the industry's #1 most reliable[‡], with the industry's highest customer satisfaction[§] rating.

For More Information

To learn more about the Lenovo ThinkSystem SR850, contact your Lenovo representative or Business Partner or visit: www.lenovo.com/thinksystem. For detailed specifications, consult the [SR850 Product Guide](#).

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