

# Lenovo ThinkSystem SR850 V4

The powerful, compact data engine for growing enterprises



## A Powerful, Compact Enterprise Engine

Today, in-memory databases like SAP HANA, ERP, CRM, business intelligence platforms and virtualization are the workloads that drive every enterprise. The data fueling those workloads continues rampant growth without slowing. When you include the disrupting impact of AI to the data center, IT staffs are stretched thinner, with less time, less resources and more demands than ever before.

In a dense, 2U system, with up to four Intel® Xeon® 6 processors, massive memory capacity and available expansion for up to two full-size GPUs and up to 32 drives, the ThinkSystem SR850 V4 is designed to be the compact, scale up and scale out, performance-tuned engine that handles your data smoother, runs your workloads faster, and propels your enterprise into the future. Add to that an optional Neptune™ Core liquid cooling module to enable even higher sustained performance, and the ThinkSystem SR850 V4 stands out as an enterprise-class system, ready for your most important workloads.

Lenovo's unmatched reliability, intuitive systems management, and flexible as-a-service acquisition choices mean that you can confidently run and scale your enterprise's critical workloads on the ThinkSystem SR850 V4, without draining your bank account.

## For Critical Missions

Billing, human resources, sales pipeline, and analytics are just some of the crucial functions of any enterprise. Without them, you quickly grind to a painful halt. The ThinkSystem SR850 V4 was designed to provide an ultra-resilient platform to run, grow and expand your mission-critical applications.

The ThinkSystem SR850 V4 is designed with Predictive Failure Analysis, error detection, and self-healing to avoid downtime before it happens. Lightpath diagnostics provides fast failure identification to speed repairs and get you back up and running faster. Running enterprise-class workloads requires enterprise-class uptime.

Security for your most critical data is always of paramount importance. The ThinkSystem SR850 V4 is designed with Platform Firmware Resiliency through Lenovo ThinkShield. It also comes with a pluggable Root of Trust module, and for those who utilize colocation or shared facilities, an optional locking security bezel and intrusion switch.

## The Performance Your Data Deserves

With up to four Intel® Xeon® 6 processors paired with up to two enterprise-class GPUs, the ThinkSystem SR850 V4 supports ample processing muscle to tackle compute-intensive applications like visualization, machine learning, artificial intelligence, analytics, and 3D modeling. What once required racks of supercomputers is now housed in a compact 2U system.

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Combine that processing power with massive memory capacity to drive large in-memory databases like SAP HANA, big data, analytics, as well as ERP, CRM and BI applications. The ThinkSystem SR850 V4 has 64 DIMM slots supporting up to 16TB of ultra high-speed DDR5 memory to run any enterprise application with room to spare. Add in huge storage capacity and more than abundant PCIe slots, all in a space-saving 2U package.

The SR850 V4 delivers the balanced performance and tremendous throughput to exceed any requirements:

- Up to four Intel® Xeon® 6 processors with up to 344 processing cores, UPI up to 24 GT/s interconnect and Data Streaming accelerators to optimize data transfer from storage.
- Optional Neptune™ Core open loop liquid CPU cooling for greater sustained performance through more efficient heat removal.
- Massive memory capacity with 64 DIMM slots supporting up to 16TB of ultra-fast TruDDR5 6400MT/s memory, with 33% more memory bandwidth than the V3 generation system.
- Because storage is key to enterprise-class applications, the ThinkSystem SR850 V4 has expansion up to 32 drives, and supports E3.S EDSFF, NVMe or SAS/SATA formats, plus a hot swap M.2 boot solution.

Performance tuned to be the data engine, the ThinkSystem SR850 V4 is designed and built to run enterprise-class workloads with greater balance and performance than ever before.

### Confidence from Reliability

Running enterprise-class workloads requires enterprise-class uptime. The ThinkSystem SR850 V4 has features designed to avoid downtime before it happens, and to speed diagnostic and repair time when they are down. For 11 years straight years, Lenovo servers have consistently topped the ITIC survey for lowest downtime in x86 servers and continue to be rated the industry's #1 most reliable.

Lenovo servers are so dependable that they continue to be rated the industry's [#1 most reliable](#).

- Predictive Failure Analysis (PFA) identifies a failing component prior to it failing. This enables a repair action to be proactively scheduled rather than reacting after a failure, minimizing or avoiding downtime. PFA alerts cover all major components, including CPUs, DIMMs, adapter slots, fans, PSUs, storage devices, and voltage regulators.
- Proactive Platform Alerts – Part of XClarity systems management, administrators are alerted to potential hardware or management issues before they become critical.
- Light path diagnostics—Onboard component LEDs to instantly identify components needing replacement (based on PFA alerts), for faster serviceability and reduced downtime.

Avoiding downtime means your system is up when you need it, because when your system is down, minutes seem like hours. Lenovo is a proven, consistent industry leader in minimizing downtime. The ThinkSystem SR850 V4 is a rock-solid platform you can trust with your most critical applications and data.

### Deployment, Management, and Security

Lenovo XClarity Controller (XCC) is the embedded management engine in ThinkSystem servers that is designed to standardize, simplify, and automate foundation server management tasks. Think of it as a built-in mini-computer that helps you control your infrastructure environment. It monitors system vital signs like temperature, voltage and resource utilization, while automating configuration tasks like network settings and RAID configurations.

Lenovo XClarity One is a hybrid cloud-based unified Management-as-a-Service (MaaS) platform, built for growing enterprises. XClarity One is powered by Lenovo Smarter Support, a powerful AI-driven platform that leverages predictive analytics to enhance the performance, reliability, and overall efficiency of Lenovo servers.

Lenovo ThinkShield is a comprehensive approach to security designed to secure the data center, from the foundation of your infrastructure to the network's edge and guard against a security breach. ThinkShield protects your business with each offering, from development through disposal.

Specifications

Form Factor	2U
Processors	<ul style="list-style-type: none"><li>Two or four Intel® Xeon® 6 processors, up to 350W</li><li>Mesh topology with 3x UPI links</li><li>Up to 4x QAT, DLB, IAA and DSA Accelerators</li></ul>
Memory	<ul style="list-style-type: none"><li>Up to 16TB of TruDDR5 memory in 64x slots</li><li>Memory speeds up to 6400MHz</li><li>Supports CXL 2.0 memory in E3.S 2T form factor, up to 12x DIMMs with four processors</li></ul>
Expansion	<ul style="list-style-type: none"><li>Up to 12x (11x Gen5 + 1x Gen4) or 9x (7x Gen5 + 2x Gen4) expansion slots</li><li>Front: 2x USB 3.0, 1x Mini-DP</li><li>Rear: 2x USB 3.1, optional Serial port, VGA port, 1GbE dedicated management port</li></ul>
Internal Storage	<ul style="list-style-type: none"><li>Up to 32x E3.S 1T direct NVMe drives or up to 24x 2.5" drives</li><li>Supports up to 24x direct connection NVMe drives, and up to 2x M.2 drives for boot</li></ul>
GPU Support	Up to 2x double-width 400W GPUs or 4x single-width 75W GPUs
Network Interface	2 Dedicated OCP 3.0 slots supporting 1GbE, 10GbE, 25GbE, 100GbE, 200GbE or 400GbE
Power	<ul style="list-style-type: none"><li>2x Platinum or Titanium hot-swap power supplies</li><li>N+N redundancy supported</li></ul>
High Availability	<ul style="list-style-type: none"><li>Predictive Failure Analysis (PFA)</li><li>Hot-swap/redundant drives and power supplies</li><li>Redundant fans</li><li>Internal light path diagnostic LEDs</li><li>Front-access diagnostics via dedicated USB port</li><li>Optional External Diagnostics Panel Handset with LCD display</li></ul>
Security	Root of Trust (RoT) module includes Platform Firmware Resiliency (PFR), Trusted Platform Module (TPM) 2.0 or TCM for PRC and optional Chassis Intrusion Switch that secures and authenticates the system to prevent unauthorized intrusion. Optional locking security bezel to prevent unauthorized access in colocation facilities.
RAID Support	Support for ThinkSystem PCIe RAID/HBA cards
Management	<ul style="list-style-type: none"><li>Lenovo XClarity Controller</li><li>Redfish support</li></ul>
OS Support	Microsoft, Red Hat, SUSE, VMware. Visit <a href="https://lenovopress.com/osig">lenovopress.com/osig</a> for more information
Limited Warranty	1-year and 3-year customer replaceable unit and onsite service, next business day 9x5; optional service upgrades

About Lenovo

Lenovo (HKSE: 992) (ADR: LNVGY) is a US\$62 billion revenue global technology powerhouse, ranked #171 in the Fortune Global 500, employing 77,000 people around the world, and serving millions of customers every day in 180 markets. Focused on a bold vision to deliver smarter technology for all, Lenovo is expanding into new growth areas of infrastructure, mobile, solutions and services. This transformation is building a more inclusive, trustworthy, and sustainable digital society for everyone, everywhere.

For More Information

To learn more about the Lenovo ThinkSystem SR850 V4, contact your Lenovo representative or Business Partner or visit [www.lenovo.com/thinksystem](https://www.lenovo.com/thinksystem). For detailed specs, consult the [SR850 V4 Product Guide](#)



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