Lenovo ThinkSystem SN850

The orchestration platform for conducting business

Infrastructure Made Simple

The Lenovo Flex System Enterprise Chassis now supports two new blades, incorporating powerful Intel® Xeon® processor Scalable family CPUs: the four-processor Lenovo ThinkSystem SN850 and the two-processor Lenovo ThinkSystem SN550. The chassis was engineered to support high-speed networking and multiple generations of Intel Xeon processors.

SN850 offers massively increased memory capacity and bandwidth, more processor cores, faster and larger storage capacity, plus enhanced RAS and security features**. As a result, SN850's four-CPU, 48 DIMM-slot design is powerful enough for even your most demanding memory-intensive workloads. Examples include in-memory databases, batch and real-time analytics, virtualization, large traditional databases, distributed computing, or consolidating multiple past generation servers onto a single blade. In addition, SN850 is also compatible with your current Flex System Enterprise chassis, protecting your investment in chassis infrastructure.

Elastic Infrastructure for Ever-Changing Workloads

Making your infrastructure more easily composable is what Flex System is all about. Teamed with the Lenovo XClarity management suite, you can compose compute, storage, and networking resources to adapt to changing workload and capacity requirements. This extreme agility gives customers new levels of command over their resources:

- Faster virtual machine deployment and movement for easier orchestration
- Storage flexibility, from no drives to a choice of SAS/SATA HDDs/SSDs or NVMe/U.2
- NVMe drives, for ultra-fast read/write storage that can be tiered for greater application performance
- Direct-Connect NVMe ports—Four direct mother-board 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 deliver the most cost-effective solution.
- Choice of multiple boot devices, including M.2

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These are a few of the incorporated technologies and features that deliver an extremely agile blade architecture, and provide the infrastructure control to free your staff time to focus on innovation and new challenges.

Efficient On Multiple Levels

The Flex System Enterprise Chassis houses up to 7 ThinkSystem SN850 blades and 4 integrated switches, delivering up to 80 percent greater density than 2U 4-processor rack servers and 1U switches*—with the added bonus of reducing the number of cables (and cabling complexity) by nearly half. The chassis design creates efficiency via:

- Simplified, flexible, and fast deployment and management with Lenovo XClarity Administrator software, for future-defined data centers
- Up to four integrated networking switches for improved throughput and reduced cable count
- Zoned adaptive cooling, which varies system fan speeds as needed, to reduce energy costs
- Energy-efficient components, including 80 Plus Platinum hot-swap/redundant power supplies

The Flex System Enterprise Chassis houses up to 7 SN850 compute nodes, delivering high density.

Flex System helps save time and money by greatly reducing your costs for energy and floor/rack-space, and by simplifying management. Reduced complexity enables your infrastructure to become a powerful tool—ready for the future—instead of a drain on resources.

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

A Proven Platform

Flex System is a second-generation blade system that has helped customers streamline their infrastructure since 2012. The ability to run four generations of Intel® Xeon® processor-based blades concurrently in the same chassis, makes Flex System ready for the "future-defined data center".

Redundancy is prevalent throughout, including switches, management modules, blades, power supplies, and cooling systems. There is no single point of failure in Flex System. It also features:

- Enterprise-class CPU RAS—such as MCA Recovery, Memory Post Package Repair, and Fatal Error Handling—to keep systems running.
- Cable-free blades, which accelerate servicing and reduce upgrade times
- The XClarity mobile app, which allows remote diagnostics and management from a credentialed mobile device or smart phone
- Worldwide Lenovo service and support, available in more than 140 countries

ThinkSystem Server Deployment and Management

Lenovo XClarity Controller is an all-new hardware embedded management engine common in every ThinkSystem server. XClarity Controller features an uncluttered graphical user interface, industry standard Redfish-compliant REST APIs, and enables booting in half the time of the prior generation servers**, with up to 600 percent faster firmware updates.

Lenovo XClarity Administrator is a virtualized application that centrally manages ThinkSystem servers, storage, and networking. Via reusable patterns and policies, it ramps up and scales infrastructure provisioning and maintenance. It serves as a central integration point to extend your data center management processes to physical IT. Running XClarity Integrators in external IT applications, or integrating through REST APIs, helps you further speed services provisioning, streamline IT management, and contain costs.

Specifications

Form Factor	Double-wide blade for Flex System Enterprise Chassis
Processor	2x or 4x Intel® Xeon® Platinum processors, up to 165W
Memory	Up to 6TB⁺ in 48x slots, using 128GB⁺ DIMMs; 2666MHz TruDDR4
Expansion Slots	Up to 4x PCIe x16 mezzanine adapters
Internal Storage	Up to 4x 2.5-inch storage bays supporting SAS/SATA HDDs/SSDs or U.2 NVMe SSDs; plus up to 2x mirrored M.2 boot drives (opt. RAID 1)
Network Interface	4x 10GbE LOM with fabric connector; or 2x 10GbE, 4x 10GbE or converged network mezzanine adapters
Power Supply	Contained in the chassis
Hot-Swap Components	2.5-inch SAS/SATA/U.2 drives
RAID Support	Software RAID std. (6Gbps SATA); opt. hardware basic RAID (12Gbps SAS/SATA); opt. hardware advanced RAID (12Gbps SAS/SATA 2GB flash-backed cache)
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 details.
Limited Warranty	3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades

Featured Options

Lenovo 64GB TruDDR4 2666MHz (4Rx4 1.2V) LRDIMM	Lenovo U.2 1.6TB Performance NVMe PCIe 3.0 Hot-Swap SSD	Flex System CN4054S 4-port 10Gb Virtual Fabric Adapter with FCoE
7X77A01305	7XB7A05922	01CV790
Larger-capacity TruDDR4 DIMM to help improve the performance of your workloads	High-performance, low-latency drive optimized for write-intensive workloads	Converged network adapter that supports Ethernet, FCoE, and iSCSI protocols

Visit Options for more information

Why Lenovo

Lenovo is a global Fortune 500 company and a leader in providing innovative consumer, commer-cial, and enterprise technology. Lenovo enterprise systems deliver industry-leading performance, reliability, and security in virtualized and cloud environments for analytics, database, virtual desktop, infrastructure, and web workloads. Lenovo also offers simplified and extensible systems management tools so you can manage your infrastructure on your own terms. Consistently ranked #1 in reliability and customer satisfaction, the Lenovo enterprise server, storage, and networking portfolio provides the hardware for businesses that never stand still.

For More Information

To learn more about the ThinkSystem SN850 Compute Node, contact your Lenovo representative or Business Partner or visit www.lenovo.com/thinksystem. For detailed specifications, consult the SN850 Product Guide.

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