

New World Record SPECpower_ssj2008 Benchmark Result for 4-Socket (7-node) ThinkSystem SN850 Performance Benchmark Result (withdrawn product)

Lenovo has published leadership 4-socket (7-node) performance results for the SPECpower_ssj 2008 benchmark. The SPECpower_ssj 2008 benchmark is the first industry-standard benchmark that evaluates the power and performance characteristics of single server and multi-node servers.



Figure 1. Lenovo ThinkSystem SN850 blade server

Lenovo ThinkSystem SN850 delivered the following SPECpower_ssj 2008 4-socket (7-node) world record performance result, as of September 27, 2018:

- **SPECpower_ssj2008 = 11,538 overall ssj_ops/watt**

Each SN850 server node was configured as follows:

- Four Intel Xeon Platinum 8176 Processors (28 cores, 2.10 GHz, 38.5 MB L3 Cache)
- 384 GB of TruDDR4 memory.
- One 32GB M.2 SSD
- Microsoft Windows Server 2012 R2 Datacenter Edition using the Oracle Java HotSpot 64-Bit Server VM (JVM).

This benchmark result, published September 27, 2018, can be found at:

https://www.spec.org/power_ssj2008/results/res2018q3/power_ssj2008-20180828-00852.html

Results referenced are current as of November 16, 2018. To view all SPECpower_ssj 2008 results, see the following page:

https://www.spec.org/power_ssj2008/results/power_ssj2008.html

About the ThinkSystem SN850

The Lenovo ThinkSystem SN850 is a high-performance server that offers enhanced security, efficiency, and reliability features to handle business-critical workloads. The blade server incorporates up to four Intel Xeon Processor Scalable Family of processors. The processors feature up to 28 cores each and use Lenovo TruDDR4 memory, which runs at speeds up to 2666 MHz.



Figure 2. The Flex System Enterprise Chassis houses up to seven SN850 compute nodes

The SN850 offers the following features to boost performance, improve scalability, save energy.

Scalability and performance:

- Up to seven SN850 servers can be installed in a single Flex System Enterprise chassis.
- Improves productivity by offering superior system performance with up to 28-core processors, 38.5 MB of L3 cache, up to three 10.4 GT/s Ultra Path Interconnect links and a Thermal Design Power (TDP) rating of up to 165W.
- Each processor has six memory channels with two DIMMs per channel running at up to 2666 MHz.
- Optional support for high-performance PCIe-attached NVMe Flash Storage solid-state drives (SSDs) can significantly improve I/O performance.
- Support for 25/50 Gb Ethernet, 16 Gb Fibre Channel, and FDR InfiniBand.

Energy efficiency:

- The component-sharing design of the Flex System chassis provides ultimate power and cooling savings.

- The Intel Xeon Processor Scalable Family of processors offer significantly better performance than previous generations of processors, while fitting into the same TDP limits.
- Intel Intelligent Power Capability powers individual processor elements on and off as needed, which reduces power draw.
- Solid state drives (SSDs) use as much as 80% less power than traditional spinning 2.5-inch HDDs.
- The SN850 uses hexagonal ventilation holes, which can be grouped more densely than round holes providing more efficient airflow through the system.

For more product features and information, please see the Lenovo Press product guide:

<https://lenovopress.com/lp0638-thinksystem-sn850-server>

About SPECpower

The SPEC Power benchmark suite measures the power and performance characteristics of server-class computer equipment. It is used to compare power and performance among different servers and serves as a toolset for use in improving server efficiency. This benchmark is targeted for use by hardware vendors, IT industry, computer manufacturers, and governments.

Learn more

To learn more about power-efficient solutions for compute-intensive applications, please contact your Lenovo Sales Representative.

To find out more about SPEC, visit <https://www.spec.org>

To learn more about the Lenovo ThinkSystem SN850 server, visit the [SN850 product web page](#).

Related product families

Product families related to this document are the following:

- [Blade Servers](#)
- [SPECpower Benchmark Results](#)
- [ThinkSystem SN850 Server](#)

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2025. All rights reserved.

This document, LP1036, was created or updated on November 16, 2018.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/LP1036>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/LP1036>.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo®

ThinkSystem®

The following terms are trademarks of other companies:

Intel®, the Intel logo and Xeon® are trademarks of Intel Corporation or its subsidiaries.

Microsoft®, Windows Server®, and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

SPEC®, SPECpower_ssj®, and SPECpower® are trademarks of the Standard Performance Evaluation Corporation (SPEC).

Other company, product, or service names may be trademarks or service marks of others.