

# ThinkSystem SR645 Sets 10 World Records with New SPECjbb Benchmark Results

## Performance Benchmark Result

The Lenovo ThinkSystem SR645 server has set ten performance world records for the SPECjbb2015 benchmarks, four 2-socket records and six 1-socket records.

SPECjbb2015 is a Java Business Benchmark and is the SPEC benchmark used for evaluating the performance of servers running typical Enterprise Java applications.



The ThinkSystem SR645 with two processors achieved the following four top SPECjbb2015 scores:

- 2-socket record results:
  - **2P, SPECjbb2015-Distributed Max-jOPS (Windows Server 2019): 435,468**
  - **2P, SPECjbb2015-Distributed Critical-jOPS (Windows Server 2019): 296,200**
  - **2P, SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019): 430,735**
  - **2P, SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019): 291,266**
- 1-socket record results:
  - **1P, SPECjbb2015-Distributed Max-jOPS (Windows Server 2019): 221,458**
  - **1P, SPECjbb2015-Distributed Critical-jOPS (Windows Server 2019): 150,594**
  - **1P, SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019): 220,101**
  - **1P, SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019): 147,020**
  - **1P, SPECjbb2015-Composite Max-jOPS (Windows Server 2022): 226,129**
  - **1P, SPECjbb2015-Composite Critical-jOPS (Windows Server 2022): 183,871**

SPECjbb2015 measures multi-threaded compute-intensive applications, with mixed industry workloads such as online purchase, inventory management, and supply. Critical-jOPS scores are ideal for measuring latency-critical applications and max-jOPS scores are ideal for measuring throughput-critical applications.

The Lenovo ThinkSystem SR645 was configured as follows:

- 1x or 2x AMD EPYC 7773X ("Milan-X") processors (each 64 cores, 2.20 GHz, 768 MB L3 cache)
- Up to 1 TB (1P) or 2 TB (2P) system memory
- Operating systems, either of the following:
  - Windows Server 2019 Datacenter
  - Windows Server 2022 Datacenter
- Oracle Java HotSpot 64-Bit Server VM, version 17.0.2

Results referenced are current as of March 22, 2022. To view details of these results, go to these SPEC web pages:

- 2P, SPECjbb2015-Distributed Max-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00757.html>

- 2P, SPECjbb2015-Distributed Critical-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00752.html>
- 2P, SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00759.html>
- 2P, SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00769.html>
- 1P, SPECjbb2015-Distributed Max-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00767.html>
- 1P, SPECjbb2015-Distributed Critical-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00765.html>
- 1P, SPECjbb2015-MultiJVM Max-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00760.html>
- 1P, SPECjbb2015-MultiJVM Critical-jOPS (Windows Server 2019)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00768.html>
- 1P, SPECjbb2015-Composite Max-jOPS (Windows Server 2022)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00758.html>
- 1P, SPECjbb2015-Composite Critical-jOPS (Windows Server 2022)  
<https://www.spec.org/jbb2015/results/res2022q1/jbb2015-20220223-00766.html>

To view all SPECjbb2015 results, go to  
<https://www.spec.org/jbb2015/results/jbb2015.html>

## About the ThinkSystem SR645

The Lenovo ThinkSystem SR645 server, now with AMD EPYC 7003 Series processors, delivers outstanding TCO for transactional database, ERP, virtualization and software-defined deployments. The combination of two AMD EPYC 7003 CPUs with class-leading memory speed and core density in a 1U chassis is a step forward compared to prior generation two-socket servers. Lenovo's lauded system reliability, management capabilities, and security infrastructure layer on to the exceptional value that the ThinkSystem SR645 brings to the data center. The ThinkSystem SR645 features two processors with up to an unprecedented 128 total cores with 128 PCIe Gen4 lanes to bring better efficiency to customers looking for the ultimate in core density and high speed direct attached storage in their data centers.

Compared to previous processor generations, the ThinkSystem SR645 delivers up to 2X performance and 4X floating point capability, providing faster data transfer and transaction capabilities without sacrificing memory capacity or I/O with PCIe Gen4 support and faster memory speeds up to 3200 MHz.

Key features:

- 128 cores across two processors to handle heavy-lift ERP, CRM, and virtualization workloads; provides cutting edge application efficiency in database applications, or electronic trading platforms for financial services applications.
- Compact 1U server with dense NVMe storage is an ideal platform for software defined storage or a hyperconverged solution
- Class-leading core density in the 1U form factor coupled with high speed 3200 MHz memory and PCIe Gen4 IO makes an ideal platform for advanced analytics

## About SPECjbb2015

The SPECjbb 2015 benchmark has been developed from the ground up to measure performance based on the latest Java application features. It is relevant to all audiences who are interested in Java server performance, including JVM vendors, hardware developers, Java application developers, researchers and members of the academic community.

SPECjbb2015 scores are ideal for measuring throughput and latency of multi-threaded compute-intensive applications such as online purchasing, inventory management, and supply.

## Learn more

To learn more about solutions for Java 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 SR645 server, visit the SR645 product web page: <https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr645/77xx7sr352s>

## Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [SPECjbb Benchmark Results](#)
- [ThinkSystem SR645 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, LP1572, was created or updated on March 22, 2022.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:  
<https://lenovopress.lenovo.com/LP1572>
- Send your comments in an e-mail to:  
[comments@lenovopress.com](mailto:comments@lenovopress.com)

This document is available online at <https://lenovopress.lenovo.com/LP1572>.

## 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:

AMD and AMD EPYC™ are trademarks of Advanced Micro Devices, Inc.

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

SPEC® and SPECjbb® are trademarks of the Standard Performance Evaluation Corporation (SPEC).

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