ThinkSystem SR665 V3 Sets 3 World Records with New VMmark Benchmark Result

Performance Benchmark Result

The Lenovo ThinkSystem SR665 V3 with 5th Gen AMD EPYC 9005 "Turin" family of processors has set three new VMmark world records. The server has achieved the world's #1 overall VMmark 4 result for performance in matched pair configuration with two identically configured, powerful Lenovo ThinkSystem SR665 V3 servers. The benchmark result is:

- The world's #1 overall VMmark 4 result in a matched pair configuration
- The world's #1 VMmark 4 result for 2-Socket Servers in a matched pair configuration
- The world's #1 VMmark 4 result for AMD processors in a matched pair configuration

The VMmark 4 benchmark is a web-scale multi-server virtualization platform benchmark developed by VMware, part of Broadcom. The benchmark is designed to enable enterprise customers to objectively measure and compare the performance and scalability of various virtualization platforms.

The ThinkSystem SR665 V3 server achieved the following VMmark 4.0.2 score (1):

- **5.56 @ 6 Tiles**

This result sets these new records:

- The world's best VMmark 4 result in a matched pair configuration, 8.3% faster than the second-place results (2, 3) and 11.2% faster than the fourth place result (4).
- The world's #1 VMmark 4 result for 2-Socket Servers in a matched pair configuration, 39.3% faster than a server using previous-generation 128-core "Bergamo" processors (5)
- The world's #1 VMmark 4 result for AMD processors in a matched pair configuration

The two ThinkSystem SR665 V3 servers achieved this record level of virtualization performance using the following configuration:

- Two Lenovo ThinkSystem SR665 V3 servers configure as system under tests (SUTs), each with:
  - 2x AMD EPYC 9845 160-core processors at 2.1GHz
    (total 2 processors, 160 cores, 320 threads)
  - 24x Lenovo TruDDR5 96GB 6400MHz memory
  - VMware ESXi 8.0 Update 3b, Build 24280767
- Five client hosts:
  - Two Lenovo ThinkSystem SR665 V3 servers configured as client hosts, each with:
    - 2x AMD EPYC 9654 96-core processors at 2.4 GHz
      (total 2 processors, 192 cores, 384 threads)
    - 24 x Lenovo TruDDR5 64GB 4800MHz memory
    - VMware ESXi 8.0 Update 3b, Build 24280767
  - Two Lenovo ThinkSystem SR860 V3 servers configured as client hosts, each with:

        - 4x Intel Xeon Platinum 8490H processors at 1.9 GHz (total 4 processors, 240 cores, 480 threads)
        - 32 x Lenovo TruDDR5 256GB 4800MHz memory
        - VMware ESXi 8.0 Update 3b, Build 24280767
    - One Lenovo ThinkSystem SR650 V3 server configured as a client host, with:
        - 2x Intel Xeon Platinum 8592+ processors at 1.9 GHz (total 2 processors, 128 cores, 256 threads)
        - 24x Lenovo TruDDR5 96GB 4800MHz memory
        - VMware ESXi 8.0 Update 3b, Build 24280767
- One Lenovo ThinkSystem SR655 server configured as server management host:
    - VMware ESXi 8.0 Update 3b, Build 24280767
    - VMware vCenter Server 8.0 Update 3b, Build 24322831
- Six Lenovo ThinkSystem SR665 servers and one Lenovo ThinkSystem SR655 server were all configured as external Fibre Channel targets:
    - SUSE Linux Enterprise Server 15 SP5 Linux 5.14.21-150500.53-default kernel
    - Attach to the SUTs via a Fibre Channel switch

Results referenced are current as of February 18, 2025.

To view all VMmark results, visit https://www.vmware.com/products/vmmark/results4x.

(1) The total solution availability for this VMmark benchmark result is February 18, 2025. See the details : https://www.vmware.com/docs/2025-02-18-Lenovo-ThinkSystem-SR665-V3-5_56

(2) 2x HPE ProLiant DL385 Gen11 each with 2x AMD EPYC 9845 processors (2 hosts, 4 total sockets, 640 total cores) scored 5.13 @ 6 tiles. See the details for this result at:: https://www.vmware.com/docs/2024-11-26-HPE-ProLiant-DL385Gen11

(3) 2x Supermicro AS -2126HS-TN each with 2x AMD EPYC 9965 processors (2 hosts, 4 total sockets, 768 total cores) scored 5.13 @ 6 tiles. See the details for this result at: https://www.vmware.com/docs/2024-10-10-Supermicro-AS-2126HS-TN

(4) 2x Fujitsu PRIMERGY RX2450 M2 each with 2x AMD EPYC 9845 processors (2 hosts, 4 total sockets, 640 total cores) scored 5.00 @ 6 tiles. See the details for this result at: https://www.vmware.com/docs/2024-11-12-Fujitsu-PRIMERGY-RX2450M2

(5) 2x Dell PowerEdge R7625 each with 2x AMD EPYC 9754 processors (2 hosts, 4 total sockets, 512 total cores) scored 3.99 @ 5 tiles. See the details for this result at: https://www.vmware.com/docs/2025-01-07-Dell-PowerEdge-R7625-3_99

About the ThinkSystem SR665 V3

The ThinkSystem SR665 V3 is a 2S 2U rack server built with the performance and flexibility to manage a complex set of workloads like data management, analytics, virtualization, cloud, and AI. The 320 cores of the dual 5th Gen AMD EPYC™ "Turin" family processors with up to 160 PCIe lanes and up to 6TB of the latest DDR5 memory, maximize the performance of this 2U server.

The SR665 V3 is designed to support today's infrastructure and easily scale to prepare for next gen workloads. Multiple drive options using SAS/SATA and NVMe with hot-swap capabilities and XClarity system management software enable changes to be made quickly with ease. The versatile design doesn't stop at storage, the SR665 V3 includes support for multiple options for GPU and PCIe to satisfy graphics, speed, and budget requirements.

About VMmark

The VMmark benchmark is designed to measure the performance and scalability of virtualization platforms using workloads representative of the highly scalable and complex applications commonly found in the data center. VMmark is used to compare the performance of different hardware platforms and configurations.

Customers implementing or evaluating virtualization platforms use VMmark for comparing performance and scalability of various server platforms and storage solutions, making appropriate hardware choices, and for measuring platform performance on an ongoing basis.

Learn more

To learn more about solutions for virtualization applications, please contact your Lenovo Sales Representative.

To find out more about VMmark4, visit https://www.vmware.com/products/vmmark

To learn more about the Lenovo ThinkSystem SR665 V3 server, visit the SR665 V3 product web page: https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr665-v3/len21ts0009

Related product families

Product families related to this document are the following:

- 2-Socket Rack Servers
- ThinkSystem SR665 V3 Server
- VMmark Benchmark Results

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.

This document, LP2162, was created or updated on February 20, 2025.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
  https://lenovopress.lenovo.com/LP2162
- Send your comments in an e-mail to:
  comments@lenovopress.com

This document is available online at https://lenovopress.lenovo.com/LP2162.

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®
XClarity®

The following terms are trademarks of other companies:

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

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

Linux® is the trademark of Linus Torvalds in the U.S. and other countries.

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