

ThinkSystem SR665 Sets World Record with New TPC-H Benchmark Result

Performance Benchmark Result

Lenovo has published a new TPC-H benchmark result that has set a new world record. The result has been achieved on the powerful Lenovo ThinkSystem SR665 server. The benchmark results are:

- The world's #1 non-clustered, 3000GB TPC-H result for price/performance

TPC-H is a decision support benchmark that projects system performance in a data warehouse environment.

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



- **624,778.0 QphH@3000GB (queries per hour H) @ \$239.94 USD/kQphH@3000GB**

This result set a new record of the best non-clustered price/performance in the industry at the 3000GB scale factor, 19% lower than the next-best non-clustered 3000GB result. (2)

The SR665 achieved this record level of decision support price/performance using the following configuration:

- 2x AMD EPYC 72F3 8-core processors at 3.7 GHz (2 processors, 16 total cores, 32 total threads)
- 1024 GB of Lenovo TruDDR4 memory
- Microsoft SQL Server 2019 Enterprise Edition
- Red Hat Enterprise Linux 8.3

Results referenced are current as of April 2, 2021. To view all TPC results, visit <http://www.tpc.org>.

(1) The total solution availability for this TPC-H benchmark result is April 28, 2021. See the details for this result at <http://tpc.org/3356>

(2) Result details are from <http://tpc.org/3361>

About the ThinkSystem SR665

The Lenovo ThinkSystem SR665 server, now with AMD EPYC 7003 Series processors, delivers outstanding TCO for transactional database, ERP, virtualization, big data & analytics and software-defined deployments. The combination of two AMD EPYC 7003 CPUs with class-leading memory speed, storage, and GPU density, rapidly outpaces the power of prior generation two-socket servers. Lenovo's lauded system reliability, management capabilities, and security infrastructure layer on to the exceptional value that the ThinkSystem SR665 brings to the data center. With the enterprise-class AMD EPYC 7003 Series or 7002 Series processor, the world's first 7nm data center CPU, the ThinkSystem SR665 features two processors with up to an unprecedented 128 total cores with 128 PCIe Gen4 lanes to reduce bottlenecks and increase server utilization.

Compared to the previous processor generations, ThinkSystem SR665 delivers up to 2X performance and 4X floating point capability, providing faster data transfer and analytics 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 health care applications such as medical imaging, EMR, and PACS, or electronic trading platforms for financial services applications.
- Multi-GPU optimized rack server, providing support for up to 8 single-wide GPUs that offer 200% more workload acceleration in AI Inference, and virtualized desktop infrastructure (VDI).
- Support for up to 32 NVMe solid-state drives; when paired with high speed networking, make the system an excellent choice for workloads that need large amounts of low-latency high-bandwidth storage, including virtualized clustered SAN solutions, software-defined storage (SDS), and applications leveraging NVMe over Fabrics.

About TPC-H

The TPC Benchmark H (TPC-H) is a decision support benchmark that can project performance in a data warehouse environment. It consists of a suite of business oriented ad hoc queries and concurrent data modifications chosen to have broad industry-wide relevance. This benchmark illustrates decision support systems that examine large volumes of data, execute queries with a high degree of complexity, and give answers to critical business questions.

Learn more

To learn more about solutions for decision support and data warehouse applications, please contact your Lenovo Sales Representative.

To find out more about TPC, visit <http://www.tpc.org>.

To learn more about the Lenovo ThinkSystem SR665 server, visit the SR665 product web page: <https://www.lenovo.com/us/en/data-center/servers/racks/ThinkSystem-SR665/p/77XX7SR552S>

Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [TPC-H Benchmark Results](#)
- [ThinkSystem SR665 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 2024. All rights reserved.

This document, LP1462, was created or updated on April 8, 2021.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/LP1462>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/LP1462>.

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®

TruDDR4

The following terms are trademarks of other companies:

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

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

TPC, TPC Benchmark, TPC-H, and QphH are trademarks of Transaction Processing Performance Council.

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