

World Record SAP SD Benchmark Result on Windows for Lenovo 4-processor Two-Tier ThinkSystem SR950 Performance Benchmark Result

The Lenovo ThinkSystem SR950 server, using four Intel Xeon Platinum 8180 processors, delivers outstanding results for the SAP SD 2-tier standard application benchmark in a Microsoft Windows environment on IBM Db2.

Lenovo announces a leadership 4-processor result (1) on Microsoft Windows for the two-tier SAP Sales and Distribution (SD) standard application benchmark. The result was published on September 14, 2018. The result offers a 49% performance improvement over the previous-generation Lenovo system (2).



The results were achieved on the Lenovo ThinkSystem SR950 on Microsoft Windows, configured with four Intel Xeon processors, using IBM Db2 10.5 and SAP enhancement package 5 for the SAP ERP application release 6.0. It includes mitigations for vulnerabilities: CVE-2017-5754 (Meltdown), CVE-2017-5753 (Spectre variant 1) and CVE-2017-5715 (Spectre variant 2).

Lenovo delivered the following certified result (1):

- **Number of SAP SD benchmark users: 60,705**

Throughput:

- Fully processed order line items per hour: 6,676,670
- Dialog steps per hour: 20,030,000
- SAPs: 333,830
- Average database request time (dialog/update): 18 ms/ 20 ms

Configuration of the central server:

- Lenovo ThinkSystem SR950
- 4x Intel Xeon Platinum 8180M 28C 205W 2.5 GHz processors
- Cache: 64 KB L1 cache and 1024 KB L2 cache per core, 38.5 MB L3 cache per processor
- 1536 GB system memory

Software platform:

- Operating system, central server: Windows Server 2012 Standard Edition R2
- RDBMS: IBM Db2 10.5
- SAP Business Suite software: SAP enhancement package 5 for SAP ERP 6.0

Results referenced are current as of September 14, 2018. For the latest SAP benchmark results, visit: <https://www.sap.com/dmc/exp/2018-benchmark-directory/#/benchmarks/sd>.

(1) This benchmark fully complies with the SAP Benchmark Council regulations and has been audited and certified by SAP SE ([certification number 2018037](#)). Details can be obtained from Lenovo and SAP. The benchmark was performed at Data Center Performance Lab, Lenovo in Research Triangle Park, NC, USA, by Lenovo engineers.

(2) The claim of achieving 49% percent improvement in performance is based on results on the two-tier SAP SD standard application benchmark achieved by Lenovo System x3850 X6 (4 processors / 96 cores / 192 threads, Intel Xeon Processor E7-8890 v4, 2.20 GHz, 64 KB L1 cache and 256 KB L2 cache per core, 60 MB L3 cache per processor ([certification number 2016027](#))). The Lenovo System x3850 X6 achieved 40,650 SAP SD benchmark users with 0.99 seconds average dialog response time, 221,870 SAP Application Performance Standard (SAPS) values, measured throughput of 13,312,000 dialog steps per hour (or 4,437,330 fully business processed line items per hour), and an average CPU utilization of 98% for the central server.

About the ThinkSystem SR950

Lenovo ThinkSystem SR950 is designed for your most demanding, mission-critical workloads, such as in-memory databases, large transactional databases, batch and real-time analytics, ERP, CRM, and virtualized server workloads.

The powerful 4U ThinkSystem SR950 can grow from two to eight Intel Xeon Scalable Family processors, and with 96 DIMM sockets, supports up to 12 TB of high-speed memory without having to replace the server enclosure or upgrade to a physically larger design. The modular design of SR950 speeds upgrades and servicing with easy front or rear access to all major subsystems to maximize server availability.

The SR950 packs numerous fault-tolerant and high-availability features into a high-density design. The SR950 offers enterprise scalability and advanced RAS features to support the most demanding mission-critical applications that require 24x7 operations. The new 4U rack optimized design reduces the space needed to support massive network computing operations and simplifies servicing.

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 prior generation servers, with up to 6x 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.

About SAP SD

SAP SD benchmark is a test for standard sale and distribution business components on SAP ERP, which is indicative of the performance of the application and database on a specific hardware environment. For more information about the benchmark, go to <https://www.sap.com/about/benchmark/appbm/erp.html>.

Learn more

To learn more about SAP solutions on Lenovo servers visit the following page:

<https://www.lenovo.com/us/en/data-center/solutions/sap/>

For more information about the benchmark, go to

<http://www.sap.com/about/benchmark/appbm/erp.html>

To learn more about the Lenovo ThinkSystem SR950 server, visit the [SR950 product web page](#).

Related product families

Product families related to this document are the following:

- [IBM Alliance](#)
- [IBM Db2](#)
- [Mission Critical Servers](#)
- [SAP Alliance](#)
- [SAP SD Benchmark Results](#)
- [ThinkSystem SR950 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, LP0982, was created or updated on September 26, 2018.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/LP0982>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/LP0982>.

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:

Intel® 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.

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