

ThinkSystem SR650 V3 Sets World Record with New SAP BW Edition for SAP HANA (1.3B Records) Benchmark Result

Benchmark Result

Performance Benchmark Result

The Lenovo ThinkSystem SR650 V3 server, using Intel Xeon Platinum 8490H processors, delivers world record performance for all three KPI for SAP Business Warehouse, edition for SAP HANA® Standard Application Benchmark Version 3 with 1.3 billion (1.3B) initial records in a single-node setup.

The SAP Standard Application SD (Sales and Distribution) Benchmark is an ERP business test that represents the critical tasks performed in real-world ERP business environments, is indicative of full business workloads of complete order processing and invoice processing, and demonstrates the ability to run both the application and database software on a single system.



The benchmark refers to the SAP Business Warehouse (SAP BW) application running on the SAP HANA database. The benchmark consists of three phases and the SR650 V3 server achieved the following performance results (1):

- **Phase 1: Data load phase = 8,053** (Runtime of last Data Set in seconds)
- **Phase 2: Query throughput phase = 14,118** (Query Executions per Hour)
- **Phase 3: Query runtime phase = 63** (Total Runtime of complex query phase in seconds)

The SR650 V3 was configured as follows:

- Two Intel Xeon Platinum 8490H Processors, 1.90 GHz
 - 120 total cores / 240 total threads
 - 80 KB L1 cache and 2048 KB L2 cache per core
 - 112.5 MB L3 cache per processor
- 1,024 GB DRAM system memory
- SUSE Linux Enterprise Server 15 SP4
- SAP HANA 2.0
- SAP NetWeaver® 7.50

Results referenced are current as of January 10, 2023. For the latest SAP BW benchmark results, visit: <https://www.sap.com/dmc/exp/2018-benchmark-directory/#!/bwh>.

(1) This benchmark fully complies with the SAP Benchmark Council regulations and has been audited and certified by SAP SE (certification number [2023003](#)). Details can be obtained from Lenovo and SAP. The benchmark was performed in Stuttgart, Germany, by Lenovo engineers. Configuration: ThinkSystem SR650 V3 with 2 processor / 120 cores / 240 threads, Intel Xeon Platinum 8490H processors, 1.90 GHz, 80 KB L1 cache and 2048 KB L2 cache per core, 112.5 MB L3 cache per processor, 1024 GB DRAM.

About the ThinkSystem SR650 V3

The Lenovo ThinkSystem SR650 V3 is an ideal 2-socket 2U rack server, based on the new 5th generation Intel Xeon Scalable processor family. The SR650 V3 is for small business up to large enterprises that need industry-leading reliability, management, and security, as well as maximizing performance and flexibility for future growth. The server offers a broad selection of drive and slot configurations and offers numerous high performance features. Outstanding reliability, availability, and serviceability (RAS) and high-efficiency design can improve business operation and help save operational costs.

SR650 V3 offers the low-latency, high capacity performance necessary to keep up with the workloads of today. It's designed to handle a wide range of workloads, such as databases, virtualization and cloud computing, virtual desktop infrastructure (VDI), infrastructure security, systems management, enterprise applications, collaboration/email, streaming media, web, and HPC.

About the SAP BW edition for SAP HANA Benchmark

The SAP BW, edition for SAP HANA Standard Application Benchmark, Version 3, is the latest addition to the list of benchmarks for SAP Business Warehouse. It utilizes the capabilities of SAP HANA to process the benchmark workload. Allowed data volumes are a multiple of 1.3 billion initial records and can be run in single-node and multi-node setups. This benchmark was released in July 2018.

The benchmark scenario represents typical mid-size customer scenario and volumes for SAP BW running on SAP HANA. The benchmark simulates a variety of users with different analytical requirements and measures the key performance indicator (KPI) relevant to each of the three benchmark phases.

The three benchmark phases are as follows:

1. Data load phase, testing data latency and load performance
2. Query throughput phase, testing query throughput with moderate complex queries
3. Query runtime phase, testing the performance of running very complex queries

For more information about the benchmark, go to <https://www.sap.com/about/benchmark.html>.

Learn more

To learn more about business warehouse and data analytics solutions for SAP applications running on Lenovo Servers visit, <https://www.lenovo.com/us/en/data-center/solutions/sap/> or contact your Lenovo Customer Representative.

To learn more about the Lenovo ThinkSystem SR650 V3 server, visit the SR650 V3 product web page: <https://www.lenovo.com/us/en/p/servers-storage/servers/racks/thinksystem-sr650-v3/len21ts0013>

Related product families

Product families related to this document are the following:

- [2-Socket Rack Servers](#)
- [SAP Alliance](#)
- [SAP BW Benchmark Results](#)
- [ThinkSystem SR650 V3 Server](#)

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