

ThinkSystem SR950 V3 Sets World Record with New SAP BW Edition for SAP HANA (15.6B Records/Phase 3) Benchmark Result

Performance Benchmark Result

The Lenovo ThinkSystem SR950 V3 server, using eight Intel Xeon Platinum 8490H processors, delivers world record performance on the complex query KPI (phase 3) for the SAP® Business Warehouse, edition for SAP HANA® Standard Application Benchmark (BWoH), version 3, on single-node configurations with 15.6 billion (15.6B) initial records.

The benchmark refers to the SAP Business Warehouse (SAP BW) application running on the SAP HANA platform. The benchmark consists of three phases and the SR950 V3 server achieved the following performance results (1):

- **Phase 1: Data load phase = 11,893**
(Runtime of last Data Set in seconds)
- **Phase 2: Query throughput phase = 11,255** (Query Executions per Hour)
- **Phase 3: Query runtime phase = 98**
(Total Runtime of complex query phase in seconds)



The phase 3 score is the best among all published configurations configured with 15.6B initial records and fourth-generation Intel Xeon Scalable processors.

The SR950 V3 was configured as follows:

- Eight Intel Xeon Platinum 8490H processors, 1.90 GHz
 - 480 total cores / 960 total threads
 - 80 KB L1 cache and 2048 KB L2 cache per core
 - 112.5 MB L3 cache per processor
- 8192 GB DRAM system memory
- SUSE Linux Enterprise Server 15 SP6
- SAP HANA 2.0
- SAP NetWeaver® 7.50

8-socket Xeon Platinum 8490H servers excel across demanding database workloads, combining massive thread density and ultra-high DDR5 memory capacity to maximize Business Warehouse benchmark performance. Supporting up to 960 execution threads across a vast, unified memory pool under a single OS footprint, the architecture ensures high-concurrency query processing and lightning-fast throughput for the largest in-memory datasets.

Results referenced are current as of September 17, 2026. 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 2026047) . Details are available at:

<https://www.sap.com/dmc/benchmark/2026/Cert26047.pdf>. The benchmark was performed in Bucharest, Romania, by Lenovo engineers.

About the ThinkSystem SR950 V3

The Lenovo SR950 V3 is an 8-socket server that features an 8U rack design, with two 4U units cabled together for ease of installation. The server offers technology advances, including 4th Gen Intel Xeon Scalable processors, and scale-up capacity of up to 32TB of system memory, up to 14x PCIe slots (6x front, 8x rear), and up to 16x 2.5-inch or 16x E3.S EDSFF drive bays.

The SR950 V3 is designed for the most demanding, mission-critical workloads, such as in-memory databases, large transactional databases, real-time analytics, ERP, CRM, and virtualized server workloads.

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 SAP solutions on Lenovo servers visit the following page, <https://www.lenovo.com/us/en/data-center/solutions/sap/> or contact your Lenovo Customer Representative.

To learn more about the Lenovo ThinkSystem SR950 V3 server, visit the SR950 V3 product web page: <https://www.lenovo.com/us/en/p/servers-storage/servers/mission-critical/thinksystem-sr950-v3/len21ts0023>

Related product families

Product families related to this document are the following:

- [8-Socket Rack Servers](#)
- [Large Memory Capacity Servers](#)
- [SAP Alliance](#)
- [SAP BW Benchmark Results](#)
- [ThinkSystem SR950 V3 Server](#)

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