



World Record SAP BW Edition for SAP HANA Benchmark Result for Lenovo x3850 X6

Performance Benchmark Result (withdrawn product)

Lenovo's 4-Socket x3850 X6 server using Intel Xeon E7-8894 v4 processors delivers industry leadership performance (1) for SAP BW Edition for SAP HANA Benchmark (4) for 1.3B data volume in single-node setup.

February 7, 2017 ... Today, Lenovo announced a world-record SAP BW Edition for SAP HANA benchmark result on x3850 X6, configured with 4 Intel Xeon processors, SAP HANA 1.0 and SAP NetWeaver 7.50. The benchmark refers to the SAP Business Warehouse (SAP BW) application running on the SAP HANA platform.



The SAP BW Edition for SAP HANA (BW/4HANA) Standard Application Benchmark is the latest addition to the list of SAP BW benchmarks and goes well beyond the scope and features used in the BW-AML benchmark. The new benchmark is designed to fully utilize the new capabilities of SAP HANA to process the benchmark workload.

The benchmark consists of three phases:

1. Data load phase
2. Query throughput phase
3. Query runtime phase

Lenovo's four-socket x3850 X6 on SAP HANA demonstrated huge performance advantage for the key performance indicators (KPIs) in each of the phases of the benchmark as shown in table below.

Table 1. Key performance indicators for the BW/4HANA benchmark

Date of Certification	Technology Partner	Phase 1: Total Runtime of Data Load/Transformation (seconds)	Phase 2: Query Executions per Hour / Records selected	Phase 3: Total Runtime of complex query phase (seconds)
2/7/2017	Lenovo	14,939	4,273 / 215,902,670,995	154
12/7/2016	Hitachi (2)	17,711	3,464 / 176,268,276,419	178
8/24/2016	Dell (3)	21,473	1,972 / 102,183,318,183	202

As shown in the table, Lenovo is better than Hitachi (2) and Dell (3) in all three KPIs:

- In Phase 1, Lenovo is better than Hitachi by 15.7% and better than Dell by 30.4%
- In Phase 2, Lenovo is better than Hitachi by 23.4% and better than Dell by 116.7%
- In Phase 3, Lenovo is better than Hitachi by 13.5% and better than Dell by 23.8%

For years, Lenovo servers have provided differentiating advantages for diverse SAP application workloads for companies competing in the digital economy. From large enterprises with high-performance data centers to small offices with limited IT resources, SAP applications running on the Lenovo portfolio of x86 servers, storage and software can help organizations to align and integrate processes, and communicate with employees, partners, suppliers and customers in new ways.

Lenovo helps customers to improve efficiency, and fully utilize their IT investments to increase business value. The Lenovo x3850 X6 provides the enterprise-class reliability and availability needed for business-critical applications running on SAP HANA. Lenovo delivers simple and scalable solutions for SAP HANA and is a worldwide leader in SAP HANA with over 6,800 deployments.

For more information visit <https://www.lenovo.com/us/en/data-center/solutions/sap-hana/>

Results referenced are current as of February 7, 2017. For the latest SAP benchmark results, visit: <http://www.sap.com/benchmark>.

(1) This benchmark fully complies with the SAP Benchmark Council regulations and has been audited and certified by SAP SE (**Certification number 2017003**). Details can be obtained from Lenovo and SAP. The benchmark was performed at the Lenovo Data Center Performance Lab in Research Triangle Park, NC, USA, by Lenovo engineers. Configuration: Lenovo System x3850 X6, 4 processor / 96 cores / 192 threads, Intel Xeon Processor E7-8894 v4, 2.40 GHz, 64 KB L1 cache and 256 KB L2 cache per core, 60 MB L3 cache per processor, 2048 GB main memory

(2) Hitachi publication for 1.3B data volume in single node (certification number: 2016062): Hitachi Compute Blade 520XB3, 4 processor / 88 cores / 176 threads, Intel Xeon Processor E7-8880 v4, 2.20 GHz, 64 KB L1 cache and 256 KB L2 cache per core, 55 MB L3 cache per processor, 2048 GB main memory, SAP HANA 1.0, SAP NetWeaver 7.50 and SUSE Linux Enterprise Server 12

(3) Dell publication for 1.3B data volume in single node (certification number: 2016043): Dell PowerEdge R930, 4 processor / 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, 1024 GB main memory, SAP HANA 1.0, SAP NetWeaver 7.50 and SUSE Linux Enterprise Server 12

(4) The SAP BW Edition for SAP HANA standard application benchmark is the latest addition to the list of benchmarks for SAP BW. It fully 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 2016.

Related product families

Product families related to this document are the following:

- [4-Socket Rack Servers](#)
- [Mission Critical Servers](#)
- [SAP Alliance](#)
- [SAP BW Benchmark Results](#)

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