TPC-H 10TB Benchmark Result for System x3850 X6

Performance Benchmark Result

Lenovo posts world record non-clustered TPC-H@10,000GB benchmark performance result with the Lenovo System x3850 X6.

June 27, 2016 ... Lenovo has published the best performance and the best price/performance ever on the non-clustered TPC-H benchmark @10,000GB. This new result showcases the capability of the Lenovo System x3850 X6 with the latest Intel Xeon E7 processor technology running Microsoft SQL Server 2016.

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.

The System x3850 X6 server achieved the following score:

- **1,106,832.6 QphH @10,000GB** (queries per hour H) at **$0.89 USD / QphH @10,000GB** (1)

This is the best non-clustered performance score on the TPC-H @10,000GB scale, 5.7% faster than the previous #1 result using the same processors, operating system, database, and memory size. (2)

Additionally, this result's price/performance is also a new world record on the non-clustered @10000GB scale, 16.8% lower than the previous #1 result. (2)

The x3850 X6 achieved this record level of data warehouse performance using Microsoft SQL Server 2016 Enterprise Edition and Microsoft Windows Server 2016 Standard Edition. The x3850 X6 was configured with four Intel Xeon E7-8890 v4 processors at 2.20 GHz (4 processors/96 cores/192 threads), 6 TB of memory, and eight io3 Enterprise Mainstream flash adapters. This result highlights the ability of this tightly-integrated, optimized solution to process large amounts of data.

The System x3850 X6 is a 4-socket rack server that delivers maximum performance and availability for business-critical applications and databases.

With system support for up to 96 processor cores, 6 TB of system memory, and over 85 TB of flash storage, the 3850 X6 not only is known for its leadership performance, but also for its ability to scale in order to power traditional databases as well as new in-memory database and analytics solutions. Now customers can achieve leadership solution performance by virtualizing high performance databases and applications on the same server.

Customers also can realize infrastructure cost savings by hosting multiple generations of technology in an X6 single platform, without compromising performance or capacity. X6 server allow data centers to upgrade technology without the "rip and replace" work involved in buying new servers.

X6 platforms are the sixth generation of enterprise X Architecture (EXA) technology and represent more than 15 years of investment and innovation to exceed industry standards.

Results referenced are current as of July 27, 2016. To view all TPC results, visit http://www.tpc.org.

(1) The total solution availability for this TPC-H benchmark result is September 30, 2016, the date of planned general availability of Windows Server 2016. See the details of this result at http://www.tpc.org/3325.

(2) The HPE Proliant DL580 Gen9 server achieved 1,047,243 QphH @10,000GB at $1.07 USD/QphH @10,000GB using four Intel Xeon E7-8890 v4 processors at 2.20 GHz (4 processors/96 cores/192 threads), Microsoft SQL Server 2016 Enterprise Edition, and Microsoft Windows Server 2016 Standard Edition. Total solution availability of September 30, 2016. Result details are at http://www.tpc.org/3324.

Related product families

Product families related to this document are the following:

- Mission-Critical Rack Servers
- 4-Socket Rack Servers
- TPC-H Benchmark Results

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