



FIRSTS and WORLD RECORD for HP:

ProLiant DL585 G7 breaks 100,000 QphH @ 300GB and earns #1 non-clustered result for 300GB TPC-H benchmark

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Executive summary

The new HP DL585 G7, the obvious choice for virtualization/consolidation environments and corporate data center infrastructure, became the first non-clustered server to achieve over 100,000 QphH@300GB, thus earning the #1 non-clustered result for the TPC-H@300GB. With 117,561.2 QphH@300GB, \$1.08USD/QphH@300GB, 9.58 Watts/KQphH@300GB, the ProLiant DL585 G7, one of the newest HP Scale-Up x86 servers, is the ideal selection for mission-critical data center deployments and virtualization environments.

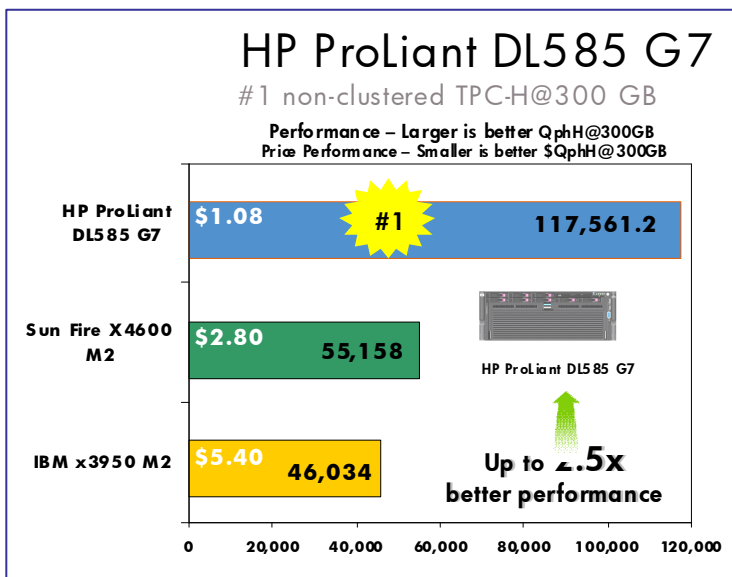
Key Take Aways:

- ▶ HP ProLiant DL585 G7 is **#1** in non-clustered performance for the TPC-H@300GB performance category
- ▶ **FIRST** non-clustered result breaking the 100,000QphH@300GB barrier
- ▶ **FIRST** to publish TPC-Energy metric on TPC-H benchmark
- ▶ Up to more than 2.5X greater performance than Sun Fire X4600 M2 and IBM x3950 M2 with significantly better price performance
- ▶ HP ProLiant servers now own SIX of the TOP TEN performance results for the TPC-H@300GB category
- ▶ Only HP delivers the most comprehensive portfolio of Scale-Up servers combining mission critical and x86 expertise and technologies from an industry leader in both

HP uses less energy

Utilizing the new TPC-Energy parameters, the ProLiant DL585 G7 achieved an impressive energy/performance result of 9.58Watts/KphH@300GB on the TPC-H benchmark. HP holds the record for first TPC-H result with the TPC-Energy metric.

Figure 1. Best non-clustered TPC-H@300GB results for each vendor.



HP provides the most comprehensive portfolio of Scale-Up ProLiant servers optimized for the most demanding, data-intensive x86 workloads.

The ProLiant DL585 G7 is part of the HP Converged Infrastructure portfolio, which integrates servers, storage, network devices, and facility resources into a common environment, allowing IT to rapidly respond to business demands. HP ProLiant servers provide modular, standards-based building blocks that advance clients toward a converged infrastructure.

Results as of 06/21/10; see: www.tpc.org. Per socket improvement as compared to both the Sun Fire X4600 M2 and IBM x3950 M2 results. #1 claim refers to the top single-system result on TPC-H@300GB benchmark.



The new HP ProLiant Scale-Up x86 servers are optimized for the most demanding, data-intensive x86 workloads, extending the capability of ProLiant systems and built to be convergence-ready to fuel business innovation. The ProLiant DL585 G7 is the world's first server capable of paying for itself in less than 30 days with breakthrough efficiencies, delivering 4P performance at 2P economics for compelling price/performance.¹

Benchmark configuration

The HP ProLiant DL585 G7 Server with 12-core AMD Opteron 6167 SE 2.3GHz processors is the #1 non-clustered result on the QphH @ 300GB benchmark across all operating systems and database environments with its result of 117,561.2 QphH@300GB at an outstanding price/performance of \$1.08USD/QphH@300GB and an energy metric of 9.58 Watts/KQphH@300GB. The server also was configured with 4 x HP 320GB SLC PCI-e ioDrive Duo, 2 x 72GB 6G 15K SFF SAS, 4 x 300GB 6G 10K SFF SAS drives for a total disk storage of 2577.9GB. In addition, 2 x 72GB 6G 15K SFF SAS drives were used as the OS disk drives.

The server configuration ran with Microsoft Windows 2008 R2 Enterprise Edition operating system and Microsoft SQL Server 2008 R2 Enterprise Edition database. For more details, go to:

http://www.tpc.org/tpch/results/tpch_result_detail.asp?id=110062104

Table 1. The HP ProLiant DL585 G7 and competitors' configurations and results on QphH database category

Platform, Processor (chips/cores/threads), Memory	Availability	OS and Database	QphH@300GB	USD \$/QphH
HP ProLiant DL585 G7, 4 processors, 12 cores; AMD Opteron 6167 SE 2.3GHz, (4/48/48), 512GB RAM	06/21/10	Microsoft Windows Server 2008 R2 Ent. Ed., SQL Server 2008 R2 Ent. Ed.	117,561.2	\$1.08
Sun Fire X4600 M2 8 processors, Quad-Core AMD Opteron 8384 2.7GHz, (8/32/32), 256GB RAM	07/06/09	Microsoft Windows Server 2008 Ent. x64 Ed., SQL Server 2008 Ent. Ed. SP1	55,158	\$2.80
IBM System x3950 M2 8 processors, Quad-Core Intel Xeon x7350 2.93GHz, 256GB RAM	03/07/08	Microsoft Windows Server 2003 Ent. X64 Ed. R2, Microsoft SQL Server 2005 Ent. Ed. R2	46,034	\$5.40

ProLiant G7 Server advantages

Breakthrough efficiency. Customers can achieve ROI of two months with HP-only innovations such as Thermal Logic which includes power capping, iLO3 remote management, and Insight Control.

Only HP ProLiant servers give customers the freedom to unlock their full potential with the help of HP Insight Control.

ProLiant G7 servers introduce next-generation Insight Control remote management functionality, powered by iLO. The 3rd generation of iLO brings new levels of remote server management performance, user experience, and standards support to ProLiant customers. HP Insight Control enables customers to deploy and migrate ProLiant servers quickly and reliably, proactively manage ProLiant server health – be it physical or virtual – control ProLiant servers from anywhere, and optimize power confidently. The net result is the ability to get work done faster whether your server is across the hall or across the globe. Users can take advantage of these next-generation remote management features by purchasing HP Insight Control or a ProLiant G7 Performance Model.

HP takes 6 out of the Top Ten spots for TPC-H @ 300GB performance.

With the latest ProLiant TPC-H @ 300GB benchmark, HP servers now have six out of the Top Ten results for TPC-H @ 300GB performance.

¹ based on HP internal testing comparing hardware on DL360 G4 to DL585 G7



About the TPC-Energy benchmark

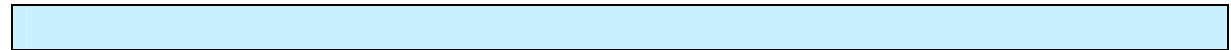
TPC-Energy is a new TPC specification which augments the existing TPC Benchmarks with Energy Metrics developed by the TPC. The Energy Specification is a continuation of ongoing efforts to meet the needs of a rapidly changing industry. Customers will be able to go to the TPC Web site to identify systems that meet their price, performance, and energy requirements. Systems that use less energy also have reduced cooling requirements. The reporting of energy metrics are optional to not restrict TPC benchmark publications and allow time for implementers to invest in required infrastructure. Competitive demands will encourage test sponsors to include energy metrics as soon as possible.

About the TPC-H benchmark

The TPC Benchmark™H (TPC-H) is a decision support benchmark. It consists of a suite of business oriented ad-hoc queries and concurrent data modifications. The queries and the data populating the database have been 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.

Bottom Line

The ProLiant Advantage. Customers know that data intensive enterprise workloads, including business processing and decision support, are placing x86 infrastructure under tremendous stress. The ProLiant DL585 G7 TPC-H leading result is a proof point that the HP new class of Scale-Up x86 servers deliver the reliability and performance to handle more demanding workloads with confidence.



For more information, check out:

HP ProLiant DL585 G7: www.hp.com/servers/

HP Converged Infrastructure: <http://h18004.www1.hp.com/products/solutions/converged/overview.html>