**HP: We are the CHAMPIONS!**

**HP ProLiant DL380 G6 #1 in performance for non-clustered TPC-H 100GB, #1 in price/performance for MS SQL Server, soundly defeats Dell**

**HP Leadership**

» The **HP ProLiant DL380 G6 rack server** is a versatile 2U rack server that is designed to meet a wide range of deployment needs. A dependable workhorse, it combines increased performance, durability, availability, and energy efficiency, making it the best selling server in the world. (Source: IDC Worldwide Quarterly Server Tracker Q4, 2008)

**Customer Value**

What are the customer benefits of using the HP ProLiant rack servers with TPC-H?

Because the TPC-H 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, many businesses find this type of benchmark useful in determining what servers to utilize.

With the HP ProLiant rack servers’ wide range of enterprise solutions and its leading TPC-H benchmarks in performance and price/performance, customers are reassured that the server will enable them to accelerate business growth, lower costs, and mitigate risk while delivering outstanding investment protection, making it the BEST PLATFORM for their business applications.

**TPC-H publication on HP ProLiant DL380 G6:**

51,180.5 QphH @100GB, $1.08USDQphH@100GB

Available 08/12/09.

Benchmark results may be found at [http://www.tpc.org/tpc_results/tpch_result_detail.asp?id=109080301](http://www.tpc.org/tpc_results/tpch_result_detail.asp?id=109080301)

Benchmark results as of August 03, 2009. Please see [http://www.tpc.org](http://www.tpc.org) for up-to-date information.

**Key Points**

- With an outstanding performance result of 51,180.5 QphH@100GB, the HP ProLiant DL380 G6 trounced across all operating systems and database environments in the non-clustered TPC-H 100GB benchmark, taking the **#1 OVERALL record for performance.**

- The HP ProLiant DL380 G6 also achieved the **#1 TPC-H 100GB price/performance spot** for servers running Microsoft SQL Server with its result of $1.08/QphH@100GB.

- This performance result crushed a similarly-configured 2P Dell PowerEdge T610 result by **78% better performance at 35% better price/performance!**

- Combined with the enhancing capabilities of Quad-Core Intel Xeon X5570 2.93GHz processors, the HP ProLiant DL380 G6, running with Microsoft SQL Server 2008 Enterprise x64 Edition SP1 database and Microsoft Windows Server 2008 Enterprise Edition x64 SP2 operating system, delivered exceptional performance, scalability, and simplified management at an extraordinary value with **more than 3x the performance at 7x less the cost per transaction** compared to the ProLiant G5 generation with the ML370 G5 TPC-H result that utilized the Microsoft SQL Server 2005 x64 Enterprise Edition SP2 and Microsoft Windows Server 2003 Enterprise x64 Edition.

**THE HP ADVANTAGE**

**HP ProLiant delivers #1 overall non-clustered TPC-H 100GB performance result with the DL380 G6**

<table>
<thead>
<tr>
<th>Vendor/ System</th>
<th>HP ProLiant DL380 G6</th>
<th>Dell PowerEdge T610</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processors/Cores/Threads</td>
<td>2/8/16</td>
<td>2/8/16</td>
</tr>
<tr>
<td>Price/Performance ($/QphH)</td>
<td>$1.08</td>
<td>$1.46</td>
</tr>
<tr>
<td>Performance (QphH)</td>
<td>51,180.5</td>
<td>28,772</td>
</tr>
<tr>
<td>Availability</td>
<td>08/12/09</td>
<td>06/02/09</td>
</tr>
</tbody>
</table>

Results as of 08/03/09, see: [www.tpc.org](http://www.tpc.org). TPC-H is a trademark of the Transaction Processing Performance Council.
**HP ProLiant DL380 G6 configuration**

The HP ProLiant DL380 G6 server was configured with two 2.93GHz Quad-Core Intel Xeon X5570 processors (for a total of 2 processors /8 cores /16 threads), with 8MB cache, and 144GB main memory. The server was running Microsoft SQL Server 2008 Enterprise x64 Edition SP1 database and Microsoft Windows Server 2008 Enterprise Edition x64 SP2 operating system. The system also was set up with 2 x 72GB 15K Small Form Factor (SFF) SAS drives, 4x FusionIO ioDrive SSD 80GB disks, 1 x Smart Array P410 Controller, and 1 x Smart Array P411 Controller.

**The HP ProLiant Advantage**

HP DL380 G6

The **VALUE** you get with the **latest** HP ProLiant DL380 G6:

The HP ProLiant DL380 G6 extends its history of design excellence with enterprise-class uptime and manageability, proven 2-socket Intel Xeon performance, and 2U density for a variety of rack deployments and applications.

- Increased performance and durability for demanding scale-out applications
- Smart, flexible systems ready for complex, dynamic environments
- Energy Efficiency Leadership
- Engineered for reliability and ease of ownership
- Delivering best-run server infrastructure

**HP proven performance**

HP has posted hundreds of leading results on the most commonly referenced benchmarks on hundreds of HP servers and blades, helping customer to be confident in HP.

<table>
<thead>
<tr>
<th>System (processors/cores/threads)</th>
<th>QphH</th>
<th>USD$/QphH</th>
<th>Availability</th>
<th>Database</th>
<th>OS</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ProLiant DL380 G6 2P</td>
<td>51,180.5</td>
<td>$1.08</td>
<td>08/12/09</td>
<td>Microsoft SQL Server 2008 Enterprise x64 Edition SP1</td>
<td>Microsoft Windows Server 2008 Enterprise Edition x64 SP2</td>
<td></td>
</tr>
<tr>
<td>Quad-Core Intel Xeon X5570 2.93GHz (2 processors/8 cores/16 threads)</td>
<td>Kickfire™ Appliance 2300 2P</td>
<td>49,228.6</td>
<td>.70</td>
<td>10/14/08</td>
<td>MySQL5.1 with Kickfire database</td>
<td>CentOS 5.0</td>
</tr>
<tr>
<td>Dell PowerEdge T610 2P</td>
<td>28,773</td>
<td>$1.46</td>
<td>06/02/09</td>
<td>Microsoft SQL Server 2008 Enterprise x64 Edition SP1</td>
<td>Microsoft Windows Server 2008 Enterprise Edition x64 SP1</td>
<td></td>
</tr>
<tr>
<td>Quad-Core Intel Xeon X5570 2.93GHz (2 processors/8 cores/16 threads)</td>
<td>Dell PowerEdge T610 2P</td>
<td>28,773</td>
<td>$1.46</td>
<td>06/02/09</td>
<td>Microsoft SQL Server 2008 Enterprise x64 Edition SP1</td>
<td>Microsoft Windows Server 2008 Enterprise Edition x64 SP1</td>
</tr>
</tbody>
</table>

The ProLiant DL380G6 Quad-Core server performed 78% better at 35% better price/performance!
**HP performance scalability increases with next generation technology**

In addition to achieving the #1 TPC-H 100GB overall performance result on the TPC-H benchmark, the ProLiant DL380 G6 showed outstanding performance and price/performance scalability results with the progression from the previous generation.

The HP ProLiant DL380 G6 showed **almost 3x the performance at more than 7x improved price/performance** when it achieved 51,180.5 QphH@100GB @ $1.08/QphH@100GB benchmark result running Microsoft SQL Server 2008 Enterprise x64 Edition SP1 database and Microsoft Windows Server 2008 Enterprise Edition x64 SP2 operating system from its previous ProLiant Generation 5 result of 17,686.7 QphH@100GB @$7.98/QphH@100GB with the ProLiant ML370 G5 running Microsoft SQL Server 2005 x64 Enterprise Edition SP2 and Microsoft Windows Server 2003 Enterprise x64 Edition.

**HP takes #1 in TPC-H 100GB, 300GB, 1000GB, 10,000GB, 30,000GB**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>System</th>
<th>Scale Factor</th>
<th>QphH</th>
<th>$/QphH</th>
<th>System Availability</th>
<th>Database</th>
<th>Operating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HP ProLiant DL380 G6</td>
<td>100GB</td>
<td>51,180.5</td>
<td>1.08</td>
<td>USD</td>
<td>08/12/09</td>
<td>MS SQL Server 2008 Enterprise Ed. x64 SP1</td>
<td>MS Windows Server 2008 Enterprise Ed. x64 SP2</td>
</tr>
<tr>
<td>1</td>
<td>HP ProLiant DL785</td>
<td>300GB</td>
<td>91,558</td>
<td>1.94</td>
<td>USD</td>
<td>10/30/09</td>
<td>Microsoft SQL Server 2008 Enterprise x64 Ed. SP1</td>
<td>Microsoft Windows Server 2008 Enterprise x64 Ed. SP1</td>
</tr>
<tr>
<td>1</td>
<td>HP Integrity Superdome-Dual-Core Itanium</td>
<td>1000GB</td>
<td>123,323</td>
<td>20.54</td>
<td>USD</td>
<td>04/29/09</td>
<td>Oracle Database 11g Enterprise Ed.</td>
<td>HP-UX 11.i v3 64 bit</td>
</tr>
<tr>
<td>1</td>
<td>HP Integrity Superdome/Dual-Core Itanium/1.6 GHz</td>
<td>10,000GB</td>
<td>208,457</td>
<td>27.97</td>
<td>USD</td>
<td>09/10/08</td>
<td>Oracle Database 11g Enterprise Ed.</td>
<td>HP-UX 11.i v3 64 bit</td>
</tr>
<tr>
<td>1</td>
<td>HP Integrity Superdome - Itanium2/1.6 GHz/18MB iLL3</td>
<td>30,000GB</td>
<td>150,960</td>
<td>46.69</td>
<td>USD</td>
<td>06/18/07</td>
<td>Oracle Database 10g release2 Enterprise Ed.</td>
<td>HP-UX 11.i v3 64 bit</td>
</tr>
</tbody>
</table>
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.

The performance metric reported by TPC-H is called the TPC-H Composite Query-per-Hour Performance Metric (QphH@Size), and reflects multiple aspects of the capability of the system to process queries. These aspects include the selected database size against which the queries are executed, the query processing power when queries are submitted by a single stream, and the query throughput when queries are submitted by multiple concurrent users. The TPC-H Price/Performance metric is expressed as $/QphH@Size.

TPC Disclosure: A full disclosure report describing these benchmark results has been filed with the Transaction Processing Performance Council (TPC) and is available upon request. This report describes the benchmark HW and SW configuration in detail, provides costs, and lists the code actually used to perform the test. Similar reports from other vendors are the source of the price/performance comparisons provided above. Summaries of all tests are published each month by the TPC and on the Internet on the TPC’s World Wide Web Server. With these benchmarks, customers can objectively compare the performance of different vendors’ servers in specific areas.

For more information

HP ProLiant DL380 G6: www.hp.com/servers/proliantdl380g6
TPC-H details: www.tpc.org
HP ProLiant DL380 G6 TPC-H benchmark result: www.tpc.org/results/proliantdl380g6