HP ProLiant DL785 G6 scores leadership results on two-tier SAP® SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0
Another amazing 48-core result with new Six-Core AMD Opteron™ processors

This DL785 G6 result achieved these ranks as compared with other results using SAP enhancement package 4 for SAP ERP 6.0:
• #1 overall result and #1 8-processor result

HP performance brief

Benchmark: SAP® Sales and Distribution (SD) Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0 application

Leading performance
With the result of 8,280 SAP Benchmark users, the ProLiant DL785 G6 with the newest Six-Core AMD Opteron processors is the highest performing server on the two-tier SAP SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0.

Using a PC2-6400 800-MHz memory configuration added a 7% gain in performance over the previous 667-MHz configuration.

Defeats the competition
• 37% more users than Sun Fire X4600 M2.
• 10% more users than 16-processor NEC Express Model A1160.

Excellent scalability
As compared to the previous Six-Core result of the DL785 G6 as well as ProLiant 2P and 4P servers, the current result shows excellent scalability.

Business outcomes
HP ProLiant servers consistently earn leading results on the two-tier SAP SD Standard Application Benchmark. HP ProLiant servers have proven to be reliable and cost-effective.

Figure 1. Several results on two-tier SAP SD Standard Application Benchmark for servers running SAP enhancement package 4 for SAP ERP 6.0 (Unicode)

ProLiant DL785 G6 delivers
8,280 SAP Benchmark users

Results as of 9-11-09. Details in Appendix in Table 1.

What are the benefits of using the HP ProLiant DL785 G6 with SAP applications?
SAP Standard Application Benchmarks test the hardware and database performance of SAP applications and components. As one of the largest technology partners for SAP, HP is a global technology partner, software solution partner, global alliance support partner, global services partner, and global hosting partner. HP ProLiant servers consistently earn leading results on the two-tier SAP SD Standard Application Benchmark. HP ProLiant servers have proven to be reliable and cost-effective. HP servers host almost 50% of all installations of SAP solutions, with more than 60,000 installations and 25,000 customers. HP’s strong technology capabilities are demonstrated through the results of these benchmarks. All results as of 9-11-2009. Details can be found at http://www.sap.com/benchmark.
Manager.

for HP Insight Power
capping, and support
regulation, and
for power monitoring,
management, support
offers enhanced power
enhancements.

The ProLiant DL785 G6
offers enhanced power
management, support
for power monitoring, and
capping, and support
for HP Insight Power
Manager.

Figure 2. ProLiant G6 servers with Six-Core AMD Opteron processors show excellent scaling

Comparing ProLiant G6 Six-Core
processors yields scaling of
• 1.98X from 2 to 4 processors
• 1.77X from 4 to 8 processors
• 3.52X from 2 to 8 processors

Results as of 9-11-09. Details in Appendix in
Table 1.

ProLiant server benchmark configuration
HP received certification from SAP AG of the results of the ProLiant DL785 G6 on the two-tier SAP SD Standard Application Benchmark (Certification #2009035). The ProLiant DL785 G6 rack server was set up as an eight-
processor system with eight 2.8-GHz 6-Core AMD Opteron Processors Model 8439SE (8 processors/48 cores/48
threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6MB L3 cache per processor, and 128 GB (32 x
4 GB) main memory. The server was running Microsoft Windows Server 2008 Enterprise Edition x64 operating
system, Microsoft SQL Server 2008 Enterprise Edition x64 database, and the SAP enhancement package 4 for
SAP ERP 6.0 (Unicode). The HP ProLiant DL785 G6 achieved 8,280 SAP SD Benchmark users, equivalent to a
throughput of 907,000 fully processed order line items per hour or 45,350 SAPS. All results as of 09-11-2009;
details can be found at http://www.sap.com/benchmark.

What the SAP SD Standard Application Benchmark measures
The SAP Application Performance Standard (SAPS) is a hardware-independent unit that describes the performance
of a system configuration in the SAP environment. It is derived from the SAP SD Standard Application Benchmark,
where 100 SAPS is defined as 2,000 fully business processed order line items per hour. In technical terms, this
throughput is achieved by processing 6,000 dialog steps (screen changes), 2,000 postings per hour in the SAP
SD Benchmark, or 2,400 SAP transactions. In the SAP SD Benchmark, fully business processed means the
full business process of an order line item: creating the order, creating a delivery note for the order, displaying
the order, change the delivery, posting a goods issue, listing orders, and creating an invoice.

Table 1. Configuration and Certification Number Details
Note: All results noted were achieved on the two-tier SAP SD Standard Application Benchmark and all servers shown ran SAP enhancement package 4 for SAP ERP 6.0 (Unicode).

<table>
<thead>
<tr>
<th>Platform, Processor type (chips/cores/threads), memory</th>
<th>Certification Number</th>
<th>OS, Database, and SAP software</th>
<th>SAP SD Benchmark users</th>
<th>Order line items/hour</th>
<th>SAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ProLiant DL385 G6, 8 processors Six-Core AMD Opteron 8439SE 2.8 GHz (8/48/48), 192 GB RAM</td>
<td>2009030</td>
<td>Windows Server 2008 Enterprise Edition/SQL Server 2008</td>
<td>7,716</td>
<td>845,000</td>
<td>42,250</td>
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<tr>
<td>NEC Express 5800 Model A1160, 16 processors Six-Core Intel Xeon X7460 (16/96/96), 512 GB RAM</td>
<td>2009016</td>
<td>Windows Server 2008 Datacenter Edition/SQL Server 2008</td>
<td>7,500</td>
<td>821,330</td>
<td>41,070</td>
</tr>
<tr>
<td>Sun Fire X4600 M2, 8 processors Quad-Core AMD Opteron 8384 2.7 GHz (8/32/32), 256 GB RAM</td>
<td>2009022</td>
<td>Solaris 10/Max DB 7.8</td>
<td>6,050</td>
<td>664,670</td>
<td>33,230</td>
</tr>
</tbody>
</table>

| HP ProLiant DL385 G6, 4 processors Six-Core AMD Opteron 8439SE 2.8 GHz (4/24/24), 64 GB RAM | 2009025 | Windows Server 2008 Enterprise Edition/SQL Server 2008 | 4,665 | 510,670 | 25,530 |
| HP ProLiant DL385 G6 2 processors Six-Core AMD Opteron 2435 2.6 GHz (2/12/12), 32 GB RAM | 2009019 | Windows Server 2008 Enterprise Edition/SQL Server 2008 | 2,350 | 256,670 | 12,830 |

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