Three new HP ProLiant benchmark results display exceptional processor scalability and leading performance with SUSE Linux Enterprise Server on two-tier SAP® SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0

8 processor, 4 processor, and 2 processor AMD Opteron ProLiant servers tell a compelling scalability story

**LEADING RESULTS**

- #1 Linux 8 processor performance result for the ProLiant DL785 on two-tier SAP® Sales and Distribution (SD) Benchmark with SAP enhancement package 4 for SAP ERP 6.0 application
- #1 Linux 4 processor performance result for the ProLiant DL585 G6 on two-tier SAP SD Benchmark with SAP enhancement package 4 for SAP ERP 6.0
- Exceptional scalability performance rating:
  - 1.88 from 2 processor to 4 processor
  - 1.82 from 4 processor to 8 processor
  - 3.47 from 2 processor to 8 processor

**HP performance brief**

**Benchmark:**
Two-tier SAP SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0

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**Top performing**
The 8 processor ProLiant DL785 G6 holds the #1 8 processor Linux result and the #1 8 processor Windows result on the two-tier SAP SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0. (See Appendix A for configuration details)

**Excellent comprehensive scalability**
The ProLiant AMD Opteron server family showcased its scalability proficiency with a 3.47x increased performance when migrating from a two processor to eight processor server.

**ProLiant racks reign with top scores**
ProLiant rack servers now hold the #1 Linux 8 processor (DL785 G6), #1 Linux 4 processor (DL585 G6), and both #1 and #2 Linux 2 processor (DL380 G6 and DL385 G6, respectively) results on the two-tier SAP SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0. (See Appendix A for configuration details)

**Heightened scalability with six-core processors**

**Figure 1:** The ProLiant DL785 G6 8 processor six-core server displays a 3.47x performance increase when it achieved 8,022 SAP SD Benchmark users (43,800 SAPS) compared to the 2-processor six-core result of 2,315 SAP SD Benchmark users (12,650 SAPS). See page 2 for Figure 1 configurations.

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**IMPROVED PERFORMANCE SCALABILITY**
across the board
2 processor, 4 processor, and 8 processor AMD Opteron servers.

Results as of 12/07/09, see: [http://www.sap.com/benchmark](http://www.sap.com/benchmark)

With the results in Figure 1, HP ProLiant AMD Opteron servers demonstrate that the ProLiant DL785 G6, DL585 G6, and DL385 G6 are first class platforms for scalability.
**What are the customer benefits of the HP ProLiant rack servers with SAP applications?**

With the HP ProLiant AMD Opteron servers running SAP applications that optimize business operations, no matter where they’re located or who they involve, customers can deliver their services while operating their environment—without compromising reliability, performance, or growth.

These multi-processor ProLiant servers provide a great scale-up deployment platform. From 2 to 8 processor systems, the HP ProLiant AMD Opteron server line with SAP applications offers customers an excellent high-performance, multi-operating system infrastructure required for today’s adaptive enterprises.

**How we did it**

**Figure 1 configurations:** The SAP SD Standard Application Benchmarks were performed on Nov. 17, Nov. 22, and Nov. 20, 2009 by HP in Marlboro, Massachusetts, USA, on the ProLiant DL785 G6, the ProLiant DL585 G6, and the ProLiant DL385 G6 respectively, on the SAP enhancement package 4 for SAP ERP 6.0 (Unicode) running SUSE Linux Enterprise Server 10 SP2, 64-bit operating system, and MaxDB 7.8 database. The HP ProLiant DL785 G6 **(certification #2009052)** achieved 8,022 SAP SD Benchmark users, equivalent to a throughput of 2,628,000 fully processed order line items per hour or 43,800 SAPS. The HP ProLiant DL585 G6 **(certification #2009051)** achieved 4,370 SAP SD Benchmark users, equivalent to a throughput of 1,431,465 fully processed order line items per hour or 23,850 SAPS. The HP ProLiant DL385 G6 **(certification #2009050)** achieved 2,315 SAP SD Benchmark users, equivalent to a throughput of 758,970 fully processed order line items per hour or 12,650 SAPS. HP received certification from SAP AG of all the results on the two-tier SAP SD Standard Application Benchmark with SAP enhancement package 4 for SAP ERP 6.0.

The **ProLiant DL785 G6** was configured with eight six-core AMD Opteron 8439 SE 2.8Gz processors (8 processors/ 48 cores/ 48 threads), 6MB L3 cache per processor, and 128GB main memory. The servers also utilized 1 x HP Smart Array P400 Controller connected to 8 x 72GB 15K SAS hot-plug internal drives, and 2 x HP Smart Array P800 Controllers with 50 x 72GB 15K SAS hot-plug external drives.

The **ProLiant DL585 G6** was configured with four six-core AMD Opteron 8439 SE 2.8Gz processors (4 processors/ 24 cores/ 24 threads), 6MB L3 cache per processor, and 64GB main memory. The servers also utilized 1 x HP Smart Array P410i Controller connected to 8 x 72GB 15K SAS hot-plug internal drives, and 1 x HP Smart Array P800 Controllers with 25 x 72GB 15K SAS hot-plug external drives.

The **ProLiant DL385 G6** was configured with two six-core AMD Opteron 2435 2.6GHz processors (2 processors/ 12 cores/ 12 threads), 6MB L3 cache per processor, and 48GB main memory. The servers also utilized 1 x HP Smart Array P410i Controller connected to 8 x 72GB 15K SAS hot-plug internal drives, and 1 x HP Smart Array P800 Controllers with 25 x 72GB 15K SAS hot-plug external drives.


**HP and SAP**

HP ProLiant servers have proven to be reliable and cost-effective. HP servers host nearly half of all installations of SAP solutions, with more than 60,000 installations and 25,000 customers.

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**Technology for better business outcomes**

To learn more, visit

- ProLiant DL785 G6: [www.hp.com/servers/proliantdl785g6](http://www.hp.com/servers/proliantdl785g6)
- ProLiant DL585 G6: [www.hp.com/servers/proliantdl585g6](http://www.hp.com/servers/proliantdl585g6)
- ProLiant DL385 G6: [www.hp.com/servers/proliantdl385g6](http://www.hp.com/servers/proliantdl385g6)
- ProLiant benchmarks: [www.hp.com/servers/proliant/benchmarks](http://www.hp.com/servers/proliant/benchmarks)

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# Appendix A

## 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 DL785 G6, 8 processors, six-core AMD Opteron 8439 SE 2.8GHz (8/48/48), 128GB RAM</td>
<td>2009052</td>
<td>SUSE Linux Enterprise Server 10 SP2 (64-bit), MaxDB 7.8, SAP enhancement package 4 (Unicode) for SAP ERP 6.0</td>
<td>8,022</td>
<td>2,628,000</td>
<td>43,800</td>
</tr>
<tr>
<td>HP ProLiant DL585 G6, 4 processors six-core AMD Opteron 8439 SE 2.8GHz (4/24/24), 64GB RAM</td>
<td>2009051</td>
<td>SUSE Linux Enterprise Server 10 SP2 (64-bit), MaxDB 7.8, SAP enhancement package 4 (Unicode) for SAP ERP</td>
<td>4,370</td>
<td>1,431,465</td>
<td>23,850</td>
</tr>
<tr>
<td>HP ProLiant DL380 G6 2 processors, QuadCore Intel Xeon X5570 2.93GHz, (2/8/16), 48GB Ram</td>
<td>2009006</td>
<td>SUSE Linux Enterprise Server 10, MaxDB 7.8 database, SAP enhancement pack 4 (Unicode) for SAP ERP 6.0</td>
<td>3,171</td>
<td>347,670</td>
<td>17,380</td>
</tr>
<tr>
<td>HP ProLiant DL385 G6 2 processors six-core AMD Opteron 2435 2.6GHz (2/12/12), 32GB RAM</td>
<td>2009050</td>
<td>SUSE Linux Enterprise Server 10 SP2 (64-bit), MaxDB 7.8, SAP enhancement pack 4 (Unicode) for SAP ERP 6.0</td>
<td>2,315</td>
<td>758,970</td>
<td>12,650</td>
</tr>
</tbody>
</table>