Executive summary

The HP ProLiant DL385 with the latest ProLiant Generation 7 technology, AMD Opteron 6176SE Processors, on the two-tier SAP® Sales and Distribution (SD) standard application benchmark with SAP enhancement package 4 for the SAP ERP application 6.0, executed an outstanding result that had 87% greater performance over its previous generation result. With HP Converged Infrastructure, a full portfolio of standards-based integrated solutions and services developed specifically to solve the complexities of the data center, the ProLiant DL385 G7 earned 4,394 SAP SD benchmark users with 24,020 SAPS, a #1 2-processor, 24-core result on the two-tier SAP SD standard application benchmark.

Key Take Aways:

- New ProLiant Generation 7 technology delivers outstanding performance, scalability.
- Proof point of greater performance with 12-core AMD Opteron 6176SE Processors for demanding scale-out applications in a business environment.
- 87% greater performance from six-core to 12-core processors.
- Leading performance result for 2 processor, 24-cores

Compelling performance, scalability outcome with 12-core processors

Figure 1: The ProLiant DL385 G7 12-core rack server shows 87% greater performance when it achieved 4,394 SAP SD benchmark users (24,020 SAPS) compared to its previous generation and six-core result of 2,350 SAP SD benchmark users (12,830 SAPS). See page 3 for Figure 1 configurations and Appendix A on page 4 for comparison minimum data.

1 Increased performance derived from comparing HP ProLiant DL385 G7 12-core 2.3GHz to six-core DL385 G6 2.6GHz. See Appendix A on page 4 for comparison minimum data.
What this means for customers
The challenge of virtually every IT organization is similar: to develop and maintain an agile, efficient server infrastructure that delivers the service levels of customers’ business needs, and that unleashes the potential of their data centers and the people within them.

With SAP software, customers enjoy the benefits of:
• Basic information provided to configure and size SAP Business Suite software
• Users allowed to compare different platforms
• Proof-of-concepts scenarios enabled
• An outlook provided for future performance levels (new platforms, new servers, and so on)

Business transformation:
HP is at an inflection point where our technology is coming together to help our clients build the data center of the future, and it will be based on a Converged Infrastructure. HP is uniquely positioned to build the Converged Infrastructure because HP is the only company to offer a full portfolio of standards-based, integrated solutions, and services developed specifically to solve the complexities of the data center. HP is also the only company that can deliver a single common, modular architecture across the data center from x86 to Superdome. This means that companies can use the same architecture to run and manage multiple workloads across servers, storage and networking. This significantly reduces complexity, resource requirements, and costs.

Customer benefits of using SAP software and HP ProLiant servers
Leading companies realize that to succeed, they must deploy strategies faster than the competition – and close the gap between strategic goals and operational execution. With platform technology from SAP AG, customers can keep their competitive edge with agile operations that can support continuous business improvement.

SAP standard application benchmarks test the hardware and database performance of SAP applications and components. The SAP SD standard application benchmark covers a sell-from-stock scenario, which includes the creation of a customer order with five line items and the corresponding delivery with subsequent goods movement and invoicing.

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 and 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 worldwide. HP’s strong technology capabilities are demonstrated through the result of this benchmark.

All results as of 03-29-2010. Details can be found at http://www.sap.com/benchmark.

Why the ProLiant DL385 is the world’s best-selling Opteron server
The HP ProLiant DL385, also known as the versatile, dependable workhorse, is the world’s best-selling rack Opteron server, maintaining its dominant share in the 2U, 2P market with new G7 benefits in its rack server format that allows for greater system efficiency, flexibility, and scalability.

Key Benefits
• Eight- and 12-core AMD Opteron 6100 Series performance for demanding scale-out applications and virtualization projects
• Ideal for virtualization with up to 24 DIMMs and four NIC ports
• Industry-leading management enables powerful administration
• Engineered for reliability and ease of ownership
Bottom line

The ProLiant Advantage. Small and large Enterprise businesses alike know they can rely on the HP ProLiant family of services and solutions for greater data center efficiency and greater control over their systems. HP ProLiant provides thought-leading innovations and high performance benchmark results that can give businesses a competitive edge.

Benchmark configurations

HP received certification from SAP AG of the results of the ProLiant DL385 G7 Server Blade on the two-tier SAP SD standard application benchmark (Certification #20100015). The HP ProLiant DL385 G7 was set up as a 12-processor system with two 2.3GHz AMD Opteron™ Processor (2 processors/24 cores/24 threads), with 128KB L1 cache per core, 512KB L2 cache per core, 6MB L3 cache per 6 cores, and 128GB main memory (16 x 8GB PC3-10600 DIMMs, 1333MHz). The server was also configured with one Smart Array P411 Controller connected to 8 x 72GB 15K SAS SFF internal drives and one Smart Array P411 Controller connected to an MSA70 with 25 x 72GB 15K SAS SFF external drives. The server was running Windows Server 2008 Enterprise Edition x64 operating system, SQL Server 2008 Enterprise Edition x64 database, and SAP enhancement package 4 for SAP ERP 6.0 (7.01 kernel) patch 31 (Unicode). The HP ProLiant DL385 G7 achieved 4,394 SAP SD benchmark users, equivalent to a throughput of 480,330 fully processed order line items per hour or 24,020 SAPS. All results as of 03-29-10; details can be found at http://www.sap.com/benchmark.

About the SAP SD standard application benchmark with SAP enhancement package 4 for SAP ERP 6.0

The SAP SD standard application benchmark covers a sell-from-stock scenario, which includes the creation of a customer order with five line items and the corresponding delivery with subsequent goods movement and invoicing. 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 standard application benchmark, or 2,400 SAP transactions. In the SAP SD standard application 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, changing the delivery, posting a goods issue, listing orders, and creating an invoice.

For more information check out:

HP ProLiant www.hp.com/servers/
SAP: www.sap.com

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Appendix A

Appendix – 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 (processors/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 G7, 2 processors, 12-core AMD Opteron Processor 6176SE, 2.93GHz (2/24/24), 128GB RAM</td>
<td>2010015</td>
<td>Windows Server 2008 Enterprise Edition (EE) x64, SQL Server 2008 EE x64, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>4,394</td>
<td>480,330</td>
<td>24,020</td>
</tr>
</tbody>
</table>