HP ProLiant BL460c G6 performance result tells outstanding scalability story with the two-tier SAP® Sales and Distribution (SD) standard application benchmark with SAP enhancement package 4 for SAP ERP 6.0

Outcome another reason why the ProLiant BL460c is the most popular blade in the world

March 2010

Executive summary
With an excellent performance benchmark result of 4,705 SAP® Sales and Distribution (SD) users with 25,700 SAPS, the ProLiant BL460c G6 Blade Server displayed compelling scalability with 37.7% greater performance over its previous result on the SAP SD standard application benchmark with SAP enhancement package 4 for the SAP ERP application 6.0. With HP Converged Infrastructure and new Intel Xeon x5670 2.93GHz six-core processors, the blade server earned a significant score in performance.

Key Take Aways:
► With enterprise-class features for high performance and reliability, the HP ProLiant BL460c G6 delivers outstanding performance scalability.
► Proof point of increased performance and durability for demanding scale-out applications in a business environment.
► Increased performance 37.7% from quad-core to six-core processors.

Heightened scalability with six-core processors

Figure 1: The ProLiant BL460c G6 six-core server blade demonstrates a 37.7x performance increase when it achieved 4,705 SAP SD benchmark users (25,700 SAPS) compared to its previous quad-core result of 3,415 SAP SD benchmark users (18,670 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 BL460c G6 six-core 2.93GHz to quad-core BL460c G6 2.93GHz. 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:** The ProLiant BL460c G6 blade server, along with its converged infrastructure that unifies software, servers, storage, and networking, and with the addition of SAP software, improves business, application, and infrastructure functions. This solution simplifies management of complex technology environments. Further, organizations are able to use the individual components of their data centers in a synergistic manner, reducing costs, and accelerating business growth. Businesses no longer have to wait 12, 15, or 18 months to bring a new application into production; IT can now move at the speed of the businesses.

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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, 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 AG, 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 03-26-2010. Details can be found at [http://www.sap.com/benchmark](http://www.sap.com/benchmark).

Why the ProLiant BL460c is the most popular blade in the world

*It’s not called the industry-standard server for nothing*
- **It’s trusted.** The HP BL460c is the most popular blade in the world, representing 1 in 4 of all new blades deployed1
- **It gives high performance:** New high-performance Intel Xeon 5600 series processors and 10 gigabit Ethernet adapters.
- **It has high capacity:** Up to 192GB of memory
- **It has flexibility:** Storage options include hot-plug SAS drives, iHypervisors, Direct Attach shared storage, iSCSI & SAN attach, and more
- **It has innovative Fine-Tune Networking:** Flex-10 Technology to reduce network costs
- **It has more control and efficiency:** Power Capping and Insight Dynamics – VSEA

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1 IDC Worldwide Server Tracker, Q409, by unit volume
Bottom line

The ProLiant Advantage. HP ProLiant provides thought-leading innovations and high performance benchmark results that can give businesses a competitive edge. Add the ProLiant BL460c G6 + HP Converged Infrastructure + SAP software and customers will realize what an asset the solution is for mission critical business applications.

Benchmark configurations

HP received certification from SAP AG of the results of the ProLiant BL460c G6 Server Blade on the two-tier SAP SD standard application benchmark (Certification #2010009). The HP ProLiant BL460c G6 was set up as a six-processor system with two 2.93GHz Intel Xeon X5670 processors (2 processors/12 cores/24 threads), with 64KB L1 cache and 256KB L2 cache per core, 12MB L3 cache per processor, and 96GB main memory (12 x 8GB PC3-10600 DIMMs 1333MHz). The server was also configured with one Smart Array P410 controller connected to 2 x 72GB 15K SAS LFF external drives. The server was running Windows Server 2008 Enterprise Edition operating system, SQL Server 2008 database, and the SAP enhancement package 4 for SAP ERP 6.0 (7.01 kernel) patch 31 (Unicode). The HP ProLiant BL460c G6 achieved 4,705 SAP SD benchmark users, equivalent to a throughput of 514,000 fully processed order line items per hour or 25,700 SAPS. All results as of 03-26-10; 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 (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 BL460c G6, 2 processors, six-core Intel Xeon X5670 2.93GHz (2/12/24), 96GB RAM</td>
<td>2010009</td>
<td>Windows Server 2008 Enterprise Edition, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>4,705</td>
<td>514,000</td>
<td>25,700</td>
</tr>
</tbody>
</table>

Page 1 – Heightened scalability with six-core processors graph