HP ProLiant BL685c G6 Server Blade achieves #1 four-processor result on the two-tier SAP® Sales and Distribution Standard Application Benchmark with the SAP enhancement package 4 for SAP ERP 6.0

HP leadership with ProLiant servers

The new generation HP ProLiant BL685c G6 Server Blade is a four-processor capable server blade built for performance intensive applications and virtual environments. With HP ProLiant G6 server blades, customers get outstanding and competitive features that combine to provide:

- Leading energy and power efficiency
- Cost-saving management and virtualization
- Dependable performance

Customer value

Q: What are the benefits of using HP ProLiant server blades and 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 BladeSystem infrastructures offer a highly flexible and scalable environment that enables enterprises to embrace change while dramatically reducing their total cost of ownership, and especially so with the new G6 platforms.

HP’s strong technology capabilities are demonstrated through the results of these benchmarks.


Technology for better business outcomes

Key points regarding this BL685c G6 performance result on two-tier SAP® Sales and Distribution (SD) Standard Application Benchmark

- The HP ProLiant BL685c G6 earned a #1 four-processor result on the two-tier SAP Sales and Distribution (SD) Standard Application Benchmark with SAP enhancement package 4 for the SAP ERP 6.0 application on Windows, achieving 4,422 SAP SD Benchmark users with 24,230 SAPS.

- With SAP enhancement package 4 for SAP ERP 6.0, the HP ProLiant BL685c G6 4 processors/24 cores/24 threads result achieved more than twice the performance of the 4 processors/16 cores/16 threads Dell PowerEdge M905 result and just 63 fewer SAP SD Benchmark users than the 8 processors/48 cores/48 threads result of the NEC Express5800 A1160.

- With SAP enhancement package 4 for SAP ERP 6.0, the performance scalability for Six-Core processors for the ProLiant BL685c G6 was 42% better when compared to its previous Quad-Core result.

- Comparing the 2-processor/12-core BL465c G6 configuration (2,355 SAP SD Benchmark users) to the 4-processor/24-core BL685c G6 configuration (4,422 SAP SD Benchmark users) shows six-core two-processor to four-processor scaling of 87.7%. See Page 2 and Appendix for all details.

Figure 1. Current four-processor results on two-tier SAP SD Standard Application Benchmark for servers running SAP enhancement package 4 for SAP ERP 6.0 (comparative details in Appendix)¹

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¹ All results as of 05-29-09. Details in Appendix.
Interpreting the performance results

**Comparison to 8-processor result with SAP enhancement package 4 for SAP ERP 6.0**

The HP ProLiant BL685c G6 result is just 63 SAP SD Benchmark users less than the result of the 8-processor/48-core NEC Express5800A 1160.

Figure 2. Comparison of four-processor HP ProLiant BL685c G6 with NEC Express5800 A1160 on the two-tier SAP SD Standard Application Benchmark running SAP enhancement package 4 for SAP ERP 6.0 (comparative details in Appendix)

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**HP performance scalability increases**

**Six-Core technology**

In addition to achieving leading four-processor performance results on the two-tier SAP SD Standard Application Benchmark on Windows, the HP ProLiant BL685c G6 Server Blade showed excellent performance scalability results with Six-Core processors as compared to the a previous result with Quad-Core processors as well as excellent four-processor performance scalability results as compared to a two-processor HP ProLiant BL465c G6 result.

The HP ProLiant BL685c G6 showed a 42% increase in performance going from the Quad-Core AMD Opteron processor Model 8389 result of 3,118 SAP SD Benchmark users (17,050 SAPS) to a Six-Core AMD Opteron processor Model 8435 result of 4,422 SAP SD Benchmark users (24,230 SAPS). See Figure 3. The HP ProLiant BL685c G6 also showed a two-processor to four-processor scalability increase of 87.7% compared to the Six-Core result of 2,355 SAP SD Benchmark users (12,870 SAPS) achieved with the two-processor HP ProLiant BL465c G6. See Figure 4.

All results as of 05-29-09. Details in Appendix.

SAP Enhancement Package 4 for SAP ERP 6.0

On January 1, 2009, SAP upgraded the SAP SD Standard Application Benchmark to the SAP enhancement package 4 for SAP ERP 6.0, part of SAP Business Suite 7 software. These enhancements make the SAP SD Standard Application Benchmark more resource intensive, which has a direct impact on the numbers achieved in the benchmark run, according to SAP. The steps of the benchmark scenario remain unchanged. The updates include utilizing a Unicode codepage, a change in the sub one second response time to below one second, use of the new general ledger, and the activation of credit limit check functionality that marks a date of change for the SAP ERP benchmarks.¹

ProLiant server testing configurations

Tests were performed on the HP ProLiant BL685c G6 Server Blade by HP in Houston, TX, USA. HP received certification from SAP AG of the results on the two-tier SAP SD Standard Application Benchmark for the ProLiant BL685c G6 (Certification 2009021). The ProLiant BL685c G6 Server Blade was set up as a four-processor system with four 2.6-GHz Six-Core AMD Opteron processors Model 8435 (4 processors/24 cores/24 threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6MB L3 cache per processor, and 64 GB (16 x 4 GB) Registered DDR2 main memory. The server was running Microsoft Windows Server 2008 Datacenter Edition x64-64bit operating system, Microsoft SQL Server 2008 Enterprise Edition 64-bit database, and the SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The HP ProLiant BL685c G6 achieved 4,422 SAP SD Benchmark users, equivalent to a throughput of 1,454,000 fully processed order line items per hour or 24,230 SAPS. All results as of 05-29-2009; details can be found at http://www.sap.com/benchmark.

The HP difference

HP provides all of the tools and services required for customers to plan their deployment of the SAP ERP application as well as the best practices and experience to help implement the application successfully without disruption to business operations. Thousands of deployments of SAP solutions worldwide run mission-critical environments on HP servers. Unlike many other service providers, HP Services shares with customers its solid expertise in HP technology for flexible management, virtualization, consolidation, and integration of SAP solution-based environments. In addition, HP is a global SAP partner offering leading support for SQL implementations. HP’s SAP Consulting and Integration services practice also has strong expertise with SAP solution-based deployments, and hundreds of successful customer implementations.

SAP and HP Partnership

HP has been partnering with SAP AG for over 20 years and is one of the largest SAP customers in the world. In fact, SAP selected HP output management technology. Together, SAP and HP have created a remarkable legacy providing world-class business solutions to global clients. They offer a unique combination of open, flexible technologies and broad expertise. That’s why nearly half of the worldwide implementations of SAP applications run on HP infrastructure.

Appendix

¹Configuration details from Figure 1 versus ProLiant BL685c G6 Server Blade result with Six-Core processors

HP ProLiant DL585 G5 results on the two-tier SAP SD Standard Application Benchmark. The HP ProLiant DL585 G5 (Certification #2009004) was configured as a four-processor server with four 3.1-GHz Quad-Core AMD Opteron processors Model 8393 (4 processors/16 cores/16 threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6MB L3 cache per processor, and 64 GB (16 x 4 GB) Registered DDR2 main memory. The server was running Microsoft Windows Server 2008 Enterprise Edition operating system, Microsoft SQL Server 2008 Enterprise Edition database, and SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The HP ProLiant DL585 G5 achieved 3,430 SAP SD Benchmark users, equivalent to a throughput of 374,670 fully processed order line items per hour or 18,730 SAPS.

HP ProLiant BL685c G6 results on the two-tier SAP SD Standard Application Benchmark. The HP ProLiant BL685c G6 (Certification #2009007) was configured as a four-processor system with four 2.6-GHz Six-Core AMD Opteron processors Model 8435 (4 processors/24 cores/24 threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6MB L3 cache per processor, and 64 GB (16 x 4 GB) Registered DDR2 main memory. The server was running Microsoft Windows Server 2008 Enterprise Edition x64-64bit operating system, Microsoft SQL Server 2008 Enterprise Edition 64-bit database, and SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The HP ProLiant BL685c G6 achieved 3,118 SAP SD Benchmark users, equivalent to a throughput of 1,023,000 fully processed order line items per hour or 17,050 SAPS.

Dell PowerEdge M905 results on the two-tier SAP SD Standard Application Benchmark. The Dell PowerEdge M905 (Certification 2009017) was configured as a four-processor server with four 2.7-GHz Quad-Core AMD Opteron 8384 Processors (4 processors/16 cores/16 threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6 MB L3 cache per processor, and 98 GB main memory. The server was running Microsoft Windows Server 2003 Enterprise Edition operating system, Microsoft SQL Server 2005 data base, and SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The Dell PowerEdge M905 achieved 2,129 SAP SD Benchmark users, equivalent to a throughput of 374,670 fully processed order line items per hour or 11,770 SAPS.

²Configuration details from Figure 2 versus ProLiant BL685c G6 Server Blade result with Six-Core processors

NEC Express5800 A1160 results on the two-tier SAP SD Standard Application Benchmark. The NEC Express5800 A1160 (Certification #2009001) was configured as an eight-processor server with eight 2.66-GHz Intel Xeon ProcessorsX7460 (8 processors/48 cores/48 threads), with 64 KB L1 cache per core, 3 MB L2 cache per 2 cores, 16 MB L3 cache per processor, and 256 GB main memory. The server was running Microsoft Windows Server 2008 Datacenter Edition operating system, Microsoft SQL Server 2008 database, and SAP enhancement package 4 for SAP ERP 6.0.
The NEC Express5800 A1160 achieved 4,485 SAP SD Benchmark users, equivalent to a throughput of 505,670 fully processed order line items per hour or 25,280 SAPS.

3Configuration details from Figure 3 versus ProLiant BL685c G6 Server Blade result with Six-Core processors

HP ProLiant BL685c G6 Quad-Core results on the two-tier SAP SD Standard Application Benchmark. The HP ProLiant BL685c G6 (Certification #2009007) was configured as a four-processor system with four 2.6-GHz Six-Core AMD Opteron processors Model 8435 (4 processors/16 cores/16 threads), with 128 KB L1 cache and 512 KB L2 cache per core, 6MB L3 cache per processor, and 64 GB (16 x 4 GB) Registered DDR2 main memory. The server was running Microsoft Windows Server 2008 Enterprise Edition x64-64 bit operating system, Microsoft SQL Server 2008 Enterprise Edition 64-bit database, and SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The HP ProLiant BL685c G6 achieved 3,118 SAP SD Benchmark users, equivalent to a throughput of 1,023,000 fully processed order line items per hour or 17,050 SAPS.

4Configuration details from Figure 4 versus ProLiant BL685c G6 Server Blade result with Six-Core processors

HP ProLiant BL465c G6 results on the two-tier SAP SD Standard Application Benchmark. The HP ProLiant BL465c G6 (Certification #2009020) was configured as a two-processor system with two 2.6-GHz Six-Core AMD Opteron processors Model 2435 (2 processors/12 cores/12 threads), with 128KB L1 cache per core, 512KB L2 cache per core, and 6MB L3 cache per processor, and 32GB main memory. The server was running Microsoft Windows Server 2008 Enterprise Edition operating system, Microsoft SQL Server 2008 database, and the SAP enhancement package 4 for SAP ERP 6.0 (Unicode). The HP ProLiant BL465c G6 achieved 2,355 SAP SD Benchmark users, equivalent to a throughput of 257,330 fully processed order line items per hour or 12,870 SAPS. The server also utilized 1 x Smart Array P200i Controller with 64MB BBWC attached to 2 x 146GB, 10K SAS internal drives and 1 x QLogic Fibre Channel HBA attached to a Modular Smart Array 2012fc (MSA2012fc) with 12 x 72GB, 15K SAS external drives.

For more information
HP ProLiant BL685c G6: http://www.hp.com/servers/bl685c
HP ProLiant BL465c G6: http://www.hp.com/servers/bl465c

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