



SAP SD Standard Application Performance Brief

HP ProLiant DL580 G7 performance result shows excellent performance and scalability on two-tier SAP® sales and Distribution (SD) standard application benchmark with SAP enhancement package 4 for SAP ERP 6.0



Combining manageability and reliability for powerful 4-processor performance

June 2010

Executive summary

In addition to earning an outstanding score in 4-processor performance, the new HP ProLiant DL580 G7 displayed powerful scalability with **over 2X greater performance** compared to its 2-processor performance and **with over 3X greater performance** comparing 4-processor generation to generation on the two-tier SAP® Sales and Distribution (SD) standard application benchmark with SAP enhancement package 4 for the SAP ERP application 6.0 (see Appendix A for minimum data). With its performance advantages, the ProLiant DL580 G7 attained 10,445 SAP SD benchmark users with 57,020 SAPs.

Key Take Aways:

- ▶ With enterprise-class features for high performance and reliability, the HP ProLiant DL580 G7 delivers outstanding performance scalability
- ▶ Over TWICE the performance when scaling from 2 processors to 4 processors with the new ProLiant G7 technology (see Appendix A for minimum data)
- ▶ Only HP delivers the most comprehensive portfolio of scale-up servers combining mission-critical and x86 expertise and technologies from an industry leader in both technologies.
- ▶ Over 3X the performance when scaling from generation to generation (see Appendix A for minimum data)
- ▶ Matched up performance when compared with similarly configured competitive systems (see Appendix A for minimum data)

Increased performance scalability two different ways!

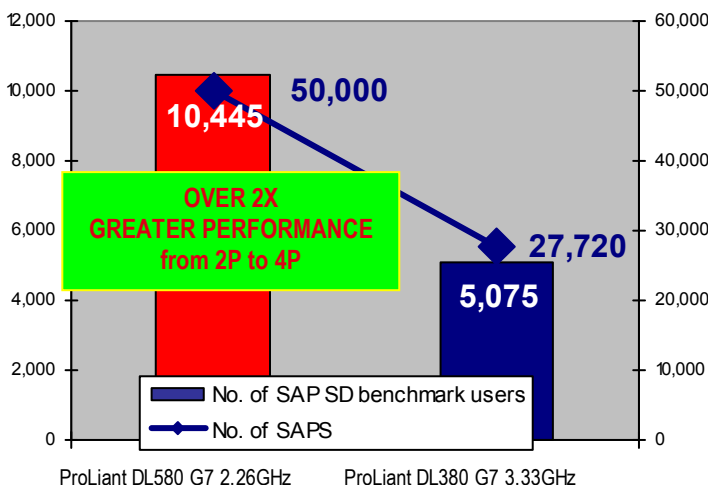


Figure 1: Increased performance derived from comparing the HP ProLiant DL580 G7 (4 processors, 32 core / 64 threads) server to the HP ProLiant DL380 G7 (2 processors, 12 cores / 24 threads) server. See Appendix A on page 3 for comparison minimum data.

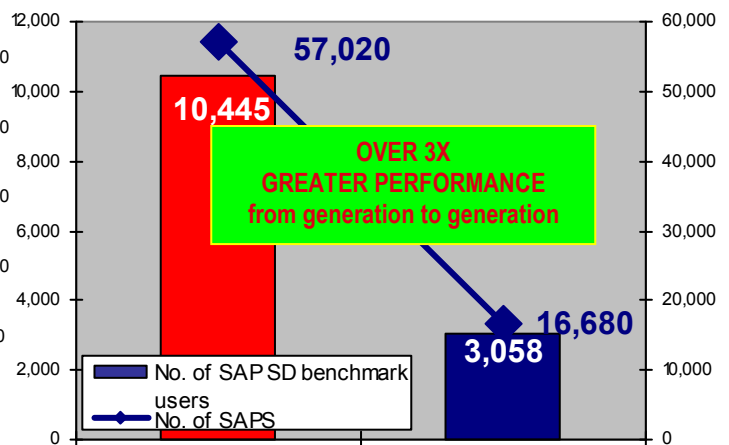


Figure 2: Increased performance derived from comparing the HP ProLiant DL580 G7 (4 processors, 32 cores / 64 threads) server to the HP BL680c G5 (4 processors, 24 cores / 24 threads) server. See Appendix A on page 3 for comparison minimum data.



What this means for customers

HP is enhancing the industry's #1 x86 portfolio with a new class of scale-up systems optimized for the most demanding, data-intensive x86 workloads and providing a foundation for a converged infrastructure. The new **HP ProLiant DL580 G7 is the ideal scale-up 4P server** designed with the reliability required for the most demanding, data-intensive workloads. The all-new DL580 G7 combines best-in-class HP performance, manageability, and reliability features with the latest Intel processor technology and is an ideal choice for mission-critical data center deployments and virtualization environments.

vs. Competitive Systems

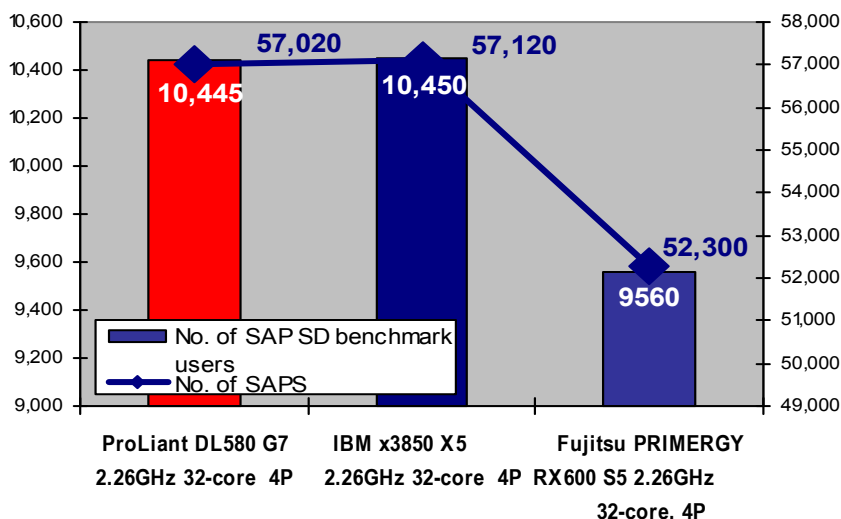


Figure 3. The HP ProLiant DL580 G7 performs at a high level when compared to similarly configured competitive systems that include the IBM x3850 X5 and the Fujitsu PRIMERGY RX600 S5. See Appendix A on page 3 for comparison minimum data.

Customer benefits of using SAP software and HP ProLiant servers

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 percent 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.

For more information check out:

HP ProLiant www.hp.com/servers/

HP Converged Infrastructure: <http://h18004.www1.hp.com/products/solutions/converged/overview.html>

SAP: www.sap.com

Benchmark configurations

HP received certification from SAP AG of the results of the ProLiant DL580 G7 rack server on the two-tier SAP SD standard application benchmark (Certification #20100XX). The HP ProLiant DL580 G7 was set up as a four-processor system with four 2.26GHz Intel Xeon X7560 processors (4 processors/32 cores/64 threads), with 64KB L1 cache and 256KB L2 cache per core, 24MB L3 cache per processor, and 256GB main memory (64 x 4GB DIMMs). The server was also configured with one onboard Smart Array P410 Controller connected to 8 x 72GB 6b 15K SAS SFF drives. The external Smart Array P411 Controller was connected to 25 x 72GB 6b 15K SAS SFF external drives in an MSA70. 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. The HP ProLiant DL580 G7 achieved 10,445 SAP SD benchmark users and 57,020 SAPS. All results as of 06-18-10; 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. 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 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.

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

Page 1, Figure 1 – Heightened scalability comparing four processors to two processors

Platform, processor type (chips/cores/threads), memory	Certification Number	OS, database, and SAP software	SAP SD benchmark users	SAPS
HP ProLiant DL580 G7, 4 processors, Intel Xeon X7560 2.26GHz (4/32/64), 256GB RAM	2010027	Windows Server 2008 Enterprise Edition, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	10,445	57,020
HP ProLiant DL380 G7, 2 processors, Intel Xeon X5680 3.33GHz (2/12/24), 96GB RAM	2010019	Windows Server 2008 Enterprise Edition, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	5,075	27,720

Page 1, Figure 2 – Heightened scalability compared generation to generation

HP ProLiant 680c G5, 4 processors, Intel Xeon X7458 2.4GHz (4/24/24), 64GB RAM	2009032	Windows Server 2008 Enterprise Edition, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	3,058	16,680
--	-------------------------	--	-------	--------

Page 2, Figure 3 – ProLiant DL580 G7 compared to similarly configured four-processor systems

IBM x3850 X5 4 processors, Intel Xeon X7560 2.26GHz (4/32/64), 256GB RAM	2010012	Windows Server 2008 Enterprise Edition, DB2 9.7, SAP enhancement package 4 for SAP ERP 6.0	10,450	57,120
Fujitsu PRIMERGY RX600 S5, 4 processors, Intel Xeon X7560 2.26GHz (4/32/64), 256GB RAM	2010017	Windows Server 2008 R2 Datacenter Edition, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	9,560	52,300

© 2010 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. ProLiant is a trademark of Hewlett-Packard Development Company. SAP and all SAP logos are trademarks or registered trademarks of SAP AG in Germany and several other countries. AMD and AMD Opteron are trademarks of Advanced Micro Devices, Inc. Intel, Intel Itanium, and Intel Xeon are trademarks of Intel Corporation in the U.S. and other countries. Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. June 2010