

## HP ProLiant DL980 G7 eight processor + Microsoft Windows and SQL Server = Leadership Performance and Winning Combination for Users of SAP® Solutions

The ProLiant DL980 G7 server continues to be the #1 performance leader on the two-tier SAP® Sales and Distribution (SD) standard application benchmark with the latest Microsoft SQL Server eight-processor Windows performance result

May 2011

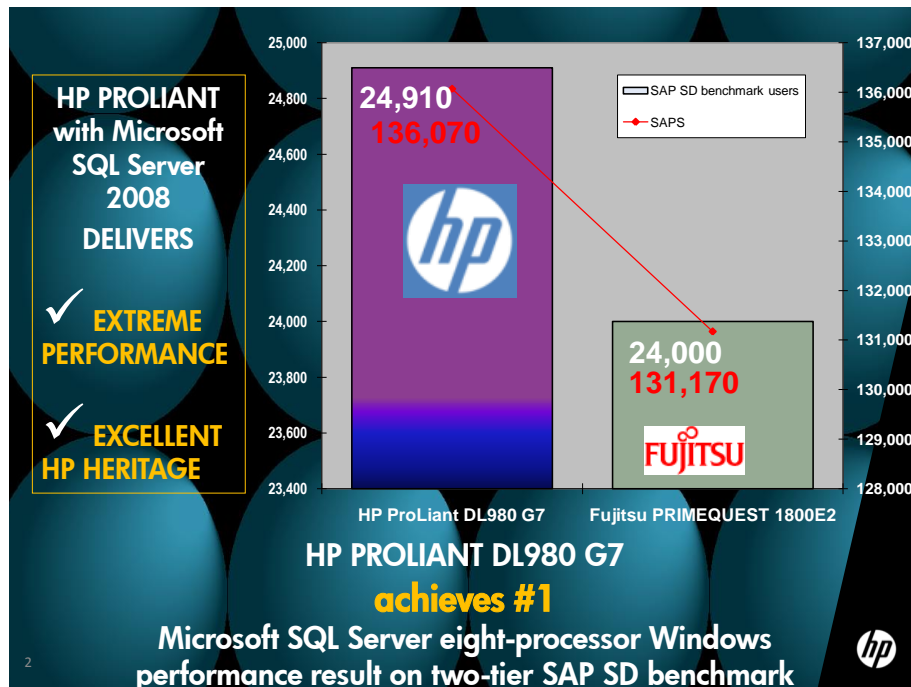
### Summary

The HP ProLiant DL980 G7 server with the HP PREMA Architecture earned the #1 performance with its eight-processor Windows, with Microsoft SQL Server 2008, result on the two-tier SAP® Sales and Distribution (SD) standard application benchmark. Along with its leadership performance, the ProLiant DL980 G7 with the HP PREMA Architecture offers almost linear balanced scalability for Microsoft SQL Server from four processors to eight processors at 1.8X performance gain. The server achieved a superior performance result of 24,910 SAP SD benchmark users and 136,070 SAPS with SAP enhancement package 4 for the SAP ERP application 6.0, besting eight-processor competitors, including Fujitsu. (See Figure 1 and Appendix A for minimum data comparison.)

### Key Take Aways

- ▶ **HP ProLiant DL980 G7 achieved the #1 eight-processor Windows, with Microsoft SQL Server 2008, result on the two-tier SAP SD standard application benchmark**
- ▶ **HP PREMA Architecture enabled balanced scaling with 1.8X performance gained when scaling the number of SAPS from four processors to eight processors** (See Figure 2 and Appendix A for minimum data comparison)
- ▶ **Microsoft SQL Server 2008 on the ProLiant DL980 G7 E7-4870 performed with 1.3X performance gained when comparing to the ProLiant DL980 based on Intel Xeon 7500 Series Processors** (See Figure 3 and Appendix A for minimum data comparison)
- ▶ **The HP ProLiant DL980 G7 achieved more SAP SD benchmark users than eight-processor Windows, with SQL Server 2008, competitor Fujitsu** (See Figure 1 and Appendix A for minimum data comparison)

**hp PREMA**  
Architecture



**Figure 1:** With 24,910 SAP SD benchmark users and 136,070 SAPS, the HP ProLiant DL980 G7 server result on the two-tier SAP SD standard application benchmark is just another proof point of performance excellence when compared to other eight-processor Windows, with Microsoft SQL Server 2008, competitors including Fujitsu.

(See Appendix A for minimum data comparison).

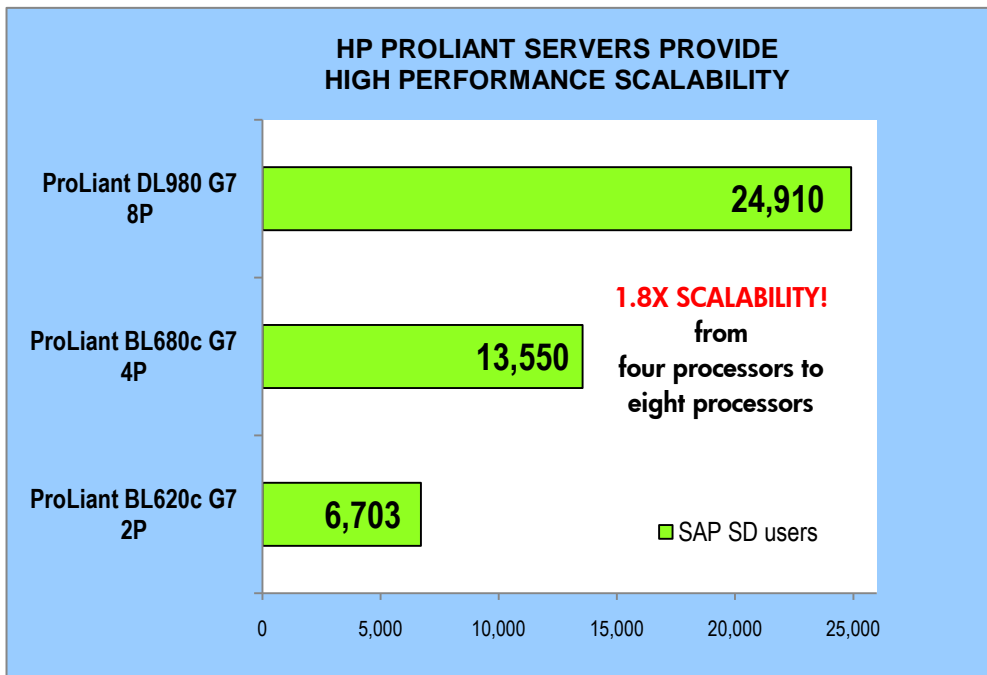
Note: All results noted were achieved on the two-tier SAP SD standard application benchmark and all servers shown ran SAP enhancement package 4 for SAP ERP 6.0 (Unicode). For more details, please visit: SAP benchmark details: <http://www.sap.com/benchmark> Results as of May 19, 2011.



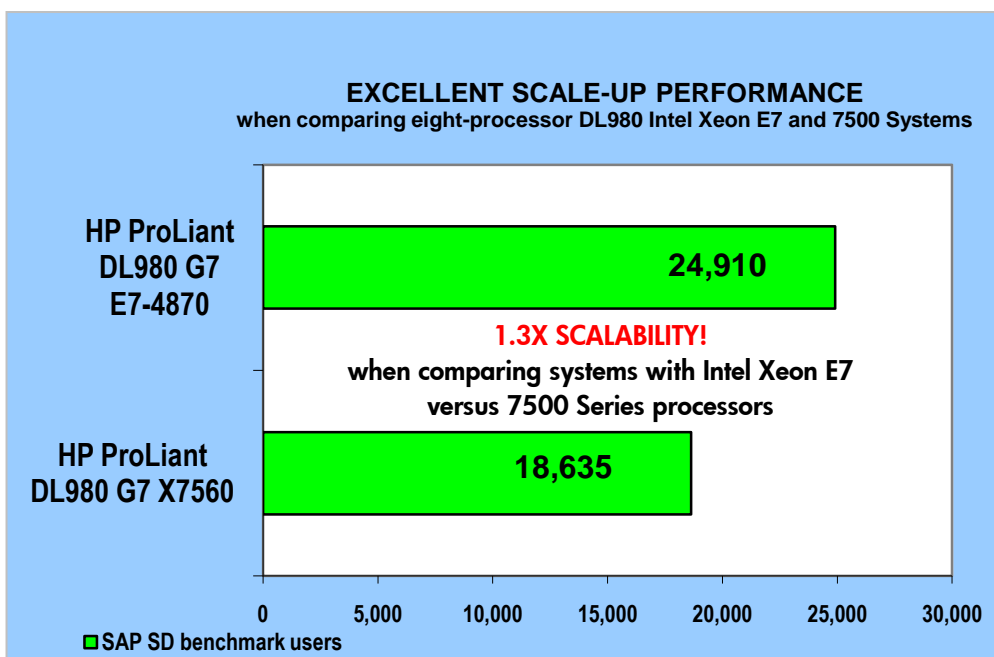
## ProLiant DL980 G7 with Microsoft Windows, SQL Server 2008 performs at its highest

With Microsoft Windows and SQL Server 2008 as the optimal operating system/database for deploying highly available, high-performance applications, the ProLiant DL980 G7 runs the most demanding and critical SAP applications and provides excellent performance scalability simultaneously. Because installations of SAP solutions are growing larger and more complex, businesses enjoy peace of mind knowing that the ProLiant DL980 G7 and SQL Server 2008 will perform at its highest, regardless of the deployment size. (See Figure 2 and Appendix A for minimum data comparison.)

In addition to outstanding benchmark performance outcomes, scalability results from the four-processor HP ProLiant BL620c G7 to the eight-processor HP ProLiant DL980 G7 showed 1.8X gain in processor performance. Also, a comparison of eight processors with current technology vs. its precedent technology confirm that scalability is consistently high in performance with ProLiant servers. (See Figure 3 and Appendix A for minimum data comparison.)



**Figure 2:** ProLiant servers deliver amazing performance scalability when upgrading from two processors to four-processor to eight processors. (See Appendix A for minimum data comparison.)



**Figure 3:** The ProLiant DL980 G7 also shows up to 1.3X performance gain when it progresses from previous Intel technology to current Intel technology. (See Appendix A for minimum data comparison.)



## The HP Converged Infrastructure Solution

### IT'S SIMPLE. IT'S AUTOMATED. IT'S TIME.

The HP ProLiant DL980 G7 is featured with Converged Infrastructure that eliminates the costly and rigid IT silos of the past by simplifying the data center – servers, storage, networking, power and cooling, and software are all managed through a central platform. Benefits include:

- Faster time to service
- Lower acquisition and implementation costs
- Double the utilization
- Reclaimed energy
- Streamlined management

HP has the expertise to deliver customers' Converged Infrastructure the way they want it – on-premise, outsourced, or via the cloud. Ultimately, **only HP** can bring it all together to build the data center of the future today that delivers a whole new level of simplicity, integration, and automation to accelerate business outcomes that matter.

### Benchmark configuration

HP received certification from SAP AG of the results of the ProLiant DL980 G7 server on the two-tier SAP SD standard application benchmark (certification #2011020), performed in Houston, Texas on May 19, 2011. The ProLiant DL980 G7 was configured as an eight-processor system with 2.40GHz 10-core Intel Xeon processors model E7-4870 (8 processors/80 cores/160 threads), with 64KB L1 cache, 256KB L2 cache per core, 30MB L3 cache per processor, and 512GB main memory.

The DL980 G7 server was also configured with one Smart Array P410i Controller connected to 8 internal drives (2 x 146GB 6GB DP 15K, 6 x 72GB 6GB DP 15K); one Smart Array Controller P411 connected to 25 external drives (25 x 72GB 6GB DP 15K) in a StorageWorks D2700; one Smart Array Controller P411 connected to 25 external drives (25 x 72GB 6GB DP 15K) in a StorageWorks D2700; and one NC365T Network adapter.

The server ran Microsoft Windows Server 2008 R2 Enterprise Edition x64 operating system, Microsoft SQL Server 2008 database, and SAP enhancement package 4 for SAP ERP 6.0. The HP ProLiant DL980 G7 result was 24,910 SAP SD benchmark users and 136,000 SAPS. Results as of May 19, 2011; details can be found at <http://www.sap.com/benchmark>.

### For more information, check out:

HP ProLiant DL980 G7:

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

SAP: [www.sap.com](http://www.sap.com).



# Appendix A – Two-tier SAP SD Standard Application Benchmark Results

Page 1. Figure 1. – Configuration details and certification numbers of eight-processor SQL Server 2008-based results

Platform, processor type (total processors/cores/threads), memory	Certification number	OS, database, and SAP software	SAP SD benchmark users	SAPS
HP ProLiant DL980 G7, eight processors, 10-core 2.40GHz Intel Xeon E7-4870 (8/80/160), 512GB RAM	<a href="#">2011020</a>	Microsoft Windows Server 2008 R2 Datacenter Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	24,910	136,070
Fujitsu PRIMEQUEST 1800E2, eight processors, 10-core, 2.40GHz Intel Xeon E7-8870 (8/80/160), 512GB RAM	<a href="#">2011017</a>	Microsoft Windows Server 2008 R2 Datacenter Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	24,000	131,170

Page 1. – Key Take Aways, Page 2 – Figures 2. – Performance Scalability Excellence

HP ProLiant BL680c G7, four processors, 10-core 2.40GHz Intel Xeon E7-4870, (4/40/80), 256GB RAM	<a href="#">2011016</a>	Microsoft Windows Server 2008 R2 Ent. Ed. x64, Microsoft SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	13,550	73,970
HP ProLiant BL620c G7, two processors, 10-core 2.40GHz Intel Xeon E7-2870 (2/20/40), 256GB RAM	<a href="#">2011014</a>	Microsoft Windows Server 2008 R2 Ent. Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	6,703	36,600

Page 1. – Key Take Aways, Page 2 – Figure 3. – Performance Scalability Excellence

Platform, processor type (total processors/cores/threads), memory	Certification number	OS, database, and SAP software	SAP SD benchmark users	SAPS
HP ProLiant DL980 G7, eight processors, 10-core 2.40GHz Intel Xeon E7-4870 (8/80/160), 512GB RAM	<a href="#">2011020</a>	Microsoft Windows Server 2008 R2 Datacenter Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	24,910	136,070
HP ProLiant DL980 G7, eight processors, 8-core 2.26GHz Intel Xeon X7560 (8/64/128), 512GB RAM	<a href="#">2010040</a>	Microsoft Windows Server 2008 R2 Datacenter Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0	18,635	101,720

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4AA3-4675ENW May 2011