HP ProLiant DL980 G7 is #1 Windows eight-processor performance leader on two-tier SAP® Sales and Distribution (SD) standard application benchmark

Earning OVER 100,000 SAPS!
(Equals over 2 MILLION fully business processed order line items per hour!)

October 4, 2010

Executive summary
The HP ProLiant DL980 G7 has achieved the #1 overall Windows eight-processor result on the two-tier SAP® Sales and Distribution (SD) standard application benchmark with SAP enhancement package 4 for the SAP ERP application 6.0. With 18,635 SAP SD benchmark users and 101,720 SAPS, this result outperforms similarly configured NEC Express5800 and Fujitsu PRIMEQUEST 1800E (see Figure 1 below and Appendix A for comparison minimum data).

Key Take Aways:
- New HP ProLiant DL980 G7 server with eight-processors achieves #1 Windows eight-processor performance.
- From 2.3% to 16.2% greater number of SAP SD benchmark users than similarly configured NEC Express5800 and Fujitsu PRIMEQUEST 1800E (see Figure 1 and Appendix A).
- HP’s newest ProLiant eight-processor server delivers 1.78X performance scaling compared to a ProLiant four-processor system (see Figure 2 and Appendix A for comparison minimum data).
- Proof that new ProLiant Generation 7 technology delivers leading performance.

A performance highlight: HP earns high results with 8-processor system

- #1 Windows performance by 8P HP ProLiant DL980 G7
- Up to 16.2% better performance than similarly-configured servers
- Excellent business application performance

Note: All results noted were achieved on the two-tier SAP® SD standard application benchmark and all servers 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 October 4, 2010.

Figure 1: The ProLiant DL980 G7 8-core server earned the #1 Windows eight processor performance result when it achieved 18,635 SAP SD benchmark users (101,720 SAPS).

See page 3 for Figure 1 configuration and Appendix A on page 4 for comparison minimum data.
Scale-up performance with two- to four- to eight-processor systems

The eight-processor ProLiant DL980 G7 server showed excellent multi-processor performance scalability results when compared to results with four processors and two processors.

Figure 2: Scaled performance derived from comparing HP ProLiant DL980 G7 eight-processor results to HP ProLiant DL580 G7 four-processor results and HP ProLiant DL380 G7 two-processor results. See Appendix A on page 4 for comparison minimum data.

Business transformation with HP Converged Infrastructure and ProLiant servers

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. 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.

The new ProLiant DL980 G7 eight-socket advantage

HP’s newest scale-up x86 workhorse, the HP ProLiant DL980 G7 server with the HP PREMA Architecture, delivers on HP’s key scale-up x86 server value proposition of balanced scaling, self-healing resiliency, and breakthrough efficiency. The server is optimized for the most demanding, data-intensive x86 workloads. HP PREMA Architecture heightens reliability, scalability, and performance for 8-socket, Intel Xeon X7500 Series processor systems by leveraging HP’s extensive mission-critical computing expertise to deliver the following key features in the HP ProLiant DL980 G7:

- **Smart CPU Caching**
  - Improved performance is enabled through a node controller, an HP unique hardware, which minimizes the inter-processor traffic and enables rapid access to local memory without requiring coordination across all the processors.

- **Redundant System Fabric**
  - Reduces communication errors on overloaded systems.

**Bottom line**

The ProLiant Advantage. HP ProLiant provides the thought-leading innovation that can give customers’ businesses a technology edge. With our continuous advancements in the science of server computing combined with new Intel Xeon technology and SAP software, HP can help you gain an IT advantage over your competitive rivals.
Benchmark configurations

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 #2010040) performed in Houston, Texas on September 24, 2010. The HP ProLiant DL980 G7 was set up as an eight-processor system with 2.26GHz 8-Core Intel Xeon X7560 processors (8 processors/64 cores/128 threads) and 512GB main memory (128 x 4GB PC3-10600 DIMMs, 1333MHz). The server was also configured with one Smart Array P410i Controller (onboard) connected to 8 x 72GB 15K SAS SFF internal drives and two Smart Array P411 Controllers each connected to a D2700 with 25 x72GB 15K SAS SFF external drives. The server was running Windows Server 2008 R2 Datacenter x64 Edition operating system, SQL Server 2008 Enterprise Edition x64 database, and SAP enhancement package 4 for SAP ERP 6.0. The HP ProLiant DL980 G7 achieved 18,635 SAP SD benchmark users, equivalent to a throughput of 2,034,330 fully processed order line items per hour or 101,720 SAPS. All results as of Oct. 4, 2010; details can be found at http://www.sap.com/benchmark.

For more information check out:
HP ProLiant 980 G7: www.hp.com/servers/proliantdl980g7
SAP: www.sap.com

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### Appendix A

**Page 1. Figure 1. – Configuration and Certification Number Details**

<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 DL980 G7, eight processors, 8-core, 2.26GHz Intel Xeon X7560 (8/64/128), 512GB RAM</td>
<td>2010040</td>
<td>Windows Server 2008 R2 Datacenter Ed. x64, SQL Server 2008 EE x64, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>18,635</td>
<td>2,034,330</td>
<td>101,720</td>
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<tr>
<td>NEC Express5800 Model A108a-E, eight-processors, 8-core, 2.26GHz Intel Xeon X7560 (8/64/128), 512GB RAM</td>
<td>2010034</td>
<td>Windows Server 2008 R2 EE, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>18,185</td>
<td>1,989,000</td>
<td>99,450</td>
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<tr>
<td>Fujitsu PRIMEQUEST 1800E eight processors, 8 core, 2.26GHz Intel Xeon X7560 (8/64/128), 512GB RAM</td>
<td>2010010</td>
<td>Windows Server 2008 R2 Datacenter Ed., SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>16,000</td>
<td>1,751,000</td>
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</table>

**Page 2. Figure 2. – Heightened scalability with eight processor/four processor/two processor comparison**

<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>
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</thead>
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<tr>
<td>HP ProLiant DL980 G7, eight processors, 8-core, 2.26GHz Intel Xeon X7560 (8/64/128), 512GB RAM</td>
<td>2010040</td>
<td>Windows Server 2008 R2 DC x64, SQL Server 2008 EE x64, SAP enhancement package 4 for SAP ERP 6.0</td>
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<td>2,034,330</td>
<td>101,720</td>
</tr>
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<td>HP ProLiant DL580 G7, four processors, 8-core, 2.26GHz Intel Xeon X7560 (4/32/64), 256GB RAM</td>
<td>2010032</td>
<td>Windows Server 2008 EE, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>10,490</td>
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<td>57,270</td>
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<tr>
<td>HP ProLiant DL380 G7, two processors, 6-core, 3.33GHz Intel Xeon X5680 (2/12/24), 96GB RAM</td>
<td>2010031</td>
<td>Windows Server 2008 EE, SQL Server 2008, SAP enhancement package 4 for SAP ERP 6.0</td>
<td>5,110</td>
<td>557,670</td>
<td>27,880</td>
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