HP ProLiant DL580 G5 with Quad-Core Intel® Xeon® MP 7350 processors delivers #1 four-processor Windows result on the two-tier SAP® Sales and Distribution Standard Application Benchmark

What's new with the latest DL580

- Quad core Intel Xeon MP
- 4 x FSB drops, 1033MHz
- 32 DIMM Slots for 256GB PC2-4200F 533MHz DDR2 FB DIMMs, mirrored and online spare memory
- 16 SFF HDD bays vs. 8
- Up to 11 PCI Slots, 8+3
- Embedded SA P400, BBWC
- Front LED diagnostics
- iLO 2 v1.30 support

Next generation 4P ProLiant DL580 G5 server with Quad-Core Intel Xeon processors takes 4P Windows performance leadership

Key results at a glance

- **ProLiant leadership with the #1 four-processor Windows operating system performance result on the two-tier SAP® Sales and Distribution (SD) Standard Application Benchmark.**
- **74% scalability with the new ProLiant DL580 G5 compared to the previous generation ProLiant DL580 G4 four-processor dual core benchmark result.[1]**
- **78% scalability compared to the ProLiant DL380 G5 latest two-processor quad core benchmark results.[2]**
- **Proven optimization of the latest HP ProLiant DL580 G5 server with Quad-Core Intel® Xeon® X7350 series processors.**

Figure 1. (Configurations and results on last page)[3]

HP ProLiant DL580 G5 and other results on two-tier SAP SD Standard Application Benchmark

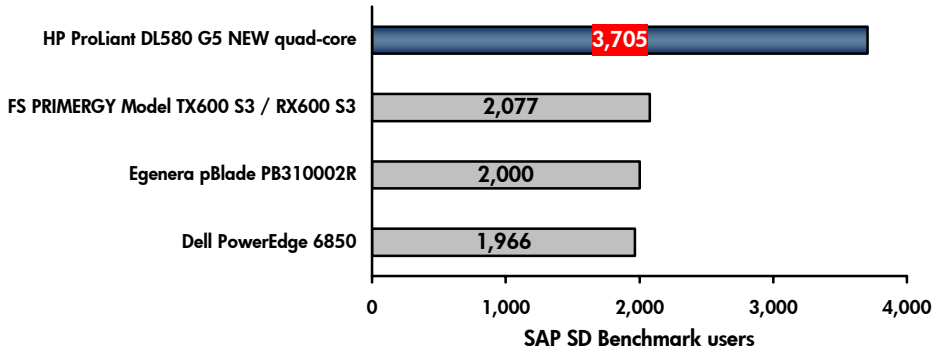
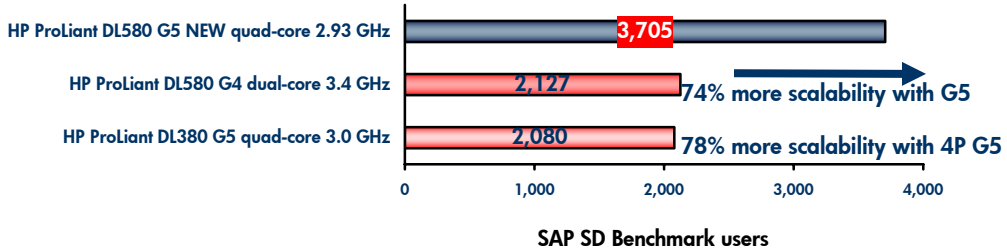


Figure 2. (Configuration and results on last page)[4]

HP ProLiant DL580 G5 quad-core scalability



More information about all servers listed in order of mention can be found at the following Web page: http://www.sap.com/benchmark. Results as of 09/03/07.

ProLiant DL580 G5 configuration

Tests were performed on the ProLiant DL580 G5 server (4 processors/16 cores/16 threads) by HP's Houston Solution Alliances SAP Engineering lab in Houston, TX. HP received certification from SAP AG of the results on the two-tier SAP SD Standard Application Benchmark for the ProLiant DL580 G5 (#2007056) on September 3, 2007. The server was running Microsoft Windows Server 2003 Enterprise Edition operating system, Microsoft SQL Server 2005 database, and the SAP ERP 6.0 application (formerly known as mySAP™ ERP 2005). The DL580 G5 was configured with 4 x 2.93/1067 Quad Core Intel Xeon Model MP X7350 processors, 16 x 4GB FBD PC2-5300 DIMMs (64GB Total), 1 x Smart Array P400i BBWC 128MB connected to 8 x 72GB 15K SAS internal drives, and 1 x Smart Array P800 connected to MSA70 with 25 x 72GB 15K SAS external drives.

Results: The ProLiant DL580 G5 achieved 3,705 SAP SD Benchmark users, equivalent to a throughput of 370,670 fully processed order line items per hour or 18,530 SAPS.

Scalability increases from Dual-Core to Quad-Core

Both the ProLiant DL580 G5 show excellent results when scaling from dual core to quad core configurations on the two-tier SAP SD Standard Application Benchmark. The ProLiant DL580 G4 achieved 2,127 SAP SD Benchmark users (10,650 SAPS) with its dual core configuration, and scaled to 3,705 SAP SD Benchmark users (18,530 SAPS) with its quad core results.

HP servers and storage behind the results

HP ProLiant DL580 G5 server

Once again, the HP ProLiant DL580 distinguishes itself as a high-performing server with its latest benchmark result. The best performing 4-processor server combines Intel's new quad-core Xeon processor technology, best-in-class availability features, and unsurpassed flexibility in a system ideal for mission-critical data center deployments. The new DL580 G5 offers twice the feature set of the previous generation DL580 G4.

HP storage

HP Small Form Factor (SFF) SAS drives

The transition to SFF SAS drives has been one of the most significant transitions in the industry's history, fueled by the biggest required leap in storage capacity ever experienced along with the need for faster access to stored data. Many server vendors forced customers to undergo two transitions, first to 3.5" SAS and finally to 2.5" – ***HP lead this industry change, providing <u>one</u> transition – directly to SFF for the ultimate in SAS performance and the best investment protection.*** HP small form-factor SAS drives offer 3Gb/sec throughput, nearly 10x the throughput of Ultra320 SCSI solutions with superior price/performance, making HP SAS the clear choice for high performance DSS database applications.

HP Smart Array Controller P400i

The HP Smart Array P400i, used by the MSA in one of the benchmarks, is the integrated version of the P400, HP's first PCI-Express (PCIe) serial attached SCSI (SAS) RAID controller that provides new levels of performance and reliability for HP servers, through its support of the latest SCSI technology and advanced RAID capabilities.

HP Smart Array Controller P800

The HP Smart Array P800 is a 16-port, PCIe SAS controller. It ships standard with 512MB cache, dual batteries and RAID 6 (ADG) support. This controller supports up to 108 hard drives and is the highest performing controller in the Smart Array portfolio.

HP StorageWorks 70 Modular Smart Array

The HP StorageWorks 70 Modular Smart Array is an end-to-end flexible storage array, offering data availability, enhanced reliability, enhanced performance and tiered storage capability with SAS and SATA

drives and investment protection. Small and midrange business growing storage needs can be managed by deploying this los cost, flexible tiered storage system with up to 14.4 TB capacity supporting SAS or SATA.

SAP and HP Partnership

HP has been partnering with SAP AG for over 20 years. Together, we've created a remarkable legacy providing world-class business solutions to global clients. Our offer is 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.

- HP servers host almost 50% of all SAP solution-based installations with more than 55,000+ installations and more than 20,000 customers.
- HP is the global disk storage market leader with 23.6% market share with a No.1 position in Storage Area Networks.
- HP is the leading provider of imaging and printing solutions for SAP applications.
- We integrate, certify, and optimize new solutions by:
  - Six SAP Solutions Centers located in Atlanta & Houston, USA; and in Asia in Singapore, India, China, and Korea.
  - One SAP Competency Center, Walldorf, Germany.
- 24x7 support through globally connected SAP support centers in more than 15 countries worldwide.
- HP is one of the largest SAP customers in the world. HP uses SAP solutions for Enterprise Resource Planning and Supply Chain Management.
- HP's output management technology is a proven and recommended platform for output management in the context of SAP solutions.
- HP has been awarded SAP's highest level of partnership in 3 out of 4 key areas.[5]

For more information

HP ProLiant DL580 G5: www.hp.com/servers/proliantdl580

Configuration details

[1] **HP ProLiant DL580 G4 results on the two-tier SAP SD Standard Application Benchmark.** The HP ProLiant DL580 G4 (Certification #2006060) was configured as a four-processor server (4 processors/8 cores/16 threads) with Dual-Core Intel XEON 7140M 3.4-GHz processors with 16 KB L1 cache and 1 MB L2 cache per core, 16 MB L3 cache per processor, and 64 GB main memory. The HP ProLiant DL580 G5 was running mySAP ERP 2004 (64-bit) with Microsoft Windows Server 2003 Enterprise Edition (64-bit) operating system and SQL Server 2005 (64-bit) database and achieved 2,127 SAP SD Benchmark users, equivalent to a throughput of 213,000 fully processed order line items per hour or 10,650 SAPS.

[2] **HP ProLiant DL380 G5 Quad-Core 3.0-GHz Intel Xeon X5365 results on the two-tier SAP SD Standard Application Benchmark.** The HP ProLiant DL380 G5 (Certification #2007057) was configured as a two-processor server with 2 x 3.0GHz Quad-Core Intel Xeon x5365 processors (2 processors/8 cores/8 threads), with 64 KB L1 cache per core and 4MB L2 cache per 2 cores and 32GB main memory. The HP ProLiant DL380 G5 was running Microsoft Windows Server 2003 Enterprise Edition x64 SP2 operating system, Microsoft SQL Server 2005 Enterprise Edition x64 SP1 database, and SAP ERP 6.0 and achieved 2,080 SAP SD Benchmark users, equivalent to a throughput of 208,670 fully processed order line items per hour and 10,430 total SAPS.

[3] **Fujitsu Siemens Computers PRIMERGY Model TX600 S3/RX600 S3 results on the two-tier SAP SD Standard Application Benchmark.** The Fujitsu Siemens Computers PRIMERGY Model TX600 S3/RX600 S3 (Certification #2006050) was configured as a four-processor server (4 processors/8 cores/8 threads) with Dual-Core Intel XEON 7140M 3.4 GHz, 16 KB L1 cache and 1 MB L2 cache per core, 16 MB L3 cache per processor, and 64 GB main memory. The Fujitsu TX600 S3/RX600 S3 was running mySAP ERP 2004 (64-bit) with Microsoft Windows Server 2003 Enterprise Edition (64-bit) operating system and Microsoft SQL Server 2005 (64-bit) database and achieved 2,077 SAP SD Benchmark users, equivalent to a throughput of 207,670 fully processed order line items per hour or 10,380 SAPS.

Egenera BladeFrame Model pBlade PB310002R results on the two-tier SAP SD Standard Application Benchmark. The Egenera BladeFrame Model pBlade PB310002R (Certification #2007009) was configured as a four-processor server (4 processors / 8 cores / 16 threads) with Dual-Core Intel Xeon 7140M 3.4 GHz processors with 16 KB L1 cache and 1 MB L2 cache per core, 16 MB L3 cache per processor, and 32 GB main memory. The Egenera pBlade PB310002R was running mySAP ERP 2005 with Microsoft Windows Server 2003 Enterprise Edition operating system and SQL Server 2005 database and achieved 2,000 SAP SD Benchmark users, equivalent to a throughput of 200,670 fully processed order line items per hour or 10,030 SAPS.

Dell PowerEdge 6850 results on the two-tier SAP SD Standard Application Benchmark. The Dell PowerEdge 6850 (Certification #2006063) was configured as a four-processor server (4 processors/8 cores/16 threads) with Dual-Core Intel Xeon 7140M 3.4GHz processors with 16KB L1 cache and 1 MB L2 cache per core, and 16MB L3 cache per processor, and 32 GB main memory. The Dell PowerEdge 6850 was running mySAP ERP 2004 (64-bit) with Microsoft Windows Server 2003 Enterprise Edition (64-bit) operating system and SQL Server 2005 (64-bit) database and achieved 1,966 SAP SD Benchmark users, equivalent to a throughput of 197,000 fully processed order line items per hour or 9,850 SAPS.

[4] **HP ProLiant DL380 G5 Quad-Core 2.66-GHz Intel Xeon X5355 results on the two-tier SAP SD Standard Application Benchmark.** The HP ProLiant DL380 G5 (Certification #2007028) was configured as a two-processor server (2 processors/8 cores/8 threads) with Quad-Core Intel XEON 5355 2.66-GHz processors with 64 KB L1 cache and 4 MB L2 cache per 2 cores, and 32 GB main memory. The HP ProLiant DL580 G5 was running Linux Enterprise Server10 operating system, Oracle 10g database, and SAP ERP 6.0 and achieved 1,795 SAP SD Benchmark users, equivalent to a throughput of 180,000 fully processed order line items per hour or 9,000 total SAPS.

[5] http://h71028.www7.hp.com/enterprise/cache/13419-0-0-0-121.html

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