HP ProLiant DL380 G5 earns #1 two-tier SAP® SD Standard Application Benchmark performance result for two-processor servers running SuSE Linux

Best Selling Server Worldwide

The HP ProLiant DL380 G5 is a versatile, dependable, workhorse server.

Key benefits include Multi-Core Intel Xeon performance for demanding scale-out applications and virtualization projects.

Key results at a glance:

n #1 two-processor Linux performance result on the two-tier SAP® SD Standard Application Benchmark.

n First two-processor Quad-Core Linux result using the SAP ERP 6.0 application (formerly known as mySAP™ ERP 2005).

n Removed the performance gap between Windows and UNIX competitors Fujitsu Siemens, BULL, and Dell.

n Proven Versatility of the ProLiant DL380 G5 with different operating systems and databases, resulting in excellent performance and comparable results.

The HP ProLiant DL380 G5, the world's highest volume server, adds another feather in its cap with a leading Linux performance result on the two-tier SAP Sales and Distribution (SD) Standard Application Benchmark: two-processor, Quad-Core performance with 1,795 SAP SD Benchmark users equivalent to a throughput of 180,000 fully processed order line items per hour, 540,000 dialog steps/hour, and 9,000 total SAPS. This result also illustrates the ProLiant DL380 G5's versatile capabilities with regard to operating systems and databases, resulting in excellent performance.

Excellent results: This result defeated all two-processor and four-processor Linux performance results including competitors IBM, Sun, and Fujitsu Siemens. The result also competed favorably with other two-processor, Quad-Core benchmarks from Fujitsu Siemens, Bull, and Dell Windows competitors. (All details on following page).

More information about SAP benchmark results for all servers can be found at the following Web page: http://www.sap.com/benchmark.

ProLiant server configurations

Tests were performed on the ProLiant DL380 G5 by HP's SAP Engineering lab in Nashua, NH. HP received certification from SAP AG for the ProLiant DL380 G5 (#2007028) on February 12, 2007. The servers were running SuSE Linux Enterprise Server10 operating system, Oracle 10g database, and SAP ERP 6.0. The servers were configured with 2 x 2.66GHz Quad-Core Intel Xeon x5355 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 ProLiant DL380 G5 used an HP Smart Array SAS p400i controller connected to 8 internal SAS drives and an HP Smart Array SAS p600 controller connected to an HP StorageWorks Modular Smart Array Controller 50 (MSA50) with 10 drives.

Prepared by the ESS Competitive Intelligence Team

ProLiant DL380 G5 two-processor Linux/Oracle benchmark result compares favorably to these four-processor SuSE Linux benchmark results.

Processor	SAP SD Benchmark Users	Fully processed order line items per hour	Dialog steps/hour	SAPS	
ProLiant DL380 G5	1,795	180,000	540,000	9,000	The ProLiant DL380 has:
IBM System p5 550	1,000	100,330	301,000	5,020	44% more users than IBM
Sun Fire V40z	820	715,330	247,000	4,120	More than twice the number of users than Sun.
Fujitsu Siemens BX600	705	82,330	212,000	3,130	More than twice the number of users than Fujitsu Siemens.

All results as of 6-07-07

vs. IBM System p5 Model 550 results on the two-tier SAP SD Standard Application Benchmark. The IBM p5 550 (Certification #2005040) was configured as a four-processor server (4 processors/4 cores/8 threads) with Power 5+ 1.92GHz processors with 32KB(D) + 64KB(I) L1 cache per processor, 1.92MB L2 cache and 36MB L3 cache per 2 processors, and 32GB main memory. The IBM p5 550 was running mySAP™ ERP 2004 with SuSE Linux Enterprise Server 9 operating system and DB2 UDB 8.2.2 database and achieved 1,000 SAP SD Benchmark users, equivalent to a throughput of 100,330 fully processed order line items per hour, 301,000 dialog steps/hour, and 5,020 total SAPS.

vs. Sun Fire Model V40z results on the two-tier SAP SD Standard Application Benchmark. The Sun Fire V40z (Certification #2004044) was configured as a 4-way SMP server with 2.4GH AMD Opteron 850 series processors with 128KB L1 cache, 1MB L2 cache, and 32GB main memory. The Sun Fire V40z was running the SAP R/3® Enterprise application Release 4.70 with SuSE Linux Enterprise Server 8 (64-bit) operating system and Oracle 9i (32-bit) database and achieved 820 SAP SD Benchmark users, equivalent to a throughput of 715,330 fully processed order line items per hour, 526,000 dialog steps/hour and 8,770 total SAPS.

vs. Fujitsu Siemens PRIMERGY Model BX600 results on the two-tier SAP SD Standard Application Benchmark. The Fujitsu Siemens BX600 (Certification #2004054) was configured as a 4-processor SMP server with Intel Xeon MP, 3.0GHz processors with 20KB L1 cache, 512KB L2 cache, 4MB L3 cache, and 8GB main memory. The Fujitsu BX600 was running SAP R/3 Enterprise 4.70 with SuSE Linux Enterprise Server 8 operating system and SAP DB 7.3.0 database and achieved 705 SAP SD Benchmark users, equivalent to a throughput of 82,330 fully processed order line items per hour, 247,000 dialog steps/hour and 4,120 total SAPS.

ProLiant DL380 G5 two-processor Linux/Oracle benchmark competes well vs. Windows/SQL Server two-processor benchmarks

The ProLiant DL380 G5 Linux/Oracle result on the SAP benchmark also performed well when competing against performance results of servers running Windows/SQL Server on the SAP benchmark as indicated in the following two-processor, Quad-Core results:

All results as of 6-07-07

Prepared by the ESS Competitive Intelligence Team

vs. Fujitsu Siemens TX300 S3/ RX300 S3 results on the two-tier SAP SD Standard Application Benchmark. The Fujitsu Siemens PRIMERGY Model TX300 S3/ RX300 S3 (Certification #2006082) was configured as a two-processor server (2 processors/8 cores/8 threads) with Quad-Core Intel Xeon X5355 2.66GHz processors with 64KB L1 cache per core, 4MB L2 cache per 2 cores, and 32GB main memory. The Fujitsu TX300 S3/ RX300 S3 was running SAP ERP 6.0 (64-bit) with Microsoft Windows Server 2003 Enterprise Edition (64-bit) and Microsoft SQL Server 2005 (64-bit) database and achieved 1,750 SAP SD Benchmark users, equivalent to a throughput of 715,330 fully processed order line items per hour, 526,000 dialog steps/hour and 8,770 total SAPS.

vs. Fujitsu Siemens PRIMERGY BFi20 S3 and Egenera BladeFrame Model PB300006R results on the two-tier SAP SD Standard Application Benchmark. The Fujitsu Siemens PRIMERGY Model BFi20 S3 and Egenera BladeFrame Model PB300006R (Certification #2007021) were configured as two-processor servers (2 processors/8 cores/8 threads) with Quad-Core Intel Xeon X5355 2.66GHz processors with 64KB L1 cache per core, 4MB L2 cache per 2 cores, and 32GB main memory. The Fujitsu BFi20 S3 and Egenera BladeFrame PB300006R were running SAP ERP 6.0 (64-bit) with Microsoft Windows Server 2003 Enterprise Edition and Microsoft SQL Server 2005 database and achieved 1,660 SAP SD Benchmark users, equivalent to a throughput of 166,330 fully processed order line items per hour, 499,000 dialog steps/hour and 8,320 total SAPS.

vs. Bull NovaScale B280 results on the two-tier SAP SD Standard Application Benchmark. The Bull NovaScale B280 (Certification #2007015) was configured as a two-processor server (2 processors/8 cores/8 threads) with Quad-Core Intel Xeon X5355 2.66GHz processors with 64KB L1 cache per core, 4MB L2 cache per 2 cores, and 32GB main memory. The Bull NovaScale B280 was running SAP ERP 6.0 with Microsoft Windows Server 2003 Enterprise Edition and Microsoft SQL Server 2005 database and achieved 1,652 SAP SD Benchmark users, equivalent to a throughput of 166,670 fully processed order line items per hour, 500,000 dialog steps/hour and 8,330 total SAPS.

vs. Dell PowerEdge 2950 results on the two-tier SAP SD Standard Application Benchmark. The Dell PowerEdge 2950 (Certification #2007008) was configured as a two-processor server (2 processors/8 cores/8 threads) with Quad-Core Intel Xeon X5355 2.66GHz processors with 64KB L1 cache per core, 4MB L2 cache per 2 cores, and 32GB main memory. The Dell PowerEdge 2950 was running SAP ERP 6.0 with Microsoft Windows Server 2003 Enterprise Edition and Microsoft SQL Server 2005 database and achieved 1,610 SAP SD Benchmark users, equivalent to a throughput of 163,670 fully processed order line items per hour, 491,000 dialog steps/hour and 8,180 total SAPS.

ProLiant DL380 G5 displays versatility between operating systems and databases

The ProLiant DL380 G5 also had excellent Windows/SQL Server Quad-Core performance results on the SAP SD Standard Application Benchmark (November 10, 2006, Certification #2006079). The server achieved 1,790 SAP SD Benchmark users, equivalent to a throughput of 179,300 fully processed order line items per hour

This ProLiant DL380 G5 Linux/Oracle, in direct comparison, achieved a 1,795 user count equivalent to a throughput of 180,000 fully processed order line items per hour.

These results prove the versatility of the ProLiant DL380 G5 across differing operating systems and databases.

The HP ProLiant Advantage

HP ProLiant DL380 G5

Once again, the HP ProLiant DL380, the world's server sales leader, distinguishes itself as a high-performing server with its latest benchmark result.

The newest Quad-Core Intel Xeon version of the HP ProLiant DL380 G5 model is designed for improved server responsiveness, enhanced multi-tasking capabilities, and improved performance for the most demanding applications and virtualization projects. The ProLiant DL380 G5 is configured with up to two Intel Xeon 5000 series processors with Hyper Threading and Intel VT technology to improve performance in a virtual environment. The server includes up to 32MB of PC2-5300 DDR2 Fully Buffered DIMMs with 4:1 interleaving, mirrored memory, online spare capability, four PCI-Express expansion slots standard, and optional PCI-X.

Why We Win in Performance

HP SFF SAS: leading the future of storage

The transition to SFF SAS drives is 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.

- Higher reliability
  - 1.7 million mean time between failures (MTBF) vs. 1.5 million for 3.5″ SCSI
- Better performance
  - Serial point-to-point connections
  - More spindles per platform
- Greater efficiency and improved thermals with SFF drives
  - Half the power consumption – 9 Watts
  - SFF enables better airflow

Airflow
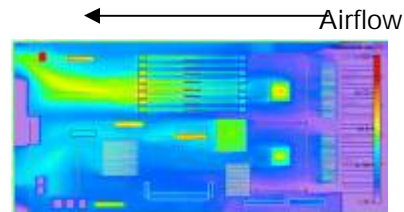
HP Smart Array Controller P400i
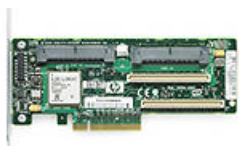
The HP Smart Array P400i is the integrated version of the P400, HP's first PCI-E SAS RAID controller, that provides new levels of performance and reliability for HP servers, through its support of the latest SCSI technology and advanced RAID capabilities. The Smart Array P400i is ideal for SAS-based servers and storage enclosures that require mission-critical reliability and high performance.

HP Smart Array Controller 600

The HP Smart Array P600 SAS controller is the first of a new generation of SAS Smart Array controllers. The Smart Array-P600 once again raises the standards of performance offering twice the bandwidth of a 4-channel U320 array controller. The Smart Array P600 offers a 512 MB BBWC option.

HP StorageWorks Modular Smart Array 50 (MSA50)

The HP StorageWorks Modular Smart Array 50 Enclosure (MSA50) is a 1U SAS disk drive storage enclosure supporting SFF SAS or SATA drives. This enclosure delivers industry-leading data performance, availability, storage density, and upgradeability to meet customers' demanding and growing storage needs. The all new SFF drive carrier is designed to support the new Universal form factor hard drive in either SAS or SATA. This new form factor provides optimized performance per U of space while delivering unparalleled power consumption.

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:
    - o Six SAP Solutions Centers located in Atlanta & Houston, USA; and in Asia in Singapore, India, China, and Korea.
    - o One SAP Competency Center, Walldorf, Germany.
    - o 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.
- SAP has selected HP to provide and manage the SAP-hosted services infrastructure in North America.
- HP Support Services manages critical portions of the SAP IT infrastructure.
- SAP selects HP's output management technology as a recommended strategic platform.
- HP has been awarded SAP's highest level of partnership in 3 out of 4 key areas.[1]

HP Virtualized Infrastructure Solutions for SAP Business Suite

The ability to swiftly adapt to ever-changing business requirements is the key success factor in today's business environments. However, this implies an adaptive SAP solution-based landscape, which is required by many customers today. HP Virtualized Infrastructure Solutions (VIS) for SAP Business Suite enables customers to increase the flexibility and manageability of their system landscapes that include SAP solutions.

With HP VIS for SAP Business Suite, customers can overcome the boundaries of yesterday's infrastructure. Instead of working in inefficient silos, a simplified IT will grow in flexibility and scalability, enabling customers to respond to changes in demand more quickly by dynamically allocating computing power, storage, and network resources according to the demand of the SAP application. And better still: Improved overall manageability provides substantial reductions in costs of operation.

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

For more information

HP ProLiant DL380 G5: www.hp.com/servers/proliantdl380

HP ProLiant storage solutions: www.hp.com/go/serial and
http://h18004.www1.hp.com/products/servers/platforms/storage.html

SAP benchmark details: http://www.sap.com/benchmark.

Prepared by the ESS Competitive Intelligence Team