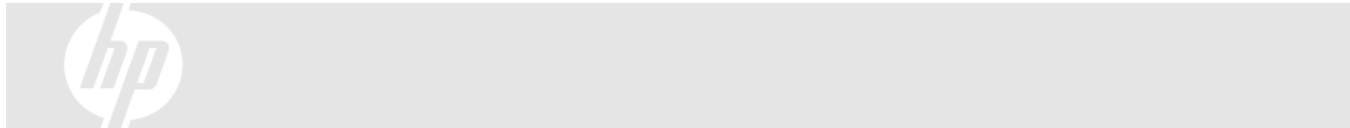




HP ProLiant DL580 G4

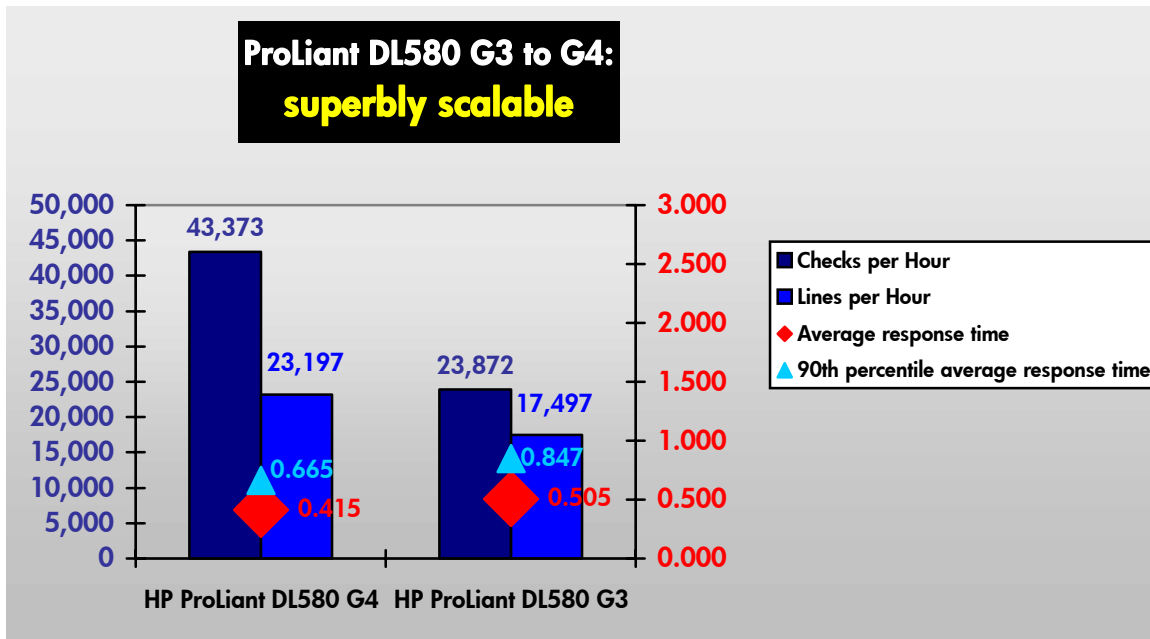
HP ProLiant DL580 server takes #1 position on Oracle E-Business Suite 11i Small Model Benchmark



Key results at a glance:

- ProLiant DL580 G4: #1 performance on Oracle EBS 11i Small Model Benchmark
- ProLiant DL580 G3: #2 performance on Oracle EBS 11i Small Model Benchmark
- ProLiant DL580 G3 server beats competitor IBM x3850 in an apples-to-apples comparison of four-processor/eight-core x86 architectures, proving HP superiority over IBM's X3 architecture
- ProLiant DL580 delivers a superb increase in Dual-Core scalability from G3 to G4.

Figure 1. Comparison of performance results of the HP ProLiant DL580 G4 Dual-Core four-processor server to results with the previous generation DL580 G3 server on the 1,000-user Oracle EBS 11i Small Model Benchmark



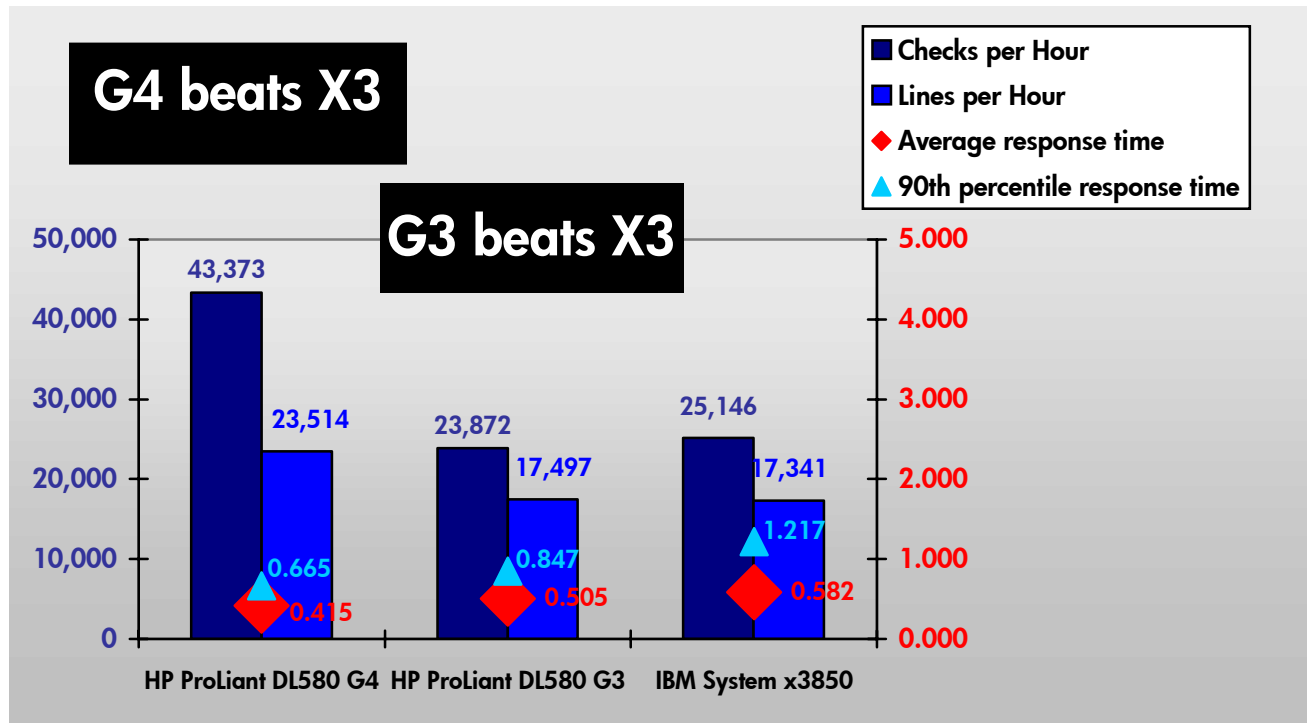
Compared to the previous generation DL580 G3, the ProLiant DL580 G4 achieved:

- 21% faster average response time
- 27% faster 90th percentile Response Time
- 32% increase in Lines per Hour Batch Throughput
- Nearly double the Checks per Hour Batch Throughput (181% increase)

Summary of results for 4P DL580 G4 and DL580 G3 on Oracle EBS 11i Small Model Benchmark		
1,000 Concurrent Users – 4-processor results		
	DL580 G4	DL580 G3
Average Response Time	0.415	0.505 sec
90 th percentile Response Time	0.665	0.847 sec
Lines/Hour Batch Throughput	23,514	17,497
Checks/Hour Batch Throughput	43,373	23,872

HP Performance Brief

Figure 2. Comparison of performance results of the HP ProLiant DL580 G4 Dual-Core four-processor server vs. IBM Dual-Core four-processor x3850 competitor on the 1,000-user Oracle EBS 11i Small Model Benchmark



DL580 G4 vs. IBM x3850

The DL580 G4 achieved superior results as compared to the IBM x3850 in each of the four key measurements:

- 40% faster average response time
- Almost twice as fast 90th percentile Response Time (83% faster)
- 6,017 more Lines per Hour Batch Throughput (35% more)
- 18,227 more Checks per Hour Batch Throughput (72% more)

Summary of results for DL580 G4 and G3 vs. IBM x3850 on Oracle EBS 11i Small Model Benchmark			
1,000 Concurrent Users – 4-processor results			
	DL580 G4	DL580 G3	IBM x3850
Average Response Time	0.415	0.505 sec	0.582 sec
90 th percentile Response Time	0.665	0.847 sec	1.217 sec
Lines/Hour Batch Throughput	23,514	17,497	17,341
Checks/Hour Batch Throughput	43,373	23,872	25,146

DL580 G3 vs. IBM x3850

In an apples-to-apples comparison using the same processors, the ProLiant DL580 G3 beat the only other published small model benchmark result, the four-processor dual-core IBM System x3850.

- 15% faster average response time
- 43% faster 90th percentile response time
- 156 more Lines per Hour Batch Throughput

The results show the superior optimization of ProLiant four-processor server architecture versus IBM's X3 architecture.

Better together

These stellar results were achieved using the HP ProLiant DL580 server as the database tier combined with HP ProLiant BL25p server blades in the applications tier. The HP ProLiant BL25p Generation 2 server blade delivers maximum dual-processor performance, enterprise manageability and availability, and superior server design to the datacenter.

- Uncompromising dual-processor performance for the most demanding applications
- Enterprise-class manageability and availability keep operations up and running smoothly
- Superior ProLiant design enables highly flexible, reliable, and efficient server deployments
- Multi-server and high performance 2P applications

Also included behind the scenes of these results are many high quality HP storage products, such as the HP Smart Array P600 Controller, HP Smart Array 6i Ultra320 Controller, HP Storage Works Dual-Channel 4Gb PCI-X 2.0 Fibre Channel controller, HP Storage Works MSA50 disk array, Storage Works EVA6000 disk array, and, in some cases, Small Form Factor SAS hard disk drives.

The advantages of the partnership between HP and Oracle

Strategic partners for over twenty-five years, HP and Oracle have more than 100,000 joint customers. Our accomplishments together are numerous. Here are just a few:

- A strong breadth and depth of platform, software and services offerings
- Joint development, testing, and optimization
- Performance and price/performance leadership validated by industry and Oracle Applications benchmarking
- Oracle's Database is the most popular database among HP-UX customers
- HP Consulting and Integration Services deliver solutions for Enterprise Integration and Service Oriented Architecture with Oracle Fusion Middleware
- HP is a leading Oracle Applications Infrastructure Partner
- Thirteen HP/Oracle solution and demo centers worldwide
- Oracle Fusion Middleware is showcased in HP's SOA Competency Centers around the world
- Oracle chose HP to be a key platform provider for its development of Itanium®-based databases for Linux, Unix, and Windows
- Executive alignment that starts at the top and runs through both organizations

HP and Oracle aim to address today's business challenges by enabling the synchronization of infrastructure, applications, services, and business processes – from suppliers through to customers – to help organizations reduce the cost of change, reduce total cost of ownership, simplify IT management complexity, and rapidly implement solutions that provide a competitive advantage.

For more information

HP ProLiant DL580 G4 : www.hp.com/servers/proliantdl580

HP ProLiant BL25p: <http://www.hp.com/bladeservers>

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

MSA50 and SFF SAS drives:

http://h18004.www1.hp.com/products/servers/proliantstorage/sharedstorage/sacluster/msa50/index.html?jumpid=req_R1002_USEN

OASB information is available at http://www.oracle.com/apps_benchmark/html/index.html?results.html

HP and Oracle partnership: http://h71028.www7.hp.com/enterprise/cache/6606-0-0-225-121.html?jumpid=req_R1002_USEN

HP Performance Brief

Server configurations

HP ProLiant DL580 G4: In January 2007, Oracle and Hewlett-Packard conducted a benchmark in Cupertino, California, to measure the online and batch performance of the Oracle Applications Standard Benchmark processes in an environment running Oracle E-Business Suite (EBS) 11i (11.5.10) with Oracle Database 10g™ (10.1.0.4) for Linux on a Hewlett-Packard® ProLiant™ DL580 G4 database server configured for 1,000 users and running four dual-core hyper-threaded processors (8 cores total) and Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 4, and achieved 23,514 Lines per Hour, 43,373 Checks per Hour, a 90th percentile response time of 0.665 seconds, and an average response time of 0.415 seconds. This result was achieved on a system configured as a four-processor server (4 processors/8 cores/16 threads) with 4 x Dual Core Intel Xeon Processor 7140M with hyper-threading enabled (3.40GHz with 1 MB Level 2 cache and 16 MB Level 3 cache per Core) and 32 GB RAM. The system used an integrated HP Smart Array P400 Controller, and one Storage Works Dual-Channel 4Gb PCI-X 2.0 Fibre Channel controller attached to one HP Storage Works EVA6000 disk array for data and logs. Four two-processor dual-core ProLiant BL25p server blades were used as application/web servers. One two-processor dual-core ProLiant BL25p blade server was used as a Concurrent Manager/NFS server.

HP ProLiant DL580 G3: In September and October 2006, Oracle and Hewlett-Packard conducted a benchmark in Cupertino, California, to measure the online and batch performance of the Oracle Applications Standard Benchmark processes in an environment running Oracle E-Business Suite (EBS) 11i (11.5.10) with Oracle Database 10g™ (10.1.0.4) for Linux on a Hewlett-Packard® ProLiant™ DL580 G3 database server configured for 1,000 users and running four dual-core hyper-threaded processors (8 cores total) and Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 3, and achieved 17,497 Lines per Hour, 23,872 Checks per Hour, a 90th percentile response time of 0.847 seconds, and an average response time of 0.505 seconds. This result was achieved with a system configured as a four-processor server (4 processors/8 cores/16 threads) with 4 x Dual Core Intel Xeon Processor 7040 (3.0GHz with 2 x 2MB L2 cache per Core) and 32 GB RAM. The system used an integrated HP Smart Array 6i Ultra320 Controller, and four HP Smart Array P600 Controllers attached to eight HP Storage Works MSA50 disk arrays equipped with 80 72GB 10K RPM Small Form Factor SAS drives for data and logs. Five two-processor dual-core ProLiant BL25p server blades were used as application/web servers. One two-processor dual-core ProLiant BL25p blade server was used as a Concurrent Manager/NFS server.

vs. IBM System x3850 1,000-user results on Oracle EBS 11i Benchmark: The IBM x3850 result submitted 06-20-06 was achieved with a system configured as a four-processor server (4 processors/8 cores/16 threads) with 4 x Dual Core Intel® Xeon® Processor 7040 (3.0GHz with 2 x 2MB L2 cache per Core), and 32 GB RAM. The IBM x3850 was running Oracle E-Business Suite (EBS) 11i (11.5.10) with Oracle Database 10g™ (10.1.0.4) for Red Hat Linux Advanced Server release 3.0 Update 6 and achieved 17,341 Lines per Hour, 25,146 Checks per Hour, a 90th percentile response time of 1.217 seconds, and an average response time of 0.582 seconds. A second IBM System x3850 four-processor, dual-core server was used as an application/web server. Two IBM TotalStorage DS4500s were used for data storage.

More information about all servers can be found at the following web page:
http://www.oracle.com/apps_benchmark/html/results.html#small.

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