



HP ProLiant two-socket, 8-core servers earn #1 and #2 spots on Oracle E-Business Suite 11i Small Model Benchmark

ProLiant BL460c takes world performance record; ProLiant DL380 G5 takes next lead



The HP Difference

With features equal to standard 1U rack mount servers, the ProLiant BL460c server blade combines power-efficient compute power and high density with expanded memory and I/O.

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.

Key results at a glance:

- ProLiant leadership with the #1 result on Oracle E-Business Suite 11i Small Model Benchmark with the two-socket, 8-core HP ProLiant BL460c server blade.
- The result defeated IBM's System x3850 four-socket, 8-core server result.
- With this benchmark, HP now owns the TOP 8 positions for published Oracle E-Business Suite small model benchmarks.
- The ProLiant DL380 G5 shows a 5.7% increase in processor speed scalability when compared to its previous Quad-Core benchmark result.
- The results show the superior optimization of the ProLiant two-socket Quad-Core server architecture versus IBM's X3 four-socket Dual-Core architecture.

HP announced recently that its two-socket server blade, the ProLiant BL460c, attained the #1 performance result on the Oracle E-Business Suite 11i Small Model Benchmark, utilizing a Quad-Core configuration with the latest Intel Xeon X5400 Series chipset. The ProLiant DL380 G5 continued its performance success with the next leading result.

The HP Difference

The ProLiant BL460c server blade achieved superior results when compared to the IBM x3850 in each of the following four key measurements:

- 50% faster in Average Response Time
- 62% faster in the 90th Percentile Response Time
- 29,243 more Lines per Hour Batch Throughput (more than twice as much!)
- 37,879 more Checks per Hour Batch Throughput (more than twice as much!)

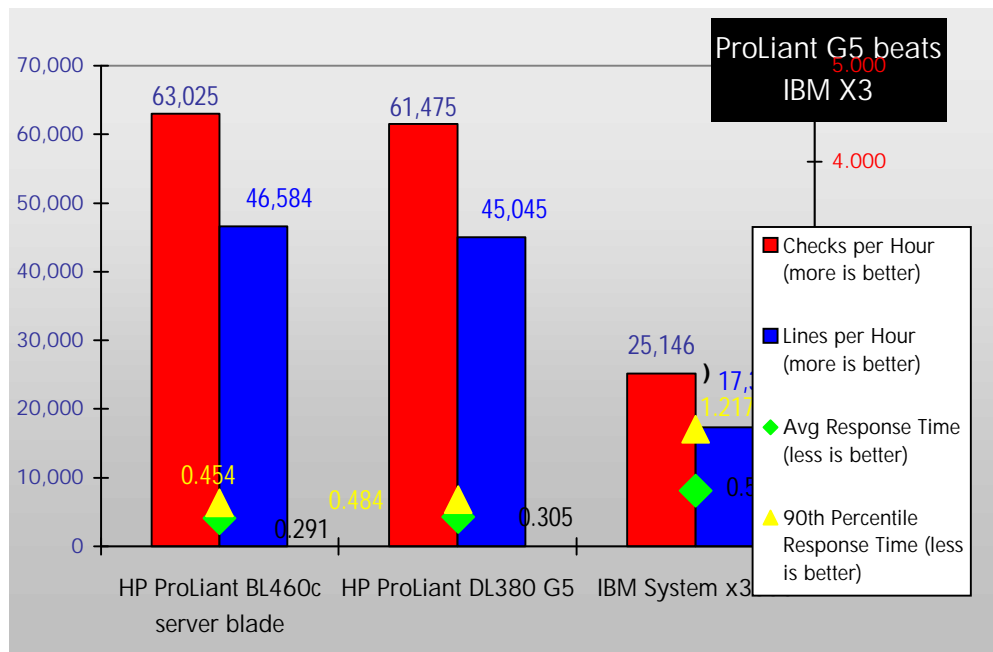


Figure 1. Comparison of performance results of the HP ProLiant BL460c server blade and DL380 G5 two-socket, Quad-Core server to the IBM x3850 four-socket, Dual-Core server on the 1,000-user Oracle E-Business Suite 11i Small Model Benchmark.

Benchmark comparisons

Table 1. Result summary of the HP ProLiant BL460c blade server and DL380 G5 two-socket server to the IBM x3850 four-socket server results on the 1,000-user Oracle EBS 11i Small Model Benchmark. The Oracle E-Business Suite 11i Small Model Benchmark workload is best-aligned to 8-core and smaller systems.

Summary of results for HP ProLiant BL460c server blade and DL380 G5 vs. IBM x3850 on Oracle E-Business Suite 11i Small Model Benchmark			
1,000 Concurrent Users			
	BL460c server blade	DL380 G5	IBM x3850
Average Response Time	0.291	0.305	0.582 sec
90 th percentile Response Time	0.454	0.484	1.217 sec
Order-to-Cash Lines/Hour Batch Throughput	46,584	45,045	17,341
Payroll Checks/Hour Batch Throughput	63,025	61,475	25,146

ProLiant DL380 G5 Scalability











The ProLiant DL380 G5 achieved a 14% scalability increase when changing processor speeds from a 2.66GHz Intel X5355 server to 3.16GHz utilizing the Intel Xeon X5460

Series chipset.

HP leads with Top 8 positions

With the ProLiant BL460c as the top performer, HP now captures the Top 8 positions for published Oracle E-Business Suite small model benchmarks.

Table 2. The HP ProLiant BL460c server blade, DL380 G5, ProLiant BL685c, and ProLiant DL580 hold the Top 8 positions for performance utilizing 1,000 users online with a batch of 10,000 order lines and 5,000 payroll employees.

Rank	Company	System	Result
1		ProLiant BL460c server blade equipped with 2 x 3.16GHz Intel Xeon Quad-Core X5460 processors (8-core)	0.291 sec 46,584 Lines/Hour 63,025 Checks/Hour
2		ProLiant DL380 G5 equipped with 2 x 3.16GHz Intel Xeon Quad-Core X5460 processors (8-core)	0.305 sec 45,045 Lines/Hour 61,475 Checks/Hour
3		ProLiant DL380 G5 equipped with 2 x 3.0GHz Intel Xeon Quad-Core X5365 processors (8-core)	0.316 sec 40,650 Lines/Hour 58,140 Checks/Hour
4		ProLiant DL380 G5 equipped with 2 x 2.66GHz Intel Xeon Quad-Core X5355 processors (8-core)	0.379 sec 36,166 Lines/Hour 54,152 Checks/Hour
5		ProLiant BL685c equipped with 4 x 2.8GHz AMD Opteron Dual-Core 8220 processors (8-core)	0.373 sec 26,984 Lines/Hour 46,296 Checks/Hour
6		ProLiant DL580 G4 equipped with 4 x 3.4GHz Intel Xeon Dual-Core 7140M processors. (8-core)	0.415 sec 23,511 Lines/Hour 43,415 Checks/Hour
7		ProLiant DL580 G4 equipped with 2 x 3.4GHz Intel Xeon Dual-Core 7140M processors (4-core)	0.448 sec 21,254 Lines/Hour 38,119 Checks/Hour
8		ProLiant DL580 G3 equipped with 4 x 3.0GHz Intel Xeon Dual-Core 7040 processors (8-core)	0.505 sec 17,497 Lines/Hour 23,872 Checks/Hour

The ProLiant Advantage

These stellar results were achieved using the HP ProLiant BL460c server blade as the database tier combined with HP ProLiant BL685c server blades in the applications tier. The HP ProLiant BL460c server blade delivers maximum Quad-Core performance, enterprise manageability and availability, and superior server design to the datacenter, including:

The ProLiant BL460c server blade key benefits include:

- [Concentrated compute power](#)
- [Deployment versatility in an efficient dense form factor](#)
- [Industry-leading management and configuration tools](#)

The ProLiant BL460c server blade is designed for large enterprise data centers, mainstream/mid-sized data centers and departments and branch offices.

Also included behind the scenes of these results are many high quality HP storage products, such as the HP Smart Array P400 Controller, HP Storage Works 4Gb PCI-e Fibre Channel controller, and a Storage Works EVA6000 disk array.

The advantages of the partnership between HP and Oracle

The Oracle Applications Standard Benchmark is focused on ERP applications and represents a mixed workload intended to model the most common transactions operating on the most widely used enterprise application modules. Definitions of transactions that compose the benchmark load were obtained through collaboration with functional consultants and are representative of typical customer workloads, with batch transactions representing 25% of the total workload. HP, unlike several competitors, uses this real-world benchmark to focus on customer core transactions.

Strategic partners for over 25 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
- There are 13 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
- The partners provide 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 BL460c server blade: www.hp.com/proliant/bl460c

HP ProLiant DL380 G5: www.hp.com/servers/dl380

HP ProLiant BL685c: www.hp.com/servers/bl685c

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

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

HP and Oracle partnership: www.hp.com/go/oracle

More information about all servers can also be found at the following web page:

http://www.oracle.com/apps_benchmark/html/results.html#small

Server configurations

HP ProLiant BL460 server blade 1,000-user results on Oracle E-Business Suite 11i Benchmark: In January 2008, 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) 64-bit and Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 4, and achieved 46,584 Lines per Hour, 63,025 Checks per Hour, a 90th percentile response time of 0.454 seconds, and an average response time of 0.291 seconds. This result, submitted 01-28-08, was achieved on a Hewlett-Packard® ProLiant™ BL460c server blade database server configured with 2 x 3.16GHz Intel® Xeon X5460 Quad-Core processors (2 processors/8 cores/8 threads) with 2 x 6MB Level 2 cache, 32GB memory, and PC2-5300 667MHz DDR2 fully-buffered DIMMs. The system used 2 x 72GB SFF SAS internal disk drives attached to an integrated HP Smart Array E200i Controller, and 1 x HP Storage Works EVA6000 disk array attached to 1 QLogic QMH2462 4Gb Fibre Channel controller for data and logs. Two HP ProLiant BL685c server blades were used as application and web servers, and one HP ProLiant BL685c server blade was used as the CM/NFS server.

HP ProLiant DL380 G5 1,000-user results on Oracle E-Business Suite 11i Benchmark/November: In November 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) 64-bit and Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 4, and achieved 45,045 Lines per Hour, 61,475 Checks per Hour, a 90th percentile response time of 0.484 seconds, and an average response time of 0.305 seconds. This result, submitted 11-26-07, was achieved on a Hewlett-Packard® ProLiant™ DL380 G5 database server configured with 2 x 3.16GHz Intel® Xeon X5460 Quad-Core processors (2 processors/8 cores/8 threads) with 2 x 6MB Level 2 cache, 32GB memory, and PC2-5300 667MHz DDR2 fully-buffered DIMMs. The system used 8 x 72GB SFF SAS internal disk drives attached to an integrated HP Smart Array P400 Controller, and 1 x HP Storage Works EVA6000 disk array attached to 1 HP Storage Works 4Gb PCI-e Fibre Channel controller for data and logs. Two HP ProLiant BL685c server blades were used as application and web servers, and one HP ProLiant BL685c server blade was used as the CM/NFS server.

vs. most recent IBM System x3850 1,000-user results on Oracle E-Business Suite 11i Benchmark: In May and June 2006, Oracle and IBM conducted a benchmark in Research Triangle Park, North Carolina, 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) and Red Hat® Enterprise 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. This result, submitted 06-20-06, was achieved on an IBM System x3850 database server configured with 4 x 3.0GHz Dual-Core Intel® Xeon® 7040 Processor (4 processors/8 cores/16 threads) with 2 x 2MB L2 cache per Core, and 32GB memory. Two IBM TotalStorage DS4500s were used for data storage. A second IBM System x3850 four-processor, Dual-Core server was used as an application/web server.

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