HP ProLiant BL680c G5 with BL480c server blades earn the Top position on Oracle E-Business Suite 11i Medium Model Benchmark for RAC category

Fastest Average Response time, Orders-to-Cash, and Payroll Batch for any OASB medium model RAC submission

The HP Difference

The HP ProLiant BL680c G5 server blade delivers no-compromise performance and expansion in the first four-processor Quad-Core, BladeSystem server.

The HP ProLiant BL480c server blade has more than you've come to expect from a 2P server blade, and can handle your most challenging applications.

Key results at a glance:

- ProLiant leadership with the #1 result on Oracle E-Business Suite 11*i* Medium Model Benchmark with the four-socket, Quad-Core ProLiant BL680c G5 and BL480c server blades for Fastest Response Time, Orders-to-Catch, and Payroll Batch in the Real Application Clusters (RAC) category.
- The HP ProLiant BL680c G5/BL480c RAC result is the second Fastest Response Time out of all the OASB medium model submissions, with the first position also going to HP's Integrity/ProLiant submission for the non-RAC medium model category.
- HP beat IBM at both performance and price with this solution - The ProLiant BL680c G5/BL480c server blade results in the medium model RAC category beat IBM POWER6/POWER5 medium model non-RAC results in all 4 benchmark metrics. HP's results have faster response time, faster 90% percentile response time, better Orders-to-Cash, and faster Payroll Batch. HP also beats IBM on the overall solution cost with this result.
- The ProLiant BL680c G5/BL480c server blade results defeated SGI's Altix 450 eight-socket, 16-core server results for Fastest Response Time, Orders-to-Cash, and Payroll Batch in the RAC category.
- With this benchmark, HP now owns ALL Top 6 positions for published Oracle E-Business Suite medium model benchmarks with leading response time in both RAC and non-RAC categories.

The HP Advantage

The ProLiant BL680c/BL480c server blades achieved superior results when compared to the SGI Altix™ 450/XE240 and the IBM p570, respectively, in each of the following key measurements:

- 16.5% and 47.7% faster in Average Response Time
- 27.7% and 46.1% faster in 90th Percentile Response Time
- 40.8% and 12.8% better Throughput for Orders-to-Cash
- 7.1% and 13.3% better Throughput for Payroll Batch

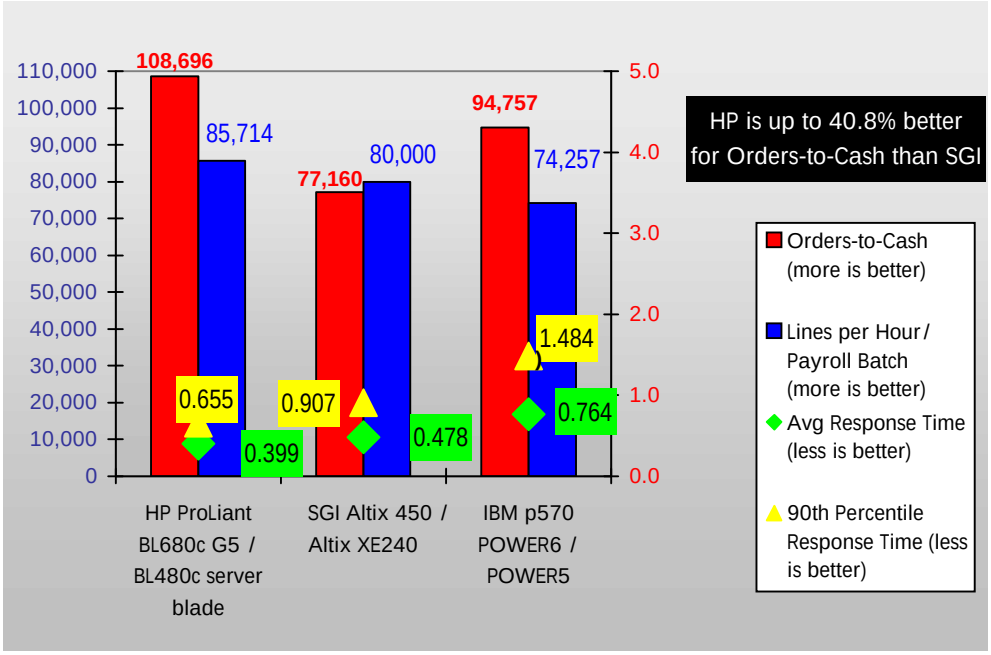

Figure 1. Comparison of performance results of the HP ProLiant BL680c G5/ BL480c server blade two-socket, Quad-Core servers to the SGI Altix 450/Altix XE240 eight-socket, 16-core server and IBM p570 POWER6/POWER5 four-socket, Dual-Core server in the 3,000-user Oracle E-Business Suite 11i Medium Model Benchmark.

Benchmark comparisons

The HP ProLiant BL680c G5 with the BL480c server blade recently took #1 performance results on the Oracle E-Business Suite 11i Medium Model Benchmark, utilizing a Quad-Core configuration with the Intel Xeon E7400 Series/X5300 chipsets. The server blades earned the best results positions for Fastest Response Time, Orders-to-Cash, and Payroll Batch in the OASB medium model RAC category submission.

Table 1. Result summary of the HP ProLiant BL680c G5/BL480c server blades to the SGI Altix 450/XE240 and IBM p570 results on the 3,000-user Oracle EBS 11i Medium Model Benchmark.

Summary of results for HP ProLiant BL680c G5/BL480c server blades vs. SGI Altix 450/XE240 and IBM p570 servers on Oracle E-Business Suite 11*i* Medium Model Benchmark			
3,000 Concurrent Users			
	ProLiant BL680c G5/ BL480c RAC	SGI Altix 450/Altix XE240 RAC	IBM Power6/Power5 Single Database (non-RAC)
Database server configuration	BL680c G5 with Quad-Core Intel Xeon E7340 processors	Altix 450 with Dual-Core Intel Itanium Processor 9150 processors	IBM p570 with Dual-Core IBM POWER6 processors
Average Response Time	0.399 sec	0.478 sec	0.764 sec
90th percentile Response Time	0.655 sec	0.907 sec	1.484 sec
Order-to-Cash Batch/ Hourly Order Line Throughput	108,696	77,160	94,757
Payroll Batch/Hourly Employee Throughput	85,714	80,000	74,257

HP leads with Top 6 positions in Fastest Response Times

With the HP Integrity rx8640 and the HP ProLiant BL680c G5 server blade as the top database performers, HP now captures all Top 6 positions for published Oracle E-Business Suite medium model benchmarks for Fastest Response Times.

Table 2. The HP ProLiant BL680c G5 and ProLiant BL460c server blades and the HP Integrity rx8640 together hold the Top 6 positions for Fastest Response Times utilizing 3,000, 2.700, and 2,100 users online with a batch of 50,000 order lines and 10,000 payroll employees.

Rank	Company	Database/Application Servers – 3,000 users	Result
1		Integrity® rx8640 server equipped with 12 x 1.6GHz Dual-Core Intel Itanium® 9000 processors/ HP ProLiant BL480c (Single Database)	0.377 sec 111,690 Lines/Hour 90,361 Checks/Hour
2		ProLiant BL680c equipped 4 x 2.4GHz Quad-Core Intel® Xeon® E7340 processors / HP ProLiant BL480c (RAC)	0.399 sec 108,696 Lines/Hour 85,714 Checks/Hour
Rank	Company	Database/Application Servers – 2,700 users	Result
3		Integrity rx8640 server equipped with 12 x 1.6GHz Dual-Core Intel Itanium 9000 processors/ HP ProLiant BL480c (Single Database)	0.366 sec 82,850 Lines/Hour 77,720 Checks/Hour
4		ProLiant BL680c equipped 4 x 2.4GHz Quad-Core Intel Xeon E7340 processors / HP ProLiant BL480c (RAC)	0.386 sec 81,477 Lines/Hour 76,726 Checks/Hour
Rank	Company	Database/Application Servers – 2,100 users	Result
5		Integrity rx8640 server equipped with 12 x 1.6GHz Dual-Core Intel Itanium 9000 processors HP ProLiant BL480c (Single Database)	0.345 sec 85,058 Lines/Hour 82,304 Checks/Hour
6		ProLiant BL680c equipped 4 x 2.4GHz Quad-Core Intel Xeon E7340 processors / HP ProLiant BL480c (RAC)	0.351 sec 115,920 Lines/Hour 93,458 Checks/Hour

The ProLiant Advantage

These stellar results were achieved using the HP ProLiant BL680c G5 server blade as the database tier combined with HP ProLiant BL480c server blades in the applications tier.

HP ProLiant BL680c G5: The server blade delivers no-compromise performance and expansion in the first four-processor Quad-Core, BladeSystem server. Designed to keep pace with strenuous computing demands, the ProLiant BL680c G5 server blade is equipped with-C-class availability features and industry-leading management tools that make it easy to deploy and maintain.

With up to four Intel Xeon 7300 Sequence processors, 64GB of Fully Buffered memory, two hot-plug Serial Attached SCSI (SAS) or Serial ATA (SATA) hard drives, four embedded Gigabit NICs and three I/O expansion slots, the HP ProLiant BL680c G5 server blade delivers the density you want with the performance you need to handle the most demanding enterprise class applications. The ProLiant BL680c G5 server blade is designed for large enterprise data centers, mainstream/mid-sized data centers and departments, branch offices, and for High Performance Computing (HPC).[1]

HP ProLiant BL480c: Experience the difference with the HP ProLiant BL480c server blade, the industry's only 2P server blade that offers 12 DIMMs, four hot-plug drives, and three I/O expansion slots. The HP ProLiant BL480c server blade features two Quad-Core or Dual-Core Intel Xeon processors, up to 48GB of ECC 667MHz DDR2 memory, four network adapters, and a choice of four hot-plug SAS or SATA drives. The ProLiant BL480c 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 P400i Controller and a Storage Works EVA6100 disk array shared between the two RAC nodes using a dual-port Qlogic Fibre Channel Adapter for data and logs.

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 140,000 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.

[1] http://www-03.ibm.com/systems/bladecenter/announce.html

For more information

HP ProLiant BL480c server blade: www.hp.com/servers/proliantbl480c
HP ProLiant BL680c G5: www.hp.com/servers/proliantbl680c
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

Server configurations

HP ProLiant BL680c G5 and BL480 server blade 3,000-user results on Oracle E-Business Suite 11*i* Benchmark: In February and March 2008, Oracle and Hewlett-Packard conducted a benchmark in Corona, California, to measure the online and batch performances of the Oracle Applications Standard Benchmark processes in an environment running Oracle E-Business Suite (EBS) 11i (11.5.10) with Oracle Database 10g™ RAC (10.2.0.3) for the Linux operating system on Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 4. Two Hewlett-Packard ProLiant BL680c G5 server blades (one with 4 sockets of Quad-Core processors for a total of 16 cores and the other with 2 sockets of Quad-Cores for a total of 8 cores) with 24 cores total, using 2.4GHz Intel Xeon Quad-Core E7340 processors, each with 8MB Level 2 cache and 64GB of memory were used as the database tier servers. Four 2-socket Quad-Core HP ProLiant BL480c server blades (8 cores per blade total), using 2.66GHz Intel Xeon X5355 processors, each with 8MB of Level 2 cache, two with 32GB of memory, and one with 24GB of memory were used as application/web servers. One of the 2-socket Quad-Core HP ProLiant BL480c server blade was used as the Concurrent Manager server and as the fourth application/web server.

This result, submitted 03-24-08, achieved 108,696 Order-to-Cash Batch Lines per Hour, 85,714 Payroll Batch per Hour, a 90th percentile response time of 0.655 seconds, and an average response time of 0.399 seconds. The system used 2 x 146GB SFF SAS internal disk drives attached to an integrated HP Smart Array P400i Controller on the ProLiant BL680c G5 server blades, 2 x 72GB internal disks attached to an integrated HP Smart Array P400i Controller for each ProLiant BL480c server blade, and 1 x HP Storage Works EVA6100 disk array attached to 1 QLogic QMH2462 4Gb Fibre Channel controller for data and logs.

vs. SGI Altix 450 and Altix XE240 3,000-user results on Oracle E-Business Suite 11*i* Benchmark: In January 2008, Oracle and SGI conducted a benchmark in Mountain View, 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™ RAC (10.2.0.3) and the Linux operating system on Red Hat® Enterprise Linux® Advanced Server release 4.0 Update 4. The servers achieved 77,160 Order-to-Cash Batch Lines per Hour, 80,000 Payroll Batch per Hour, a 90th percentile response time of 0.907 seconds, and an average response time of 0.478 seconds. This result, submitted 01-16-08, was achieved on a SGI Altix 450database server configured with 8 x 1.66GHz Dual-Core Intel Itanium 9150 Processor Series (8 processors/16 cores/16 threads) with 24MB L2 cache per socket, and 96GB total memory. An SGI IS4500was used for data storage. Five four-core and one 4-core SGI Altix XE240 servers were used respectively as application/web servers and Concurrent Manager server.

vs. IBM p570 3,000-user results on Oracle E-Business Suite 11*i* Benchmark: In March and April 2007, Oracle and IBM conducted a benchmark in Beaverton, Oregon, 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™ RAC (10.2.0.2) and the IBM AIX5L V5.3 TL06 64-bit operating system. The server achieved 94,757 Order-to-Cash Batch Lines per Hour, 74,257 Payroll Batch per Hour, a 90th percentile response time of 1.484 seconds, and an average response time of 0.764 seconds. This result, submitted 05-01-07, was achieved on an IMB p570 database server equipped with 8-core SMP implemented with four Dual-Core POWER6 processor chips each 4.7GHz with L2 Cache of 8MB (4MB per core) and L3 Cache of 32MB. An Applications Tier of 2 IBM system p5 570 servers equipped with 16-core SMP was implemented on 8 Dual-Core Power5 processor chips each 2.2GHz with L2 Cache of 8 x 1.9MB and L3 Cache of 8x36MB. An IBM TotalStorage DS4800 was used for data storage.