HP ProLiant DL585 G5 with BL685c: #1 result on Oracle E-Business Suite benchmark

HP ProLiant DL585 G5 and BL685c

Customer Value

What are the benefits of using HP ProLiant servers for Oracle applications?

HP infrastructure is modular, so it's easy to expand and repurpose. In the same way, Oracle E-Business Suite gives you the capability to add applications as your business expands.

You can implement with confidence, knowing that you are backed by the full strength of the HP/Oracle Alliance. With over 25 years of partnership between HP and Oracle, including executive alignment at the highest levels, it's not surprising that HP is a leading infrastructure partner across all Oracle application suites—including Oracle E-Business Suite.

HP's engineering investment in Oracle applications and technologies has produced significant customer benefits. For example, HP continually publishes leading benchmark results for Oracle Application environments, and HP and Oracle host 13 technology and competency centers worldwide. The strength of the HP Oracle partnership is evident in the existence of more than 140,000 joint customers across the globe.

By helping businesses reduce risk, cut costs, and generate growth, HP and Oracle—together with our partners—provide you with outstanding technology for better business outcomes.
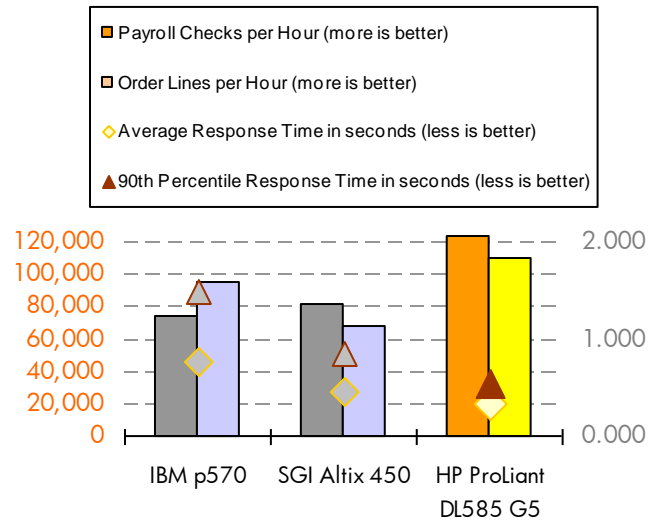
Results as of 11-17-08.

Key Points

- Leading medium model result in the industry across all benchmark metrics
- Excellent Price/Performance – Beats IBM p570 and SGI at a fraction of the cost

Figure 1. HP ProLiant DL585 G5 OASB Medium Model performance comparison with IBM and SGI platforms

- Payroll Checks per Hour (more is better)
- Order Lines per Hour (more is better)
- Average Response Time in seconds (less is better)
- 90th Percentile Response Time in seconds (less is better)

HP ProLiant DL585 G5 8356 2.3GHz Quad Core 4P Rack Server (448188-001) - specifications and warranty

Price: $13,349.00*
As low as $362/mo.**
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POWER6 / 3.5 GHz
2-core
64 MB
Call for price*

ProLiant price posted online vs. p570 'Call for price'

TPC records show system cost for 8-core POWER 6: over $70,000*

Technology for better business outcomes

Table 1. Result summary of the HP ProLiant DL585 G5 four-processor server compared to other competing platforms on the 3,000-user Oracle E-Business Suite 11i Medium Model Benchmark. The Oracle E-Business Suite 11i Medium Model Benchmark workload is best-aligned to 8-core and larger systems.

	IBM System p570	SGI Altix 450	DL585 G5
Online Users	**3,000**	**3,000**	**3,000**
Average Response Time (lower is better)	0.764 sec	0.453	**0.324**
90th percentile Response Time (lower is better)	1.484 sec	0.854	**0.544**
Order-to-Cash Lines/Hour Batch Throughput (higher is better)	94,757	68,353	**110,335**
Payroll Checks/Hour Batch Throughput (higher is better)	74,257	81,744	**123,967**

Results valid as of 11-17-08. More information on published benchmark results is available at:
http://www.oracle.com/apps_benchmark/html/results.html#medium.

The HP advantage: HP innovative technology behind the results

On November 17, 2008, HP announced new record-breaking results on the Oracle E-Business Suite 11i Medium Model benchmark. These stellar results were achieved using the HP ProLiant DL585 G5 server as the database tier and four HP ProLiant BL685c server blades for the application tier. The HP ProLiant DL585 G5 server with Quad-Core AMD Opteron™ processors delivers maximum performance, industry leading management solutions, flexibility for a variety of enterprise deployments, and maximum performance per watt. The HP ProLiant BL685c 4-processor, multi-core server blade has features equal to standard 1U rack mount servers, combining power-efficient compute power and high density with expanded memory and I/O for maximum performance. Also included in the achievement of these results are high quality HP storage products, such as the HP Smart Array P400 Controller and an HP Storage Works EVA6000 disk array.

By achieving this leadership result using only 16 cores, the overall solution cost (especially Oracle database license cost) is dramatically reduced. And with the power metrics and more efficient processors newly available on the DL585 G5, more cost savings are realized.

## *The HP ProLiant DL585 G5 server*

The HP ProLiant DL585 G5 is a highly manageable, rack-optimized, four-socket server designed for maximum performance in an industry standard architecture. With up to four Quad-core AMD Opteron processors and a maximum memory footprint of 256GB, the DL585 G5 delivers the performance and performance-per-watt needed for compute-hungry database, virtualization, and consolidation applications. Its industry-leading remote management functions help reduce your costs and improve your ability to respond quickly to business changes. The HP ProLiant November Launch of the DL585 G5 includes support for the latest AMD Opteron processors, now built on a 45nm process, have been tested and shown to deliver improved energy efficiency, price/performance, and virtualization capability as compared to previous quad-core Opteron processors. Also new with this launch is a disk-on-key USB device for enhanced security for multifactor authentication as application/OS access now requires password and physical device (the disk-on-key). Multifactor security schemes are inherently more secure than password-only schemes.

The HP ProLiant BL685c server blade

The HP ProLiant BL685c server blade delivers no-compromise performance and expansion in the densest 4P server blade form factor available. With up to four AMD Opteron™ 8000 Series processors, 128GB of DDR2 memory, two hot-plug serial hard-drives, four embedded Gigabit NICs and three I/O expansion slots, the HP ProLiant BL685c delivers the density you want with the performance you need to handle the most demanding enterprise class applications.

About the Oracle Applications Standard Benchmark (OASB)

The Oracle Applications Standard Benchmark seeks to demonstrate performance and scalability of Oracle E-Business Suite on a variety of platforms. A representative workload is maintained with end-to-end business flows, including both online and batch components.
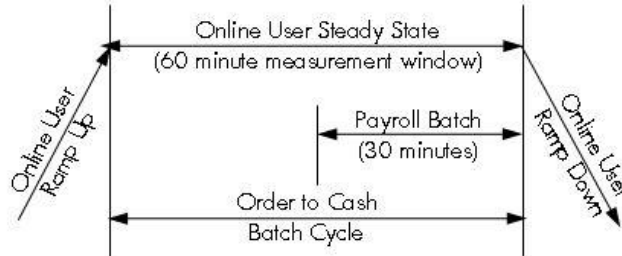
The benchmark simulates different workloads with variable data model sizes (small, medium, large).

Model Size	Payroll Batch	Order-to-Cash Batch
Small (up to 1000 users)	5,000 employee paychecks	10,000 order lines
Medium (1001-3000 users)	10,000 employee paychecks	50,000 order lines
Large (> 3000 users)	50,000 employee paychecks	100,000 order lines

Benchmark results are generated to provide representative sizing guidelines and best practices. All results are reviewed and certified by an independent auditor before Oracle publishes the benchmark report. Benchmark tuning is documented and generic for all hardware vendors to ensure reproducible results.

Four primary metrics are reported from the benchmark:

1. Average Online Response Time
2. 90th Percentile Response Time
3. Order-to-Cash Batch Throughput as measured by number of order lines processed per hour
4. Payroll Batch Throughput as measured by number of employee paychecks processed per hour

Server configurations

HP ProLiant DL585 G5 server 3,000-user results on Oracle E-Business Suite 11i Benchmark: In October 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™ (10.2.0.3) 64-bit and Oracle® Enterprise Linux® 4 Update 4, and achieved 110,335 Lines per Hour, 123,967 Checks per Hour, a 90th percentile response time of 0.544 seconds, and an average response time of 0.324 seconds. This result, submitted 11-03--08, was achieved on a Hewlett-Packard® ProLiant™ DL585 G5 database server configured with 4 x 2.7GHz Quad-Core AMD Opteron 8384 processors (4 processors/16 cores/16 threads) with 2MB Level 2 cache and 6MB Level 3 cache, 128GB memory, and PC2-5300 Registered DDR2-667MHz DIMMs. The system used 2 x 72GB SFF SAS internal disk drives attached to an integrated HP Smart Array P400 Controller, and one HP Storage Works EVA6000 disk array attached to a single HP Storage Works 4Gb PCI-e Fibre Channel controller for data and logs. Three HP ProLiant BL685c server blades each with 4 x 3.0GHz Dual-Core AMD Opteron 8222 processors (4 processors/8 cores/8 threads) and 32 GB memory were used as application/web servers and one HP ProLiant BL685c server blade with 4 x 3.0GHz Dual-Core AMD Opteron 8222 processors and 32 GB memory was used as a Concurrent Manager server.

vs. SGI Altix 450 3,000-user results on Oracle E-Business Suite 11i Benchmark: In September and October 2007, 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™ (10.2.0.3) and Red Hat Enterprise Linux AS for Itanium 4.4 (64-bit) operating system, and achieved 68,353 Lines per Hour, 81,744 Checks per Hour, a 90th percentile response time of 0.854 seconds, and an average response time of 0.453 seconds. This result, submitted 10/18/07, was achieved on an SGI Altix 450 database server configured with 16 x 1.66GHz Dual-Core Itanium Processor

950 (16 processors/32 cores/32 threads) with 24MB cache per socket, and 128GB memory. An SGI IS4500 was used for data storage. Five SGI Altix XE240 two-processor Dual-Core servers were used as application/web servers.

vs. IBM System p570 3,000-user results on Oracle E-Business Suite 11i 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™ (10.2.0.2) and IBM AIX 5L V5.3 TL06 operating system, and achieved 94,757 Lines per Hour, 74,257 Checks 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 IBM System p570 database server configured with 4 x 4.7GHz Dual-Core IBM POWER 6 processor chips (4 processors/8 cores/16 threads) with 4MB L2 cache per Core, L3 cache of 32 MB per single core, and 128GB memory. An IBM TotalStorage DS4800 was used for data storage. Two IBM System p570 POWER5 four-processor Dual-Core servers were used as application/web servers.

For more information

HP ProLiant DL585 G5: www.hp.com/servers/dl585
HP ProLiant BL685c G5 Server Blade: www.hp.com/servers/bl685c
HP ProLiant storage solutions: www.hp.com/go/serial and
h18004.www1.hp.com/products/servers/platforms/storage.html
OASB information and results: www.oracle.com/apps_benchmark/html/results.html
HP and Oracle partnership: http://h71028.www7.hp.com/enterprise/cache/4281-0-0-0-121.aspx?jumpid=hpr_R1002_USEN
*IBM p570 (POWER6) pricing from TPC-C results report:
http://www.tpc.org/results/individual_results/IBM/IBM_570_4_20070806_es.pdf
HP Oracle E-Business Solution brief for midsize businesses: http://h71028.www7.hp.com/ERC/downloads/4AA1-5108ENW.pdf