



HP ProLiant DL585 G5 once again earns world record result on Oracle E-Business Suite 11i Medium Model Benchmark



HP server outperforms competitors by up to 72%; HP ProLiant takes TOP 4 benchmark positions

HP Leadership



The latest HP ProLiant DL585 G5 rack server is highly manageable, rack optimized, four-

socket server designed for maximum performance in an industry standard architecture. The large 256GB footprint and nine expansion slots provide the memory and I/O scalability customers need to support multiple applications or virtual machines on a single physical server. The large memory capacity also provides an ideal platform for EDA, financial, and petrochemical applications that demand lots of memory.

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 and 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.

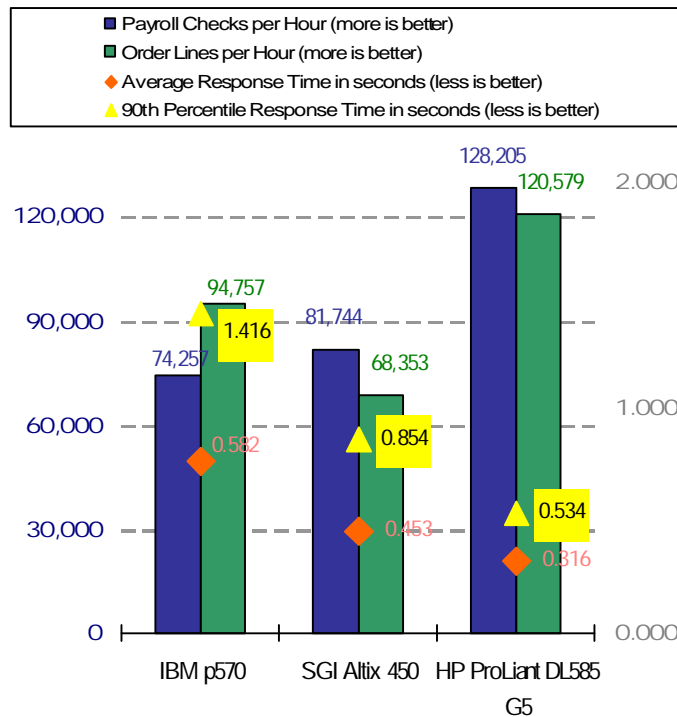


Results as of 04-23-09

Key Points

- ProLiant leadership with the #1 overall result on Oracle E-Business Suite 11i Medium Model Benchmark with the four-socket, 16-core HP ProLiant DL585 G5 server.
- With its excellent price/performance, the ProLiant DL585 G5 defeated the IBM System p570 and the SGI Altix 450 by up to 72% performance improvement.
- With this benchmark, HP now owns the TOP 4 positions for published Oracle E-Business Suite 11i Medium Model benchmarks.

Figure 1. OASB Medium Model performance comparison



The HP ProLiant DL585 G5 outperforms the IBM System p570 and the SGI Altix 450 by up to 72%.

Technology for better business outcomes

Benchmark comparisons

Table 1. Result summary of the HP ProLiant DL585 G5 processor server compared to the IBM System p570 and the SGI Altix 450 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	HP ProLiant DL585 G5
Online Users	3,000	3,000	3,000
Average Response Time (lower is better)	0.764 sec	0.453 sec	0.316 sec
90 th percentile Response Time (lower is better)	1.484	0.854	0.534
Order-to-Cash Lines/Hour Batch Throughput (higher is better)	94,757	68,353	120,579
Payroll Checks/Hour Batch Throughput (higher is better)	74,257	81,744	128,205

Results valid as of 04-23-09. More information on published benchmark results is available at http://www.oracle.com/apps_benchmark/html/results.html#small.

The ProLiant Advantage: HP innovative technology behind the results

On April 23, 2009, HP again announced new record-breaking results on the Oracle E-Business Suite 11i Medium Model benchmark with the ProLiant DL585 G5 rack server. The server was utilized as the database tier, ran the latest AMD technology processor, AMD Opteron 8393 SE 3.1GHz. 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.

The HP ProLiant DL585 G5 is an ideal choice for the growing enterprise class database, consolidation, and virtualization environments seeking to improve server utilization and reduce server sprawl, while continuing to leverage all the familiar and easy-to-use ProLiant management tools and options.

This April 2009 launch of the DL585 G5 includes support for the latest AMD Opteron processors, the Shanghai HT3 processors, which have been tested and shown to deliver improved energy efficiency, price/performance, and virtualization capability as compared to the previous generation of processors. Also with this launch, an internal USB connector is now available on the DL585 G5 system board, which can be used for 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 4-processor, multi-core server blade has features equal to standard rack mount servers, combining power-efficient compute power and high density with expanded memory and I/O for maximum performance.

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 EVA6100 disk array.

Thermal Logic Technology





HP's Thermal Logic, with its portfolio of embedded technologies for an energy-efficient data center, enables customers to:

- n REDUCE total energy consumption.
- n RECLAIM trapped data center power and cooling resources without sacrificing performance with HP ProLiant servers using HP Dynamic Power Capping.
- n EXTEND the life of the data center by utilizing HP Energy Efficiency Services that includes Assessment and Design Services for Data Center Transformation, exceptional designs, and partnering with facilities management providers.

HP leads with Top 4 positions

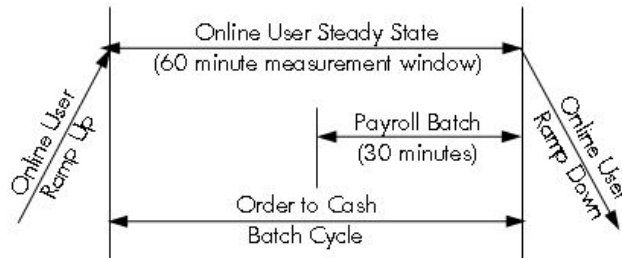
With the ProLiant DL585 G5 server again taking the lead as top performer, HP now captures the Top 4 positions for published Oracle E-Business Suite 11i Medium Model benchmarks.

Table 2. The HP ProLiant DL585 G5 and DL580 G5 servers hold the Top 4 positions for performance utilizing 3,000 users online with a batch of 50,000 order lines and 10,000 payroll employees.

Rank	Company	System	Result
1		ProLiant DL585 G5 server equipped with 4 x 3.1GHz AMD Opteron Quad-Core 8393 SE processors (16-core)	0.316 sec 120,579 Lines/Hour 128,205 Checks/Hour
2		ProLiant DL585 G5 server equipped with 4 x 2.7GHz AMD Opteron Quad-Core 8384 processors (16-core)	0.324 sec 110,335 Lines/Hour 123,967 Checks/Hour
3		ProLiant DL580 G5 server equipped with 4 x 2.66GHz Intel Xeon 6-Core X7470 processors (24-core)	0.328 sec 107,373 Lines/Hour 112,150 Checks/Hour
4		ProLiant DL580 G5 server equipped with 4 x 2.93GHz Intel Xeon Quad-Core X7350 processors (16-core)	0.393 sec 82,713 Lines/Hour 88,106 Checks/Hour

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

For more information

HP ProLiant DL585 G5: www.hp.com/servers/proliantdl585

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>

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

OASB general information: www.oracle.com/apps_benchmark/index.html

More information about all OASB published benchmarks:
www.oracle.com/apps_benchmark/html/results.html#medium

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Appendix A

Server configurations

HP ProLiant DL585 G5 server 3,000-user results on Oracle E-Business Suite 11i Benchmark: In April 2009, 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 Red Hat Enterprise Linux AS 4 Update 4, and achieved 120,579 Lines per Hour, 128,205 Checks per Hour, a 90th percentile response time of 0.534 seconds, and an average response time of 0.316 seconds. This result, submitted 04-23-09, was achieved on a Hewlett-Packard® ProLiant™ DL585 G5 database server configured with 4 x 3.1GHz Quad-Core AMD Opteron 8393 SE processors (4 processors/16 cores/16 threads) with 2MB Level 2 cache and 6MB Level 3 cache, 128GB memory, and PC2-6400 Registered DDR2-800MHz 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 EVA6100 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.