HP ProLiant BL465c G5 with BL685c: #1 result on Oracle E-Business Suite Small Model Benchmark

ORACLE
E-BUSINESS SUITE

**HP ProLiant
BL465c 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.
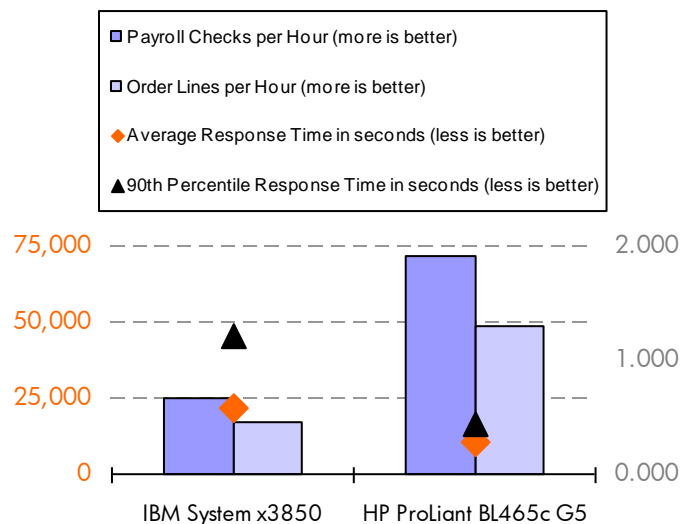
HP's engineering investment in Oracle applications and technologies has produced significant customer benefits. For example, HP continually publishes leading benchmark results for Oracle Application environments, and HP and Oracle host 13 technology and competency centers worldwide. The strength of the HP 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 11-17-08.

Key Points

- Industry-leading result across all benchmark metrics for small model single database instance

- HP ProLiant servers hold the TOP 10 POSITIONS for published Oracle E-Business Suite small model benchmarks

Figure 1. OASB Small Model performance comparison

- ■ 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)

Technology for better business outcomes

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Benchmark comparisons

Table 1. Result summary of the HP ProLiant BL465c G5 two-processor server compared to IBM System x3850 on the 1,000-user Oracle E-Business Suite 11i Small Model Benchmark. The Oracle E-Business Suite 11i Small Model Benchmark workload is best-aligned to 8-core and smaller systems.

	IBM System x3850	BL465c G5
Online Users	1,000	1,000
Average Response Time (lower is better)	0.582 sec	0.281
90th percentile Response Time (lower is better)	1.217 sec	0.434
Order-to-Cash Lines/Hour Batch Throughput (higher is better)	17,341	48,387
Payroll Checks/Hour Batch Throughput (higher is better)	25,146	71,599

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#small.

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 Small Model benchmark. These stellar results were achieved using the HP ProLiant BL465c G5 server as the database tier and three HP ProLiant BL685c server blades for the application tier. The HP ProLiant BL465c 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 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 E200i Controller and an HP Storage Works EVA6000 disk array.

The HP ProLiant BL465c G5 server blade

HP offers powerful, reliable server blades with the same trusted features as award-winning HP rack and tower servers. With features equal to standard 1U rack mount servers, the two processor BL465c G5 combines energy efficient compute power and high density with expanded memory and I/O for maximum performance. A balanced architecture featuring Quad-Core AMD Opteron™ processors with DDR2 memory, serial hard-drives, support for multifunction Gigabit networking and multiple I/O cards provides a performance system ideal for a full range of scale out applications. In this small form factor, the BL465c G5 includes features to ensure high availability such as hot plug hard drives, memory interleaving, embedded RAID capability, and enhanced remote Lights-Out management.

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.

HP leads with Top 10 positions

With the ProLiant BL465c G5 as the top performer, HP now captures the Top 10 positions for published Oracle E-Business Suite small model benchmarks.

Table 2. HP ProLiant servers hold the Top 10 positions for Oracle E-Business Suite performance utilizing the small-model benchmark workload of 1,000 online users with batch components of 10,000 order lines and 5,000 payroll employees.

Rank	Company	System	Results
1	HP invent	ProLiant BL465c G5 server blade equipped with 2 x Quad-Core AMD Opteron processors Model 2384 (2.7 GHz) (8-cores total)	0.281 sec 48,387 Lines/Hour 71,599 Checks/Hour
2	HP invent	ProLiant BL460c server blade equipped with 2 x Quad-Core Intel Xeon processors Model X5460 (3.16 GHz) (8-cores total)	0.291 sec 46,584 Lines/Hour 63,025 Checks/Hour
3	HP invent	ProLiant DL380 G5 server equipped with 2 x Quad-Core Intel Xeon processors Model X5460 (3.16 GHz) (8-cores total)	0.305 sec 45,045 Lines/Hour 61,475 Checks/Hour
4	HP invent	ProLiant BL465c G5 server blade equipped with 2 x Quad-Core AMD Opteron procesors Model 2356 (2.3 GHz) (8-cores total)	0.309 sec 37,500 Lines/Hour 61,224 Checks/Hour
5	HP invent	ProLiant DL380 G5 server equipped with 2 x Quad-Core Intel Xeon processors Model X5365 (3.0 GHz) (8-cores total)	0.316 sec 40,650 Lines/Hour 58,140 Checks/Hour
6	HP invent	ProLiant DL380 G5 server equipped with 2 x Quad-Core Intel Xeon processors Model X5355 (2.66 GHz) (8-cores total)	0.379 sec 36,166 Lines/Hour 54,152 Checks/Hour
7	HP invent	ProLiant BL685c server equipped with 4 x Dual-Core AMD Opteron processors Model 8220 (2.8 GHz) (8-cores total)	0.373 sec 26,984 Lines/Hour 46,296 Checks/Hour
8	HP invent	ProLiant DL580 G4 server equipped with 4 x Dual-Core Intel Xeon processors Model 7140M (3.4 GHz) (8-cores total)	0.415 sec 23,511 Lines/Hour 43,415 Checks/Hour
9	HP invent	ProLiant DL580 G4 server equipped with 2 x Dual-Core Intel Xeon processors Model 7140M (3.4 GHz) (4-cores total)	0.448 sec 21,254 Lines/Hour 38,119 Checks/Hour
10	HP invent	ProLiant DL580 G3 server equipped with 4 x Dual-Core Intel Xeon processors Model 7040 (3.0 GHz) (8-cores total)	0.505 sec 17,497 Lines/Hour 23,872 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.
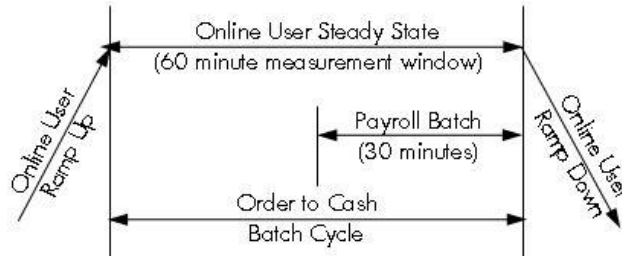
The benchmark simulates different workloads with variable data model sizes (small, medium, large).

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

Server configurations

HP ProLiant BL465c G5 server blade 1,000-user results on Oracle E-Business Suite 11i Benchmark: In November 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 update 4, and achieved 48,387 lines per hour, 71,599 checks per hour, a 90th percentile response time of 0.434 seconds, and an average response time of 0.281 seconds. This result, submitted 11-17-08, was achieved on a Hewlett-Packard® ProLiant™ BL465c G5 server blade database server configured with 2 x Quad-Core AMD Opteron™ processors Model 2384 (2.7 GHz) (2 processors/8 cores/8 threads) with 512 MB level 2 cache per core, 6MB level 3 cache, 32 GB memory, and PC2-5300 667MHz DDR2 registered DIMMs. The system used 2 x 72 GB 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 4 Gb fibre channel controller for data and logs. Two HP ProLiant BL685c server blades were used as application/web servers, and one HP ProLiant BL685c server blade was used as a Concurrent Manager/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 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 Dual-Core Intel® Xeon™ processors Model 7040 (3.0 GHz) (4 processors/8 cores/16 threads) with 2 x 2 MB level 2 cache per core, and 32 GB 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.

For more information

HP ProLiant BL465c G5: www.hp.com/servers/bl465c
HP ProLiant BL685c 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
HP Oracle E-Business Solution brief for midsize businesses: http://h71028.www7.hp.com/ERC/downloads/4AA1-5108ENW.pdf