

Cisco UCS B200 M3: Dominating the Landscape for Oracle E-Business Suite Performance



Performance Brief
September 2012



Highlights

World-Record-Setting Results

- Four new world-record Oracle E-Business Suite Applications R12 benchmark results demonstrate the performance leadership of the Cisco Unified Computing System™ (Cisco UCS™) with Intel® Xeon® processors and EMC® VNX™ storage powering Oracle database and enterprise applications.

Outperforming the Competition

- These world records include results that outperform IBM Power 7 by more than 63 percent, and Oracle Sun by more than 6 percent.

Proven Track Record

- Cisco has a tradition of establishing performance records for Oracle E-Business Suite, and four of its previous world records remain unchallenged. Cisco's performance proves the versatility of the enterprise multitier application performance that Cisco UCS can deliver.

Cost-Effective Performance

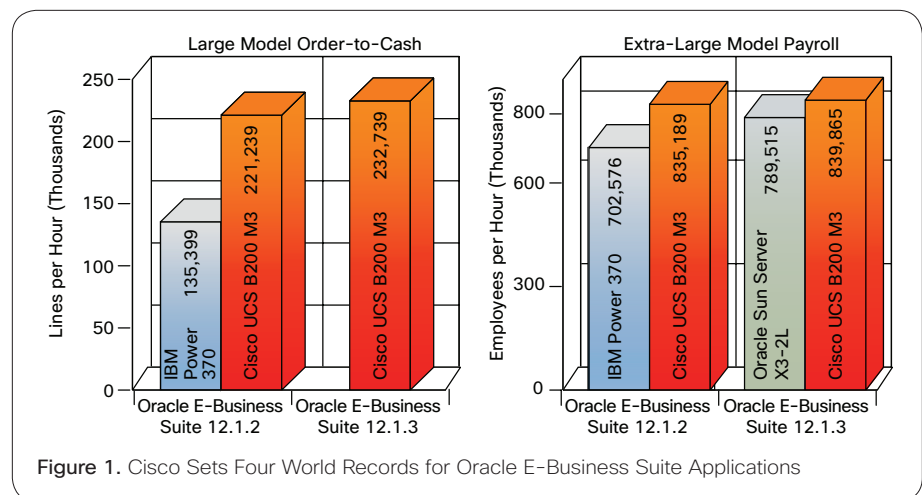
- The benchmark results demonstrate how well the Cisco® solution, based on open standards x86-architecture processors, can outperform proprietary RISC processor-based systems, and that it can save one-third on Oracle Database license costs.

Cisco continues a tradition of enterprise application performance leadership with four new world records on Oracle E-Business Suite benchmarks, demonstrating that Cisco Unified Computing System™ (Cisco UCS®) powers business-critical software better than any other server vendor.

In four of the Oracle E-Business Suite Standard Benchmarks, the Cisco UCS B200 M3 Blade Server powered by the Intel® Xeon® processor E5 family delivers the best performance of any server, regardless of configuration or number of processor cores. Cisco does not just set four new top marks—Cisco continues its commitment to Oracle software performance by demonstrating record-setting performance over time.

The Oracle E-Business Suite Standard Benchmark simulates global enterprise workloads with varying data model sizes to demonstrate performance and scalability across a range of scenarios. Results are certified by an independent auditor, and detailed benchmark reports are published on the Oracle website.

- Cisco is the **first to demonstrate results** on the Oracle E-Business Suite Applications R12 (12.1.3) Large Model Order-to-Cash Benchmark with a score



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of 232,739 lines per hour, setting the standard for performance on this new benchmark version (Figure 1)

- Cisco’s score of 221,239 lines per hour on the Oracle E-Business Suite R12 (12.1.2) Large Model Order-to-Cash Benchmark **outperforms IBM’s Power 7 processor score by more than 63 percent**, demonstrating how Intel Integrated I/O helps eliminate data bottlenecks and streamline operations
- The Cisco UCS B200 M3 **outperformed the Sun X3-2L server by more than 6 percent** with a score of 839,865 employees per hour on the Oracle E-Business Suite R12 (12.1.3) Extra-Large Model Payroll Benchmark. This result highlights superior storage access performance through the high-performance and low-latency unified fabric that carries both network and I/O traffic in Cisco UCS.
- Cisco’s Oracle E-Business Suite R12 (12.1.2) Extra-Large Model Payroll

Benchmark score of 835,189 again **outperforms the IBM Power 7 result, this time by nearly 19 percent**, helping demonstrate the balance of CPU, memory, and I/O performance that Cisco UCS offers.

A Performance Tradition

Cisco UCS has established a tradition of exceptional Oracle E-Business Suite Applications performance, with Figure 2 demonstrating how Cisco’s prior results withstand the test of time and still lead the competition:

- On the 12.0.4 Medium Model Payroll benchmark, the Cisco UCS B200 M2 Blade Server score of 422,535 employees per hour is still 64 percent faster than the IBM Power 750 result and 84 percent faster than the HP DL 380 G6 result despite its dating to February 2011.
- On the 12.0.4 Extra-Large Model Payroll benchmark, the Cisco UCS B200 M2 score of 581,846 also

withstands the test of time, with a result that is 45 percent faster than the HP DL380 G6 and 60 percent faster than the IBM X3550.

- On the 12.1.2 Extra-Large Model Payroll benchmark, the Cisco UCS B200 M3 score continues to be the best reported, with a score of 835,189 employees per hour, exceeding IBM’s result by 19 percent.
- On the 12.1.3 Extra-Large Model Payroll benchmark, the newly published Cisco UCS B200 M3 score of 839,865 employees per hour is better than the Oracle Sun Server X3-2L result by 6 percent.

Benchmark Environment

Cisco UCS is designed to deliver best-in-class performance and reliability, availability, and serviceability (RAS) with exceptional data security for mission-critical applications. While other servers may also incorporate the latest Intel processors, Cisco integrates them into

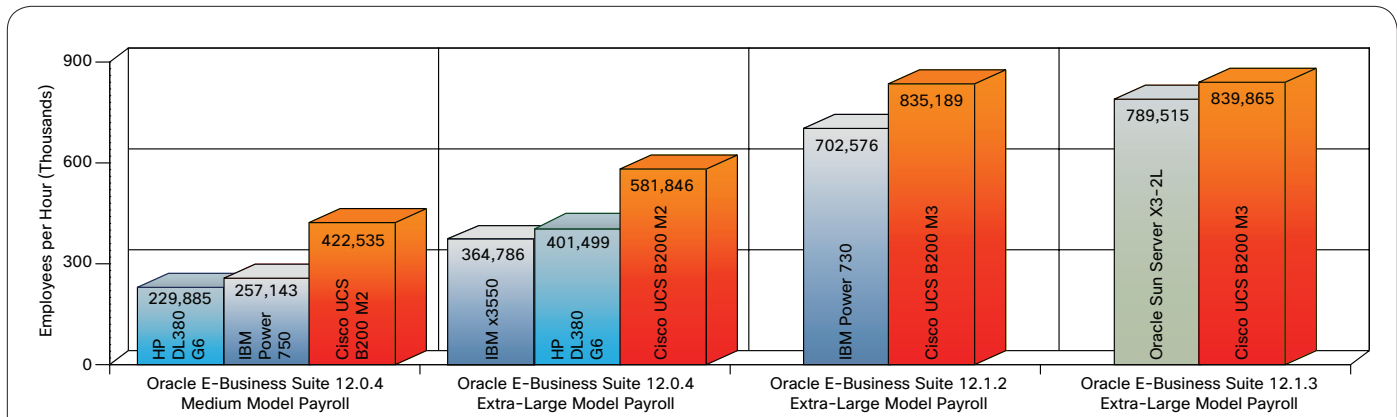


Figure 2. Cisco Continues a Tradition of Record-Setting Performance on Oracle E-Business Suite Benchmarks

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a unified system built to deliver scalable performance to meet business needs. Unlike products from other vendors, Cisco UCS is a next-generation data center platform that unites computing, networking, storage access, and virtualization resources into a unified system designed specifically to reduce total cost of ownership (TCO) and increase business agility.

Cisco ran the Oracle E-Business Suite R12 Benchmark batch processes using the concurrent manager from the standardized scripts provided with the benchmark.

Physical Configuration

The benchmarks were run in a two-tier configuration with a single Cisco UCS B200 M3 Blade Server hosting both the database and the application server instances, all running on a single Oracle Linux image.

The Cisco UCS B200 M3 had two Intel Xeon processors E5-2690 (8 cores each for 16 total cores) running at 2.90 GHz with Intel Hyper-Threading enabled. For this test, 128 GB of memory was configured. As shown in Figure 3, Cisco UCS unifies all networking and storage access across a high-bandwidth, low-latency 10 Gigabit Ethernet fabric using integrated Cisco® fabric extender and fabric interconnect technologies.

No-Compromise Blade Server

The Cisco UCS B200 M3 is a server without compromise. Powered by the Intel Xeon processor E5 family,

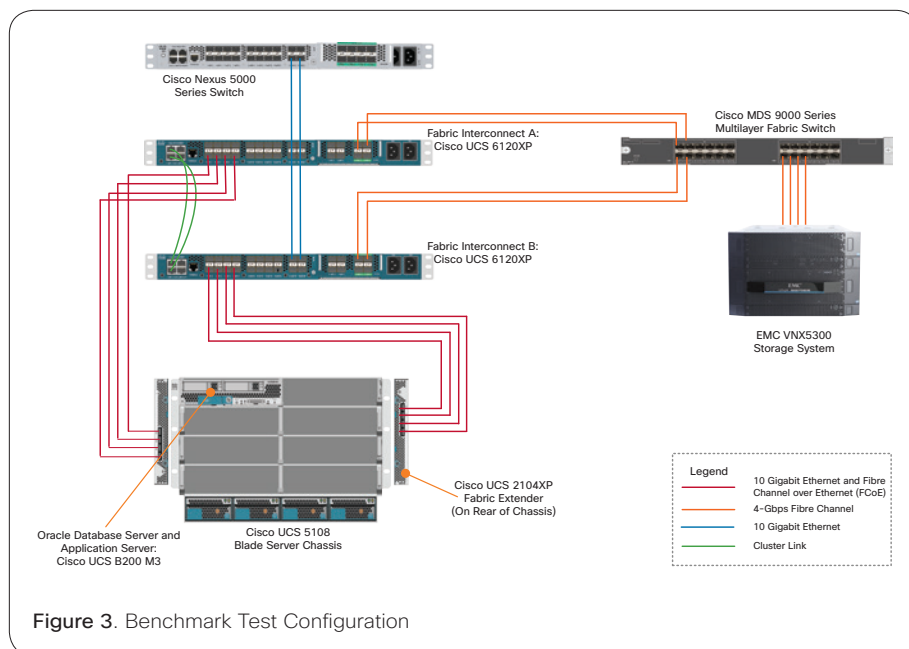


Figure 3. Benchmark Test Configuration

the half-width blade server supports 24 DIMM slots (up to 768 GB) to accommodate large data and virtual machine footprints. The server is designed to deliver the utmost in I/O bandwidth and flexibility. It is the first server anywhere to provide built-in programmable I/O connectivity in which the number and type of I/O devices can be configured on demand to support the needs of enterprise applications, optimizing performance and security for data center and cloud computing environments.

Intel Xeon Processor E5 Family

The Intel Xeon processor E5 family is at the center of a flexible and efficient data center that meets diverse business needs. This processor family is designed to deliver versatility with the

best combination of performance, built-in capabilities, and cost effectiveness. The Intel Xeon processor E5 family delivers exceptional performance to a broad range of data center environments and applications: from virtualization and cloud computing to design automation and real-time financial transactions. With these processors, I/O latency is dramatically reduced with Intel Integrated I/O, which helps eliminate data bottlenecks, streamline operations, and increase agility.

EMC VNX Storage

The EMC® VNX5300™ storage system, with 75 600-GB SAS drives, was used to support the system test environment. Designed for high performance and consolidation, EMC VNX™ storage

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systems address the requirements of Oracle enterprise applications. With EMC VNX storage, Oracle application environments can be configured with discrete SANs with network attached storage (NAS) or Fibre Channel over Ethernet (FCoE). The unified fabric supported by Cisco UCS allows FCoE traffic to reach speeds of 10 Gbps while providing an end-to-end data center connectivity strategy based on 10 Gigabit Ethernet.

High Performance with Lower Licensing Costs

Cisco's multi-tier application server solution delivers world-class performance among x86-architecture servers while surpassing IBM's RISC processor server-based solution.

With Cisco UCS, Oracle Database software licensing costs can be reduced by one-third compared to IBM RISC platforms, because per-core licensing costs are higher for RISC processors. Licensing Oracle software for the IBM solution's 12 cores would cost the equivalent of licensing 24 cores of x86-architecture performance. With Cisco's solution delivering greater performance with only 16 cores, the cost is one-third less.

These results demonstrate not just superior performance, but also how

customers can power their enterprise applications with a cost-effective, high-performance system built on industry standards: Cisco UCS, Intel Xeon processors, and EMC VNX storage

For More Information

- Cisco Unified Computing System: <http://www.cisco.com/go/ucs>.
- Cisco UCS and Oracle software: <http://www.cisco.com/go/oracle>
- Cisco UCS and EMC storage: <http://www.cisco.com/go/emc>
- EMC VNX storage systems: <http://www.emc.com/storage/vnx/vnx-family.htm>

Benchmark Disclosures

The performance comparisons described in this document are derived from detailed benchmark reports published by Oracle at <http://www.oracle.com/us/solutions/benchmark/apps-benchmark/results-166922.html> as of September 28, 2012. The systems cited in this document were configured as follows:

- **Cisco UCS B200 M3 server** was configured with two 2.90-GHz Intel Xeon processors E5-2690 (16 cores total) and 128 GB of memory; was running Oracle Linux 5.7 (64-bit), Oracle E-Business Suite R12 (12.1.3), and Oracle 11g Database (11.2.0.3.0; 64-bit); and was connected to EMC VNX5300 storage system, configured using Oracle Automatic Storage Management (ASM) with 600-GB RAID 5 storage for data.

- **HP ProLiant DL380 G6 server** was configured with two 2.93-GHz Intel Xeon X5570 processors (8 cores total) and 48 GB of memory; was running Enterprise Linux 5 (64-bit), Oracle E-Business Suite R12 RUP 4 (12.0.4), and Oracle 10g Database (10.2.0.3); and was connected to a single HP StorageWorks EVA6400 storage system.
- **IBM System x3550 server** was configured with two 2.93-GHz Intel Xeon X5570 processors (8 cores total) and 64 GB of memory; was running Enterprise Linux 5 (64-bit), Oracle E-Business Suite R12 RUP 4 (12.0.4), and Oracle 10g Database (10.2.0.3); and was connected to a single IBM Storage System DS4700.
- **IBM Power 730 Express Server** was configured with two 3.72-GHz IBM POWER7 processors (12 cores total) and 48 GB of memory; was running IBM AIX 6.1 TL04 (64-bit), Oracle E-Business Suite R12 (12.1.2), and Oracle 11g Database (11.2.0.1; 64-bit); and was connected to an IBM Storwize V7000 storage array.
- **IBM Power 750 server** was configured with one 3.3-GHz IBM Power7 processor (6 cores total) and 64 GB of memory; was running IBM AIX 6.1 TL04, Oracle E-Business Suite R12 RUP 4 (12.0.4), and Oracle 10g Database (10.2.0.3); and was connected to a single IBM Storage System DS5100.
- **Oracle Sun Server X3-2L** was configured with two 2.90-GHz Intel Xeon processors E5-2690 (16 cores total) and 128 GB of memory; was running Oracle Linux 5.7 (64-bit), Oracle E-Business Suite R12 (12.1.3) and Oracle 11g Database (11.2.0.3.0; 64-bit) and was connected to eight internal 100-GB SSDs and one internal 300-GB SSD.



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