High-Density Cisco UCS Blade Servers Set World Java Business Application Performance Records

Powered by Intel Xeon Processors

Performance Brief
September 2011

Highlights

Best Performance and Scalability for Java Business Applications

- The Cisco UCS™ B230 M2 Blade Servers and Cisco UCS B440 M2 High-Performance Blade Servers, powered by the Intel® Xeon® processor E7 family, set world-record performance for both 2- and 4-socket servers (respectively) on the SPECjbb®2005 benchmark.

Performance and Flexibility in a Blade Form Factor

- Cisco offers the only half-width blade servers in the industry powered by the Intel Xeon processor E7 family, delivering performance, efficiency, and reliability in a dense form factor.

A Tradition of Performance

- Cisco has established a tradition of performance leadership on enterprise middleware benchmarks, including Oracle E-Business Suite, SPECjAppServer®2004, SPECjbb2005, and SPECjEnterprise®2010. Cisco's results indicate the degree to which Cisco® products can deliver superior scalability and performance to enterprise applications.

Cisco extends its industry leadership and further establishes the Cisco Unified Computing System as the best platform for enterprise-critical applications by setting world-record performance records running Java application software on Intel Xeon processor-powered servers.

High Performance for Business Logic

Enterprise application performance and scalability depends on the how well the Java business logic software runs on middle-tier servers. The Cisco UCS™ B230 M2 Blade Server and Cisco UCS B440 M2 High-Performance Blade Server powered by Intel® Xeon® processors deliver the best Java application performance on any 2- or 4-socket server as measured by the SPECjbb®2005 benchmark (Table 1).

Flexible, Scalable, Blade Form Factor

With two servers setting records simultaneously, Cisco shows how organizations can use their choice of 2- or 4-socket servers to power enterprise middleware with superior performance. Only Cisco has incorporated the top-of-the-line Intel Xeon E7 family into a flexible, scalable, half-width blade form factor. Now organizations can power enterprise applications even better with the agile, efficient, and simplified infrastructure of the Cisco Unified Computing System™ (Cisco UCS).

Cisco UCS: Best Platform for Oracle Software

Today's SPECjbb2005 results are complemented by world records on Oracle E-Business Suite, SPECjAppServer®2004, and SPECjEnterprise®2010 performance. Cisco has established a tradition of demonstrating world-record performance on enterprise application benchmarks. Nine world records on the SPECjbb2005 benchmark illustrate Cisco's ability to deliver leading-edge performance with

Table 1. World-Record SPECjbb2005 Performance for 2- and 4-Socket Servers

Cisco Server	Intel Xeon Processors	Business Operations per Second (bops)	Bops per Java Virtual Machine (bops/JVM)	Publication Date and Disclosure
Cisco UCS B440 M2	4 Intel Xeon E7-4870 2.4 GHz	2,798,763	699,691	September 30, 2011
Cisco UCS B230 M2	2 Intel Xeon E7-2870 2.4 GHz	1,408,935	704,468	September 30, 2011

enterprise-grade Java virtual machines (Figure 1). With these results, customers can be confident that Cisco UCS is one of the best platforms for enterprise software.

Cisco Unified Computing System

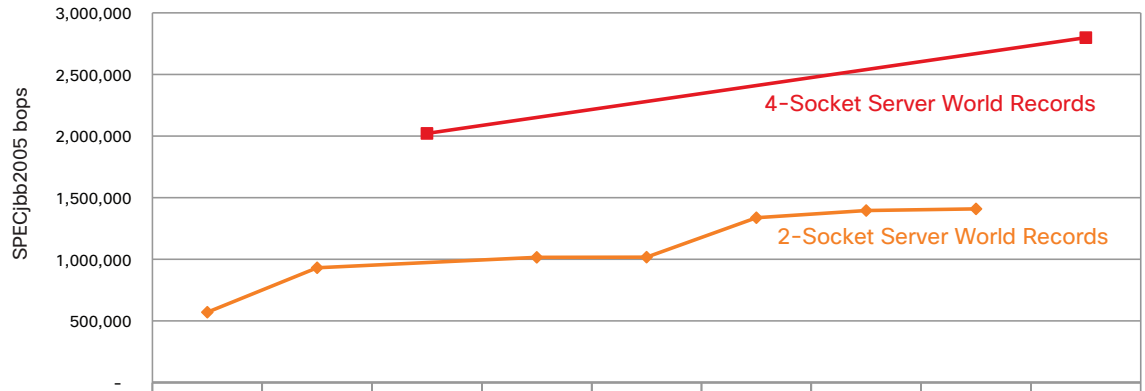
Cisco UCS is the first converged data center platform that combines industry-standard x86-architecture servers with networking and storage access into a single converged system. The system is smart infrastructure whose configuration can be programmed using integrated, model-based management to simplify and accelerate deployment of enterprise applications. The system's unified I/O infrastructure uses a 10-Gbps unified fabric to support both network and storage I/O, while the Cisco® fabric extender architecture brings the fabric directly to servers and virtual machines for increased performance, security, and manageability.

Benchmark Configurations

The SPECjbb2005 benchmark simulates a three-tier client-server order-processing application for a wholesale supplier and measures performance of Java software running the business logic in the middle tier. Cisco configured each of its servers with the publicly available version of Oracle Java HotSpot Virtual Machine (VM) software.

Cisco UCS B440 M2 Server

The Cisco UCS B440 M2 High-Performance Blade Server brings new levels of performance, scalability, and reliability to Cisco UCS. The server is powered by the Intel Xeon processor E7-4800 family and supports up to 512 GB of main memory and four front-accessible, hot-swappable Small Form-Factor Pluggable (SFP) drives with integrated RAID controller. When



	Cisco UCS B200 M1 Intel Xeon X5570 Oracle JRockit VM Q4 2009	Cisco UCS B200 M2 Intel Xeon X5680 IBM J9 VM Q1 2010	Cisco UCS C460 M1 Intel Xeon X7560 IBM J9 VM Q2 2010	Cisco UCS B230 M1 Intel Xeon X7560 IBM J9 VM Q3 2010	Cisco UCS B230 M1 Intel Xeon X7560 IBM J9 VM Q4 2010	Cisco UCS C260 M2 Intel Xeon E7-2870 Oracle HotSpot VM Q2 2011	Cisco UCS B230 M2 Intel Xeon E7-2870 Oracle HotSpot VM Q2 2011	Cisco UCS B230 M2 Intel Xeon E7-2870 Oracle HotSpot VM Q3 2011	CiscoUCS B440 M2 Intel Xeon E7-4870 Oracle HotSpot VM Q3 2011
Cisco UCS 2-Socket World Records	570,332	931,076		1,015,802	1,017,141	1,337,210	1,395,684	1,408,935	
Cisco UCS 4-Socket World Records			2,021,525						2,798,763

Figure 1. Cisco Has Established a Tradition of Delivering World-Record-Setting SPECjbb2005 Benchmark Results

configured with the Cisco UCS Virtual Interface Card (VIC) 1280, the server has access to an astonishing 160 Gbps of network and storage bandwidth.

Configured for the SPECjbb2005 benchmark, the server was equipped with four Intel Xeon processors E7-4870, 512 GB of main memory, and a single 100-GB solid-state drive.

Cisco UCS B230 M2 Server

The Cisco UCS B230 M2 Blade Server brings high performance, scalability, and reliability to Cisco UCS. It is unique in the industry in its support of the Intel Xeon processor E7 family along with the capacity for up to 512 GB of memory in a half-width form factor. Eight Cisco UCS B230 M2 servers fit into a single Cisco UCS 5108 Blade Server Chassis, and each half-width blade has access to up to 80 Gbps of network and I/O bandwidth.

The server used for the SPECjbb2005 benchmark was equipped with four Intel Xeon processors E7-2870, 128 GB of main memory, and a single 100-GB solid-state drive.

Intel Xeon Processor E7 Family

The Cisco UCS B230 M2 and B440 M2 servers are powered by the Intel Xeon processor E7 family, top-of-the-line processors that deliver high performance for data-demanding workloads with improved scalability and increased memory and I/O capacity. These processors help organizations easily adapt to changes in short-term business demands while addressing requirements for longer-term business growth. Advanced reliability and security features work to maintain data integrity, accelerate encrypted transactions, and increase the availability of mission-critical applications. The powerful and reliable Intel Xeon processor E7 family provides flexibility for business-critical solutions.

Conclusion

Multi-tiered application environments need a balanced approach to computing, networking, and storage that provides computing and infrastructure performance that is essential to maintaining a high quality of service. Cisco UCS delivers the high performance needed to set world performance records as well as the balanced memory and I/O capacity to deliver enterprise application performance in real-world environments.

The SPECjbb2005 benchmark results reported in this brief demonstrate Cisco's commitment to enterprise application excellence as well as the level of performance and capacity that customers can expect when they choose Cisco products.

For More Information

- For more information about the Cisco Unified Computing System, visit http://www.cisco.com/go/ucs.
- For more information about Cisco UCS performance, visit http://www.cisco.com/go/ucsatwork.

Benchmark Disclosures

SPEC, SPECjAppServer, SPECjbb, and SPECjEnterprise are registered trademarks of Standard Performance Evaluation Corporation. The performance results described in this document are derived from detailed benchmark results available at http://www.spec.org and http://www.cisco.com/go/ucsatwork as of September 30, 2011.

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