High-Density Cisco UCS Rack Servers Set World Record for Java Business Application Performance

With the Versatile Intel Xeon Processor E5-2600 v2 Family

Performance Brief
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Highlights

Best Performance and Scalability for Java Business Applications

- The Cisco UCS™ C220 M3 Rack Servers, powered by the Intel® Xeon® processor E5-2600 v2 family, set world-record performance for 2-socket servers on the SPECjbb®2005 benchmark.

Dramatic Performance Improvement

- The Cisco UCS C220 M3 with the Intel® Xeon® processor E5-2600 v2 family delivered 35 percent better performance than previous-generation Intel Xeon processors.

Performance and Flexibility in a Dense Rack Form Factor

- The Cisco UCS C220 M3 Rack Server delivers performance, efficiency, and reliability in a compact rack form factor.

A Tradition of Performance

- Cisco has established a tradition of performance leadership on enterprise middleware benchmarks. Cisco's results indicate the degree to which Cisco® products can deliver superior scalability and performance to enterprise business-critical applications.

Cisco extends its industry leadership and further establishes the Cisco Unified Computing System™ (Cisco UCS®) as the best platform for business-critical applications such as Java application software.

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™ C220 M3 Rack Server powered by the Intel® Xeon® processor E5-2600 v2 family delivers the best Java application performance on any 2-socket server as measured by the SPECjbb®2005 benchmark (Table 1). This represents an improvement of 35 percent compared to Cisco's score with the previous-generation Intel Xeon processors.

Flexible, Scalable, Blade Form Factor

Organizations can use these 2-socket servers to power enterprise middleware with superior performance. Only Cisco has incorporated the top-of-the-line Intel Xeon E5-2600 v2 family into a flexible, scalable, 1-rack-unit (1RU) form factor. Now companies can give their enterprise applications even more power with the agile, efficient, and simplified infrastructure of Cisco UCS.

Cisco UCS: Best Platform for Oracle Software

Cisco has established a tradition of demonstrating world-record performance on enterprise application benchmarks. Ten world records on the SPECjbb2005 benchmark illustrate Cisco's ability to deliver leading-edge performance with 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.

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

Cisco Server	Intel Xeon Processors	Business Operations per Second (bops)	Bops per Java Virtual Machine (bops/JVM)	Publication Date and Disclosure Link
Cisco UCS C220 M3 Rack Server	2 Intel Xeon E5-2697 v2 at 2.7 GHz	2,152,354	1,076,177	September 10, 2013

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 C220 M3 Rack Server

The Cisco UCS C220 M3 Rack Server brings high performance, scalability, and reliability to enterprise applications. It is unique in the industry in its support of the Intel Xeon processor E5-2600 v2 family along with the capacity for up to 512 GB of memory.

The server used for the SPECjbb2005 benchmark was equipped with two Intel Xeon processors E5-2697 (a total of 24 cores), 128 GB of main memory, and a single 300-GB SAS drive.

Intel Xeon Processor E5-2600 v2 Family

The Intel Xeon processor E5-2600 v2 product family is at the center of an agile, efficient data center that meets a diverse set of needs, including the needs of VDI deployments. Using industry-leading Intel 22-nanometer (nm) 3-D Tri-Gate transistor technology, these versatile processors deliver significantly greater performance and power efficiency compared to the previous generation of Intel Xeon processors. The processor family offers more cores with more threads, more processor cache, faster main memory, and lower power consumption by intelligently matching core, memory, cache, and I/O power to system demand.

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

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