

Cisco Improves Performance by Up to 47 Percent in World-Record SPECjbb2013 Benchmark Results



With the Highly Scalable Intel Xeon Processor E7-4800 v2 Family

Performance Brief
April 2014

Highlights

Dramatically Increase Performance

- A Cisco UCS® B260 M4 Blade Server powered by the Intel® Xeon® processor E7-4800 v2 family delivers a 47 percent increase in SPECjbb®2013 max-jOPS and a 28 percent increase in critical-jOPS compared to Cisco's recent results with the Intel Xeon processor E5 v2 powered servers.

Increase Transaction Throughput

- High-performance blade servers and network connections enable the Cisco UCS B260 M4 to handle Java transactions at the rate of 91,499 concurrent Java operations per second and 30,021 concurrent critical Java operations per second on the SPECjbb2013 benchmark.

Scale to Meet Demand

- The 2-socket Cisco UCS B260 M4 can scale to 4 sockets through an additional server and a Cisco UCS scalability connector—a feature available only from Cisco.

Take Advantage of High Density

- The Cisco UCS B460 M4 with a full-width form factor brings large amounts of computing power into a small footprint.

Optimize Resource Use

- Cisco UCS dramatically reduces the number of physical components needed to support demanding Java application workloads, enabling IT departments to make effective use of limited space, power, and cooling resources.

Do More with Less

- Cisco UCS enables IT departments to simplify their enterprise application landscape and increase capacity with a smaller footprint.

Cisco claims a world-record SPECjbb®2013 MultiJVM x86/x64 2-socket performance result. The big news is that customers can count on ever-increasing performance from Cisco® servers.



With the highly scalable Intel® Xeon® processor E7-4800 v2 family, Cisco Unified Computing System™ (Cisco UCS®) captured the [top x86/x64 2-socket MultiJVM score for maximum Java operations](#) (max-jOPS).

More important than this world-record-setting result is Cisco's track record of delivering world-record performance in generation after generation of processor technologies, all in the same blade server chassis.

Today's results of 91,499 max-jOPS and 30,021 critical-jOPS are up to 47 percent better than our record-setting Intel Xeon processor E5 v2 family-based result from just half a year ago, and up to 118 percent faster than our Intel Xeon processor E5 family results from just a year ago (Figure 1). With consistent, record-setting performance from Cisco blade and rack servers, you can be confident that Cisco will stay ahead of competitors in delivering high performance for Java Virtual Machines (JVMs) and throughput-intensive Java applications.

Benchmark Configuration and Results

Our configuration consisted of a controller and two groups, each consisting of a transaction injector and back end, all running across multiple JVM instances within a single operating system image. The JVM instances ran on a Cisco UCS B260 M4

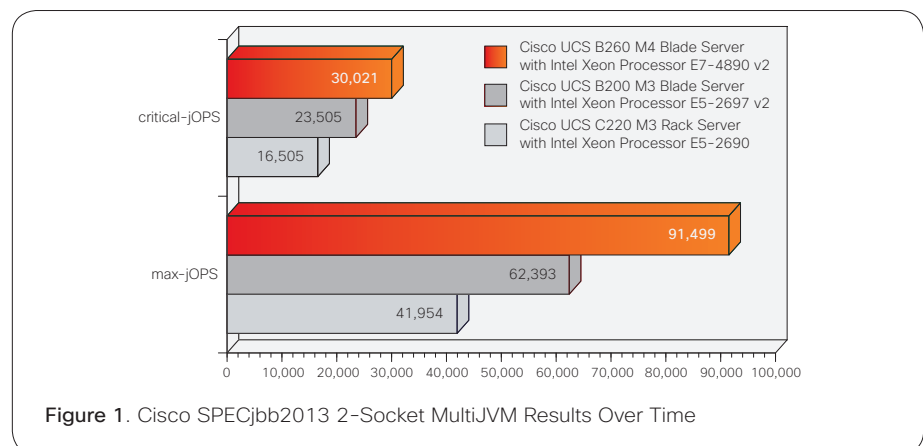


Figure 1. Cisco SPECjbb2013 2-Socket MultiJVM Results Over Time

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Blade Server powered by two 2.8-GHz, 15-core Intel Xeon processor E7-4890 v2 CPUs running the Red Hat Enterprise Linux (RHEL) 6.4 operating system and Oracle Java HotSpot 64-Bit Server Virtual Machine (VM) on Linux Version 1.8.0. The blade server was configured with 256 GB of 1600-MHz RAM and accessed the network through a Cisco UCS Virtual Interface Card (VIC) 1240.

The benchmark result of 91,499 max-jOPS and 30,021 critical-jOPS places the Cisco UCS B260 M4 at the top of the max-jOPS scores for x86/x64 2-socket servers running multiple JVMs.

Cisco UCS B260 M4 Blade Server

The new Cisco UCS B260 M4 Blade Server delivers scalable and flexible computing capacity with the right balance of price and performance for business applications, workload consolidation, large memory applications, database acceleration, and virtualized applications.

The Cisco UCS B260 M4 Blade Server harnesses the power of up to two of the latest Intel Xeon processor E7 v2 family CPUs and accelerates access to critical data, with expandability to up to 1.5 terabytes (TB) of RAM (using 32-GB DIMMs). Standard features include two hot-pluggable disk drives or solid-state disks (SSDs), two modular LAN-on-motherboard (mLOM) ports, two PCI

Express (PCIe) mezzanine slots, and access to up to 160 Gbps of overall I/O bandwidth. The Cisco UCS B260 M4 is a full-width blade server, so up to four can reside in a Cisco UCS chassis.

For the utmost scalability, two Cisco UCS B260 M4s can be interconnected to create a single Cisco UCS B460 M4 Blade Server accommodating up to four Intel Xeon processor E7 v2 CPUs and up to 3 TB of main memory.

Business Advantages

Accelerate response: Cisco tunes its chip sets and servers for specific workloads. With high-performance processors, large and fast memory configurations, and efficient use of Intel Turbo Boost Technology, the Cisco UCS B260 M4 delivers low latency and server optimization to JVMs.

Increase scalability: SPECjbb2013 benchmark results show that the Cisco UCS B260 M4 delivers excellent scalability to JVMs and applications. IT departments can scale deployments further by combining pairs of servers to create 4-socket systems.

Simplify data centers: Cisco UCS delivers the scalability needed for large Java application deployments. The dramatic reduction in the number of physical components results in a system that makes effective

use of limited space, power, and cooling resources by deploying less infrastructure to perform the same, or even more, work.

Conclusion

IT departments that deploy Java applications on Cisco UCS can deliver more throughput and support more users while reducing the complexity of the data center. For businesses assessing infrastructure for Java applications, the results demonstrate Cisco's capability to consistently deliver record-setting performance with every new generation of processor.

For More Information

For more information about Cisco UCS performance, visit <http://www.cisco.com/go/ucsatwork>.

SPEC and SPECjbb are registered trademarks of Standard Performance Evaluation Corporation. The performance comparisons described in this document were valid based on results at <http://www.spec.org> as of April 11, 2014, and they include the following:

- [Cisco UCS B260 M4 result](#) of February 13, 2014
- [Cisco UCS B200 M3 result](#) of September 10, 2013
- [Cisco UCS C220 M3 result](#) of April 17, 2013



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

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