

Cisco UCS C460 M4 Rack Server: Best 4-Socket MultiJVM SPECjbb2015 Benchmark Result



Balanced Performance with the Intel Xeon Processor E7-8800 v4 Family

Performance Brief
June 2016

Highlights

Best 4-Socket SPECjbb2015 critical-jOPS Result

- A Cisco UCS® C460 M4 Rack Server powered by the Intel® Xeon® processor E7-8890 v4 family delivers the best 4-socket SPECjbb®2015 critical-jOPS performance in an environment with multiple Java virtual machines (JVMs).

Continued Benchmark Results

- Cisco® servers continue to demonstrate excellent performance—giving you confidence in the choice of Cisco servers for your business applications.

Optimized Resource Use

- The Cisco Unified Computing System™ (Cisco UCS) reduces the number of physical components needed to support demanding Java application workloads, allowing IT departments to make effective use of limited space, power, and cooling resources.

Capability to Do More with Less

- Cisco UCS helps IT organizations simplify their enterprise application landscape and increase computing capacity with a smaller footprint.

With the highly scalable Intel® Xeon® processor E7-8800 v4 family, the Cisco Unified Computing System™ (Cisco UCS®) captured the 4-socket MultiJVM score for critical Java operations (Critical-jOPS).



Again, Cisco UCS servers powered by Intel Xeon processor technologies have set world records on industry benchmarks. Today's performance record of 128,990 SPECjbb®2015 MultiJVM critical-jOPS on a 4-socket server is another example of our ability to deliver results (Table 1). This record surpasses [our previous best result](#) on the previous generation of the Intel Xeon processor E7 family by 29 percent. With integrated Cisco UCS management, these flexible and programmable servers can be provisioned in less time and without human intervention to deliver record-setting results such as those detailed in this brief.

Table 1 SPECjbb2015 Result for the Cisco UCS C460 M4 Rack Server

Server	Processors	SPECjbb2015 MultiJVM max-jOPS	World-Record SPECjbb2015 MultiJVM critical-jOPS	Disclosure Date and Disclosure Link
Cisco UCS C460 M4	4 Intel Xeon processor E7-8890 v4 CPUs at 2.2 GHz	189,334 max-jOPS	128,990 critical-jOPS	June 6, 2016

SPECjbb2015 Benchmark

The SPECjbb2015 benchmark has been developed to measure Java performance based on the latest Java application features. This latest Java benchmark from the Standard Performance Evaluation Corporation (SPEC) has enhancements that align with the changes that you are experiencing in your IT organization. These changes include physical and virtual performance measurements to give you a more accurate assessment than previous versions of the benchmark.

Benchmark Configuration

The benchmark configuration consisted of the benchmark controller, back-end, and transaction injector functions, each running on its own Java virtual machine (JVM). The JVM instances ran on a Cisco UCS C460 M4 Rack Server powered by four 24-core Intel Xeon processor E7-8890 v4 CPUs running a single instance of Red

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Hat Enterprise Linux (RHEL) Server 7.2 and 64-bit Oracle Java HotSpot Server Virtual Machine 1.8.0_91. The rack server was configured with 2048 GB of RAM and accessed the network through a built-in dual Gigabit Ethernet network interface. The benchmark places the Cisco UCS C460 M4 at the top of critical-jOPS scores for 4-socket servers running multiple JVMs.

Cisco UCS C460 M4 Mission-Critical Rack Server

The Cisco UCS C460 M4 Rack Server offers exceptionally high performance and reliability to power the most compute- and memory-intensive, mission-critical enterprise applications and virtualized workloads. These high-performance 4-socket servers support:

- Up to 6 terabytes (TB) of memory
- Twelve front-accessible small form-factor (SFF) disk drive bays with support for hot-pluggable SAS, SATA, and SSD disk drives (two disk drive bays can be used for PCIe SSDs)
- Up to two PCIe SSDs
- Ten PCI Express (PCIe) Generation 3 (Gen 3) slots that support Cisco UCS virtual interface cards (VICs) and third-party adapters and graphics processing units (GPUs)
- Two Gigabit Ethernet LAN-on-motherboard (LOM) ports
- Two 10 Gigabit Ethernet ports in a 4-rack-unit (4RU) design

Powered by the Versatile Intel Xeon Processor E7 v4 Family

The Cisco UCS C460 M4 Rack Server harnesses the power of the latest Intel Xeon processor E7 v4 family CPUs to deliver exceptional performance, scalability, and bandwidth for your diverse workloads. With massive processing resources (33 percent greater core count over the previous generation of processors), large memory capacity (up to 60 MB of last-level cache space), and sophisticated Intel Run Sure Technology available only in the Intel Xeon processor E7 v4 family, these versatile processors support the most demanding scale-up and scale-out business applications. Support for DDR4 and DDR3 memory accelerates transfer rates to help you run your expanding workloads and confidently move your business forward with actionable, real-time results.

Business Advantages

When you choose Cisco servers, you can simplify your data center and get excellent performance for your Java applications:

- **Simplify data centers:** With Cisco UCS unified management and Intel Resource Director Technology you can improve the orchestration of all tasks to reduce operating expenses.
- **Excellent performance:** Cisco tunes the chip sets and servers for specific workloads. With high-performance

processors, large and fast memory configurations, and efficient use of Intel Transactional Synchronization Extensions (TSX) the Cisco UCS C460 M4 delivers high performance and server optimization to JVMs.

Conclusion

With this benchmark result, Cisco demonstrates a continuing commitment to delivering excellent performance for real-world business environments such as those running Java applications. With Cisco UCS servers, you can get your business applications up and running quickly and deliver the performance that your users, workloads, and applications need to deliver results.

For More Information

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

For more information about the Cisco Unified Computing System, visit <http://www.cisco.com/go/ucs>.

Benchmark Disclosures

SPEC and SPECjbb 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 June 6, 2016.



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