Cisco UCS C220 M3 Rack Server Delivers Industry-Leading SPECjbb2013 Results

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Performance Brief
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Cisco UCS delivers top SPECjbb2013 MultiJVM 2-socket x86 performance.

Companies that depend on Java business applications require computing infrastructure that can deliver high-speed processing and low latency. Cisco's results on the SPECjbb®2013 benchmark—41,954 maximum Java operations (max-jOPS) and 16,545 crtical Java operations (critical-jOPS)— demonstrate that the Cisco UCS® C220 M3 Rack Server and Oracle Java Standard Edition (SE) 7u11 can provide an optimized platform for Java Virtual Machines (JVMs) and deliver accelerated response to throughput-intensive Java applications.

SPECjbb2013 Benchmark

Taking a fresh approach to Java server performance evaluation, the new SPECjbb2013 benchmark measures response time in critical situations as well as maximum Java operations throughput. Based on a worldwide supermarket application, this benchmark tests the platform's capability to handle point-of-sale (POS) requests and online purchases. Simultaneously, data is mined to identify sales patterns and generate reports, and receipts and customer databases are managed to facilitate corporate analysis. The system even interacts with suppliers to replenish inventory and dispenses and manages customer coupons.

A New Way to Analyze Java Server Performance

Exercising new Java SE 7 features, the SPECjbb2013 benchmark stresses the CPU processing, memory speed, and network I/O capabilities of the underlying platform. The result consists of two metrics: the full capacity throughput (max-jOPS) and the critical throughput (critical-jOPS) under service-level agreements (SLAs), ranging from 10 to 500 milliseconds (ms) from request issuance to receipt of a response indicating operation completion. The overall critical-jOPS value is calculated as a geometric mean of the critical-jOPS measured at five SLA points for the 99th percentile response time. These metrics indicate how quickly a platform can process operations and deliver responses to real-world Java business applications.

Benchmark Configuration

To compete in the SPECjbb2013 MultiJVM category, the tested configuration consisted of a controller and two groups each consisting of a transaction injector and backend, all running across multiple JVM instances within a single operating system image. The JVM instances ran on a Cisco UCS C220 M3 Rack Server. Two 2.90-GHz, 8-core Intel® Xeon® processor E5-2690 CPUs powered the Cisco UCS C220 M3 server running the Red Hat Enterprise Linux 6.2 operating system and Java HotSpot™ 64-Bit Server Virtual Machine Version 1.7.0_11. The rack server was configured with 128 GB of RAM and accessed the network through a Cisco UCS P81E Virtual Interface Card (VIC).

Cisco UCS C220 M3 Rack Server

Capable of operating in standalone deployments or managed as part of Cisco UCS, the Cisco UCS C220 M3 Rack Server extends unified computing innovations to a rack-mount form factor. Powered by the Intel Xeon processor E5-2600 family, the rack server offers 16 DIMM slots (up to 512 GB), eight disk drives, and two 1 Gigabit Ethernet LAN-on-motherboard (LOM) ports to deliver outstanding density and performance in a compact package.

Benchmark Results

The Cisco UCS C220 M3 Rack Server and Oracle Java SE 7u11 delivered fast response times and high transaction throughput on the SPECjbb2013 benchmark. The system supported 41,954 max-jOPS and 16,545 critical-jOPS, the best critical-jOPS 2-socket result in the MultiJVM category (Figure 1).

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 C220 M3 Rack Server delivers low latency and server optimization to JVMs.

Increase scalability: SPECjbb2013 benchmark results show that the Cisco UCS C220 M3 Rack Server delivers

Figure 1. Cisco UCS C220 M3 Rack Server Outperformed Competitive Offerings from HP
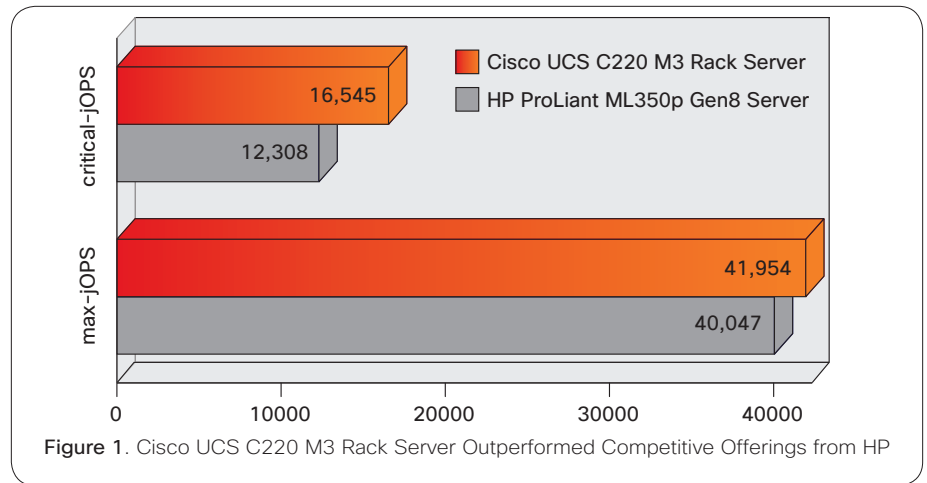
excellent scalability to JVMs and applications. Many Java operations can be supported—41,954 max-jOPS and 16,545 critical-jOPS in the test configuration—delivering 34 percent better throughput within defined SLAs than competitive 2-socket servers from HP. IT departments can scale deployments further with larger servers.

Streamline data centers: Cisco UCS delivers the scalability needed for large-scale 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 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, benchmark results demonstrate Cisco's commitment to delivering systems with outstanding response.

For More Information

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

Disclosures

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