

Cisco UCS Servers Claim Six New World Records on Industry-Standard Benchmarks



With the Intel Xeon Processor E7-8800 v4 Family

Performance Brief
June 2016

Highlights

Six New World Records

- Cisco has captured six new world records on industry benchmarks that demonstrate superior performance for Java and highly parallelized applications as well as the capability to deliver CPU power to accelerate enterprise application performance.

Dramatic Performance Improvements

- Cisco's world-record-setting benchmark results demonstrate significant performance improvements over the previous-generation Intel® Xeon® processor E7 family.

Broad Range of Server Products

- Cisco offers blade and rack servers that can power a range of workload requirements, all in the industry's first unified system based on industry-standard x86-architecture servers.

Power for Mission-Critical Workloads

- Cisco UCS® C460 M4 Rack Servers, Cisco UCS B460 M4 Blade Servers, and Cisco UCS B260 M4 Blade Servers are now equipped with Intel Xeon processor E7 v4 family CPUs.

Pushing innovation further, the Cisco Unified Computing System™ (Cisco UCS®) claims six world records on industry benchmarks with servers powered by the Intel® Xeon® processor E7-8800 v4 family.



After several years in the marketplace, Cisco UCS is still the only self-aware, self-integrating system with the capability to support blade and rack servers in a single unified system. Designed to unleash the power of Intel Xeon processors and large memory configurations, Cisco® solutions help you get the most from your IT infrastructure and business applications. On the same day that the Intel Xeon processor E7-8800 v4 family was announced, Cisco celebrated six new performance records on blade and rack servers (Table 1). With performance improved by up to 39 percent since the last processor generation, you can have confidence that Cisco UCS servers will continue to provide innovation and versatile performance.

Application Performance with Better Infrastructure

Although all vendors have access to Intel Xeon processors, Cisco unleashes their potential to deliver high performance to applications through the power of unification and performance optimization. Cisco UCS integrates industry-standard x86-architecture blade and rack servers with networking and storage access into a unified system. Automated server and network configuration let you quickly and easily deploy new applications, repurpose existing servers, and scale applications with configurations that comply with your IT standards. Integrated through Cisco SingleConnect technology, the system provides an exceptionally easy, intelligent, and efficient way to connect and manage data center resources. This exclusive Cisco innovation dramatically simplifies the way data centers connect rack and

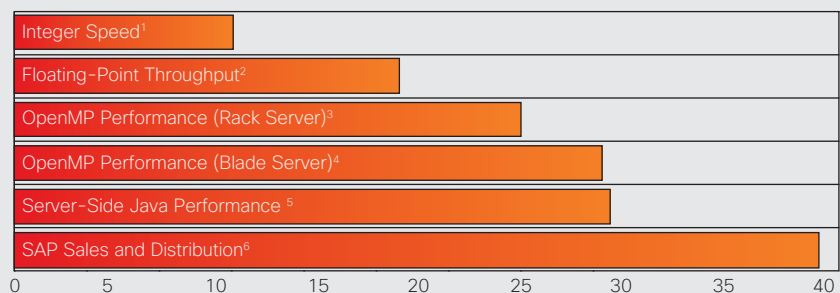


Figure 1 Performance Compared to Previous-Generation Cisco UCS Servers (Percent)

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blade servers; physical servers and virtual machines; and LAN, SAN, and management networks.

Generations of Improvement

Cisco’s results demonstrate the extent to which Cisco UCS servers with large memory configurations deliver the power of the new Intel Xeon processor E7 v4 family. Compared to Cisco’s previous-generation servers powered by the Intel Xeon processor E7 v3 family, Cisco’s new servers demonstrate dramatic improvements in raw CPU power as well as in business and parallelized application performance (Figure 1). As technologies continue to improve, you can be confident that Cisco UCS servers will deliver the performance these processors provide to applications.

Performance That Matters

Your IT managers understand that any vendor can set a performance record now and then—but consistently achieving world-record performance with each new generation of processors is truly exceptional. Cisco’s industry leadership and ability to set and reset world records on critical benchmarks are testimony to the fact that Cisco is not just selling servers—it is reinventing computing so that you can respond to user demands and business priorities.

The Power of the Intel Xeon Processor E7 Family

Cisco’s continued performance leadership is in part due to the power of the Intel Xeon processors that power its servers. Built on 14-nanometer (nm) processor technology, Intel Xeon processor E7-8800 v4 family CPUs

offer massive processing resources (33 percent greater core count than in previous-generation processors), large high-speed memory configurations (up to 60 MB of last-level cache space), and sophisticated Intel Run Sure Technology (available only in the E7 family). The processors also offer increased memory bandwidth monitoring and cache allocation capabilities, optimum data center orchestration and virtualization features, and hardware-assisted security advancements, which work in conjunction with Cisco UCS servers to further enhance the value of IT infrastructure in your enterprise.

For More Information

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

Table 1 Cisco Sets Six World Performance Records with the Intel Xeon Processor E7-8800 v4 Family

Benchmark	Processor	Server	Score and Disclosure Link	Percentage Improvement
SPEC CINT2006	Intel Xeon processor E7-8891 v4 at 2.80 GHz	Cisco UCS C460 M4 Rack Server	SPECint_base2006=71.5 Best 4-socket result	10.8%
SPEC® CFP2006	Intel Xeon processor E7-8890 v4 at 2.2 GHz	Cisco UCS B460 M4 Blade Server	SPECfp_rate_base2006=2380 Best 4-socket result	19%
SPEC OMPG2012	Intel Xeon processor E7-8890 v4 at 2.2 GHz	Cisco UCS C460 M4 Rack Server	SPECCompG_base2012=26 Best 4-socket result	25%
SPEC OMPG2012	Intel Xeon processor E7-8890 v4 at 2.2 GHz	Cisco UCS B260 M4 Blade Server	SPECCompG_base2012=13.4 Best 2-socket result	29%
SPECjbb®2015-MultiJVM	Intel Xeon processor E7-8890 v4 at 2.2 GHz	Cisco UCS C460 M4 Rack Server	max-jOPS=189,334 critical-jOPS=128,990 Best 4-socket result for critical jOPS	29.4%
SAP Sales and Distribution (SD) Benchmark	Intel Xeon processor E7-8890 v4 at 2.2 GHz	Cisco UCS C460 M4 Rack Server	SAPS score=224,330 users=41,025 Best 4-processor, 2-tier result on Microsoft Windows	39.5%

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Disclosures

1. The integer processing performance improvement of 10.8 percent compared the SPECint_base2006 score of the Cisco UCS C460 M4 Rack Server with the [previous-generation Cisco UCS C460 M4 Rack Server](#), a result that was available on May 5, 2015.
2. The floating-point throughput performance improvement of 19 percent compared the SPECfp_rate_base2006 score of the Cisco UCS C460 M4 Rack Server with the [previous-generation Cisco UCS C460 M4 Rack Server](#), a result that was available on May 15, 2015.
3. The rack server parallel-processing performance improvement of 25 percent compared the SPECCompG_base2012 score of the Cisco UCS C220 M4 Rack Server with the [previous-generation Cisco UCS C460 M4 Blade Server](#), a result that was available on May 15, 2015.
4. The blade server parallel-processing performance improvement of 29 percent compared the SPECCompG_base2012 score of the Cisco UCS B260 M4 Rack Server with the [previous-generation Cisco UCS B260 M4 Blade Server](#), a result that was available on September 8, 2014.
5. The Java application performance improvement of 29.4 percent compared the SPECjbb2015-MultiJVM critical-jOPS score of the Cisco UCS C460 M4 Rack Server with the [previous-generation Cisco UCS C460 M4 Rack Server](#), a result that was available on May 5, 2015.
6. The 39.5 percent performance improvement was in comparison to a [Cisco UCS C460 M4 Blade Server](#) equipped with the previous-generation Intel Xeon processors. These results are available at <http://www.sap.com/benchmark>.

SPEC, SPECfp, SPECint, SPECjbb, and SPECComp are registered trademarks of Standard Performance Evaluation Corporation. The benchmark results used to establish world-record status are based on those available at <http://www.spec.org> as of June 6, 2016.



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