

# Cisco Unified Computing System and Intel Xeon Processors: 126 World-Record Performance Results



Performance Brief  
July 2016

The Cisco Unified Computing System™ (Cisco UCS®) with Intel® Xeon® processors has captured a total of 126 world performance records with first-to-market results or results that exceed those set by other system vendors, including Dell, HP, IBM, and Lenovo, as of the publication date of the benchmarks listed in the tables below.



Table 1. World-Record Benchmarks Set by Cisco UCS

Transaction Processing Council (TPC™) Benchmarks				
Benchmark	Server	Publication and Availability Dates	Result and Disclosure	Record as of Publication Date
TPC-C™	C240 M3	9/27/2012, available 9/27/2012	<u>1,609,186</u> tpmC \$0.47USD per tpmC	Number-one 2-socket server
	C250 M2	12/7/2011, available 12/7/2011	<u>1,053,100</u> tpmC \$0.58USD per tpmC	Number-one 2-socket server powered by Intel Xeon processors
TPC™-H	C460 M4	12/15/2014, available 12/16/2014	<u>588,831</u> QphH@1000GB, \$0.97USD per QphH@1000GB	Top nonclustered result at 1000-GB scale factor
	C240 M3	8/19/2014, available 8/20/2014	<u>304,361</u> QphH@1000GB \$0.73USD per QphH@1000GB	Number-one price/performance at 1000-GB scale factor
	C250 M2	2/14/2012, available 2/14/2012	<u>332,482</u> @100GB \$0.15USD per QphH@100GB	Number-one 2-socket server at 100-GB scale factor
	C250 M2	2/13/2012, available 2/13/2012	<u>331,658</u> @300GB \$0.34USD per QphH@300GB	Number-one 2-socket server at 300-GB scale factor
	C460 M4	5/14/2016	<u>1,071,018</u> QphH@3000GB \$0.60 USD per QphH@3000GB	Top nonclustered result at the 3000-GB scale factor
	C460 M4	7/13/2015, available 7/14/2015	<u>725,686</u> QphH@3000GB, \$1.08USD per QphH	Top nonclustered result at 3000-GB scale factor
	C420 M3	10/31/2013, available 12/30/2012	<u>230,119</u> @3000GB \$1.29USD per QphH@3000GB	Number-one single-system x86 performance and price/performance at 3000-GB scale factor
	C460 M2	12/7/2011, available 12/7/2011	<u>134,117</u> QphH@1000GB \$1.30USD per QphH@1000GB	Number-one 4-socket server powered by Intel Xeon processors running Microsoft SQL Server
TPCx-HS	C240 M4	3/31/2016,	<u>10.12</u> HSph@1TB US\$ <u>38,168.98</u> per HSph@1TB	Best performance and price/performance at the 1-TB scale factor
	C240 M3	1/8/2015, available 1/9/2015	<u>5.07</u> HSph@1TB, US\$121,231.76 per HSph@1TB	First and best result by any company at the 1-TB scale factor

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Transaction Processing Council (TPC™) Benchmarks				
Benchmark	Server	Publication and Availability Dates	Result and Disclosure	Record as of Publication Date
TPCx-HS	C240 M3	9/25/2015	<a href="#">11.76</a> HSph@3TB US\$ <a href="#">44,052.98</a> per HSph@3TB	Best result at the 3-TB scale factor
	C240 M3	1/8/2015, available 1/9/2015	<a href="#">5.10</a> HSph@3TB, US\$120,518.63 per HSph@3TB	First and best result by any company at the 3-TB scale factor
	C240 M4	3/31/2016	<a href="#">12.02</a> HSph@10TB US\$ <a href="#">32,135.61</a> per HSph@10TB	Best performance and price/ performance at the 10-TB scale factor
	C240 M3	1/8/2015, available 1/9/2015	<a href="#">5.77</a> HSph@10TB, US\$106,524.27 per HSph@10TB	First and best result by any company at the 10-TB scale factor
	C240 M3	10/26/2015	<a href="#">23.42</a> HSph@30TB US\$ <a href="#">36,800.52</a> per HSph@30TB	Best result at the 30-TB scale factor
	C240 M3	10/23/2015	<a href="#">21.99</a> HSph@100TB US \$ <a href="#">39,193.64</a> per HSph@100TB	First and best result by any company at the 100-TB scale factor

World-Record Oracle Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
Oracle E-Business Suite R12 (12.1.3)	B200 M4	9/8/2014	Payroll <a href="#">1,125,281</a> employees per hour	Number-one extra-large-model payroll batch result
	B200 M4	9/8/2014	Order-to-Cash <a href="#">243,803</a> Lines per hour	Number-one large-model order- to-cash result
	B200 M3	9/10/2013	<a href="#">1,017,639</a> employees per hour	Number-one extra-large-model payroll batch result
	B200 M3	9/14/2012	Payroll <a href="#">839,865</a> employees per hour	Number-one extra-large-model payroll batch
	B200 M3	9/14/2012	Order-to-Cash <a href="#">232,739</a> lines per hour	Number-one large-model order-to-cash
Oracle E-Business Suite R12 (12.1.2)	B200 M3	9/14/2012	Payroll <a href="#">835,189</a> employees per hour	Number-one result
	B200 M3	9/14/2012	Order-to-Cash <a href="#">221,239</a> lines per hour	Number-one result
	B200 M3	3/6/2012	Payroll <a href="#">828,729</a> employees per hour	Number-one result
	B200 M3	3/6/2012	Order-to-Cash <a href="#">206,044</a> lines per hour	Number-one result
	B230 M2	12/9/2011	Payroll <a href="#">738,188</a> employees per hour	Number-one extra-large-model 2-socket server payroll batch

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World-Record Oracle Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
Oracle E-Business Suite 12.0.4	B200 M2	2/23/2011	Payroll <a href="#">422,535</a> employees per hour	Number-one medium-model payroll batch
	B200 M2	8/21/2010	Payroll <a href="#">581,846</a> employees per hour	Number-one extra-large-model payroll batch
	B200 M2	8/21/2010	Payroll <a href="#">368,098</a> employees per hour	Number-one medium-model payroll batch
	B200 M2	8/21/2010	Order-to-Cash <a href="#">185,643</a> lines per hour	Number-one medium-model order-to-cash

World-Record SAP Benchmarks				
Benchmark	Server	Publication Date	Result and Disclosure	Record as of Publication Date
SAP Concurrent (2 x SAP Sales and Distribution)	C240 M4	1/30/2015	7584+7391= <a href="#">14,975</a> users, 41,470+40,370= <a href="#">81,840</a> SAPS	First-ever result
SAP Sales and Distribution	C460 M4	6/6/2016	<a href="#">41,025</a> users <a href="#">224,330</a> SAPS	Best 4-processor, 2-tier result on Microsoft Windows
	C240 M4	3/31/2016	<a href="#">21,210</a> users <a href="#">115,820</a> SAPS	Best 2-processor result on Microsoft Windows
	B260 M4	5/5/2014	12,280 users, <a href="#">67,020</a> SAPS	Number-one 2-socket server in a 2-tier configuration

World-Record Java-Based SPEC® Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
SPECjbb™2015	C460 M4	6/6/2016	189,334 max-jOPS <a href="#">128,990</a> critical-jOPS	Number-one 4-socket result for critical-jOPS
	C460 M4	10/27/2015	157,832 max-jOPS <a href="#">99,646</a> critical-jOPS	Number-one 4-socket result for critical-jOPS
	C460 M4	10/22/2015	<a href="#">171,642</a> max-jOPS 53,348 critical-jOPS	Number-one 4-socket result for max-jOPS
	C220 M4	3/31/2016	94,667 max-jOPS <a href="#">71,951</a> critical-jOPS	Number-one 2-socket x86-architecture result for critical-jOPS
	C220 M4	9/30/2015	<a href="#">97,551</a> max-jOPS 28,318 critical-jOPS	Number-one 2-socket result for max-jOPS
	C220 M4	9/23/2015	<a href="#">92,463</a> max-jOPS <a href="#">31,654</a> critical-jOPS	First and best 2-socket MultiJVM result

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World-Record Java-Based SPEC® Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
SPECjAPPServer®2004	B230 M1	9/8/2010	<a href="#">11,283.80</a> SPECjAppServer2004 JOPS@Standard	Number-one 2-node server
	C250 M2	3/16/2010	<a href="#">5,185.45</a> SPECjAppServer2004 JOPS@Standard	Number-one 1-node 2-socket server
SPECjEnterprise™2010	B440 M2	9/30/2011	<a href="#">26,118.67</a> SPECjEnterprise EjOPS	Number-one x86-architecture server
	B440 M1	3/9/2011	<a href="#">17,301.86</a> SPECjEnterprise EjOPS	Number-one overall server
SPECjbb2005	C220 M3	9/10/2013	<a href="#">2,152,354</a> SPECjbb2005 bops, 1,076,177 SPECjbb2005 bops/2 JVM	Number-one 2-socket server
	C220 M3	3/9/2012	<a href="#">1,584,567</a> SPECjbb2005 bops, 792,284 SPECjbb2005 bops/2 JVMs	Number-one 2-socket server
	B230 M2	9/30/2011	<a href="#">1,408,935</a> SPECjbb2005 bops, 704,468 SPECjbb2005 bops/JVM	Number-one 2-socket server
	B440 M2	9/30/2011	<a href="#">2,798,763</a> SPECjbb2005 bops, 699,691 SPECjbb2005 bops/JVM	Number-one 4-socket server
	B230 M2	6/15/2011	<a href="#">1,395,684</a> SPECjbb2005 bops, 697,842 SPECjbb2005 bops/JVM	Number-one 2-socket server
	C260 M2	4/5/2011	<a href="#">1,337,210</a> SPECjbb2005 bops, 668605 SPECjbb2005 bops/JVM	Number-one 2-socket server
	B230 M1	9/25/2010	<a href="#">1,017,141</a> SPECjbb2005 bops, 127,143 SPECjbb2005 bops/JVM	Number-one x86/64 2-socket server
	B230 M1	9/7/2010	<a href="#">1,015,802</a> SPECjbb2005 bops, 126,975 SPECjbb2005 bops/JVM	Number-one x86/64 2-socket server
	C460 M1	3/30/2010	<a href="#">2,021,525</a> SPECjbb2005 bops, 1,263,45 SPECjbb2005 bops/JVM	Number-one x86/64 4-socket server
	B200 M1	3/16/2010	<a href="#">624,059</a> SPECjbb2005 bops, 156,015 SPECjbb2005 bops/JVM	Number-one x86/64 2-socket server

World-Record SPEC Computing Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
SPECint®_base2006	C460 M4	6/6/2016	<a href="#">71.5</a>	Number-one 4-socket server
	C460 M4	5/5/2015	<a href="#">64.5</a>	Number-one 4-socket server
	C220 M4	3/31/2016	<a href="#">73.1</a>	Number-one 2-socket x86-architecture server
	C220 M3	9/10/2013	<a href="#">63.0</a>	Number-one 2-socket server

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World-Record SPEC Computing Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
SPECint®_rate_base2006	C460 M4	5/5/2015	<a href="#">2770</a>	Number-one 4-socket server
	C460 M4	5/2/2014	<a href="#">2330</a>	Number-one 4-socket server
	C460 M4	2/18/2014	<a href="#">2320</a>	Number-one 4-socket server
	B260 M4	2/18/2014	<a href="#">1170</a>	Number-one 2-socket server
	C460 M2	4/5/2011	<a href="#">1030</a>	Number-one x86/64 4-socket server
	C460 M1	3/30/2010	<a href="#">723</a>	Number-one x86/64 4-socket server
	C220 M4	3/31/2016	<a href="#">1760</a>	Number-one x86/64 2-socket server
	C220 M3	4/9/2013	<a href="#">681</a>	Number-one x86/64 2-socket server
	C220 M3	3/6/2012	<a href="#">671</a>	Number-one 2-socket server
	C260 M2	4/5/2011	<a href="#">526</a>	Number-one x86/64 2-socket server
	B200 M2	3/15/2011	<a href="#">390</a>	Number-one x86/64 2-socket server
	B200 M2	3/16/2010	<a href="#">355</a>	Number-one x86/64 2-socket server
	B200 M1	4/21/2009	<a href="#">239</a>	Number-one x86/64 2-socket server
SPECfp®_base2006	C220 M4	3/31/2016	<a href="#">125</a>	Number-one x86/64 2-socket server
	C220 M3	3/6/2012	<a href="#">89.9</a>	Number-one 2-socket server
SPECfp®_rate_base2006	C220 M4	3/31/2016	<a href="#">1100</a>	Number-one 2-socket x86-architecture server
	B460 M4	6/6/2016	<a href="#">2380</a>	Number-one 4-socket server
	C460 M4	5/5/2015	<a href="#">2000</a>	Number-one 4-socket server
	B260 M4	2/18/2014	<a href="#">865</a>	Number-one 2-socket server
	C220 M3	10/31/2013	<a href="#">682</a>	Number-one 2-socket server
	B200 M3	9/10/2013	<a href="#">681</a>	Number-one 2-socket server
	C420 M3	7/30/2013	<a href="#">868</a>	Number-one x86/x64 4-socket server
	C220 M3	3/3/2012	<a href="#">496</a>	Number-one x86/64 2-socket server
	C260 M2	4/5/2011	<a href="#">365</a>	Number-one x86/64 2-socket server
	C460 M1	5/25/2010	<a href="#">549</a>	Number-one x86/64 4-socket server
	B200 M2	3/16/2010	<a href="#">248</a>	Number-one x86/64 2-socket server
	B200 M1	4/21/2009	<a href="#">194</a>	Number-one x86/64 2-socket server

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World-Record SPEC Computing Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
SPECComp®G_base2012	C460 M4	6/6/2016	<a href="#">26</a> SPECCompG_base2012	Number-one 4-socket server for SPECCompG_base2012
	C460 M4	6/10/2015	<a href="#">20.8</a> SPECCompG_base2012	Number-one 4-socket server
	C460 M4	2/18/2014	<a href="#">17.9</a> SPECCompG_base2012	Number-one 4-socket server
	C240 M3	9/13/2013	<a href="#">6.79</a> SPECCompG_base2012 <a href="#">7.37</a> SPECCompG_peak2012	Number-one 2-socket server
	C220 M4	9/8/2014	<a href="#">10.3</a> SPECCompG_peak2012 <a href="#">9.67</a> SPECCompG_base2012	Number-one 2-socket server for SPECCompG_base2012
	B260 M4	6/6/2016	<a href="#">13.4</a> SPECCompG_base2012	Number-one 2-socket server for SPECCompG_base2012
	B260 M4	2/18/2014	<a href="#">8.91</a> SPECCompG_base2012 <a href="#">9.66</a> SPECCompG_peak2012	Number-one 2-socket server
	B200 M4	3/31/2016	<a href="#">13.5</a> SPECCompG_peak2012 <a href="#">12.4</a> SPECCompG_base2012	Number-one 2-socket server for SPECCompG_base2012
SPECCompL®base2001	C220 M3	3/8/2012	<a href="#">527,122</a>	Number-one 2-socket server
	C460 M2	4/5/2011	<a href="#">727,635</a>	Number-one 4-socket server
	B230 M2	4/5/2011	<a href="#">378,522</a>	Number-one 2-socket server
	B200 M2	3/15/2011	<a href="#">282,771</a>	Number-one 2-socket server
	C460 M1	3/30/2010	<a href="#">607,818</a>	Number-one 4-socket server
	B200 M2	3/16/2010	<a href="#">278,603</a>	Number-one 2-socket server
SPECCompM®base2001	C240 M3	3/6/2012	<a href="#">94,065</a>	Number-one 2-socket server
	C460 M2	4/5/2011	<a href="#">115,176</a>	Number-one 4-socket server
	B230 M2	4/5/2011	<a href="#">67,926</a>	Number-one x86 2-socket server
	B200 M2	3/15/2011	<a href="#">52,986</a>	Number-one 2-socket server
	C460 M1	3/30/2010	<a href="#">100,258</a>	Number-one 4-socket server
	B200 M2	3/16/2010	<a href="#">52,314</a>	Number-one 2-socket server

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World-Record VMware VMmark Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
VMware® VMmark™ 2.x	B260 M4	2/12/2014	<a href="#">19.18</a> @16 tiles	Number-one 2-socket server, 2-node result
	C240 M3	5/9/2013	<a href="#">12.00</a> @10 tiles	Number-one 2-socket server, 2-node result
VMware® VMmark™ 2.x	B200 M3	9/18/2012	<a href="#">11.32</a> @10 tiles	Number-one 2-socket blade server
	B200 M3	9/11/2012	<a href="#">42.79</a> @36 tiles	Number-one result of any server
	C460 M2	10/4/2011	<a href="#">18.00</a> @18 tiles	Number-one 4-socket server, 2-node result
	C460 M2	9/20/2011	<a href="#">35.06</a> @35 tiles	Number-one result of any server
	C460 M2	4/5/2011	<a href="#">16.68</a> @18 tiles	Number-one result of any server
	B200 M2	3/23/2011	<a href="#">7.17</a> @7 tiles	Number-one 2-socket server
	B200 M2	12/28/2010	<a href="#">6.51</a> @6 tiles	Number-one overall VMmark 2.0
VMware VMmark 1.x	B230 M1	10/19/2010	<a href="#">39.19</a> @27 tiles	Number-one 2-socket blade server
	C460 M1	9/7/2010	<a href="#">76.10</a> @51 tiles	Number-one server
	B440 M1	7/27/2010	<a href="#">71.13</a> @48 tiles	Number-one blade server
	C460 M1	5/4/2010	<a href="#">73.82</a> @50 tiles	Number-one server
	B250 M2	4/6/2010	<a href="#">35.83</a> @26 tiles	Number-one 2-socket server
	B200 M1	1/12/2010	<a href="#">25.06</a> @17 tiles	Number-one 2-socket server
	B200 M1	4/21/2009	<a href="#">24.14</a> @17 tiles	Number-one 2-socket server

World-Record VMware View Planner Benchmarks				
Benchmark	Cisco UCS Server	Publication Date	Result and Disclosure	Record as of Publication Date
VMware® View Planner	B200 M3	9/10/2013	VMware VDImark™ <a href="#">149</a>	First and best official result by any company

Other World-Record Benchmarks				
Benchmark	Server	Publication Date	Result and Disclosure	Record as of Publication Date
LS-Dyna	C460 M1	3/30/2010	<a href="#">41,727</a> seconds car2car	Number-one 4-socket server
LINPACK	B200 M2	3/16/2010	146.8 GFlops	Number-one 2-socket server

## Architecture Propels Performance

The architectural advantage of Cisco UCS contributes to the system's world-record-setting performance and the timeliness with which Cisco delivers performance results. Cisco UCS is a single unified system that is configured through integrated, model-based management to simplify and accelerate the deployment of enterprise-class applications and services running in bare-metal, virtualized, and cloud-computing environments.

## First Unified System

The first unified system available anywhere, Cisco UCS combines industry-standard, x86-architecture servers with networking and storage access into a single management domain that incorporates both blade and rack servers. The system is designed so that server, network, and storage access configuration can be programmed and automated through the system's embedded management features. Customers tuning system performance can reproduce their adjustments rapidly and accurately on additional servers with click-of-the-mouse simplicity.

## Performance Breadth

With versatile Intel Xeon processors, Cisco UCS demonstrates performance

breadth by setting records for raw CPU power, business- and mission-critical applications, database management systems, Java application servers, virtualization, cloud computing, and high-performance computing (HPC). Although all vendors have access to the same powerful Intel Xeon processors, only Cisco unleashes their power to accelerate application performance.

## Performance for Applications

For customers, these results mean not only excellent application performance but also an automated configuration model that accelerates deployment, makes performance predictable, and increases IT productivity. The world records presented in Table 1 can help customers assess the way that Cisco UCS will perform for their mission-critical applications, while demonstrating the reasons that Cisco has emerged as a server-industry leader.

## Disclosures

SAP Benchmark Results are available from the SAP website at <http://www.sap.com/benchmarks>. The results cited in this document were made available as of the dates specified in Table 1.

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TPC, TPC Benchmark, and TPC-C are trademarks of the Transaction Processing Performance Council (TPC). The TPC performance results described in this document are derived from detailed benchmark results available as of the dates specified in Table 1 at <http://www.tpc.org/tpch/default.asp>.

VMware VMmark is a product of VMware, Inc. The results cited in this document were made available at <http://www.vmark.com> as of the dates specified in Table 1.

## For More Information

For the most up-to-date information about Cisco UCS performance, please visit <http://www.cisco.com/go/ucsatwork>.

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