

# Cisco UCS C460 M4 Rack Server Delivers Unsurpassed Performance on the TPC-H Benchmark



Performance Brief  
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## Highlights

### Highest Result Ever Reported

- The Cisco UCS® C460 M4 Rack Server delivers the highest TPC-H result ever reported for nonclustered systems at the 1000-GB scale factor.
- The Cisco performance result beats Fujitsu, Dell, and IBM top results for the 1000-GB scale factor by 80, 31, and 13 percent respectively. Cisco's price/performance ratio is 29 percent less than the IBM result (Figure 1).

### Consistent TPC-H Performance Leadership

- Cisco continues its industry leadership with [prior Cisco UCS C240 M3 Rack Server results](#) demonstrating the best performance and price/performance ratio of all two-processor servers at the 1000-GB scale factor with 304,361 QphH@1000GB and 0.73 USD per QphH@1000GB. The system's availability date was August 20, 2014.

### High Performance for Microsoft SQL Server 2014

- Cisco's result is the fastest server at the 1000-GB scale factor running Microsoft SQL Server.

### Dramatic Single-System Scalability for Decision Support

- The Cisco UCS C460 M4's balanced computing power, I/O bandwidth, and storage capacity makes it an excellent platform for high-performance databases.

### A Tradition of Performance Leadership

- Cisco UCS has established a tradition of performance leadership on industry benchmarks, with more than 100 world records since the system was introduced only five years ago.

The Cisco UCS® C460 M4 Rack Server delivers the best nonclustered TPC-H benchmark result at the 1000-GB scale factor, beating results from Dell, Fujitsu, and IBM.

### Industry-Leading Performance for Decision Support

Your ability to make timely business decisions depends on the performance and scalability of your servers, and nothing beats the Cisco C460 M4 Rack Server's ability to process decision support queries as measured by the TPC-H benchmark at the 1000-GB scale factor. Cisco's newest TPC-H result (Table 1) offers a vivid example of how the system's Intel® Xeon® processors, massive memory capacity, and internal solid-state disk (SSD) storage delivers database performance in concert with Microsoft SQL Server 2014 Enterprise Edition. When you incorporate servers such as the Cisco UCS C460 M4 as part of the Cisco Unified Computing System™ (Cisco UCS), you can run your other Microsoft and non-Microsoft workloads in the same unified system with integrated management and low-latency, 10-Gbps unified fabric connectivity between servers.

Table 1. TPC-H 1000-GB Result for the Cisco UCS C460 M4

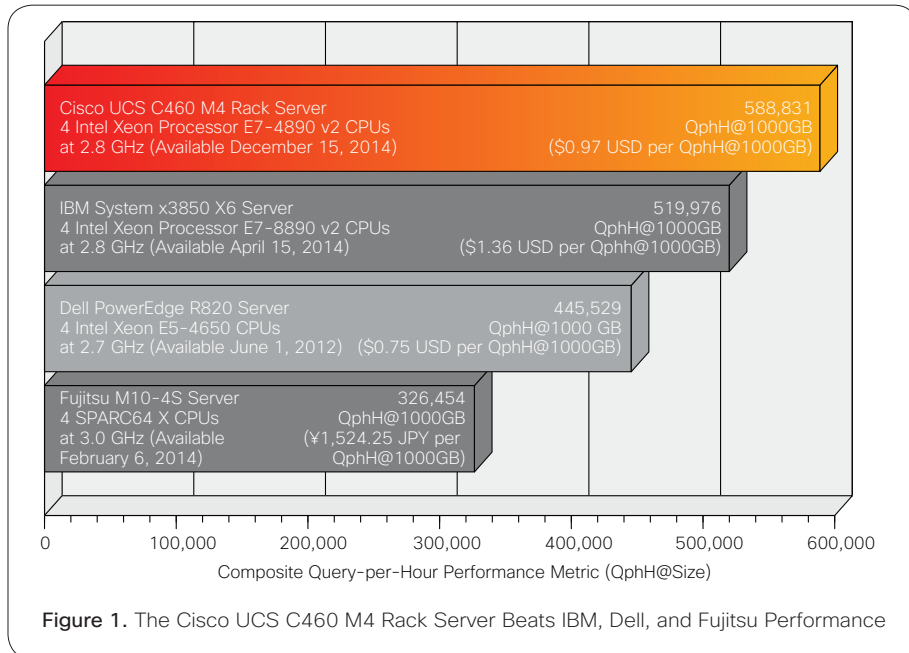
Server	Processors (Cores and Threads)	Performance	Price/Performance Ratio	Availability Date
Cisco UCS C460 M4	4 Intel Xeon processor E7-4890 v2 CPUs at 2.8 GHz	588,831 QphH@1000GB	\$0.97 USD per QphH@1000GB	<a href="#">December 15, 2014</a>

This TPC-H result demonstrates the degree to which Cisco UCS servers deliver superior performance. Among the nonclustered 1000-GB scale factor results, the Cisco UCS C460 M4 outperforms the Fujitsu SPARC M10-4S by 80 percent, the Dell PowerEdge R820 by 31 percent, and the IBM x3859 by 13 percent (Figure 1).

## TPC-H Benchmark

The TPC-H benchmark is an industry-standard decision-support system benchmark. It is designed to measure the capability of a system to examine large volumes of data, process queries with a high degree of complexity, and return answers to critical business questions. The TPC-H benchmark evaluates a composite performance metric (QphH@size) and a price-to-performance metric (\$/QphH@size) that measure the performance of various decision-support systems by running sets of queries against a standard database under controlled conditions.

## Cisco UCS C460 M4 Rack Server Delivers Unsurpassed Performance on the TPC-H Benchmark



### Cisco UCS C460 M4 Rack Server

The Cisco UCS C460 M4 delivers the balanced I/O, memory, and computing capacity needed for large-scale analytical and business intelligence applications. The system is a 4-rack-unit (4RU) rack server that supports up to four Intel Xeon processor E7-4800 and E7-8800 v2 product family CPUs, up to 6 terabytes (TB) of double-data-rate-3 (DDR3) memory, and up to 12 Small Form-Factor (SFF) hot-pluggable SAS, SATA, or SSD drives. With 10 full-height Generation 3 PCI Express (Gen3 PCIe) slots, the server supports

massive I/O capacity and the capability to accommodate graphics engines to accelerate rendering operations.

### Benchmark Configuration

For the benchmark, the server was equipped with 1.5 TB of memory and four 2.8-GHz Intel Xeon processor E7-4890 v2 CPUs. The system ran Microsoft SQL Server 2014 Enterprise Edition and Windows Server 2012 R2 Standard Edition.

The test database and log files resided on six 1.6-TB enterprise-performance SAS SSDs and two 400-GB enterprise-performance SAS SSDs. The disk

drives were accessed through a 12-Gbps LSI MegaRAID SAS 9361CV-8e controller with a flash-backed write cache.

### Record-Setting Performance

These benchmark results demonstrate the highest nonclustered TPC-H result ever reported, so you can have confidence in the performance you can expect from Cisco servers.

### For More Information

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

### Disclosures

The Transaction Processing Performance Council (TPC) is a nonprofit corporation founded to define transaction processing and database benchmarks, and to disseminate objective and verifiable performance data to the industry. TPC membership includes major hardware and software companies. TPC-H, QphH, and \$/QphH are trademarks of the Transaction Processing Performance Council (TPC). The performance results described in this document are derived from detailed benchmark results available as of December 15, 2014, at <http://www.tpc.org/tpch/default.asp>.



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