Cisco UCS Demonstrates TPC-C Performance and Price/Performance Leadership

Performance Brief
December 2011

Highlights

The Fastest Two-Socket Intel Xeon Processor-Powered Server for Oracle Database

- A Cisco Unified Computing System™ (Cisco UCS™) C250 M2 Extended-Memory Rack-Mount server achieved 1,053,100 transactions per minute (tpmC) in the standard TPC-C benchmark, with a price/performance ratio of $0.58 USD per tpmC, exceeding the fastest two-socket HP ProLiant DL380 G7 result by 2.8 percent in performance, at a 11 percent lower price/performance ratio.

Performance Flexibility in a Rack-Mount Form Factor

- Combined with Oracle Database, the Cisco® UCS C250 Rack-Mount Server has the capacity to deliver leading performance for mission-critical business solutions.

A Tradition of Performance Leadership

- Cisco has established a tradition of performance leadership on essential enterprise benchmarks, including TPC-C and TPC-H. Cisco's results indicate the degree to which Cisco products can deliver superior scalability and performance to enterprise applications.

In its first TPC-C result, Cisco demonstrates industry leadership in partnership with Oracle, establishing the Cisco Unified Computing System (Cisco UCS) as the fastest two-socket Intel Xeon processor-powered platform running Oracle Database.

Industry-Leading Performance for OLTP

Online transaction processing (OLTP) is critical to enterprise IT organizations, requiring both capable systems and high-performance database management software. Cisco's leading TPC-C result demonstrates that Cisco Unified Computing System™ (Cisco UCS™) servers, combined with Oracle Database, can deliver industry-leading enterprise capabilities. Not only does this result represent Cisco's first TPC-C result , but it asserts both performance and price/performance leadership, exceeding the fastest HP two-socket TPC-C result using identical Intel® Xeon® processors and memory capacity by 2.8 percent in performance, while providing 11 percent lower cost per tpmC (Table 1 and Figure 1).

Table 1. TPC-C Results for Two-Socket Intel Xeon Processor-Powered Servers.

Server	Processors (Cores/Threads)	Performance	Price/ Performance Ratio	Availability Date
Cisco® UCS C250 M2	2 Intel Xeon X5690 3.46 GHz (12 cores, 24 threads in total)	1,053,100 tpmC	$0.58 USD per tpmC	December 7, 2011
HP ProLiant DL380 G7	2 Intel Xeon X5690 3.46 GHz (12 cores, 12 threads in total)	1,024,380 tpmC	$.0.65 USD per tpmC	June 20, 2011

TPC-C Benchmark

Often referred to as the flagship server benchmark that measures online transaction processing performance, TPC-C simulates a complete compute environment where a population of users runs transactions against a database. TPC-C is not limited to the activity of any particular business segment, but rather represents any industry that must manage, sell, or distribute a product or service. The primary metrics are the transactions per minute (expressed as tpmC) and the associated price per transaction (expressed as $/tpmC).

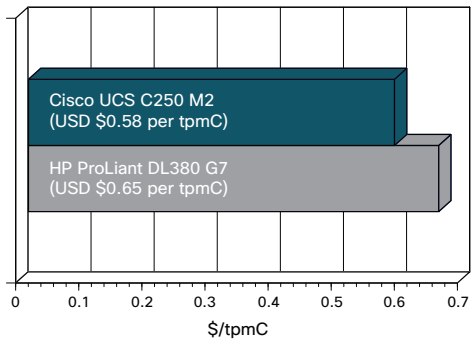

Figure 1. Cisco UCS Provides 11% Lower Cost Per tpmC Than the Nearest Competitor.

Cisco UCS C250 M2 Rack-Mount Server

The Cisco UCS C250 Extended-Memory Rack-Mount Server is a high-performance, memory-intensive, two-socket two-rack-unit (2RU) rack-mount server designed to increase performance and capacity for demanding virtualization and large-data-set workloads. The system supports up to two Intel Xeon 5600 series processors as well as Cisco Extended Memory Technology that offers twice as much memory (up to 384 GB) as traditional two-socket servers when using low-cost 8-GB dual in-line memory modules (DIMMs). The server hosts up to eight internal Small Form-Factor (SFF) SAS or SATA disk drives or solid state drives (SSDs).

Benchmark Configuration

As tested, the benchmark configuration consisted of a Cisco UCS C250 M2 Server equipped with two Intel Xeon X5690 3.46-GHz processors and 384 GB of memory enabled by Cisco Extended Memory Technology. The server ran Oracle Database 11g Standard Edition One and Oracle Enterprise Linux. The client tier consisted of five Cisco UCS C200 M2 High-Density Rack-Mount servers running Microsoft Windows 2008 R2 Standard Edition. The storage system consisted of a Violin 6000 and 3205 series memory array with 21 TB of RAID-protected flash memory. Violin memory arrays provide a scalable high-performance infrastructure for large dataset applications, providing industry-leading space and power efficiencies.

Conclusion

Effective OLTP systems require large memory capacities to support large datasets as well as high-performance compute and storage resources. Cisco's leading TPC-C result demonstrates that Cisco UCS systems represent a high-performance, cost-effective enterprise platform for Oracle Database.

For More Information

- For more information about Cisco UCS servers, please visit http://www/cisco.com/go/ucs.
- For more information on Violin storage systems, please visit http://www.violin-memory.com/.

Disclosures

The Transaction Processing Performance Council (TPC) is a non-profit corporation founded to define transaction processing and database benchmarks and to disseminate objective and verifiable performance data to the industry. TPC-C, tpmC, and $/tpmC 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 14, 2011, at http://www.tpc.org/tpcc/default.asp.

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