

Cisco Delivers Best Two-Socket Server SAP SD Benchmark Result with Microsoft Windows



Performance Brief
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Highlights

Deploy the Solution with the Best Two-Processor Result Running Microsoft Windows Server 2012

- Cisco delivers the best 2-processor SAP Sales and Distribution (SD) Benchmark result in a two-tier configuration running Microsoft Windows 2012 Datacenter Edition.
- Cisco's results demonstrate a 59.7 percent improvement over the previous generation Intel® Xeon® processor E5-2600 product family CPUs.

Standardize on an Industry-Leading Solution

- Deploy the Cisco Unified Computing System™ (Cisco UCS®) with Microsoft Windows Server 2012 for additional flexibility and efficiency. Cisco UCS servers make an excellent foundation for any standards-based infrastructure solution.

Scale to Meet Demand

- Results show that Cisco UCS C240 M4 Rack Server configured with the Intel Xeon processor E5-2600 v3 family can support up to 16,025 concurrent SAP SD Benchmark users in a Microsoft Windows Server 2012 and Microsoft SQL Server 2012 environment.

Optimize Application Throughput

- High-performance rack servers, blade servers, and network fabrics enable Cisco UCS to handle many SAP application tasks, with results showing that the system can process 1,753,670 order line items per hour or 5,261,000 dialog steps per hour.

Simplify Data Center Infrastructure

- Cisco UCS dramatically reduces the number of physical components needed to support demanding SAP landscape applications, enabling IT departments to make effective use of limited space, power, and cooling resources.

Cisco delivers the best two-processor, two-tier SAP Sales and Distribution (SD) Benchmark performance running Microsoft Windows, demonstrating excellent scalability for your SAP landscapes.



Cisco is unique among vendors with its comprehensive set of solutions for SAP and SAP HANA workloads—solutions that include servers with two to eight processors. Cisco also is the only vendor to deliver clustered solutions that mix and match blade and rack servers. Along with a wide variety of solution technologies, Cisco delivers excellent performance on the SAP SD Benchmark. With the Cisco UCS® C240 M4 Rack Server powered by the Intel® Xeon® processor E5-2600 v3 product family, Cisco delivers 16,025 users and a SAPS score of 87,680: the best two-processor, two-tier result running Microsoft Windows. You can trust that when you choose Cisco® servers, you have access to continuously improving SAP performance. As Figure 1 illustrates, these results show almost a 60 percent improvement over performance delivered by the last generation of Intel Xeon processor E5 product family CPUs.

SAP Sales and Distribution Benchmark

The SAP SD Benchmark is designed to stress the computing infrastructure and determine whether a consistent response can be delivered as more users consume system resources. Focused on testing components that influence the sizing of deployments, the benchmark exercises the processes that handle a sell-from-stock transaction, including business processes such as order creation and delivery, the movement of goods, and invoice creation. As a result, real-world infrastructure experiences conditions similar to those found in two-tier SAP applications.

Benchmark Configuration

Cisco tested a Cisco UCS C240 M4 server equipped with two 2.30-GHz, 18-core Intel Xeon processor E5-2699 v3 CPUs, 256 GB of main memory, and a Cisco UCS Virtual Interface Card (VIC) 1225. The server ran both the SAP software and the 64-bit Microsoft SQL Server 2012 Enterprise Edition in a bare-metal configuration. SAP Enhancement Package 5 for SAP Enterprise Resource Planning (ERP) 6.0 was used in this measurement. The Microsoft SQL Server database ran locally using six internal solid-state drives (SSDs) managed by a 12-Gbps LSI MegaRAID SAS controller. The server was booted in managed mode from an image stored on a

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shared EMC CLARiiON CX4 storage system.

Cisco Unified Computing System

The Cisco Unified Computing System™ (Cisco UCS) is the first data center platform that integrates industry-standard, x86-architecture Intel Xeon processor-based servers with networking resources and storage access into a unified system. Server, networking, storage, and intelligent management resources work together in a self-aware and self-integrating system. This design delivers greater computing density and network simplicity in a smaller footprint that reduces operating costs.

Cisco SingleConnect technology brings to each server a high-bandwidth, low-latency, 10-Gbps unified fabric that carries IP, storage, and management traffic over a single set of cables. The system represents a radical simplification compared to traditional architectures, resulting in lower capital expenditures and operating costs.

Cisco UCS C240 M4 Rack Server

The Cisco UCS C240 M4 Rack Server delivers the balanced I/O, memory, and computing capacity needed for large-scale analytical and business intelligence applications. The system is a 2-rack-unit (2RU) rack server



Figure 2. Cisco UCS C240 M4 Rack Server

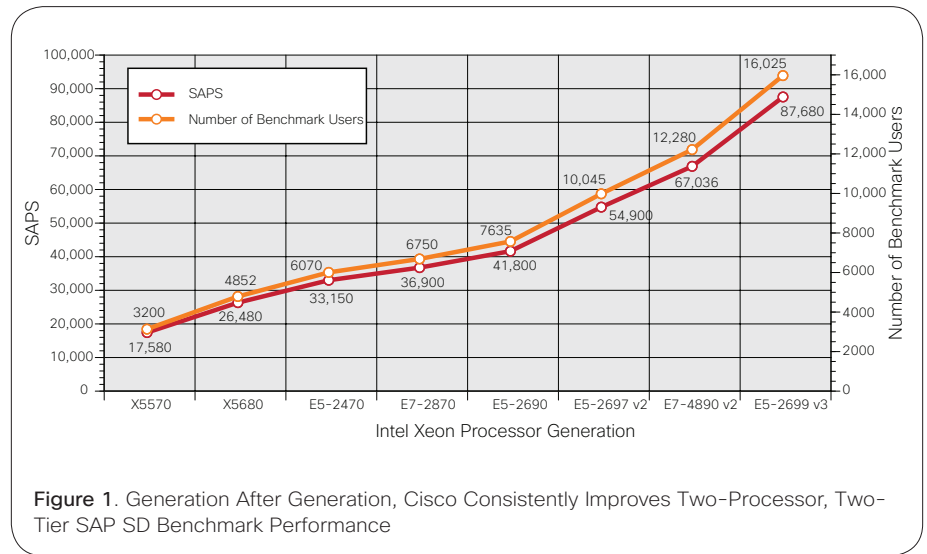


Figure 1. Generation After Generation, Cisco Consistently Improves Two-Processor, Two-Tier SAP SD Benchmark Performance

supporting the Intel Xeon processor E5-2600 v3 product family with up to 1.5 terabytes (TB) of memory. The server supports a wide range of storage options that can be supported by optional modular RAID controllers (Figure 2). It supports up to 12 Large Form-Factor (LFF) or 24 Small Form-Factor (SFF) hot-pluggable SAS or SATA drives or SSDs, and up to two internal SFF boot drives. For I/O expansion, the server supports up to six Generation 3 PCI Express (PCIe) cards.

Powered by the Versatile Intel Xeon Processor E5 v3 Family

Cisco UCS C240 M4 Rack Servers harness the power of up to two of the latest Intel Xeon processor E5-2600 v3 family CPUs to deliver an outstanding combination of performance, built-in capabilities, and cost effectiveness. Whether your business needs to address technical computing challenges, deliver cloud capabilities and intelligent storage, or power design automation and data analytics,

Cisco and Intel technology are the smart choice for a software-defined environment in which performance and efficiency matter most.

Benchmark Results

The Cisco UCS C240 M4 running Microsoft Windows Server 2012 delivered the best two-tier SAP SD Benchmark result with SAP Enhancement Package 5 for SAP ERP 6.0 and Microsoft SQL Server 2012. The solution supported 16,025 SAP SD Benchmark users while maintaining a consistent application response time of less than one second (Table 1). Published results can be found on the SAP website at <http://global.sap.com/solutions/benchmark/sd2tier.epx>, SAP SD Benchmark Result Certificate Number 2014045.

The server delivered a SAPS score of 87,680, representing a performance improvement of 59.7 percent over Cisco’s last published result for the Cisco UCS B200 M3 server equipped

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with the previous generation of Intel Xeon processor, the E5-2600 v2 product family, with a SAPS score of 10,045.

Conclusion

Just as important as this record-setting result is the diligence with which Cisco performs benchmark testing and certifies its SAP environments. This diligence is revealed in this record-setting result as well as in the consistent performance improvements that Cisco demonstrates with each new server generation.

When thousands of users rely on SAP landscape applications, computing, network, and storage bottlenecks can affect business operation. By deploying SAP on Cisco UCS, IT departments can support more users and accelerate response times. Many users can be supported—up to 16,025 in the benchmark configuration—with little hardware.

IT departments can choose from a broad range of Cisco UCS blade and rack server models to scale deployments further by using larger servers or by adding servers to create scale-out deployments with small footprints. Cisco innovations, plus a dramatic reduction in the number of

physical components needed in the data center, demonstrate Cisco’s commitment to delivery of systems that provide value to SAP deployments.

SAP Benchmark Disclosures

The statement of comparison is based on highest-performing system using two Intel Xeon processors and running SAP Enhancement Package 5 for SAP ERP 6.0 on Microsoft Windows Server

2012 Datacenter Edition in a two-tier configuration.

Results referenced are available from the SAP website at <http://global.sap.com/solutions/benchmark/sd2tier.epx> and are current as of December 1, 2014.

For More Information

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

Table 1. SAP SD Benchmark Results. SAP Certificate Number 2014045

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|--|----------------------------------|--|
| Number of SAP SD Benchmark users | 16,025 | Central server: Cisco UCS C240 M4 (2 processors, 36 cores, and 72 threads), Intel Xeon Processor E5-2699 v3, at 2.30 GHz with 64-KB Level-1 cache and 256-KB Level-2 cache per core, and 45-MB Level-3 cache per processor, and 256 GB of main memory Operating system: Microsoft Windows Server 2012 Datacenter Edition Relational database management system (RDBMS): Microsoft SQL Server 2012 Enterprise Edition SAP Business Suite Software: SAP Enhancement Package 5 for SAP ERP 6.0 |
| Average dialog response time | 970 ms | |
| Fully processed order line items per hour | 1,753,670 | |
| Dialog steps per hour | 5,261,000 | |
| SAPS score | 87,680 | |
| Average database request time | 15 ms (dialog) 30 ms (update) | |
| CPU utilization (central server) | 99 percent | |



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