

Cisco UCS B200 M3 Blade Server: High Performance and Scalability for Siebel CRM



Performance Brief
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Highlights

Provide a Scalable Foundation for Large Siebel Application Deployments

- Cisco Unified Computing System™ (Cisco UCS®) running Oracle Linux and Oracle Database delivers a scalable foundation for large deployments of Oracle's Siebel enterprise applications.

Do More with Less

- Cisco UCS enables IT departments to simplify their Siebel enterprise application landscape and increase capacity with a smaller footprint.

Scale to Meet Demand

- Results on Oracle's Siebel Platform Sizing and Performance Program (PSPP) benchmark show that Cisco UCS can support up to 10,000 active, concurrent Siebel application users performing more than 671,000 Siebel PSPP business transactions per day.

Increase Transaction Throughput

- High-performance blade servers and network fabrics enable Cisco UCS to handle many Siebel transactions, with results showing that the system can handle 68,756 Siebel PSPP business transactions per hour on Siebel Financial Services Call Center tests, and 15,173 Siebel PSPP business transactions per hour on Siebel Order Management tests.

Reclaim Valuable Data Center Space

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

Continuing its industry leadership, Cisco delivers accelerated response and high scalability to Siebel enterprise applications.

Keeping pace with sophisticated and demanding applications of Oracle's Siebel Customer Relationship Management (CRM) solution requires computing infrastructure that can support an expanding user community and increased transaction throughput to help ensure a fast response. Cisco's results on the Siebel Platform and Performance Program (PSPP) benchmark—support for up to 10,000 concurrent users, response times as fast as 0.033 second, and throughput of up to 68,756 Siebel PSPP business transactions per hour on Financial Services Call Center tests—demonstrate how Cisco UCS® B200 M3 Blade Servers, in combination with Oracle Database, deliver high scalability and outstanding performance to Siebel enterprise solutions.

Siebel Platform Sizing and Performance Program Benchmark

Oracle's Siebel Platform Sizing and Performance Program (PSPP) is designed to stress the Siebel CRM Release 8.1.1.4 architecture and demonstrate the deployment of thousands of concurrent users. Several Siebel features are exercised, including web-based interactions, the network architecture, load-balancing techniques, database scalability, and request response. As a result, infrastructure platforms experience conditions similar to those found in large-scale Siebel enterprise application deployments.

Benchmark Configuration

The tested configuration consisted of a Cisco Unified Computing System™ (Cisco UCS) chassis equipped with three Cisco UCS B200 M3 Blade Servers. Two 2.90-GHz, 8-core Intel® Xeon® processor E5-2690 CPUs powered each Cisco UCS B200 M3 server running the Oracle Linux 5.8 operating system.

Each blade server supported a different Siebel component. The database server used 128 GB of RAM and ran Oracle Database 11g Release 2 Server Version 11.2.0.2, and the application server used 256 GB of RAM and ran Oracle client software. The web and gateway server used 32 GB of RAM and ran the client software as well as Oracle HTTP Server 10.1.3.1 and the Siebel CRM 8.1.1.4 software.

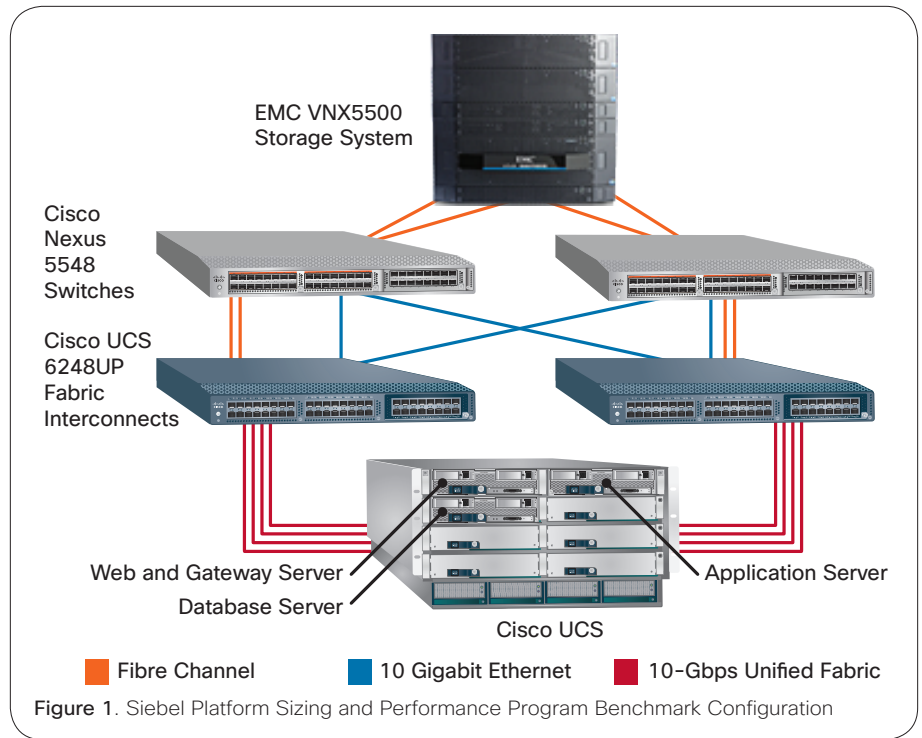
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Each Cisco UCS B200 M3 server was connected to a pair of Cisco UCS 6248UP 48-Port Fabric Interconnects. Two high-performance Cisco Nexus 5548 Switches provided access to data stored on an EMC VNX5500 Unified Storage System. EMC VNX Series storage systems provide scalable, high-performance infrastructure for applications with large data sets. The client tier consisted of one Cisco UCS C250 M2 Rack Server and one Cisco UCS C200 M2 Rack Server. Figure 1 depicts the benchmark configuration.

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 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.

Transcending the boundaries of traditional blade chassis and racks, Cisco UCS creates a physically distributed, centrally managed system that supports the solution's blade servers to deliver scalability and performance. Fabric interconnects bring a high-bandwidth, low-latency, 10-Gbps unified fabric to each server 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 and operating costs.



Cisco UCS B200 M3 Blade Server

The Cisco UCS B200 M3 is a blade server without compromise. Powered by the Intel Xeon processor E5 family, the half-width blade server offers 24 DIMM slots (up to 768 GB with 32-GB DIMMs) to support large virtual machine footprints. It is the first blade server anywhere to provide built-in programmable I/O connectivity, delivering the utmost in I/O bandwidth and flexibility.

Cisco UCS 6248UP 48-Port Fabric Interconnect

Typically deployed in redundant pairs, the Cisco UCS 6248UP fabric interconnect provides uniform access to networks and storage. With up to 48 ports in one rack unit (1RU), including

an expansion module with 16 unified ports, the Cisco UCS 6248UP fabric interconnect offers high port density, reduced port-to-port latency, and centralized unified management with Cisco UCS Manager.

Cisco Nexus 5548UP Switch

The Cisco Nexus 5548UP Switch provides a unified converged fabric over 10 Gigabit Ethernet for LAN, SAN, and cluster traffic. This unification enables network consolidation and greater utilization of previously separate infrastructure and cabling, reducing by up to 50 percent the number of adapters and cables required, eliminating separate infrastructure.

Test Methodology

Run independently by Cisco, the test simulated 10,000 active users in a call center. The users were divided into two categories, with 70 percent of the users simulating service representatives running Siebel Financial Services Call Center, and 30 percent of the users acting as order-capture agents running Siebel Order Management. End users were simulated with the Oracle Application Testing Suite 9.21, with a think-time range of 10 to 67 seconds between user operations. A 115-GB Oracle database reflected common data distribution and volumes in deployments with high transaction rates.

Benchmark Results

Cisco UCS B200 M3 Blade Servers and Oracle Database delivered fast response times and high transaction throughput on the Siebel PSPP benchmark. On the Siebel Financial Services Call Center workload, Cisco UCS handled 68,756 Siebel PSPP business transactions per hour with an average response time of 0.033 second, for a projected daily rate of 550,048 Siebel PSPP business transactions. On the Siebel Order Management workload, the system ran 15,173 Siebel PSPP business transactions per hour with an average response time of 0.202 second, for a projected daily rate of 121,384 Siebel PSPP business transactions.

Demonstrating the Cisco UCS platform's ability to deliver fast processing, CPU utilization rates on the blade servers were low, with the web and gateway server using 5.1 percent and the database server using 11.7 percent of CPU resources. On the application server, CPU utilization averaged 73.3 percent. In addition, measured network utilization for browser traffic was 37.2 Mbps, an average of 3.81 Kbps per user.

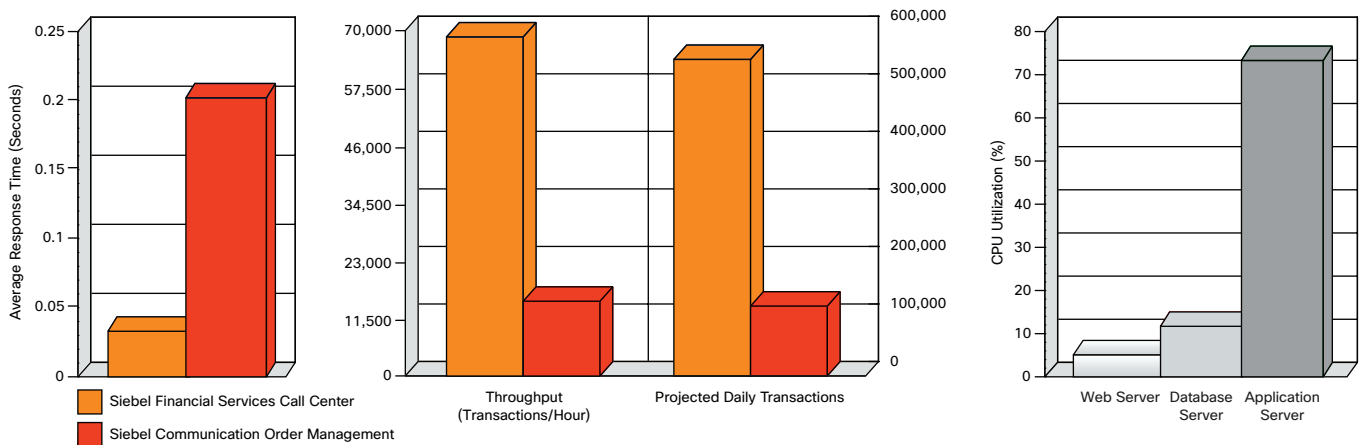


Figure 2. Benchmark Test Results for Response Time, Transaction Throughput, and Server Utilization

Delivering Business Advantage

IT departments that deploy Siebel Customer Relationship Management applications on Cisco UCS B200 M3 servers really can do more with less. IT staff can simplify their enterprise application landscape and increase capacity with a smaller footprint.

Increase Scalability

Cisco UCS offers a full range of Intel Xeon processor powered server models and an architecture that gives organizations the flexibility to put the right Siebel workload on the right platform. Indeed, benchmark results show that the Cisco UCS B200 M3 Blade Server delivers excellent scalability to the Siebel CRM Release 8.1.1.4 software. Many users can be supported—up to 10,000 in the test configuration—with little hardware. IT departments can scale deployments further with larger servers, or add servers, to create scale-out deployments.

Optimize Network Utilization

When thousands of users rely on an application, network bottlenecks can get in the way of business operation. By deploying Siebel CRM on Cisco UCS, IT departments can take advantage of built-in network innovation to optimize bandwidth utilization. Within the system, fabric interconnects support two independent networks through an

active-active model that allows available bandwidth to be more fully utilized. For example, Siebel CRM consumed only 3.81 Kbps per user over the course of the benchmark, showcasing the network efficiency and reduced latency of Cisco UCS. By optimizing traffic and delivering high throughput, Cisco UCS can help IT departments deliver faster response times to application users.

Streamline the Data Center Footprint

The unified infrastructure and architecture-by-design approach of Cisco UCS delivers the scalability needed for sophisticated, large-scale Siebel deployments. The dramatic reduction in the number of physical components results in a system that makes effective use of limited space, power, and cooling by deploying less infrastructure to perform the same, or even more, work.

Conclusion

Deployment of Cisco UCS enables data centers to reap the benefits of a simplified infrastructure. By consolidating Siebel applications onto Cisco UCS, IT departments can support more Siebel users while reducing the footprint and complexity of the entire data center. For organizations assessing infrastructure for enterprise applications, benchmark results demonstrate Cisco's commitment to delivering systems that run Oracle's Siebel software best.

For More Information

For more detailed information about the benchmark testing conducted, please visit <http://www.oracle.com/us/solutions/benchmark/apps-benchmark/siebel-81-pspp-cisco-10k-users-1873554.pdf>.

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

Siebel CRM Release 8.1.1.4 Industry Application Platform Sizing and Performance benchmarks are based on Siebel CRM Release 8.1.1.4 customized industry applications and reflect a heavier scenario mix and more aggressive think times than earlier versions. Results of this benchmark are not comparable with those of prior Siebel CRM Release 8.0 benchmarks.



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