Guide

Siebel Migration Guide - From RISC Server Platform to Cisco Unified Computing System

What You Will Learn

Today's business demands are changing rapidly, requiring a high degree of responsiveness from IT to keep pace with market dynamics. Applications such as Siebel Customer Relationship Management (CRM) have become critical for successful business execution. For years, Reduced Instruction Set Computing (RISC) processor-based servers running UNIX operating systems have been the chosen server and OS platforms for such mission-critical business applications. Though expensive, the RISC/UNIX platform was the best choice because of its proven reliability and high performance. But now the technology of choice has changed as acquisition and maintenance costs for RISC/UNIX platforms have increased beyond the value they bring, and their performance has not kept up with industry trends.

A new generation of x86-based processors and server architectures provide a lower total cost of ownership and many innovations that simplify and accelerate deployment of enterprise-class applications running in bare-metal, virtualized, and cloud-computing environments. The Cisco Unified Computing System™ (Cisco UCS™), powered by a new generation of Intel® Xeon® processors, is becoming the premier computing environment for x86-based servers. Customers around the world are migrating business-critical, off-the-shelf, custom and vertical market, and enterprise infrastructure applications off RISC/UNIX platforms and onto Cisco® UCS running open standard operating systems such as Red Hat Enterprise Linux.

This paper explains how customers can migrate Siebel CRM applications to Cisco UCS and the business benefits of such a move. Cisco's strategic migration procedure provides a roadmap to execute the migration securely and efficiently with minimal disruption to business.

Why Migrate from RISC/UNIX Platforms to x86 and Cisco UCS?

Many businesses are interested in migrating from RISC/UNIX servers to x86/Linux servers because they have come up against the real limits of their RISC/UNIX implementations. Specifically:

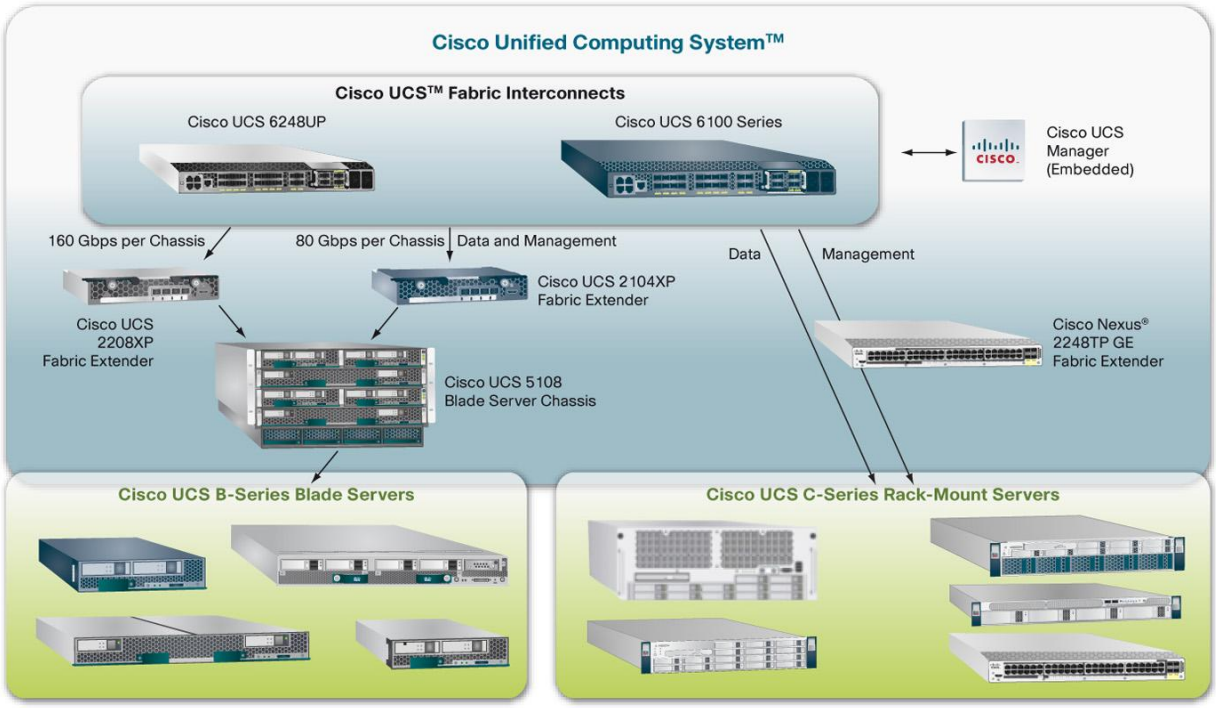
- Costs for RISC/UNIX maintenance and software licenses are increasing while IT department budgets are shrinking
- There is great uncertainty about the future of RISC/UNIX products, which have been clouded by missed deadlines, changes in roadmaps, and dropped hardware and software support from Hewlett Packard and Oracle/Sun
- Aging RISC/UNIX infrastructure doesn't provide the performance or the flexibility required to support the current requirements of businesses
- Cloud computing initiatives provide needed flexibility but nearly all are deployed on x86 architecture platforms because of the better technology and economic model they provide, as compared with expensive RISC/UNIX platforms
- Incremental performance improvements on RISC/UNIX platforms are available but at high premiums

Cisco UCS

Cisco UCS (Figure 1) is designed to help ensure the reliability, availability, and serviceability (RAS) that RISC customers expect. It is an innovative, enterprise-class data center platform that delivers on the best of both RISC and x86 architectures. It combines industry-standard, x86-architecture servers with networking and storage access into a single converged system, delivering unprecedented processing scale, resiliency, and flexibility.

The system is entirely programmable. It uses unified, model-based management to simplify and speed deployment of enterprise-class applications and services running in bare-metal, virtualized, and cloud-computing environments. Combined with a choice of Linux, Solaris for x86, or Windows operating systems, Cisco UCS delivers the hardware and application support required for the data center of today and tomorrow, without vendor lock-in risks and high costs.

Figure 1. The Cisco Unified Computing System



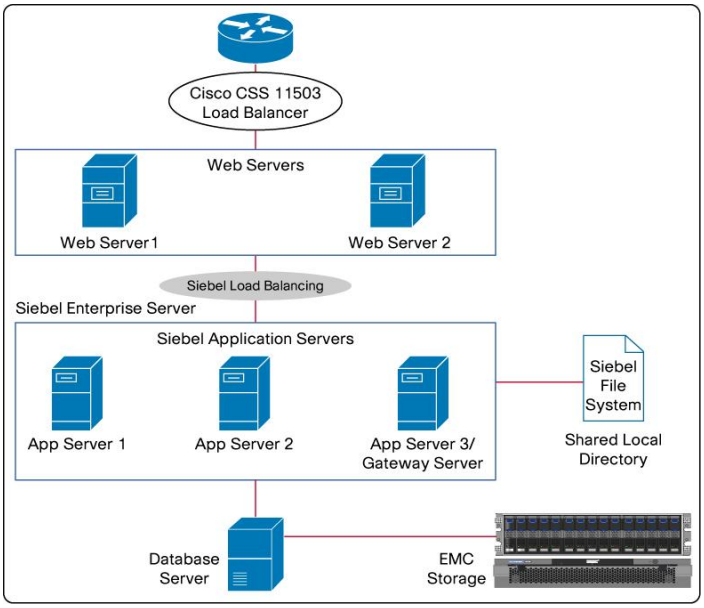
Siebel CRM Architecture

Oracle's Siebel CRM is a complete customer relationship management solution that helps organizations to differentiate their businesses so that they can achieve maximum revenue and profit growth. It delivers a combination of transactional, analytical, and engagement features to manage all customer-facing operations, and solutions tailored to more than 20 vertical industries and various horizontal industries. The Siebel solution has evolved to a three-tier architecture to cater to the increasing demands of scalability and performance without sacrificing application manageability.

The sample migration of Siebel CRM from a RISC/UNIX platform to Cisco UCS running Linux presented in this paper involves setting up Siebel CRM Version 8.1.1.4 on Solaris 10 with the Siebel Call Center and Siebel eSales applications. The customer is in the communications industry and standard browser clients are used. Installed components, workload demands, and deployment architecture are shown in Figure 2.

This application served a total of 800 registered users and 500 peak concurrent users and was designed to be able to create 10,000 new orders a day referencing an Oracle database.

Figure 2. Initial Siebel Infrastructure on RISC Platforms



Planning for Migration

Prior to the migration, it is important to consider the following:

- **Siebel CRM software and operating system compatibility:** Cisco UCS servers support only Windows or Linux operating systems. Red Hat Linux version 5.4, 64 Bit version was used in this migration exercise. Refer to the Siebel System Requirements and Supported Platforms document for more information: (http://download.oracle.com/docs/cd/E11886_01/srsphomepage.html).
- **Siebel upgrade path identification:** Not all versions of Siebel applications are compatible with Linux. For example, a Siebel Enterprise Server running Version 7.x of the CRM application on the Solaris operating system must be upgraded to Version 8.1.1.4 before it can be migrated over to Linux. For specific upgrade paths of Siebel CRM application versions, visit: http://download.oracle.com/docs/cd/E11886_01/V8/CORE/SRSP_81/SRSP_81_UpgradePaths2.html.
- **Siebel customization:** Migration of custom components may require additional steps. (Siebel utilities such as **cfgmerge** do not support custom components.) Custom components may also require dedicated development and testing efforts for operating system compatibility.

The migration of Siebel CRM from a RISC platform to Cisco UCS has been rigorously tested and validated in a lab environment. Customers can be assured of a smooth migration based on the defined methodology.

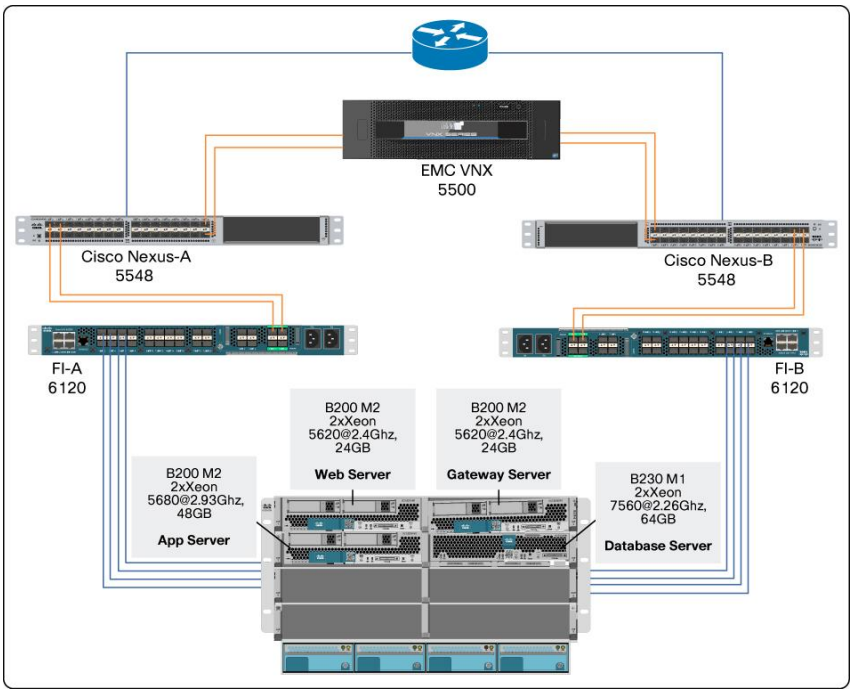
Migration Approach

To minimize the downtime of the Siebel Enterprise Server, it is important to follow a phased migration of components. For example, gateway servers and database servers should be migrated first, followed by application servers and Web servers. The migrated gateway server can register the existing servers on the RISC platform along with the new Cisco UCS servers until the entire migration is complete.

Target Hardware Deployment: Cisco UCS Servers

In this migration exercise, the Cisco UCS B200 M2 Blade Server was chosen to serve as Web server, gateway server, and application server - one per component. The Cisco UCS B230 M2 Blade Server was used to host the Oracle database. The details of the Cisco UCS deployment, including blade servers, fabric interconnects, and Cisco Nexus® switches and storage, are shown in Figure 3.

Figure 3. Siebel Infrastructure on Cisco UCS Platforms



Migration Process

As a first step of the migration, the target Cisco UCS servers are installed with Red Hat Enterprise Linux after the server service profiles are configured in Cisco UCS Manager. To enable stateless computing capabilities of Cisco UCS servers, the OS is installed using SAN boot logical unit numbers (LUNs). The migration process consists of the following steps.

Database

The existing data from the RISC database is migrated to the target database server using Oracle's cross-platform Transportable Tablespaces feature:

- Oracle 11gR2 is installed on the target server
- Data pump directories are created on source and target database servers for import and export operations
- A shell database is created on the target server and the metadata required for the Transportable Tablespace is imported from the source server
- Source metadata is exported using the data pump to target database after modifying the default target user Transportable Tablespace

- The data files (except system, sysaux, undo, and temp) are moved to target server using FTP or SCP utilities
- The data files are converted using **rman convert file** commands to address the big Endian and little Endian format difference
- The Tablespaces are imported into the target database
- The system privileges and sequence values are fixed and the invalid objects on the target database are recompiled

Application Server

Migrating the Siebel application server involves moving repository data, Siebel files, and enterprise configuration data to the target application server.

Since the database is migrated already, the repository data and administrative data is available in the target Siebel servers. File copy operations are performed for migration of Siebel repository files (.srf) and Siebel Web templates (.swt). Similarly, file copy is performed for all the files present in the public directory of Siebel Web server extensions such as cascading style sheets (CSS), graphic files, and browser scripts. For the enterprise configuration data (such as server list, parameters, components list, etc.) which is managed by the Siebel gateway server (siebns.dat), the **cfgmerge** utility is used. This utility compares the source and target servers and generates necessary scripts (containing **change parameter** commands) to apply on the target server. The custom components that were used in the source platform are deployed in the target servers and Siebel services are restarted.

Siebel File System

Siebel typically stores reports, files generated during user navigations, and other data in the file system. Hence migration of these files on the target servers is critical for business continuity. Migration of the Siebel file system involves the following steps:

- File system-related batch jobs are terminated before migration
- The Siebel Enterprise Server is shut down and the file system is unmounted at the source
- Once the target file system is mounted and accessible, cpio or SAN copy options can be used to migrate the files
- File system is mounted to the target along with **edit /etc/fstab** entries and the Siebel Enterprise Server is restarted

Validation

The target Siebel Enterprise Server can be validated through:

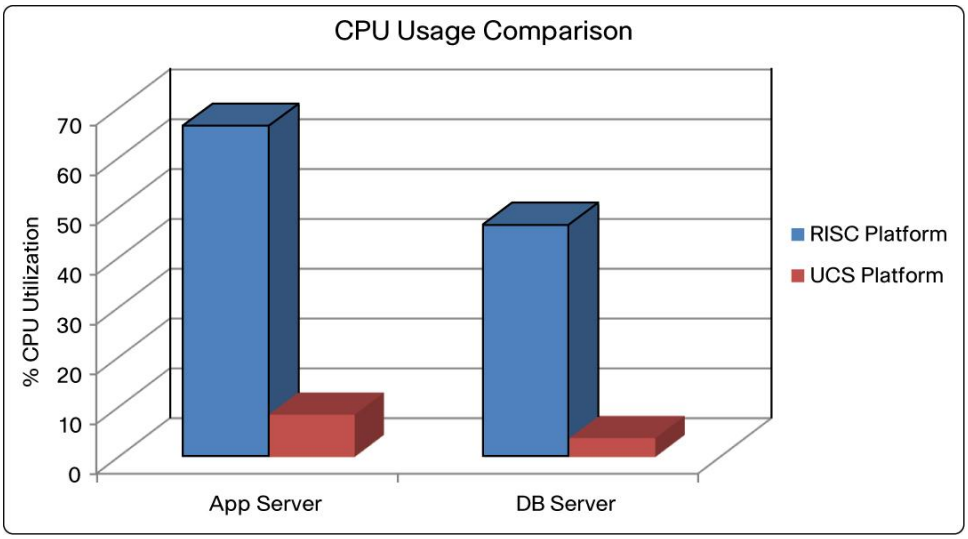
- Business validation (user flows) and data integrity checks
- Review of the logs at the enterprise level and component level
- Running the Enterprise Verification Tool

Results

Siebel application performance in the RISC environment can be compared to performance in the Cisco UCS environment by conducting performance tests simulating virtual users. This can be done using the LoadRunner tool.

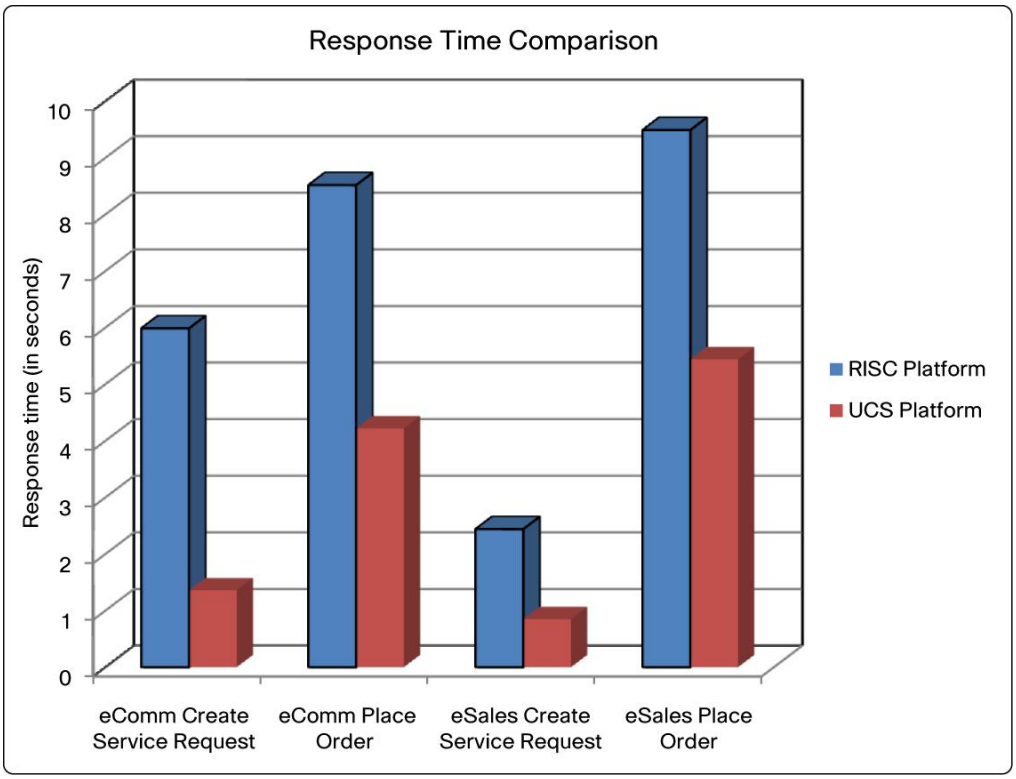
The Siebel application on Cisco UCS servers has delivered better response times with reduced CPU usage than on RISC-based servers. For a 500 user workload, the Cisco UCS servers used less than 10 percent of CPU power while delivering better response times in comparison to the RISC servers, as shown in Figure 4.

Figure 4. Comparison of CPU Usage: Sun with Solaris versus Cisco UCS with Linux



Response times for various Siebel services are compared in Figure 5.

Figure 5. Comparison of Response Times: Sun with Solaris versus Cisco UCS with Linux



Conclusion

Siebel CRM applications, running on the Cisco Unified Computing System, can reduce the total cost of ownership at the platform, site, and organizational levels and increase IT staff productivity and business agility through just-in-time provisioning and mobility support for both virtualized and nonvirtualized environments. Additionally, with proper planning, a Siebel CRM migration from RISC-based servers to Cisco UCS servers can be accomplished with minimum downtime.

For More information

Migrate from RISC Servers to Cisco UCS http://www.cisco.com/en/US/partner/prod/ps10265/uc_risc.html.

Cisco UCS Services: Accelerate Your Transition to a Unified Computing Architecture
http://www.cisco.com/en/US/services/ps2961/ps10312/Unified_Computing_Services_Overview.pdf.

Cisco UCS Delivers World-Record Application Server Performance
http://www.cisco.com/en/US/prod/collateral/ps10265/LE-212506_PB_jAppServer_B230.pdf.

x86 Blades: Shrinking the Branch Office
http://www.cisco.com/en/US/partner/prod/collateral/modules/ps10598/white_paper_c11-613183_ps11273_Products_White_Paper.html.

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