



An Oracle White Paper  
November 2011

# Upgrade Best Practices - Using the Oracle Upgrade Factory for Siebel Customer Relationship Management

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## Executive Overview

Oracle's Siebel Customer Relationship Management (CRM) applications have evolved over time, and Oracle's commitment to customers, this suite of applications, and creating best-in-class products remains steadfast. The Siebel CRM product has expanded significantly in functionality, scalability, usability, and reduced cost of ownership over the past few releases. We want to ensure that organizations realize the highest value from these enhancements, both now and in the future. This white paper guides you through the some recommended practices for upgrading, and talks about how Oracle can help you execute Siebel CRM upgrades in a cost efficient, low risk and short timeframe using the well established Oracle Upgrade Factory for Siebel CRM.

## Introduction

Siebel CRM applications have become mission-critical to the success of many organizations. Due to the growing requests for help with Siebel CRM upgrades from customers and the need to make the process as smooth and risk-free as possible, Oracle established the Oracle Upgrade Factory for Siebel CRM. The factory consists of very experienced consultants who specialize in Siebel CRM upgrades. Oracle has developed a repeatable process consisting of propriety tools, proven Upgrade methodology and Upgrade best practices. The strengths of the Oracle Upgrade Factory for Siebel CRM include:

- Extensive upgrade experience.
- On time execution.
- Close ties to Oracle Development and Support.
- Global blended delivery and flexible engagement model helps lower upgrade cost.
- Single point of accountability for customer satisfaction

## Standard Siebel CRM Upgrade Process

The section talks about the standard Siebel CRM upgrade process at a high level. The majority of Siebel CRM customers have a minimum of three environments, namely, development, test and production. The development environment must be upgraded first, before upgrading other environments. This merges your customizations with the new release. A merged repository file and database schema file are created and become inputs to the production test environment upgrade and production upgrade.

The basic flow of the upgrade process is shown in the following diagram. This flow applies to development environment and production test environment upgrades. You also use this flow to upgrade your production environment, with the addition of several deployment steps.

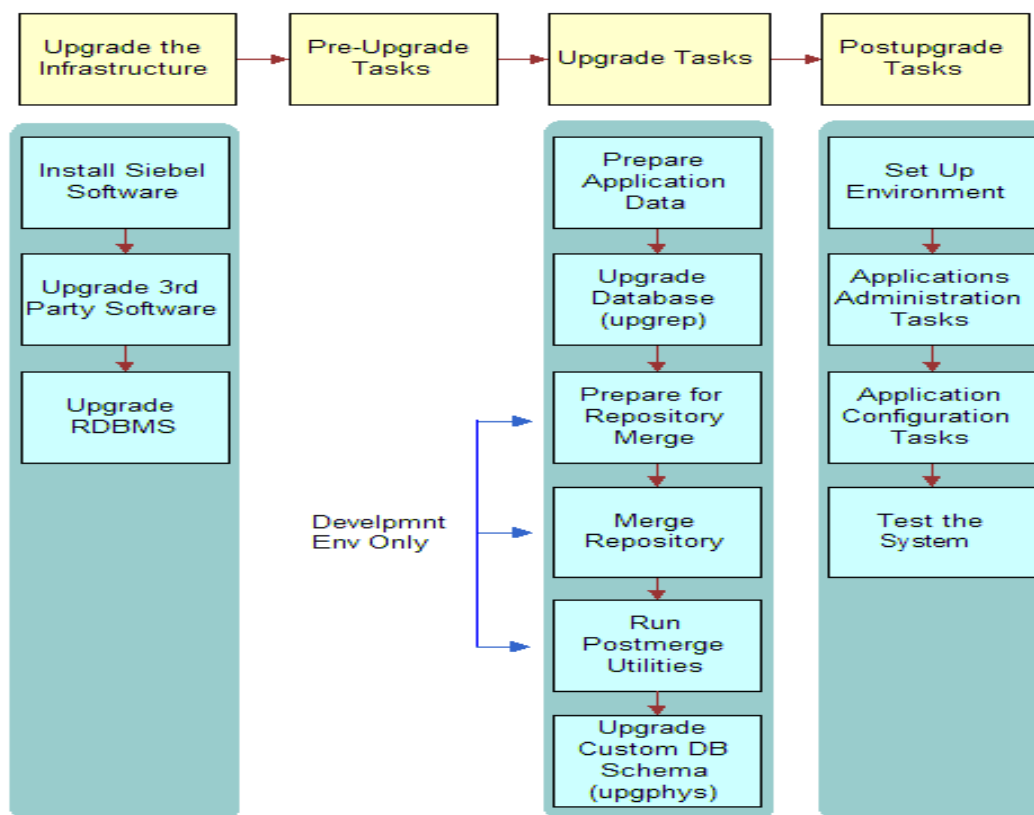


Figure 1. Siebel CRM Upgrade Process

### Upgrade the Infrastructure

The first phase of the upgrade is to upgrade your hardware and software to meet system and implementation requirements, which includes upgrading the Siebel CRM Enterprise to the new release. This action upgrades the Siebel CRM Servers and provides the programs, scripts, input files, and other files required to merge the repository and upgrade the Siebel CRM Database.

## Perform Pre-Upgrade Tasks

This phase prepares the Siebel CRM Database for the upgrade process and includes such tasks as closing the database connections, clearing pending workflow tasks, cleaning the EIM tables, and disabling customized triggers.

## Perform Upgrade Tasks (Development Environment)

During this step, the development environment is upgraded, merging legacy customizations with the new release. The output of this step is a merged repository and schema definition that serves as input for the upgrades of the production test environment and production environment. This phase includes the following sub-tasks:

- Prepare test data for migration.
- Run the Database Configuration Wizard in “**upgprep**” mode to perform an upgrade of the Siebel CRM Database schema and load repositories to prepare for the repository merge.
- Use Siebel Tools to merge your existing repository with the repository in the new release.
- Use Siebel Tools to analyze your customizations and apply changes to them as needed to conform to the user interface in the new release.
- Run the Database Configuration Utilities in “**upgphys**” mode to further upgrade the Siebel CRM Database with changes resulting from the repository merge and complete the database upgrade.

## Perform Upgrade Tasks (Test Environment)

This phase upgrades a production test environment Siebel CRM Database to the new release and includes the following sub-tasks:

- Prepare test data for migration.
- Run the Database Configuration Wizard in “**Prepare for Production**” mode. The Prepare for Production mode reviews the upgraded development environment database schema and creates input files. The “**upgprep**” mode uses these files to make schema changes to the Siebel CRM Database.
- Run the Database Configuration Wizard in “**upgprep**” mode to import the repository and schema definition files from the development environment and upgrade the Siebel CRM Database.
- The “**upgphys**” portion runs automatically. It makes several administrative changes to table data, including updating the schema version in S\_APP\_VER.

It is extremely important that the upgraded release be tested to validate its function and performance before deploying it to users. In addition, the upgrade process must be tuned to

minimize the time required to perform the production upgrade and optimize the environment for improved performance at deployment.

Oracle provides an upgrade tuning application that analyzes how the upgrade scripts interact with the production test environment database. The Upgrade Tuner enables you to adjust how the scripts will execute against the Siebel CRM Database in your production environment; in addition, this tool provides you a platform to determine how the new application version will perform before it is deployed. Tuning the scripts can significantly reduce the time required to complete the production upgrade.

### Perform Upgrade Tasks (Production Environment)

The production environment is your live, deployed business instance running on the new Siebel CRM release, where your internal and external users interact with the Siebel CRM applications and generate actual business data. This phase upgrades the production environment to the new release and includes the following sub-tasks:

- [Optional] Run the Database Configuration Utilities in the “**Additive Schema Changes**” mode without taking the database offline. This mode makes schema changes that do not affect the operation of the application thereby reducing the amount of time the production database must be offline to perform the upgrade.
- Prepare application data in the production database for migration.
- Run the Database Configuration Wizard in “**upgrep**” mode for the production environment. This will upgrade the database schema as well as all the application data.

### Perform Post-Upgrade Tasks

This phase is where you set up the environment, configure applications, and test the system. In addition the following is a list of post-upgrade tasks that apply to many Siebel CRM implementations:

- Review and update Siebel CRM File System Attachments
- Reset upgrade-specific database and database server parameters back to their recommended settings for production.
- Set Up Siebel CRM Global Time Zone Support.
- Run database statistics.
- Verify the function of interfaces in integrated applications.
- Activate and deploy workflows.
- If you have set up integrations for transferring data to or from third-party applications using Siebel EAI, verify the integrations are configured correctly.
- Generate a Siebel Remote database template file.

- Setup Siebel RC2 or AES Encryption.

You might choose to review this list and apply the ones for your specific implementation.

## Upgrade Process Using Oracle Upgrade Factory for Siebel CRM

The section describes how the Siebel CRM upgrade process has been refined and how it is executed efficiently in Oracle's Upgrade Factory for Siebel CRM. There are four key phases to a successful upgrade using the Oracle Upgrade Factory for Siebel CRM:

- Planning Phase
- Execution Phase
- Testing Phase
- Deployment Phase

### Planning Phase

The key to a successful and low-risk upgrade is to have a complete inventory of all potential areas affected by the Upgrade. This includes not only all the changes made within the Siebel repository but also everything else outside the repository which interfaces in any way with the Siebel CRM application. Here are few examples of these items:

- Version information for middleware, CTI/IVR and any other third party software interacting with Siebel,
- List of all reports (Actuate or BI Publisher),
- List of all custom web templates,
- List of all real-time and batch interfaces,
- List of all Assignment Rules,
- Run-time events, etc.

Once you have a complete inventory of the above items, you can then plan and estimate the execution phase very accurately. This helps prevent any surprises, and avoids delays or detours during the upgrade execution phase.

### Execution Phase

This phase of the upgrade project is executed using the Rapid Technical Upgrade methodology developed by Oracle. Using this methodology we use propriety tools and specialized resources to perform an upgrade of a customer's development database in Oracle's Upgrade Factory. As a first step, we create a replica of a customer's development environment (excluding real-time integration points) in our data center. We recommend that the size of the development database be smaller than 80GB to speed-up the first run of the upgrade scripts. We then execute the tasks described in an earlier section for a development environment upgrade. These steps are highlighted in the diagram below:

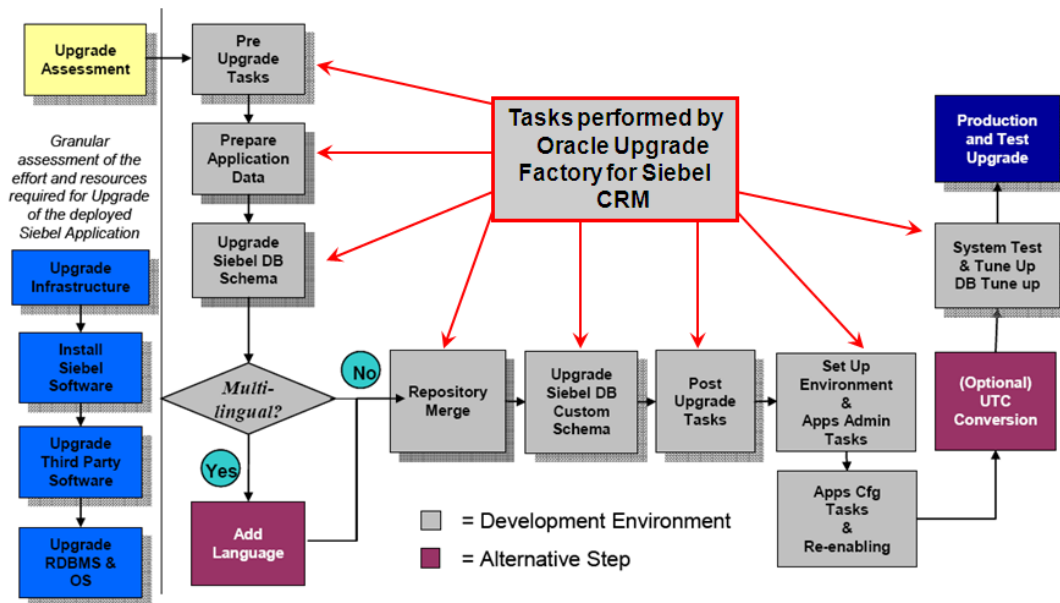


Figure 2. Development Upgrade Tasks completed using Oracle Upgrade Factory for Siebel CRM

Once the development upgrade steps are complete, the upgraded application is transferred back to the customer's development environment where the remaining phases of the upgrade project can continue.

The Oracle Upgrade Factory for Siebel CRM uses special upgrade tools and very specialized resources to execute the development upgrade tasks. These tools and experienced resources have helped many customers significantly cut down the time required for one of the most complex phases of an upgrade project.

### Testing Phase

This phase of the upgrade project focuses on system integration testing and performance testing of the Siebel CRM application upgraded using the Rapid Technical Upgrade methodology during the execution phase. The upgraded application from the Oracle Upgrade Factory is installed in the customer's development environment and all the integration points are connected with the Siebel CRM application. The system integration testing is conducted in accordance with the test plans created during the upgrade execution phase. In parallel, a separate performance test environment is created. This environment is typically used to conduct mock production upgrades and performance testing and tuning of the upgraded Siebel CRM application.

### Deployment Phase

During the deployment phase we prepare the production hardware and get it ready for the production cutover. The production upgrade checklist created and refined during the mock production upgrade is reviewed and distributed with all the team members who are going to be

involved during the production cutover process. The application downtime is communicated to all the end-users well in advance. During the actual cut-over weekend, final communication is sent out to all end-users, the web servers are brought down, all the integration points are disconnected, all the existing transactions including workflows and assignment rules are quiescent and the steps documented in the production cut-over checklist are executed according to plan. Once the upgrade is complete and the application and interface touch-points are verified by smaller group of end-users and confirmed to be functioning as expected, system availability communication is sent out to all the end-users.

## Siebel CRM Upgrade Tools

Siebel CRM offers upgrade tools and utilities to assist in the patching, release management, and upgrade process. The table below provides an overview of these tools. Please keep in mind that you should reside on the most current Siebel Tools version and/or patch that is certified for your current application release. This will allow you to utilize the new and improved set of technical features that are available and be better prepared to resolve issues before they impact your Siebel CRM installation. Upgrading your Siebel Tools should be treated similarly to an upgrade project in that it should involve planning and testing cycles. Proper management of these factors will ensure that your environments are upgraded at optimal times and with the least amount of interruption.

**TABLE 1. TOOLS AVAILABLE DURING SIEBEL UPGRADE**

TOOLS	DESCRIPTION
Siebel Tools	Siebel's integrated development environment used to configure and extend the Siebel application.
Environment Verification Tool	Used to verify that the server running Siebel software is configured correctly and complies with the Siebel system requirements and supported platforms for the given version.
Database Upgrade Wizard	<ul style="list-style-type: none"> <li>Automatically migrates application data.</li> <li>Performs schema/data upgrade, repository import and preparation and seed data import.</li> <li>Wizard interface enables data upgrade to be less error prone, re-startable, and customized for your upgrade path and database platform.</li> </ul>
Database Upgrade Tuner	<ul style="list-style-type: none"> <li>Parallelizes table creation and index creation.</li> <li>Deactivates certain zero-row SQL statements.</li> </ul>
ICL (Incorporate Custom Layout)	<p>Incorporate Custom Layout (ICL) Applies only to 7.x to 7.8 upgrades. The benefits of ICL are:</p> <ul style="list-style-type: none"> <li>Traditional merge process mangles UI.</li> <li>Traditional merge requires significant reconfiguration effort after upgrade.</li> <li>Customers have expressed their preference to preserve their current UI Benefits.</li> <li>Intent is to significantly reduce the reconfiguration effort caused by the upgrade.</li> <li>Reduce the impact on end users - UI is similar to current.</li> </ul>

Script Checker Utility	<ul style="list-style-type: none"><li>• Facilitates migration of scripts.</li><li>• Outputs all scripts in the repository to text or HTML.</li><li>• Produces a summary report on each script and identifies items for review (MsgBox, Obsolete Methods, etc.).</li></ul>
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Application Deployment Manager	Automated runtime migration of application customizations to staging or production environments.
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Log Parse Utility	Produces a summary for all processes and displays process name, description, time, input parameters, errors/summary, and performance info for SQL and DDL.
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## Siebel CRM: Upgrade Best Practices

In preparing to successfully upgrade, there are multiple considerations to include in your upgrade planning and execution efforts. Within this publication, Oracle has gathered tips and techniques from experts from Oracle's Upgrade Factory for Siebel CRM, project managers and other technical experts. These recommendations are intended to help you learn from others and manage a successful upgrade project.

### Determine Your Upgrade Path

Verify whether you can upgrade directly to the latest release or whether you must first upgrade to a previous release before moving to this target release. In addition, evaluate the complexity of your upgrade effort based on the number of modules implemented, number of customizations, number of integration points, number of reports, number of interfaces, total number of scripts, and number of user interface scripts.

### Plan and Execute Your Upgrade like Any Other Critical Project

A structured approach for internal communication, managing the tasks, managing the scope, resolving issues, and measuring progress is critical. Make sure that all the necessary players are involved right from the beginning until the upgrade is complete.

### Spend Time Planning: Do a Detailed Upgrade Assessment

A comprehensive inventory of all elements potentially impacted by a Siebel CRM Upgrade is extremely important for accurate estimation and surprise-free execution of the project. Hence we recommend that you do a detail upgrade assessment prior to the start of the upgrade project. A well organized upgrade assessment will examine the current business processes, prepare an inventory of all repository modifications, workflows, interfaces, reports, etc., identify areas of risk, develop risk mitigation options, and provide accurate estimates for the upgrade project.

### Prepare the Organization and Secure End-user Buy-In

Proactively engage stakeholders to help prepare for the project and communicate the changes that will be experienced once deployed. It is also very important to keep the end-users

informed and involved about how the resulting solution will impact their roles, whether the changes are functional, user interface, or technical in nature.

#### **Plan for Upgrade Architecture**

It is important to understand the impact of the upgrade project on the infrastructure elements so you can plan ahead and order additional hardware if necessary. Accurate sizing information will also help guide decisions to reuse existing hardware and resources. We recommend that you perform a formal sizing review to help determine the resource requirements for the upgraded application.

#### **Run Multiple Mock Production Upgrades**

For the production cut-over to go as smooth as possible with minimum surprises we recommend that you rehearse the actual upgrade with production data at least twice. You should prepare a checklist of items for the production upgrade and refine this checklist during the mock production upgrades. This will also help you accurately estimate the application downtime during the production update and communicate the same to the end-users.

#### **Conduct End-user Training**

Due to the changes in the User Interface and navigation methods we recommend conducting training for the end-users. The level of training required will depend on the nature and extent of the changes made as part of the upgrade. Well planned end-user training will help resolve most issues early and result in higher end-user satisfaction with the upgraded application.

#### **Production Cut-Over**

A final communication should be sent out to the end-user community making them aware of the unavailability of the application. All the process (including interfaces) should be allowed to quiescent down before starting the upgrade of the production database. During the production cut-over the Go-live checklist created earlier in the upgrade process should be followed as closely as possible with very minimal variance. Once all the steps in the checklist are complete a smaller group of users should be given access to the system. These users can verify the proper functioning of the critical business processes including all interface points after the upgrade. After this you should inform the end-users that the application upgrade is complete and they can resume their daily activities in the application.

## **Conclusion**

Oracle Siebel Customer Relationship Management (CRM) is a leading CRM solution, helping organizations across the globe to differentiate their businesses for maximum growth. Siebel CRM 8.1.1 has multiple functional and technological advances and offers industry-specific solutions for self-service and robust customer loyalty management. In today's highly competitive world, companies can no longer afford to run their business critical applications on older versions of applications, middleware, hardware, operating systems or database

management systems. Upgrade of these elements has been a necessary part of the day-to-day operations. Oracle's Upgrade Factory for Siebel CRM takes the mystery and risk out of your Siebel CRM upgrade by using proven upgrade methodology, special upgrade tools and very talented and dedicated resources whose sole focus is Siebel CRM Upgrade. These resources can help your organization plan and execute your upgrades with very low risk in a compressed timeframe at a very reasonable cost.



November 2011  
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