SIEBEL 7

eBusiness

SIEBEL SERVER INSTALLATION GUIDE FOR MICROSOFT WINDOWS

VERSION 7.5.3
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Introduction

This guide provides information, instructions, and guidelines for installing your Siebel eBusiness Applications server components under Microsoft Windows.

This book will be useful primarily to people whose title or job description matches one of the following:

System Administrators	Persons responsible for the whole system, including installing, maintaining, and upgrading Siebel applications.
Siebel Application Administrators	Persons responsible for planning, setting up, and maintaining Siebel applications.
Database Administrators	Persons who administer the database system, including data loading; system monitoring, backup, and recovery; space allocation and sizing; and user account management.

How This Guide Is Organized

This guide provides information that is necessary to install most Siebel eBusiness applications. Its organization provides a logical and sequential explanation of the steps necessary to install Siebel software.

NOTE: Your Siebel implementation may not have all the features described in this guide, depending on which software modules you have purchased licenses for.

Use of the Term Windows in This Guide

In this guide, the term Windows refers to all Microsoft Windows operating systems listed as supported for this release in *System Requirements and Supported Platforms*. Likewise, MS SQL Server refers to the version of that database referenced in the same document.

How This Guide Refers to Your Installation Directories

This guide uses the following variable naming conventions to refer to the installation directories either created by the installers or to which users navigate to access files and executables.

SIEBEL_ROOT. Generally, this refers to the main directory in which software for each Siebel Server entity has been installed. The Windows Enterprise Server component installers use \sea7xx as the default for *SIEBEL_ROOT*.

SIEBEL_HOME. This term refers to the installation or root directory for either Siebel eBusiness Applications software in general or the Siebel Server, depending on the context. Many scripts contain variables with this name; its meaning is most often derived from the context.

Revision History

Siebel Server Installation Guide for Microsoft Windows

Version 7.5.3

Table 1. Changes Made in Version 7.5.3

Topic	Revision
"DB2set Parameters" on page 204 and "Copying and Installing Stored Procedure Code on DB2" on page 235.	Revised for 7.5.3: information about DB2 v8.1 support.
"MS SQL Sample Script" on page 446.	Added the MSSQL DB sample script.

Additional Changes

This guide was thoroughly revised for 7.5.3 to improve search capability, clarity, and quality.

January 2003 Bookshelf

Changes listed in Table 2 were made for the *Siebel Server Installation Guide for Microsoft Windows*Version 7.5, Rev A, released on the January 2003 bookshelf.

Table 2. Changes Made for January 2003 Bookshelf

Topic	Revision
Unattended and console mode installation	Moved from Appendix E, Alternative Installations to Chapter 4, "Installing in Unattended or Console Modes."
Creating a staging point	Moved from Appendix E, Alternative Installations to Chapter 2, "Preparing for the Installation."
Central Dispatch	Added Troubleshooting section to Implementing Load-Balancing in Chapter 3, "Implementing Load-Balancing with Central Dispatch."

Table 2. Changes Made for January 2003 Bookshelf

Topic	Revision
Supported database code pages	Section removed from this guide. This information will now be maintained in the *System Requirements and Supported Platforms* document.
SWSE statistics page	Information removed from Appendix D, Structure of the eapps.cfg File. The SWSE statistics page is now documented in detail in the *Siebel Server Administration Guide*.

Siebel Server Installation Overview 1

This overview provides information for installing your Siebel Enterprise Server components.

A successful installation requires:

- Familiarity with the basic conventions of the supported Microsoft Windows operating system, under which your Siebel Servers will run.

- Expertise in network connectivity, disk and file sharing, and software installation on your chosen server and client operating systems.

- User accounts with administration privileges appropriate for access under Windows to perform installations.

- Expertise in database installation, tuning, and administration in your chosen relational database management system (RDBMS).

The guide also explains how to install Siebel eBusiness Applications on several databases, operating systems, and server platforms. However, specific database and operating system platforms, as well as certain combinations of them, may not be supported by the current release. For a list of all operating system platforms and RDBMS products supported by this release, consult *System Requirements and Supported Platforms*.

The Siebel Environment

The Siebel eBusiness Applications environment consists of three entities, listed in Table 3.

Table 3. Siebel Application Entities

Entity	Description
Siebel clients	Includes Siebel Web Client, Dedicated Web Client, Wireless Client, Mobile Web Client, Handheld Client, and Siebel Tools Client.
Siebel Database Server and Siebel File System	Stores the data and physical files used by Siebel clients and Siebel Enterprise Server.
Siebel Enterprise Server	Includes the Siebel Servers, Siebel Gateway Name Server and Connection Broker. Collectively, these entities provide both batch mode and interactive services to and on behalf of Siebel clients.

The Siebel Enterprise Server environment represents the middle tier within the three-tiered Siebel eBusiness Applications environment.

NOTE: This chapter discusses only the Siebel Enterprise Server architecture and entities. For a complete discussion of the Siebel Web clients, see *Siebel Web Client Administration Guide*.

Figure 1 on page 23 and Figure 2 on page 24 each contains a logical diagram of all the entities that make up the Siebel eBusiness Applications environment.
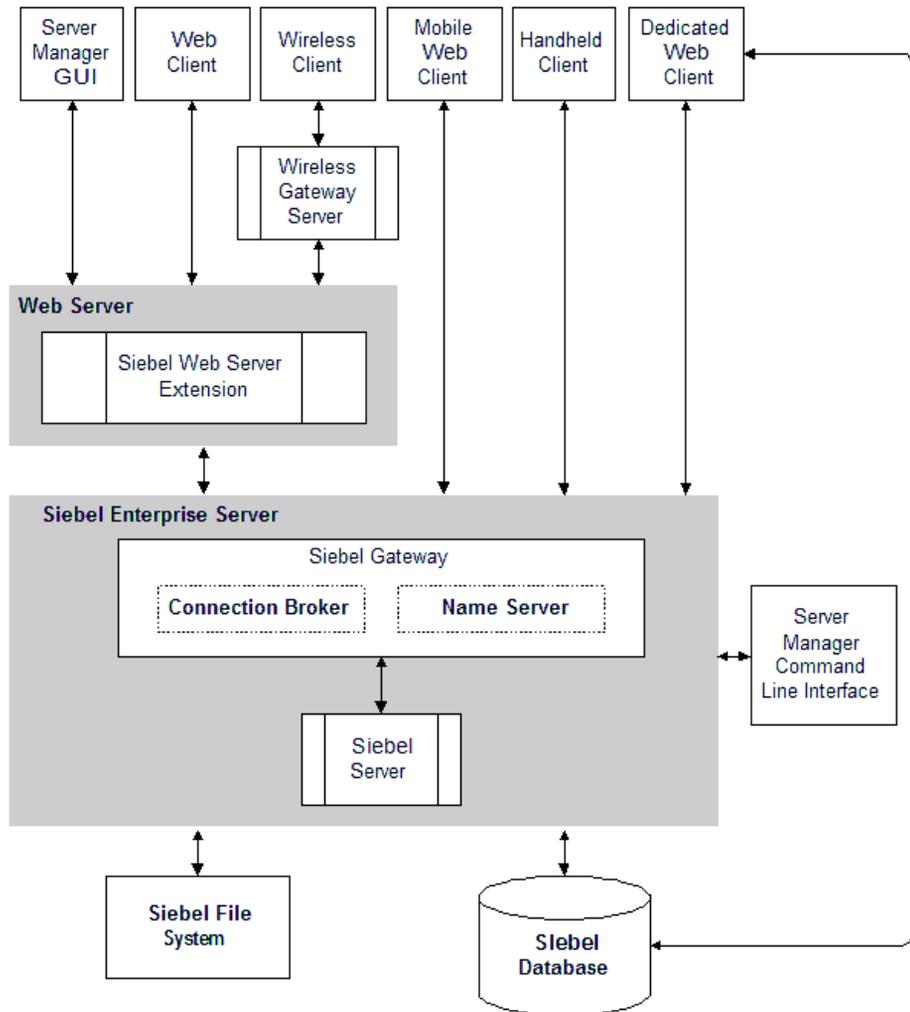
Figure 1. Logical Diagram of a Siebel 7 Environment in a Small Deployment (One Siebel Servers and One Web Server)

In a large deployment on multiple Siebel Servers, you can place the Name Server as shown in Figure 2.
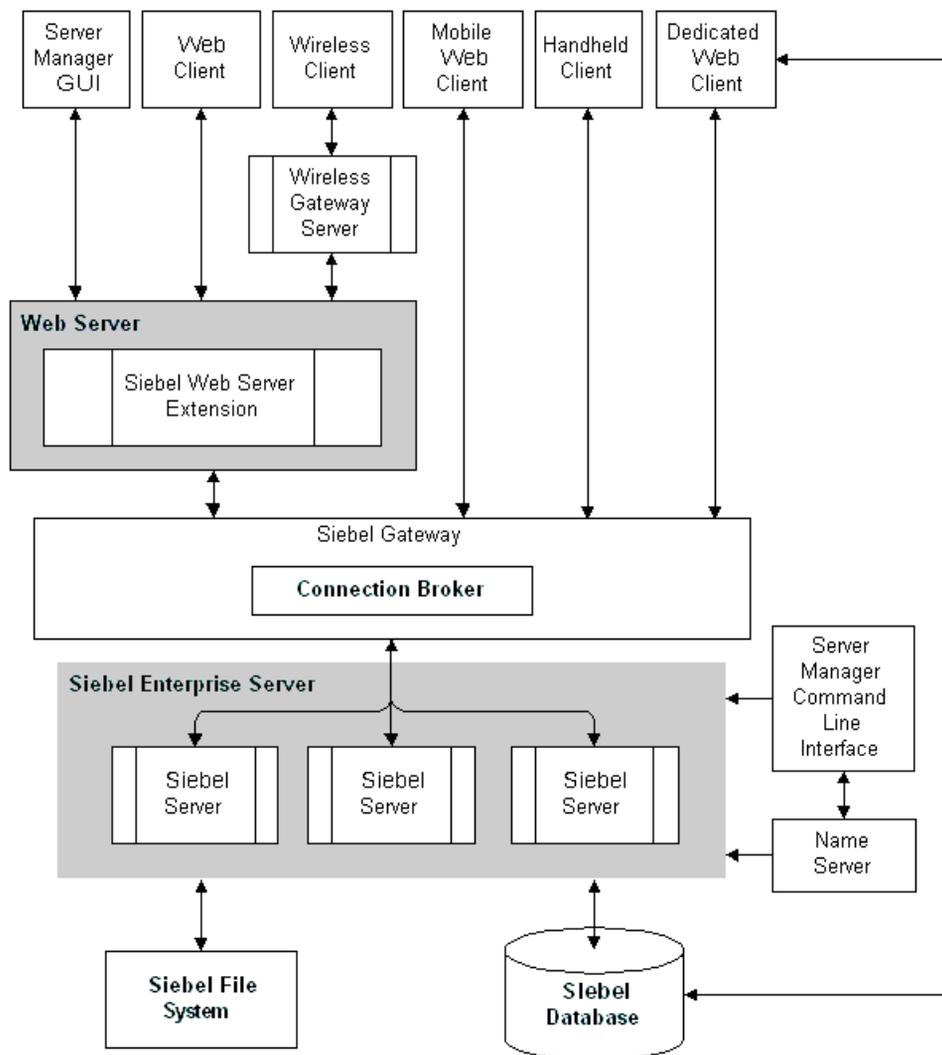
Figure 2. Logical Diagram of a Siebel 7 Environment in a Larger Deployment (Multiple Siebel Servers)

High Availability Overview

Siebel eBusiness Applications support load balancing and a number of server clustering technologies that are platform-specific to achieve high availability for all Siebel Servers. For information on clustering, see Chapter 7, "Clustering Your Siebel Deployment for Failover." For late-breaking information on Siebel Systems support for server clustering, see *System Requirements and Supported Platforms*.

Siebel Gateway Overview

With Siebel 7, significant changes took place in the role of the Siebel Gateway in Siebel deployments that you must understand in deciding how to deploy your servers (Figure 1 on page 23 and Figure 2 on page 24).

The Siebel Gateway is not *a physical server,* it is a *logical entity* consisting of a Name Server and, optionally, Connection Broker. In Siebel 7, the Name Server and Connection Broker are now separate software components that can reside on different servers.

The Name Server is the primary service associated with the Siebel Gateway. It can be deployed as a standalone server, or as part of multiple servers, based on your requirements in terms of high availability and your budget constraints.

Also, a single Siebel Gateway can now support multiple Siebel Enterprise Servers.

Name Server Overview

The Name Server provides the persistent storage of Siebel Server configuration information, including:

■ Definitions and assignments of component groups and components

■ Operational parameters

■ Connectivity information

As this information changes—such as during the installation or configuration of a Siebel Server—it is written to the Name Server.

The Name Server serves as the dynamic registry for Siebel Server and component availability information. At startup, a Siebel Server within the Siebel Enterprise Server notifies the Name Server of its availability and stores its connectivity information—such as network addresses—in the Name Server's non-persistent (volatile) store.

Enterprise components (including the Server Manager) query the Name Server for Siebel Server availability and connectivity information. When a Siebel Server shuts down, this information is cleared from the Name Server. However, users can connect directly to the database without the Name Server being up and running.

In a Windows environment, the Name Server runs as a Windows service. The user installing the Name Server needs permissions to create such services.

Impact of Failure of Name Server

If connection brokering is being used, when the Name Server becomes unavailable, active user connections continue to function. All server components and object managers currently running continue to do so and new connections (login sessions) can still be initiated. However, no new Siebel Server components can be started or added and server administration functions become limited. Without connection brokering, if the Name Server fails, all users, server components, and object managers lose connection. Name Server failure also prevents communication with the Actuate Report Server, and Report functionalities will be unavailable.

Resource Requirements for Name Server

The Name Server requires very few system resources. Follow the hardware recommendations listed in *System Requirements and Supported Platforms*.

Connection Brokering/Central Dispatch Scheduler Overview

Connection Broker directs client connection requests to the least-laden Siebel Server operating the desired component, which provides greater scalability and higher availability. Connection broker has its own service and uses the Central Dispatch product to distribute Web server connection requests across multiple Siebel Servers. For important information about connection brokering, see Chapter 3, "Implementing Load-Balancing with Central Dispatch."

NOTE: Mobile Web client connections are not distributed by Central Dispatch.

Impact of Failure of Central Dispatch Scheduler

If the Central Dispatch Scheduler fails, there is no impact. Existing sessions are maintained and new sessions can still be initiated. If the primary Central Dispatch scheduler fails, and a backup scheduler has been activated, then existing sessions are maintained and new sessions can still be initiated. The time to failover between schedulers is configurable. For more details on how to configure the scheduler, see Chapter 3, "Implementing Load-Balancing with Central Dispatch."

High-Availability Solution for Central Dispatch Scheduler

Central Dispatch specifies two servers for use as the Scheduler—one acts as a Primary Scheduler, while the other acts as the Secondary Scheduler. The Primary Scheduler always listens on the Virtual IP (VIP) address and distributes traffic unless it at some point becomes "unavailable," at which point the Secondary Scheduler takes over listening on the VIP and distributing traffic.

Resource Requirement for Central Dispatch Scheduler

The Connection Broker/Central Dispatch Scheduler does not generally require much resource even when there is a heavy user load, and routing modules reside in the kernel layer or network driver layer.

To maximize performance and minimize interference from outside factors, it is recommended that you use a dedicated Scheduler for deployments with over 1000 concurrent users. In most cases, a single CPU with 512 MB of RAM should suffice even for deployments with many thousands of concurrent users. A dual processor server and 1 GB of RAM would suffice for future system growth. Running a dual processor server also minimizes the likelihood of any program process that is monopolizing the resources of a CPU.

Siebel Enterprise Server Overview

The Siebel Enterprise Server is a logical grouping of all Siebel Servers that support the same group of users accessing a common Siebel Database Server. The Siebel Enterprise Server can be configured, managed, and monitored as a single logical group, allowing the Siebel administrator to start, stop, monitor, or set parameters for all Siebel Servers within an Enterprise.

NOTE: As you install Siebel Servers, all configuration operations are targeted across all servers and components in the Enterprise. To avoid conflicts between multiple Siebel components running on more than one server, you may need to assign or unassign specific Siebel component groups to individual servers after installation is complete. If you need to make modifications localized to one or more servers or components, you must make these changes to each server or component individually.

All Siebel Servers that connect to a common database schema must be installed within the same Siebel Enterprise Server. If you install more than one Siebel Enterprise Server on a single machine, partition the server into partitions or virtual servers, and install each Siebel Enterprise Server in a separate partition. Each partition must meet the hardware requirements described in *System Requirements and Supported Platforms*. Configuration of multiple Siebel Enterprise Servers on one physical server is not supported in the production environment.

The Siebel Enterprise Server itself has no processes and thus cannot have a state. However, you can start and shut down operations at the Enterprise level, and these actions apply to all Siebel Servers within that Enterprise.

Siebel Server Overview

The Siebel Server is the middle-tier platform that supports both back-end and interactive processes for all Siebel application clients. These processes are components within the Siebel Server architecture and support functions such as:

■ Mobile client synchronization

■ Business logic for Siebel clients, as well as connectivity and access to the Siebel Database Server and Siebel File System

- Integration with legacy or third-party data

- Automatic assignment of new accounts, opportunities, service requests, and other records

- Workflow management

- Document Generation

The Siebel Server supports both multi-process and multi-threaded components, and can operate components in background, batch, and interactive modes. Many of the Siebel Server components can operate on multiple Siebel Servers simultaneously to support increasing numbers of users, accommodate larger batch workloads, or increase the availability of those components.

Siebel Server System Service

The Siebel Server runs as a system service that monitors and controls the state of all server components operating on that Siebel Server. Each Siebel Server is an instantiation of the Siebel Server System Service within the current Enterprise. The Siebel Server runs as a Windows service. The installer needs permissions to create such services. For information on administering the Siebel Server System Service, see *Siebel Server Administration Guide*.

Resource Requirements for Siebel Server

Follow the hardware recommendations listed in *System Requirements and Supported Platforms*.

Siebel Server Manager

The Siebel Server Manager is the management console for the Siebel Server and Siebel Enterprise Server.

The Siebel Server Manager allows you to configure the parameters governing the operation of each component, and determine which Siebel Servers a given component can operate. Use the Siebel Server Manager to:

- Start, stop, pause, and resume Siebel Servers, components, and tasks

- Monitor the status and collect statistics across the Siebel Enterprise Server, Siebel Servers, components, and tasks

■ Manage the configuration of the Siebel Enterprise Server, Siebel Servers, components, and tasks

You can operate the Server Manager using one of two interfaces:

■ Graphical user interface (GUI) by using the Server Administration views in the Siebel application client

Use the Server Manager GUI for most administrative duties, since it includes more user interface functionality (including the ability to search for and sort various fields within views) and a more intuitive view into the operation of Siebel Servers than does the command-line interface.

■ Server Manager Command-line Interface (`srvrmgr`)

Use the command-line interface for batch-mode processing, since it can run from batch scripts by invoking script files with administration commands that need to run on a regular basis. You can use the command-line interface when a client is not available because it has not been installed or the Web server is not available.

The Server Manager (both the GUI and the command-line interface) connects to the Siebel Gateway Name Server, which contains all availability and connectivity information for the Siebel Servers within the Enterprise. The Server Manager then connects with each of the servers and starts a Server Manager component task. For information on using the Server Manager, see *Siebel Server Administration Guide.* The Server Manager task on each Siebel Server:

■ Handles administration commands from the Server Manager

■ Executes requested functions

■ Returns each operation's results to the Server Manager

NOTE: Each session of Server Manager creates a separate Server Manager task. You thus create a new Server Manager task each time you access the Server Administration screens.

Siebel Server Components Overview

The various programs that operate on the Siebel Server are implemented as *components*. A component represents only a specific type of program; a component is executed or operated as a *task*, or instantiation of a component, on a specific Siebel Server.

Component Modes

Components can execute tasks in one of three run modes—background, batch, or interactive.

■ **Background mode components.** Background mode components execute tasks to perform background operations for the Siebel Server. Once a background mode component task starts, it runs until you explicitly stop the task, or until the Siebel Server itself is shut down.

You can manually start a background mode component by using the Siebel Server Manager. Components with a Default Tasks parameter set to a value greater than zero may start automatically when the Siebel Server is started. Examples of background mode components include Transaction Router, Replication Agent, and Workflow Monitor Agent.

■ **Batch mode components.** To start batch mode components, you need to manually start these components using the Server Manager. Batch mode components end once the task has been completed. Examples of batch mode components include Database Extract and Enterprise Integration Manager. Batch mode components can also be started by other components by using the Server Request Broker.

■ **Interactive mode components.** Interactive mode components start tasks automatically in response to client requests. Interactive mode component tasks execute for as long as the client maintains the session, and end when the client disconnects. Examples of interactive mode components include Synchronization Manager and Object Manager.

For more information on Siebel Server components, see *Siebel Server Administration Guide*.

Component Types

Siebel Server supports multiple component types; each type performs a specific function or job. A component type is configured with a set of parameters that determines its behavior to create an entity called a *defined component* (or simply *component*). Components are defined at the Enterprise level in *component groups*. Component groups are then assigned to one or more Siebel Servers within the Enterprise on which they can execute tasks.

When the Siebel Enterprise Server is installed, predefined components are automatically configured for each component type. These predefined components are then automatically made available to every Siebel Server within the Enterprise, including the ones you add later on. You can run your entire Siebel eBusiness Applications deployment using these predefined components, or you can modify their definitions and create new defined components to fine-tune your Siebel configuration. For more information on enabling and disabling components, see *Siebel Server Administration Guide*.

The defined components feature allows you to create multiple defined components for a given component type, simplifying the process of starting various types of tasks using different parameters, and managing components across multiple Siebel Servers. For example, you may create one defined component for an Object Manager running in the Siebel Sales Enterprise application in English, and another for an Object Manager running the Siebel Service Enterprise application in French. Although these defined components use the same component type, they service distinct sets of users with different functionality requirements, and are distinct entities that can be individually managed, configured, and administered. Defined components are configured in the Enterprise Component Definitions view of the Server Manager GUI. For more information, see *Siebel Server Administration Guide*.

Component Groups

Component groups are logical groupings of server components that are parts of a process. Using component groups, you can start or stop all components that are required for a single process, such as Siebel Remote or Workflow Management. Siebel eBusiness Applications provide a number of predefined component groups.

You can also create your own component groups. For more information about this, see *Siebel Server Administration Guide*. For a list of components contained within each component group and which need to be enabled in order to use them, see Appendix B, "Enabling Server Components." For information about component group enablement, see different sections in Chapter 6, "Installing the Siebel Server."

Siebel File System and File System Manager Overview

The Siebel File System consists of a shared directory that is network-accessible to the Siebel Server. To gain access to files, Web clients connect directly to the appropriate Siebel Server to request file uploads or downloads. The Siebel Server then accesses the Siebel File System, using the File System Manager (FSM) server component. File System Manager processes these requests through interaction with the Siebel File System directory.

The File System may be installed on the same server as a Siebel Server or Siebel Database Server, or it may be on another network server that can share the directory, so that it is available to the Siebel Server. If the operating systems of the two machines are different (for example, one Windows and one UNIX), you may need to deploy a cross-platform mounting tool to allow both machines to share the directory.

When using Siebel Mobile Web Client in connected mode (also known as the Dedicated Web Client), you may, in some cases, want to connect directly to the Siebel File System. (For examples of these cases, their potential ramifications, and for client setup instructions in each case, see *Siebel Web Client Administration Guide*.)

Before You Start Your Siebel Application Installation

Before you start your Siebel eBusiness Applications installation, complete the following steps:

1 Read *System Requirements and Supported Platforms* and *Release Notes* for the current release to be sure you understand the supported hardware, operating system platforms, RDBMS platforms, supported third-party product combinations, plus any last-minute information regarding this release of Siebel eBusiness Applications.

2 If you are upgrading from a previous version of Siebel eBusiness Applications, refer to the *Upgrade Guide* for the operating system you are using.

3 Carefully read Chapter 2, "Preparing for the Installation," and fill out the Deployment Planning Worksheet, as described in the first section of that chapter.

4 Carefully read the relevant server installation chapters in this guide to make sure that you understand the complete installation process for your operating system and RDBMS platform combination.

5 Carefully read the relevant client installation chapters in *Siebel Web Client Administration Guide* even if you do not plan to deploy a mobile Web client, since this guide also offers information about other supported client types.

6 Refer to any pre-installation information in the guides for those products for which you bought a license, available on the *Siebel Bookshelf*.

7 Prepare a comprehensive installation schedule that includes a timeline for completing specific pre-installation and post-installation tasks, including thorough testing of the Siebel environment.

Preparing for the Installation   2

This chapter describes how to prepare for installing Siebel eBusiness Applications software. It also introduces you to the Deployment Planning Worksheet, an integral part of the installation process.

Before proceeding, turn to and make a photocopy of the worksheet. Using the copy, the person in charge of the deployment effort should fill out the first section. Members of the team should fill out the information in the sections for which they are responsible.

As you work through the preparation steps in this chapter, you will be prompted to record information you will need while installing and configuring Siebel eBusiness Applications.

In subsequent chapters, you will be prompted to refer to the Deployment Planning Worksheet for specific information about your site and deployment. You will also use it to record other important information for future installations, upgrades, reconfiguration, and expansion of your deployment.

Server Installation Process

The server installation process consists of several steps that you should perform in the following sequence:

1 Planning your deployment.

2 Installing and configuring Central Dispatch, if appropriate.

3 Installing and configuring any server clustering software you intend to use.

4 Creating your database instance.

5 Creating the File System.

6 Installing the Siebel Gateway.

7 Creating a Siebel Enterprise Server and installing one Siebel Server.

8 Installing the Siebel Database Server.

9 Installing your Web server and Web Server Extension plug-in.

10 Installing additional Siebel Servers, if required.

11 Installing any other optional components your organization may have purchased, such as eAI connector software or CORBA Object Manager.

NOTE: Windows Siebel Server (or Ancillary Server Programs) files should be installed in the sequence illustrated in Figure 3 on page 37.
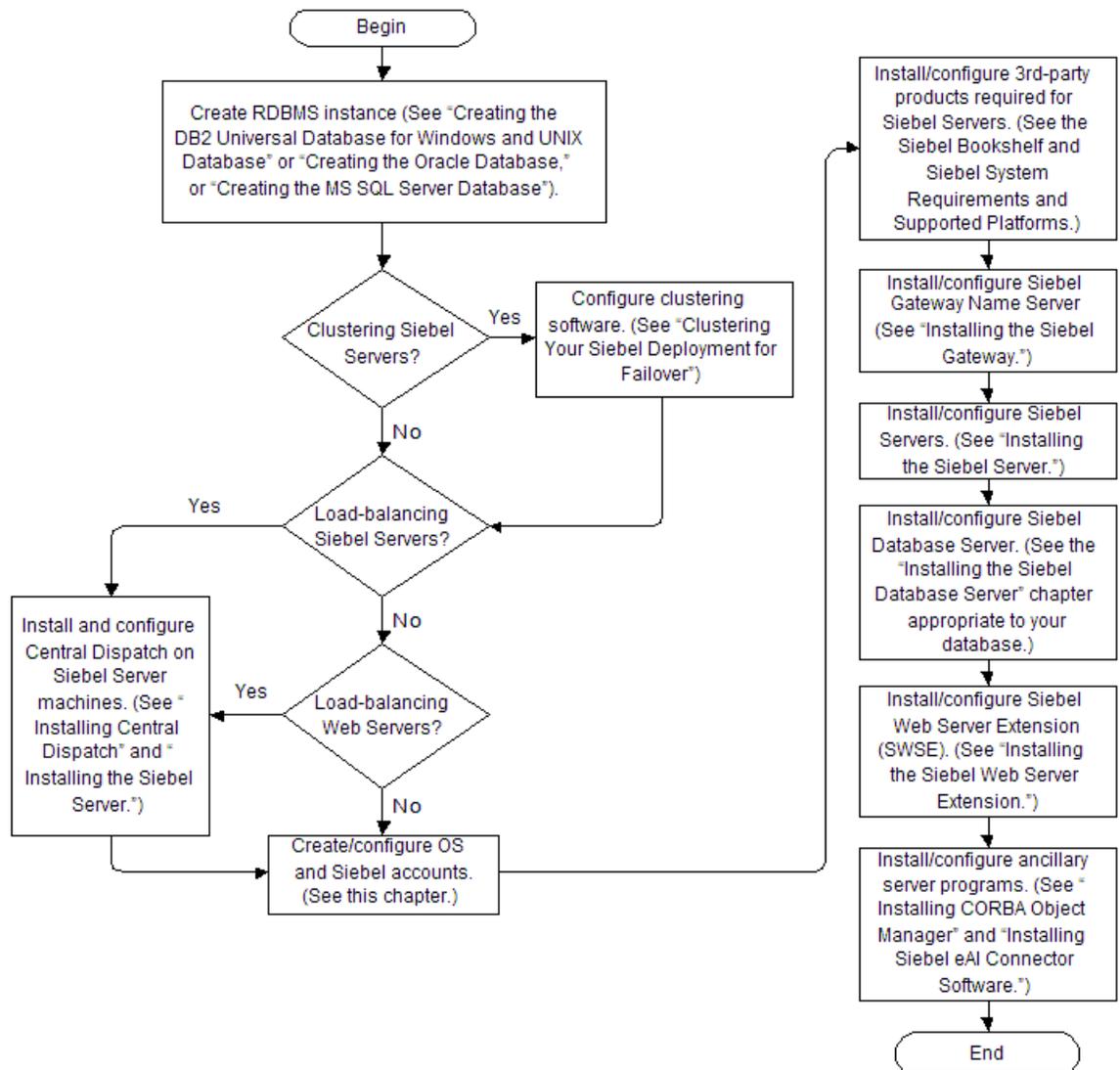
Figure 3. Sequence of Siebel eBusiness Applications Server Software Installation

Deployment of Siebel 7 Gateway Versus Siebel 6 Gateway

The differences between deployment recommendations for the Siebel Gateway in Siebel 7 versus Siebel 6 can be described as follows.

Deployment of Siebel 6 Gateway

In Siebel 6, the installer assumed that the Name Server and Central Dispatch Scheduler were located on the same server. If you selected the "Use Resonate" box during installation, the Siebel Gateway installer looked for Central Dispatch software on the local server. This forced the Name Server to colocate with either the Central Dispatch Scheduler (the default assumption) or a load-balanced Siebel Server.

When high availability was required by the Name Server, the Name Server could be clustered using Microsoft Cluster Service in a server pair. However, Central Dispatch could not be part of the cluster. Because Central Dispatch was colocated on the same server as the Name server, this forced customers to resort to installer workarounds to separate Central Dispatch from the Name Server. This is not required in Siebel 7.

Deployment of Siebel 7 Gateway

In Siebel 7, the Name Server installer does not look for local installation of the Central Dispatch software. You can, as a result, pick the Siebel Gateway deployment that best suits your needs. Also, Siebel eBusiness Applications do not support any clustering technology on the server with Central Dispatch components, whether these are the Central Dispatch Scheduler or a load-balanced Siebel Server. This results from the complexity of clustering a Central Dispatch server, but also due to the fact that Central Dispatch provides the same type of failover capability as the clustering technology.

NOTE: This restriction does not necessarily increase the hardware requirement for the Siebel Gateway when Name Server high availability is required.

Planning Your Siebel Deployment

For a successful installation of Siebel eBusiness Applications you need to determine the following:

■ Who will be on the deployment team?

■ How many users, and how many different groups, will you need to support?

■ For each Enterprise Server you install you need to know:

■ If you operate a heterogeneous server environment, which operating system will you use on the servers for this Enterprise—Microsoft Windows or a supported UNIX version?

■ How many different Siebel Servers will your Enterprise need, and what services will they provide? (See "Dedicating Siebel Servers for Specific Services" on page 47.)

■ Will you need to install load-balancing to manage this Enterprise? Read about connection brokering in Chapter 3, "Implementing Load-Balancing with Central Dispatch."

■ How many servers, if any, will you operate as part of a cluster? See Chapter 3, "Implementing Load-Balancing with Central Dispatch."

■ How many computers will you need to run the different servers your enterprise will require? (Read about planning the number and types of servers you deploy in "Planning the Topology of Your Siebel Deployment" on page 49.)

■ Where should you locate the servers for best connectivity and maintenance? (Read about planning the layout of your servers in "Planning the Topology of Your Siebel Deployment" on page 49.)

■ Will you implement communications functionality associated with Siebel Communications Server (such as CTI/voice, email, and Web collaboration) and related modules?

Considerations Independent of Your Environment Profile

Regardless of your environment profile you need to consider the following:

- **Language Pack Installation.** You do not need to install all the secondary languages that your Siebel Deployment may run on the Siebel Gateway Name Server. However, due to the fact that Siebel Gateway Name Server installation installs certain utilities used by the Siebel Servers, Siebel administrators will only see error messages in the languages that have been installed on the Siebel Gateway Name Server.

  NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

  For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

- **Number of Name Servers per Machine.** In a production environment, there can be only one Name Server installed per machine.

- **Name Server Sharing.** Do not share the same Name Server for your development, test, and production.

Considerations Based on Your Environment Profile

- **Profile 1.** Several thousand, or more, concurrent users with high availability requirements, or for one data center in a multi-data center deployment.

■ **Siebel Gateway Name Server.** Siebel Gateway Name Server should be hosted on a dedicated server or a non-load-balanced Siebel Server for this profile because the Siebel Gateway Name Server will not support high availability if it is located on a load-balanced Siebel Server. To achieve high availability for the Siebel Gateway Name Server, it is necessary to cluster the Siebel Gateway Name Server using cluster software such as Microsoft Cluster Server. Since clustering software is not compatible with a load balanced Siebel Server, the Siebel Gateway Name Server cannot reside on the same machine. The Siebel Gateway Name Server can reside on a dedicated server pair or pair of clustered Siebel Servers (non-load-balanced) without performance impact. Sharing the clustered server assumes that certain Siebel Server components have been identified as candidates that require clustering for high availability. This is because not all Siebel Server components support load balancing. For details on clustering, see Chapter 7, "Clustering Your Siebel Deployment for Failover."

■ **Connection Broker.** Typically requires multiple Siebel Servers, thereby requiring installation of Central Dispatch as well. The Connection Broker or Central Dispatch Primary Scheduler should run on dedicated servers. The Central Dispatch Secondary Scheduler can run on either a load-balanced Siebel Server or on a dedicated server without performance penalty during normal operations.

CAUTION: Sharing the Primary Scheduler with any Siebel Server or Name Server is not recommended for this type of setup.

■ **Web Server.** To remove a single point of failure, deploy multiple Web servers. When deploying multiple Web servers, installation of Central Dispatch with Connection Broker becomes a requirement. Web servers can be load-balanced with any standard load-balancing solutions, including Cisco CSS and F5 Big IP.

NOTE: Siebel eBusiness Applications only provide a Central Dispatch license for the load-balancing of Siebel Servers, but *not of Web servers*.

■ **Dedicated Server for Siebel Gateway Name Server.** 1-4 servers, 1 server for Siebel Gateway Name Server if you are not clustering and 2 if clustering, and additional 1 to 2 servers for Central Dispatch Primary and Secondary Scheduler. The Central Dispatch Backup Scheduler can be colocated with a load-balanced Siebel Server without significant performance impact. Figure 4 illustrates three options for deploying the Siebel Gateway Name Server with user Profile 1. Shaded boxes represent dedicated servers, while white boxes represent shared servers.
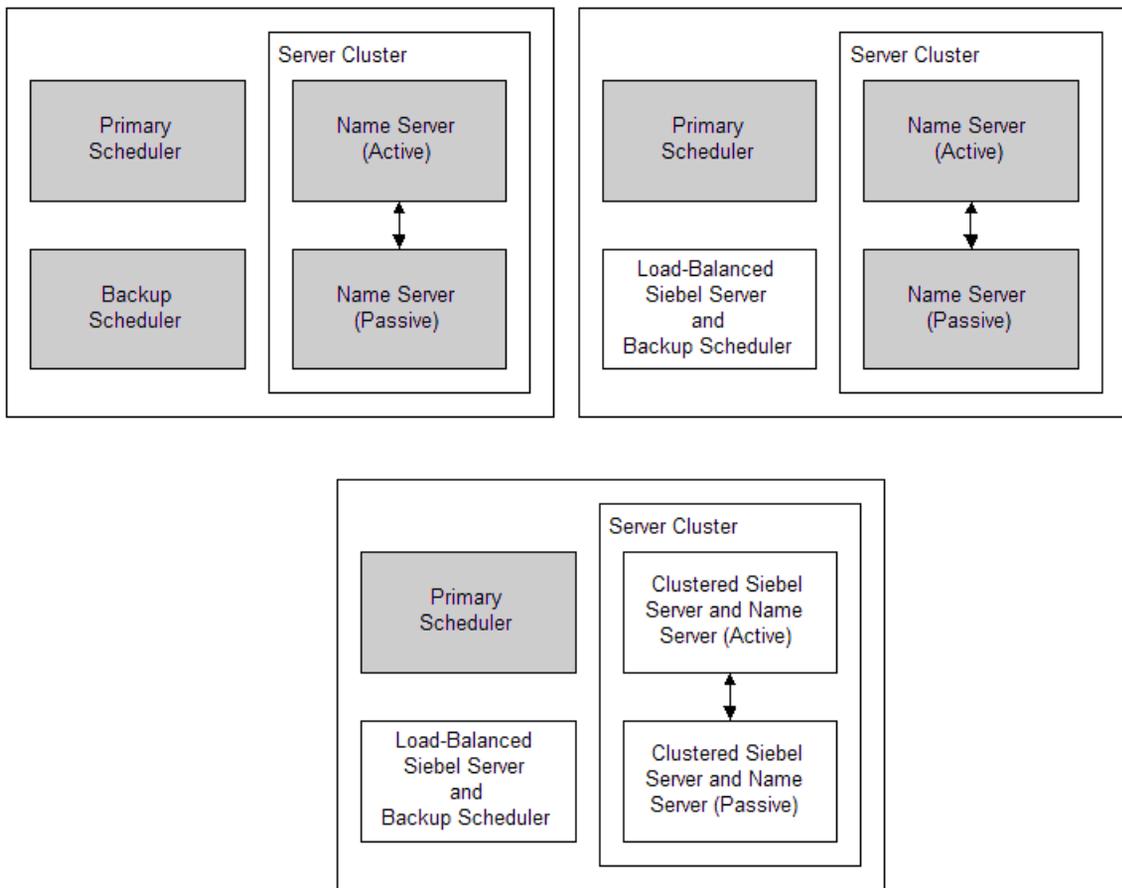
Figure 4. Siebel Gateway Name Server Deployment Profile 1 (Several Thousand Concurrent Users)

■ **Profile 2.** A few hundred to 1000+ concurrent users with moderate high-availability requirements.

■ **Connection Broker.** Multiple Siebel Servers may not be needed. Review Central Dispatch requirements carefully. (See Chapter 3, "Implementing Load-Balancing with Central Dispatch.") Multiple Web servers will require installation of Central Dispatch software on the Siebel Server.

For this type of deployment, the Central Dispatch Scheduler can reside on either a dedicated server to allow for future growth, or on a load-balanced Siebel Server, as long as the combined CPU utilization remains under 80%. The Secondary Scheduler is recommended as well and it can be set up on the other load-balanced Siebel Server.

■ **Siebel Gateway Name Server.** You can cluster the Name Server based on your high availability requirements. It is typically unnecessary to install the Name Server on a dedicated server for a deployment this size. Instead, consider sharing a pair of clustered Siebel Servers with the Name Server.

■ **Web server.** One Web server is generally enough to handle the load in this type of deployment. If multiple Web servers are needed for high availability, Central Dispatch/Connection Broker is required on the Siebel Server. However, if you colocate your Web server with your Siebel Server, you cannot install Central Dispatch on that particular server.

Figure 5 illustrates a recommended deployment for this user profile.
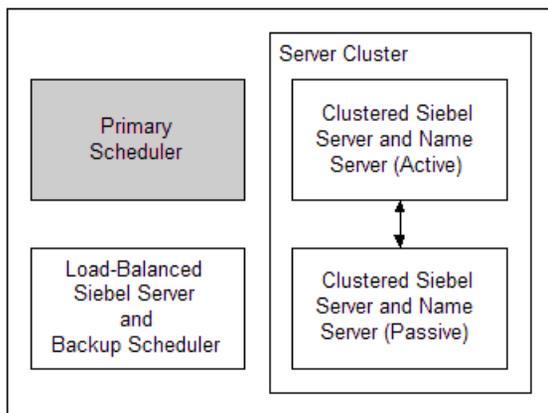
Figure 5. Siebel Gateway Name Server Deployment Profile 2 (Several Hundred to 1000 Con-current Users)

■ **Profile 3.** 100 to several hundred concurrent users with moderate high-availability requirements.

■ **Connection Broker.** Multiple Siebel Servers are not likely to be required. If only one Siebel Server is required, Central Dispatch may not be required, depending on whether your business plans to deploy multiple Web servers. To achieve high availability for Siebel Servers, you can either run all server components in a pair of clustered servers, or use Central Dispatch to provide failover between two Siebel Servers. In this type of deployment, the Central Dispatch Primary Scheduler can run on one of the load-balanced Siebel Servers, as long as it does not belong to a cluster. A dedicated Scheduler is not necessary here, but it can provide a higher level of availability and flexibility, if needed.

■ **Siebel Gateway Name Server.** A dedicated server for the Siebel Gateway Name Server is definitely not needed. If clustering is not required for the Siebel Gateway Name Server, consider colocating the Siebel Gateway Name Server with the Central Dispatch Scheduler (when a dedicated server is set up for it) in one of the Siebel Servers.

■ **Web server.** One Web server is generally enough to handle the load in this type of deployment. If multiple Web servers are needed for high availability, Central Dispatch/Connection Broker is required on the Siebel Server. However, if you colocate your Web server with your Siebel Server, you cannot install Central Dispatch on that particular server.

■ **Dedicated server for Siebel Gateway Name Server.** None.

■ **Profile 4.** Server components and Web servers are likely to exist on the same server. Therefore, Central Dispatch is not required. For high availability, consider clustering Siebel Server and Name Server components.

If multiple load-balanced Siebel Servers are used, review the recommendations for Profile 3.

Deployment Team

Your deployment team should include:

■ A deployment team lead.

■ An experienced system administrator to determine what resources, in addition to the Siebel eBusiness Application itself, will be needed for your site. The system administrator will also plan and implement the actual installation.

■ An experienced database administrator to assist in determining the proper servers and setup for the database, and to configure the Siebel Database Server after it is installed.

Write this information down in your copy of the "Deployment Planning Worksheets" on page 427.

Sizing Your Installation

After you have determined which Siebel environments you will install, you must determine:

■ Which relational database management system (RDBMS) you will use. For details, see "Selecting Your RDBMS" on page 46.

■ How many Siebel Servers you will need to connect to a database through a single Siebel Enterprise Server. For details, see "Planning Your Siebel Environments" on page 46.

■ On which machines and under which directory you want to install Siebel components. For details, see "Dedicating Siebel Servers for Specific Services" on page 47.

You should direct any additional sizing questions to Siebel Expert Services.

Selecting Your RDBMS

Determine which relational database management system (RDBMS) you will use with your Siebel application and what computer platform to run it on:

■ Verify which RDBMS products, versions, and patch levels are supported; check *System Requirements and Supported Platforms*.

■ Choose the platform on which your Siebel Database Server will run; consult your RDBMS manufacturer's documentation and *System Requirements and Supported Platforms* to determine which platforms are supported and what issues must be addressed.

NOTE: No more than one RDBMS platform can exist within an Enterprise. For example, you cannot run both the Oracle and DB2 UDB databases.

When you have determined which RDBMS you will use, check off the proper choice in "Deployment Planning Worksheets" on page 427.

Planning Your Siebel Environments

Determine how many and what kind of Siebel environments you will support. It is recommended that you install at least three environments:

■ **Development environment.** For developing customized applications and configurations.

■ **Test environment.** For testing customized application configurations and upgrades for compatibility before upgrading your production environment.

■ **Production environment.** Your live Siebel operational environment.

Your production environment should have its own dedicated servers. Less intensively used Siebel environments, such as development and test environments, may share the same physical equipment. In general, do not load any one machine too heavily, or your Siebel system performance will suffer.

For more information on establishing and using Siebel environments, see *Developing and Deploying Siebel eBusiness Applications*.

When you have determined which environments you will install on your site and how many users each will support, write this information on your copy of "Deployment Planning Worksheets" on page 427.

Dedicating Siebel Servers for Specific Services

There can be numerous Siebel Servers, each of which provides a different type of service. Most consist of the same basic product, but are configured to provide specific information and functions needed by a variety of sales representatives, call centers, customer service representatives, and marketing personnel.

The installation process for all these servers is the same. You must simply determine which Siebel products you will install, provide appropriate computers for them, and include them in your planning. For example, you may want to provide a dedicated server for Siebel Enterprise Integration Manager (EIM), Siebel Remote, or other Siebel products.

When you have determined the number and types of Siebel Servers you require, and how many users each will support, record this information in your copy of the Deployment Planning Worksheet.

Grouping Your Siebel Servers into Siebel Enterprise Servers

A Siebel Enterprise Server consists of a logical group of Siebel Servers configured to share a single Siebel Gateway Name Server, Siebel Database Server, and Siebel File System. These Siebel Servers can, as a result, be administered collectively rather than individually.

The Siebel Enterprise Server has the following components:

■ **Multiple Siebel Servers.** Siebel Servers execute business logic for Siebel clients and access the Siebel Database Server on the clients' behalf.

■ Each Enterprise Server must have at least one Siebel Server.

■ Each Siebel Server must belong to one and only one Enterprise Server.

■ The Siebel Servers that belong to a particular Enterprise Server must all be installed on computers that belong to the same domain.

■ **One Name Server.** The Siebel Gateway Name Server does not have to be reserved for the exclusive use of a single Enterprise Server, but each Enterprise Server can be connected to only one Name Server.

Larger installations may also include:

■ **Two Dedicated Central Dispatch Schedulers.** Central Dispatch provides load-balancing for Siebel Servers. For information about using Central Dispatch, see Chapter 3, "Implementing Load-Balancing with Central Dispatch."

One machine must be configured to act as the primary Central Dispatch scheduler and another to act as a secondary, or backup, scheduler.

You must install Central Dispatch on Siebel Servers if you intend to deploy:

■ Siebel Object Managers capable of being load-balanced (such as Call Center, eSales, and others) across Siebel Servers

■ Load-balancing on Web servers

An exception to the previously described deployment rules occurs if you will be operating multiple servers as part of a cluster. In this case, you may not install Central Dispatch on machines you will be clustering. Instead, you will install Central Dispatch on servers you reserve for performing load balancing. For complete information, see Chapter 3, "Implementing Load-Balancing with Central Dispatch." Before installing Central dispatch, consult the Supported Network Interface Card (NIC) matrix available on Siebel SupportWeb. Most of the unsupported network cards on this matrix should be compatible with Central Dispatch. However, please first test any unsupported network cards with Central Dispatch before full deployment. If the network card is found to be compatible but not on the supported list, please contact Technical Support so it can be added to the supported list.

Planning the Topology of Your Siebel Deployment

The topology of your Siebel deployment—the number, type, and capacity of your computers, and the distribution of Siebel components across them—will vary considerably depending on the number and type of Siebel clients that you are deploying.

The following guidelines apply to all deployments:

■ **A Siebel Enterprise Server can be a mixture of Windows and UNIX machines.** For more information, see *System Requirements and Supported Platforms*.

■ **Give each Siebel Server its own dedicated machine.** While you can install all the Siebel components—the Siebel Database Server, Siebel File System, Siebel Gateway Name Server, and Siebel Server—on a single computer, the Siebel architecture is expressly designed to scale by distributing these components across multiple machines. For optimum performance, install each Siebel Server on a dedicated machine.

■ **Give the Siebel Database Server its own high-performance machine.** Your RDBMS must be sized appropriately for your deployment. For information on sizing and tuning your RDBMS for optimum performance, see the documentation provided by your RDBMS vendor.

■ **Install sufficient Siebel Servers for your deployment.** The more Siebel Servers you install, the better the distribution of the workload among them when you must support large numbers of Siebel Server components and users.

■ **Use Central Dispatch to balance requests for server components across multiple Siebel Servers.** For information about installing Central Dispatch, see Chapter 3, "Implementing Load-Balancing with Central Dispatch."

■ **Clustering technology and the connection-brokering features of Central Dispatch address different operational requirements, and must each be deployed on independent nodes in an Enterprise.** You must plan your deployment carefully to take advantage of the benefits of each technology.

■ Clustering provides failover capability. It does not provide facilities for distributing requests among multiple resources as does Central Dispatch because a given resource can execute on only one cluster node at a time. Therefore, clustering does not support load-balancing across cluster nodes.

■ Central Dispatch provides load-balancing and connection brokering. It also provides failover capability for the load-balanced components if each server in the Central Dispatch site is sized and configured sufficiently. However, Central Dispatch does not provide failover capability for components that cannot be load-balanced.

For example, consider a Central Dispatch site with five load-balanced servers. To handle a failure on one of the five servers, the other four servers must be able to handle the combined maximum load that all five servers might expect. Therefore, each server should be sufficiently sized and configured to handle 125% of its expected maximum load when all five servers are up. To handle a failure on two servers, each of the five servers must be sized and configured to handle 167% of the expected maximum load when all five servers are up.

For more information about the use of Central Dispatch for load-balancing, see Chapter 3, "Implementing Load-Balancing with Central Dispatch." For more information about clustering servers, see Chapter 7, "Clustering Your Siebel Deployment for Failover," the vendor documentation for your operating system, and SupportWeb.

■ **Connect the computers on which your Siebel applications will run to fast LANs.** Siebel Servers require high-speed local area network (LAN) connectivity. Siebel Systems strongly recommends an FDDI, Gigabit Ethernet, or other high-speed LAN to connect the Name Server, Central Dispatch Scheduler, Siebel Servers, and Siebel Database Server.

■ **The Name Server can coexist with a Siebel Server or can be installed on another physical machine (or node).** The only precondition is that the Name Server meet the hardware, operating system, and other requirements detailed in *System Requirements and Supported Platforms*. There is always only one Name Server communicating with multiple Siebel Servers. You can, however, have multiple Siebel Enterprise Servers.

Planning the Siebel Directory Structure

You must plan where to install the various Siebel components on your servers, as well as how to install multiple versions, if your organization requires this for testing purposes.

Installing Multiple Versions of Siebel eBusiness Applications

If you are installing multiple versions of Siebel eBusiness Applications, each must be installed in a unique directory. You should use a naming convention that reflects the components and the version number being installed.

CAUTION: You can only install Siebel Gateway, Siebel Server, Database Server, Report Server Access, and EAI connectors in the same root directory. When installing multiple products into the same root directory, be sure that all products match the same release and patch level. You can install additional languages, but you cannot install additional products into a root directory after applying a patch. You must reapply the patch after you install additional languages.

Installing One Version of Siebel eBusiness Applications

Under Windows, the Siebel Server Configuration Wizard automatically installs each server or other component of a Siebel Enterprise Server on a single computer in a unique directory. Therefore, you need not specify a different directory path when installing the Siebel Gateway Name Server and the Siebel Server on the same machine.

CAUTION: The Siebel Enterprise Server entity installers for Windows use `C:\sea7xx\` as the default installation directory (also referred to as *SIEBEL_ROOT* within this guide). You must choose a unique directory name to override this default during the installation of each component, or all your components will be installed in the same directory and your installation will fail.

- **Central Dispatch. Install Central Dispatch in a directory separate from Siebel entities.**

- **CORBA Object Manager. Consider installing it on a dedicated machine.** The CORBA Object Manager can be installed on a machine that also supports the Siebel Enterprise Server components. However, for best performance, you should install the CORBA Object Manager onto a dedicated machine.

   Record the directory names you decide on in your copy of the Deployment Planning Worksheet in Appendix A, "Deployment Planning Worksheets."

Windows Temp file names may not have spaces in them; otherwise, your installation will fail.

To verify the name of your temp file

1 From a DOS command prompt, enter set temp.

2 Edit your file name, if needed.

Setting TEMP and TMP Environment Variables

On some systems the operating system incorrectly returns a long path name when a short path name is requested. This can cause the installation to fail. To be safe, set your TEMP and TMP environment variables to point to a directory that does not contain spaces. Alternatively, you can run the installer and specify which temporary directory the installer should use, for example:

```
Setup -is:tempdir tempdir
```

NOTE: Validate TEMP and TMP environment variables are set to an existing path.

Changing the Language in Which the Configuration Wizard Runs

When you launch the Siebel Software Configuration Wizard, using one of the methods described in "Launching the Siebel Software Configuration Wizard" on page 131, it launches automatically in the language in which you originally chose to run the SES or SWEApp installers.

You can also change the language in which the configuration utility runs, if desired, from the language chosen during installation. For example, the person configuring software in one of your offices may speak a different language from that of the person who installed the software.

To change the language in which the configuration utility runs

1 Right-click the Configuration Wizard icon for the server component for which you want to change the language.

2 Click Properties.

The Configure Siebel Server Properties dialog box appears.

3 Within the code string in the Target field, locate the parameter -l *LANGUAGE*

where:

LANGUAGE = the language in which you last operated the Configuration Wizard; for example, ENU for U.S. English or DEU for German.

For example:

```
D:\sea700\siebsrvr\BIN\ssincfgw.exe -l ENU -f ... etc.
```

4 Select the current Siebel language code (ENU in the previous example) and type the new language code over it.

5 Close the dialog box.

Server Names

When planning server names, especially in a heterogeneous server environment, consider the following:

- Siebel Server and Siebel Enterprise names must each be no longer than 12 characters.

- If your database is Microsoft SQL Server, do not include brackets in the Siebel Servers' or Enterprise Servers' names; otherwise, your installation will fail.

- Names can contain only alpha characters, numerals, underscores, or a combination thereof.

- Names must lead with an alpha character.

- If you will be operating a heterogeneous server environment, use the naming conventions that apply to creating server names under UNIX. This is also good practice if you may deploy a heterogeneous server environment in the future.

- Siebel Server and Enterprise Server names must be unique on the Siebel Gateway Name Server.

File Names

If your deployment currently runs under Windows, but you think that you might at some future date switch to UNIX, or co-deploy UNIX servers, it is a good idea to follow the same naming conventions as in UNIX. This avoids the need to rename everything later. It is recommended that you treat all file names, directory names, path names, parameters, flags, and command-line commands as lowercase, unless you are instructed otherwise.

File names may not contain spaces or other special characters. Instead, use underscores.

Creating a File System

The Siebel File System consists of a shared directory that is network-accessible to the Siebel Server. The file system may be installed on the same server as a Siebel Server or Siebel Database Server, or it may be on another network server that can share the directory, so that it is available to the Siebel Server.

NOTE: If the operating systems of the two machines for the Siebel Server and the File System are different—for example, one Windows and one UNIX—you may need to deploy a third-party cross-platform file system mounting tool to allow both machines to share the directory. Refer to your cross-platform mounting software documentation for details.

Since it is possible that two Siebel Server instances will execute simultaneously on the same node, you must create a unique mount point for the NFS file system.

The recommended configuration is to mount the NFS file system in the same directory that is used to mount the dedicated VxFS file system for the VCS service group. A service group is a collection of resources working together to provide application services to client. For example, if the VxFS file system that supports the first Siebel Server instance is mounted on /SiebelServer1, then the mount point for the NFS file system could be /SiebelServer1/SiebelFileSystem.

NOTE: You should mount the NFS file system one directory level lower than the VxFS file system mount. This means that you must mount the VxFS file system before the NFS file system.

When you install each Siebel Server, you are prompted for the local mount point directory of the Siebel File System. Be sure to explicitly specify the unique mount point for each Siebel Server instance. Do not use the default values or those from a previous Siebel Server installation.

When deploying a Siebel component on a specific Siebel Server instance, it may be necessary in some circumstances to override the component's attribute that specifies the directory for the Siebel File Server. This applies only to components that require access to the Siebel File Server.

NOTE: You must create a separate file system for each Siebel Enterprise Server. For example, if you have development and test databases, you must have two separate Siebel Enterprise Servers, and therefore two Siebel File Systems.

Each Siebel Server accesses its Enterprise's Siebel File System by means of a dedicated server component, called File System Manager (FSM). Individual Web clients need have no direct knowledge of the location of the Siebel File System, since they connect directly with the appropriate Siebel Server to request file uploads or downloads. File System Manager then processes these requests through interaction with the Siebel File System directory. (For more information about File System Manager, refer to *Siebel Server Administration Guide*.)

NOTE: The Siebel File System can be defined at the Enterprise level, Siebel Server level, and component level. In a mixed Siebel Server environment, you must individually modify the file system parameter at the Siebel Server and the component level if their file system location is different from the default (Enterprise) location using the server manager.

Because File System Manager is the sole access mechanism to the Siebel File System, only the user with administrative privileges for the Siebel Server should have access privileges to the file system directories. This protects the Siebel File System from direct physical access by all other users.

When using Siebel Mobile Web Client in connected mode (known in this case as the Dedicated Web Client), you may, in some cases, want to connect directly to the Siebel File System. (For examples of these cases, their potential ramifications, and for client setup instructions in each case, see *Siebel Web Client Administration Guide*.)

Naming the File System Directory

The file name must be alphanumeric and cannot contain special characters or spaces. Underscores are permitted. Also, each filename must begin with an alpha character.

It is recommended that you use a UNC sharename.

For example, name the directory something like:

```
\\server\siebel
```

NOTE: Do not specify ..\att at the end of the directory string. In other words, never specify a file system such as \\server\siebel\att. Because Siebel Server installation automatically creates a subdirectory called ..\att (attachments) under the file system directory, if you give a directory this name yourself, File System Manager will be unable to locate the correct subdirectory.

The remainder of this document refers to this directory as

```
\\SiebelFS\siebel7xx
```

where:

SiebelFS is the host name of the machine (assuming that a dedicated machine is used for the Siebel File System) and *siebel7xx* is the name of the shared directory.

You will need to specify the UNC sharename when installing the Siebel Server. The shared directory must be available to all Siebel Servers in the Enterprise.

As part of the Siebel Server installation, File System Manager generates a set of subdirectories under the Siebel File System root directory, as described in Table 4.

Table 4. FSM Subdirectories

Subdirectory	Purpose
att	Main subdirectory for attachments
cms	Communication Server files
red	Rule edit cache (used by Product Configurator)
sme	Siebel Marketing cache files
ssp	Session preferences
eim	Siebel transaction files for EIM
userpref	Siebel user preferences

For more information about these subdirectories, see *Siebel Server Administration Guide*.

Use the following procedures to set up the Siebel File System.

To set up the Siebel File System

1 Create the directory on the server and path you recorded in the copy you made of Appendix A, "Deployment Planning Worksheets."

2 Under Windows Explorer, select the directory, and then choose File > Properties > Sharing. Select Shared As (or Share this folder, under Windows 2000).

3 Type a name for the shared volume (or Share name).

NOTE: When you want to add a client or new user to this share, you click Add to browse for the user/group name.

You may want to type the number of the Siebel release you are installing in the Comments field for future identification. However, completion of the field is not required.

NOTE: When installing a new file system, do not change the default setting for Maximum Allowed.

4 To grant UNC access to the Siebel administrator, click Permissions and choose the appropriate group name.

NOTE: Only the system administrator for the Siebel Server should have access privileges to the Siebel File System.

5 From the Type of Access (or Permissions, under Windows 2000) list, make sure Full Control is selected.

6 Under Windows 2000, click OK to finish.

7 Grant Windows access to each Siebel Server and client:

- ■ **Windows 2000.** On the Security tab, select the appropriate group name and make sure Full Control is selected on the Permissions list.

  a Click Advanced.

  b On the Access Control Settings dialog box, make sure you select Allow inheritable permissions from parent to propagate to this object.

- ■ **Windows NT.** On the Security tab, click Permissions. Select the appropriate group name and make sure that Full Control is selected on the Type of Access list.

8 To close the Permissions and File Properties dialog boxes, click OK.

NOTE: You must install the appropriate third-party software to view standard attachment types, such as MS Word, Excel, or Lotus Notes on the client machines running the Siebel Web Client or Siebel Mobile Web Client.

Clustering Prerequisites for the File Server

If you will be operating this File Server as part of a cluster, you must install it on a clustered disk drive in the same cluster resource group in which the Siebel File Server Service resource will run. For information about clustering your servers, see Chapter 7, "Clustering Your Siebel Deployment for Failover."

The Siebel installer allows you to install all servers at once for which you have a license. If you will be operating certain servers as part of a cluster, you must install and configure the Siebel Gateway Name Server and the Siebel Server separately.

If you are installing Central Dispatch, proceed to Chapter 3, "Implementing Load-Balancing with Central Dispatch."

If you are not installing Central Dispatch or deploying clustered servers under Windows, proceed to Chapter 5, "Installing the Siebel Gateway."

Preparing the Hardware

Verify that the hardware you have chosen meets all requirements for running your Siebel eBusiness Application as well as the required third-party software. Also verify that the hardware is able to support the Siebel File System, the Siebel Gateway Name Server, the Siebel Server, the Siebel Database Server, and the Siebel Tools administrator's workstation. For size limitations and information on required third-party software, see *System Requirements and Supported Platforms*.

Creating Siebel Accounts

The Siebel Enterprise Server requires that you create one or more of the following standard Windows system user accounts, depending on whether you implement Central Dispatch:

■ **Siebel service owner account.** An administrator account on each Siebel Server in your Enterprise under which all Siebel processes and components operate. In any deployment, this account must exist on each Siebel Server, the Siebel Gateway Name Server, and on any machine on which the Siebel File System exists.

■ **Resonate manager account.** A user account on each server in your Central Dispatch site that is used by the Siebel Enterprise Server to automatically register Siebel resources with Central Dispatch. This account must exist only if you implement Central Dispatch.

■ **Resonate monitoring account.** A user account that is required for Central Dispatch connection brokering. This account must exist if you implement connection brokering with Central Dispatch.

NOTE: Do *not* disable these accounts. They must be enabled to connect to the nodes on which the accounts are created.

Creating the Siebel Service Owner Account

This is the user account on the Siebel Gateway Name Server and Siebel Servers under which all Siebel processes and components operate. The Siebel Server services operate under the Siebel service owner account.

Use the following guidelines to create the same Siebel service owner account on the Siebel Gateway Name Server, on each Siebel Server in the Enterprise, and on any machine on which the File System exists:

■ This account must be an administrator on the Siebel Gateway Name Server and on each Siebel Server with the following Windows 2000 or Windows NT rights and privileges.

   ■ Logon as a Service

   ■ Act as part of the operating system

■ Typically, the account should be part of a Windows domain, so that services can be operated under the same account on all Windows servers.

   The account must be a domain account if certain components, such as EMail Manager, Communications Outbound Manager, or the Communications Inbound Manager, are enabled in the Siebel Enterprise.

   NOTE: The Windows system account, or local system, cannot be used, because that account does not have network access.

■ If you implement Siebel Email Response, this account must correspond with the accounts on your corporate email system.

■ Determine what the account name and password will be, and record this information in your copy of the Deployment Planning Worksheet. (For security reasons, you may prefer not to record the password.)

■ If you are using a local account, then you must set up that account on each server, using the same login ID and password.

■ The account password should, preferably, not require a change on next logon.

■ The account password must be set not to expire.

■ The account name or password cannot contain any spaces.

■ It is possible for the Siebel service owner and the Resonate manager accounts to be the same account if either account meets the requirements of both.

Creating the Resonate Manager Account

The Resonate manager account, also known as the Resonate Administrator account, is required when you use Central Dispatch for connection brokering. Therefore, you need an account with this role only if you install connection brokering.

This account is used by the Siebel Enterprise Server to automatically register Siebel resources with Central Dispatch.

Use the following guidelines to create the same Resonate manager account on each machine in the Central Dispatch site; that is, the machines on which the Central Dispatch Schedulers, the Siebel Gateway Name Server, and the Siebel Servers on which Central Dispatch performs connection-brokering:

■ This account needs only to be user-level.

■ If you are using a local account, then you must set up that account on each server, using the same login ID and password.

■ Determine what the account name and password will be, and record this information in your copy of the Deployment Planning Worksheet. (For security reasons, you may prefer not to record the password.)

■ The account password should, preferably, not require a change on next logon. If your site requires a change of password each time a user logs in, see Chapter 3, "Implementing Load-Balancing with Central Dispatch."

■ The account password must be set not to expire.

■ An account name cannot contain embedded spaces.

■ It is possible for the Siebel service owner and the Resonate manager accounts to be the same account if that account satisfies the requirements for each account.

Creating the Resonate Monitoring Account

This account is required for the Central Dispatch connection brokering server. Therefore, you need this account only if you install connection brokering. Central Dispatch uses this account to monitor the load on your Siebel Servers and incoming connection requests.

The Resonate monitoring account, like the Resonate manager account, must exist on each machine in the Central Dispatch site.

Use the following guidelines to create a Resonate manager account on each machine in the Central Dispatch site:

■ This account should be user-level—it should not have administrative privileges.

■ The Resonate monitoring account must have login privileges on each machine, but requires no additional privileges.

■ It is recommended that the Resonate monitoring account and the Resonate manager account be different accounts, so that there is no possibility that the Resonate monitoring account can administer the machine. As such, they should have different passwords.

NOTE: Never log on to Dispatch Manager accounts directly as a user. The accounts exist on each machine so that Dispatch Manager can validate the password you enter when connecting to your Central Dispatch site before granting administration or monitoring privileges.

Planning Port Assignments

If your network requires static port assignments for correct configuration, determine which ports you want to assign to Synchronization Manager, Request Manager, and each Siebel Object Manager component. Note these in your copy of the Deployment Planning Worksheet for each Siebel Server in your deployment.

CAUTION: The Siebel Gateway Name Server and Siebel Server cannot communicate at port numbers higher than 32767.

If you use Central Dispatch, the default port used by the scheduler is 2320. If you want to reconfigure the scheduler on another port, you must do so using Siebel Server Manager after you install Siebel Enterprise Server components.

Planning RDBMS Installation and Configuration

Note the following guidelines for installing and configuring your chosen Relational Database Management System (RDBMS).

■ Make sure that this release of Siebel eBusiness Applications supports the exact version of your chosen RDBMS, as specified in *System Requirements and Supported Platforms*, and that the RDBMS has been installed on the machine to be dedicated as the Siebel Database Server. This server will hold the database tables containing your business data, such as sales (personnel, territories, opportunities, and activities), marketing, and customer service information.

■ Determine certain details about your RDBMS configuration for completion of the Deployment Planning Worksheet, located in Appendix A, "Deployment Planning Worksheets."

  ■ Verify that the network names of the servers that will support the Siebel Database Server and Siebel File System are properly recorded in your copy of the Deployment Planning Worksheet. Use the machine names, not the IP addresses, for the Siebel File System names. IP addresses are not supported.

  ■ Siebel will create the ODBC datasource name during installation. The name will be *SiebSrvr_enterprise*. For example, if your Siebel Enterprise Server name is the default, siebel, the ODBC datasource name will be SiebSrvr_siebel. Using this pattern, determine what your ODBC datasource name will be and fill in your copy of the Deployment Planning Worksheet accordingly.

  ■ Complete the appropriate RDBMS-specific information in your copy of the Deployment Planning Worksheet.

Planning Database Connectivity

Use the version of the ODBC driver listed in *System Requirements and Supported Platforms* documentation for your chosen RDBMS for both Siebel Web clients and Siebel Servers.

In an enterprise-level deployment, configure the Siebel Web Clients, Siebel Servers, and Siebel Database Servers to use only the TCP/IP protocol for ODBC connectivity, not named pipes. Only in the case of smaller deployment (100 users or less), in which the database and the Siebel Server reside on the same machine, should you set ODBC configuration to use named pipes.

Creating a Staging Point

You may choose to copy the installation CD-ROMs to a staging point. This allows you to complete the installation process without physically inserting and swapping CDs. You must create a staging point in order to perform a system-wide installation from unattended mode.

To create a staging point

1 Determine which languages need to be installed.

2 Create a target installation directory from which to stage system-wide installations.

3 Insert the *Windows Server Programs, Siebel Enterprise Server, Base* CD-ROM into the CD-ROM drive of the installation machine.

4 Navigate to the \ses directory and copy the files there to your target installation directory.

5 From the target installation directory, create separate language directories for the languages you will be installing.

6 If you are installing a language that spans more than one CD, create a directory for each CD under the directory for each language. For example:

```
windows_server_ses_lang\
   ses\
        enu\
           disk1
           disk2
```

7 Insert the *Windows Server Programs, Siebel Enterprise Server,* Language CD-ROM into the CD-ROM drive of the machine

where:

Language = the Language Pack being installed.

8 Navigate to the \ses*language_directory* and copy the files to the corresponding language directory you created in Step 5.

9 Repeat this for each language you are installing.

> **NOTE:** When installing the Siebel Web Server Extension or CORBA OM, no CD swapping is required, so that you can install from the CD-ROM.

Implementing Load-Balancing with Central Dispatch $\quad$ **3**

This chapter describes the installation and configuration Central Dispatch for those who will implement connection brokering and load-balancing under Windows. Central Dispatch brokers requests between Web clients and the Application Object Managers in the Siebel Servers.

You must install Central Dispatch on any given machine before you can install Siebel Server.

The installation and configuration of the Central Dispatch consists of the tasks listed in Table 5.

Table 5. Central Dispatch Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Plan your Central Dispatch site. See "Planning Your Central Dispatch Site" on page 68.
	2 Provide for network connectivity between each node. See "Network Connectivity for Central Dispatch" on page 69.
	3 Install Central Dispatch on each machine for which you want to allow load-balancing. See "Installation Tasks for Central Dispatch" on page 73.
	4 Configure Central Dispatch. See "Configuring the Central Dispatch Site" on page 75.

Planning Your Central Dispatch Site

You must install Central Dispatch if your deployment has any of the following:

- Multiple Siebel Servers

- Multiple Web servers

- An Object Manager component that runs on two or more Siebel Servers

Install Central Dispatch on all machines that will support a load-balanced Siebel Server, unless the server will be operated as part of a cluster. Install Central Dispatch on all Siebel Servers that support load-balanceable Application Object Managers, such as Call Center or eSales. Siebel Servers that do not host Siebel Application Object Managers, such as a server dedicated to Workflow or Siebel Remote, do not require Central Dispatch.

Central Dispatch Deployment Considerations

- If your site has a large number of concurrent users (1000 or more), consider installing the Central Dispatch primary and backup schedulers on dedicated machines. This will provide for optimal performance during normal operation and when the primary scheduler goes down. If the performance during primary failure is not critical, a regular server node in the Central Dispatch site could be used as the backup scheduler.

- You cannot install Central Dispatch on any machine that is part of a cluster.

- Install Central Dispatch on the same machine as a Web server only if you are using Central Dispatch to load-balance the Web server. If you use Central Dispatch for Web server load-balancing, then the Web servers must belong to a different VIP than the application servers.

A server cannot make requests to the same virtual IP address that it is listening or receiving traffic on, which results in the following deployment limitations:

- The Web server and Central Dispatch Scheduler cannot reside on the same machine, because the Web server makes requests to the virtual IP address that the Scheduler listens on.

■ The Web server and a load-balanced Siebel Server cannot reside on the same machine. The Web server and Siebel Server *can* reside on the same machine if the Siebel Server is not part of the Central Dispatch load-balanced site.

CAUTION: To install Central Dispatch on a computer with Compaq Teaming NIC, see TechNote 321 on SupportWeb before proceeding.

For more information on deployment planning with Central Dispatch, see TechNote 349, posted on SupportWeb.

Verifying Accounts for Central Dispatch

Central Dispatch requires two accounts, the Resonate Administration Mode account and the Resonate Monitor Mode account. Before proceeding with the installation, verify that you have created these accounts, as described in Chapter 2, "Preparing for the Installation."

NOTE: These accounts must be the same across all your Siebel Servers and the passwords used for them cannot contain any spaces.

Network Connectivity for Central Dispatch

To establish network connectivity among all nodes in your Central Dispatch site, complete the following tasks:

■ "Assigning the Enterprise Virtual IP Address" on page 69

■ "Assigning Static IP Addresses" on page 70

■ "Verifying Network Routes" on page 72

Assigning the Enterprise Virtual IP Address

Select the Siebel Enterprise (VIP) and register it with the appropriate naming service. Record the VIP in Appendix A, "Deployment Planning Worksheets."

When you deploy Central Dispatch on your Siebel Servers, Siebel Web Server Extensions connect the Web servers to a virtual IP address for the Siebel Enterprise (VIP), rather than connecting directly to the Siebel Servers. The Central Dispatch scheduler uses the VIP to connect Web servers to the most appropriate, and least loaded, Siebel Server in the Enterprise.

To obtain a static IP address to use as the VIP, see your network administrator. The VIP should be unique and should be used exclusively as a logical IP address. Never assign a VIP to a real physical host, or computer.

You must register your VIP with the appropriate name services, such as DNS or NIS, exactly as you would any other IP address. However, unlike standard IP addresses, the VIP denotes the *entire Central Dispatch site,* not just a particular server. Make sure that *all* the nodes in your Central Dispatch site are registered with the naming service you are using. For example, if you use hosts files, each file must contain entries for all the nodes in the site.

TIP: If a group of servers is cut off from the rest of the network and visible only to each other, resolve their names either by modifying the DNS database records or by modifying the entries in the local host file:

```
%System Root%\system32\drivers\etc\hosts
```

If this is not sufficient to establish connectivity, contact your network administrator to make sure that all physical connections are in place and that routing tables have been updated correctly.

Assigning Static IP Addresses

Assign static IP addresses to each machine in the Central Dispatch site. Select these addresses from the appropriate subnet, and record this information in Appendix A, "Deployment Planning Worksheets."

Central Dispatch requires that static IP addresses be assigned to each of the machines with which it interacts. These IP addresses must all use the same subnet mask. The IP addresses of the primary and backup scheduler nodes must be on the same subnet as the VIP.

To assign a static IP address to your Windows 2000 servers

1 Navigate to the Windows Control Panel and double-click the Network and Dialup Connections icon.

2 In the Network and Dialup Connections dialog box, select Local Area Connection > Properties.

3 In the Local Area Connection Properties dialog box, select Internet Protocol (TCP/IP) and click Properties.

4 In the Internet Protocol (TCP/IP) Properties dialog box, do the following:

    a Select Use the following IP address.

    b Type the values for the fields IP Address, Subnet Mask, and Default Gateway for the static IP address for this server.

> **CAUTION:** If the DNS Server address is selected by default, do not deselect it, because you will not be able to access the network.

    c Click OK.

5 To close the Network and Dialup Connections dialog box, click Close.

The driver will be installed, and you will see the Internet Protocol (TCP/IP) Properties dialog box.

6 Restart the computer.

To assign a static IP address on your Windows NT servers

1 Navigate to the Control Panel and double-click the Network icon.

2 In the Network dialog box, click the Protocols > TCP/IP Protocol > Properties.

3 On the IP Address tab of the Microsoft TCP/IP Properties dialog box, make sure that the correct Adapter (the physical network interface card) is selected.

4 Click Specify an IP Address and do the following:

a Type the values for the fields IP Address, Subnet Mask, and Default Gateway for the static IP address for this server.

CAUTION: If the DNS Server address is selected by default, do not deselect it because you will not be able to access the network.

b Click OK.

5 Click Close to close the Network dialog box.

The driver will be installed, and you will see the TCP/IP Properties dialog box.

6 Restart the computer.

Verifying Network Routes

Use the ping utility to verify that all servers have TCP/IP connectivity to one another, as well as to the servers that will support the Siebel Database Server and the Siebel File System.

Verify that the routes between all servers are symmetric. Symmetric routes are routes that, step for step, traverse the same computers and the same network nodes in exactly the opposite order with respect to each other.

TIP: If all servers are in the same subnet, the routes will always be symmetric.

To verify that routes between servers are symmetric

1 On the computer that will support the primary Central Dispatch scheduler, open a DOS command window. Use the *tracert* command to display the route from it to one of your Siebel Server machines:

```
C:\> tracert server
```

where:

server = The name or IP address of the Siebel Server machine for which you are testing symmetry.

2 From that computer, open a DOS command window and use the `tracert` command to display the route from it back to the machine that will host the primary Central Dispatch scheduler.

3 Compare the results of each `tracert` and verify that the routes between these servers are symmetric.

4 Repeat these steps from your primary Central Dispatch scheduler for each server on which Central Dispatch has been installed.

5 From the secondary Central Dispatch scheduler, repeat this process with each server.

If you find asymmetric routes between any two servers, adjust the routing so that the routes are symmetric. You might have to delete static route tables and redo the routes, or restart the router in order to get a symmetric route.

After you have verified network routes on all machines, you are ready to install Central Dispatch.

Installation Tasks for Central Dispatch

You must install Central Dispatch on each Siebel Server on which you want to employ load-balancing, and on any machines that will be dedicated for the Central Dispatch primary scheduler and backup scheduler.

NOTE: Make sure you have the Resonate Administrative Mode account and Resonate Monitor Mode account created as described in Chapter 2, "Preparing for the Installation."

Also consider the following guidelines:

■ You cannot install Central Dispatch on a server on which Microsoft Cluster Service is enabled.

■ Install Central Dispatch from the Windows Console only. Do not use any remote connection such as Terminal Services, Remote Desktop, or PCAnywhere

■ Install Central Dispatch in a directory separate from other Siebel entities.

CAUTION: Do not use Microsoft Terminal Services to remotely install Central Dispatch. Central Dispatch installs a network driver that may interrupt the network connection during installation, thereby terminating Central Dispatch installation prematurely.

To install Central Dispatch

1 Insert the *Windows Server Ancillary Programs CD 2* into the CD-ROM drive of a machine on which you will install Central Dispatch.

2 Navigate to the following directory:

```
windows_server_ancillary_2\Thirdpty\resonate\enu\win2k
```

NOTE: Central Dispatch installation is not language-dependent. Navigate to the enu directory regardless of the language in which you are deploying your Siebel applications.

3 Start the Central Dispatch installer by double-clicking SETUP.EXE, and when the Welcome dialog box appears, click Next.

4 Follow the instruction in the *Resonate Central Dispatch and Resonate Commander Installation Guide,* available on the *Siebel eBusiness Third-Party Bookshelf*. However, at the Select Component screen, select only the following Central Dispatch components:

■ Node

■ Management Tools

❑ CDAction

❑ Dispatch Manager

NOTE: If you find any discrepancies between the information provided in this guide and the Resonate third-party documentation, always follow the instructions provided in this guide.

5 Repeat the installation steps in all the nodes that will be part of the Central Dispatch site, including the Primary Scheduler, Backup Scheduler, and all Siebel Server nodes.

Configuring the Central Dispatch Site

After you have installed Central Dispatch on all machines in the Central Dispatch site (both schedulers and Siebel Servers), configure your Central Dispatch site using Resonate Dispatch Manager.

You configure the Central Dispatch site only once, from any server within the Siebel Enterprise Server. Central Dispatch automatically shares and updates configuration information across all Central Dispatch nodes in the site as Siebel Servers are started or stopped, or as their configuration is modified.

Before proceeding, review *Resonate Central Dispatch User Guide,* provided on the *Siebel eBusiness Third-Party Bookshelf*.

Configuration Tips for Central Dispatch Site

Review the following configuration tips in Table 6, when setting up your Central Dispatch site. These are additions to, and differences from, the configuration specifications described in the *Resonate Central Dispatch User Guide.*

Table 6. Configuration Tips

Topic	Comment
Server weight	Do not change the server weight in Dispatch Manager. Instead, use the Siebel parameter MaxTasks for an asymmetric distribution of connections. For information on the use of this parameter, see *Siebel Server Administration Guide*.
Dedicated scheduler	Do not enable a dedicated scheduler as a server.
Class of service (COS)	You do not need to configure Resonate's class of service (COS) or thresholds to configure scheduling rules. This is because Siebel eBusiness Applications do this dynamically.

Table 6. Configuration Tips

Topic	Comment
Server Nodes	All nodes other than dedicated schedulers must be configured with the Server Enable option and Server Re-enable option on. (This options are on by default.)
Affiliate nodes	Do not designate any server as *Affiliated Node,* whether they are running Central Dispatch components or not. Please disregard any related comments in the *Resonate Central Dispatch User Guide.*
Shadow scheduling	Do not enable shadow scheduling; Siebel eBusiness Applications do not use the persistent sessions feature of Central Dispatch.

Environment Variables for Central Dispatch

Set the environment variables as described in Table 7.

Table 7. Environment Variables

Variable	Value	Comment
HTTP_INACTIVE_CONN_TIMEOUT	31,536,000 (seconds in a year)	Number of seconds after which an inactive HTTP connection is timed out. Set on each node, including scheduler nodes.
SERVER_INACTIVE_CONN_TIMEOUT	31,536,000 (seconds in a year)	Number of seconds after which an inactive server session is timed out. Set on each node, including scheduler nodes.

Table 7. Environment Variables

Variable	Value	Comment
RES_PERSIST_BLOCK_SIZE	20,000 x N bytes	Space allocated for the Central Dispatch Scheduler Rules file. N is the number of nodes on which Central Dispatch is installed. For example, if you install Central Dispatch on 7 nodes, the file size should be 20,000 x 7, or 140,000. Set on each node, including scheduler nodes.
CPU_OPEN_BASIC_AGING CUSTOM_CPU_OPEN_AGING CPU_OPEN_ENHANCED_AGING	0	Each one of these turns off a Central Dispatch feature in which resource-based load balancing may be disabled and replaced with Round Robin load balancing. Set only on scheduler node.

Refer to *Resonate Central Dispatch User Guide* for instructions on how to set environment variables.

Network Interface Cards

If you use multiple Network Interface Cards (NICs) on your Siebel Servers, consign these to separate subnets. However, Central Dispatch, working with Siebel applications, will only listen on one IP Address.

If there are multiple NICs in a server on which Central Dispatch is installed, pay attention to which traffic goes through which NIC. For example, verify which NICs have RXP bound to them, the TCP binding order, and the routing table.

Using Dispatch Manager to Configure Your Site

To finish configuring your Central Dispatch site, complete the following procedure.

To configure a Central Dispatch site

1 Verify that the Enterprise VIP is not assigned to any machine or another Siebel configuration by using the ping command.

2 From the Windows Start menu, choose Programs > Resonate > Dispatch Manager.

3 In the Dispatch Manager Welcome dialog box, leave the Connect to Node field blank if this is the initial configuration of Central Dispatch.

Otherwise, enter the static IP address or the host name of the primary node, then enter the Resonate manager password to log in to Central Dispatch.

4 In the Site View dialog box, click Site Setup.

5 On the System Nodes tab:

a Add the static IP address of each machine that will support a Siebel Server, Central Dispatch Primary Scheduler, or Central Dispatch Backup Scheduler. (A place for these IP addresses has been reserved in Appendix A, "Deployment Planning Worksheets.")

NOTE: Hostnames can be used, but they must map one-to-one to the static IP address that Resonate uses. It is recommended that you enter the IP address instead of the host to avoid any conflicts.

b Verify that the check boxes for Server Enable and Server Auto-reenable are checked for all services except the dedicated schedulers.

c After entering the first primary IP address, click Add.

d After entering information for the next node, click Add and Apply Changes.

NOTE: Type the static IP address, not the name of the machine to which it is assigned in the Node Name field. The use of host names can cause inconsistencies in routing, depending on the operation of your DNS servers.

6 On the VIPs tab, add the IP address to the site:

a In the VIP field, type the virtual IP address.

b In the Primary Scheduler list box, select the static IP address of the server that will serve as the primary Scheduler node.

    c In the Backup Scheduler list box, select the static IP address of a second machine to serve as the Backup Scheduler node.

    d To add the IP, click Add.

7 On the Licensing tab, type the license key in the New Key field and select Set New Key.

    The license key is stored in the `license.txt` file in the `resonate` subdirectory of your *Windows Server Ancillary Programs* CD-ROM.

8 On the Policies tab:

    a Select Resource-based in the Scheduling Policy drop-down list.

       You must select resource-based scheduling to take advantage of Central Dispatch's load-balancing features with Siebel eBusiness Applications.

    b For the load-balancing policy, it is recommended that you select CPU Load and Connections (Enhanced).

9 On the Operation tab:

    a Click the advanced options button.

    b Set *Agent Heartbeat Interval* to 1 second.

    c Set *Heartbeat Until down* to 100. Setting this parameter to one hundred means that it will take 100 seconds for a scheduler or Siebel Server to failover. This value can be adjusted based on your requirements for failover time, but keep in mind that a small value (< 10) may result in false failover of Siebel Servers.

    d Click Start Site.

    e Type the password for the Resonate Administrative Mode account.

10 Verify that the Central Dispatch site has started by using either of the following methods:

    ■ Click the Operations tab. `System Started` should be visible in the bottom message area.

■ Click the Site View tab. Your system nodes appear green if the site has been started, and red if Central Dispatch has not started successfully.

Scheduler nodes should appear green unless you did not check the Server Enable and Server Auto-reenable check boxes on the System Nodes tab. If you failed to check these boxes, the scheduler nodes appear blue.

If the other nodes are red, verify that you entered a valid IP address for those nodes. If the IP address was correct, verify that your Siebel Gateway Name Server or Siebel Server was not started. They cannot be in operation when you install and configure Central Dispatch.

11 Check the messages tab. If there are messages with a status of `Error`, investigate the cause.

Adding or Removing a Server in Central Dispatch Site

After initial installation and configuration, Central Dispatch configuration and operation are handled primarily by the Siebel Server software. You can use Dispatch Manager to monitor the operation of your Central Dispatch server, as described in the Resonate documentation. However, you will not need to modify Central Dispatch configuration during normal operations, with the exception of adding or removing servers from your Siebel Enterprise Server.

To add a server

1 Install and configure Central Dispatch on the new machine.

2 Add the static IP addresses assigned to each server from the System Nodes tab of the Site Setup dialog box in Dispatch Manager, as described in "Configuring the Central Dispatch Site" on page 75. Then click Add, and Apply Changes.

3 Verify that the correct static IP address is assigned to each server and that no static IP address is used more than once.

To remove a server

1 Disable the server node from the central Dispatch site. For detail instruction, refer to the *Resonate Central Dispatch User Guide*.

2 If you are removing a static IP address assigned to a server running a Siebel Gateway Name Server or Siebel Server:

    a Stop the Siebel Server, the Siebel Gateway Name Server, or both (in that order) in that node before removing the IP address.

    b Using Dispatch Manager, verify that none of the scheduling rules contain the static IP address, or node, you want to remove. If it does, manually remove the rule node. If the rule contains multiple nodes, update the rule to remove reference to those nodes. See *Resonate Central Dispatch User Guide* on the *Siebel eBusiness Third-Party Bookshelf*.

NOTE: Under normal circumstances, manually removing a node from a scheduling rule should not be necessary and primarily would be required only if a server did not shut down properly.

3 Remove the static IP addresses assigned to each server from the System Nodes tab of the Site Setup dialog box in Dispatch Manager, as described in "Configuring the Central Dispatch Site" on page 75. Then click Delete and Apply Changes.

Reinstalling Central Dispatch

If you change the static IP address or hardware configuration, or install a new Windows service pack on a machine, you must reinstall Central Dispatch on that machine.

To reinstall Central Dispatch

1 Stop all Siebel services and any Central Dispatch services on all nodes.

2 Uninstall Central Dispatch from the console. See *Resonate Central Dispatch Installation Guide,* provided on the *Siebel eBusiness Third-Party Bookshelf*.

3 Perform the required network or hardware configuration on the affected node (or nodes).

4 Reinstall Central Dispatch on the node (or nodes) on which you formerly had it installed, following the instructions provided earlier in this chapter.

TIP: Use the same Resonate Administrator password that was used previously.

5 Verify that the installer has installed Central Dispatch in the correct location.

6 Verify that the reconfigured node is part of the Central Dispatch site.

If it is not, refer to "Configuring the Central Dispatch Site" on page 75.

7 Start the Central Dispatch site, according to instructions in "Configuring the Central Dispatch Site" on page 75.

8 Restart all Siebel services on all nodes.

Changing Your Resonate Administrative Mode Account Password

If security at your site requires that you change your password each time you log in, follow the procedure described below.

NOTE: Unless you must change your password each time you log on for security reasons, it is recommended that you not change your password. Also make sure there are no spaces in your password.

To change your password for the Resonate Administrative Mode account

1 Using Server Manager, change your Siebel logon password.

2 Stop the Siebel Server.

3 Change your Resonate Administrative Mode account password at the operating system level.

4 Restart the Siebel Server.

Troubleshooting Load-Balancing with Central Dispatch

This troubleshooting section addresses some of the common Siebel-specific issues with Central Dispatch. For general information on troubleshooting Central Dispatch, see the Resonate Web site at http://www.resonate.com.

If you encounter problems installing or configuring Central Dispatch that you cannot resolve using these instructions, contact Siebel Technical Support. Do not contact Resonate Technical Support.

Use the task flow in Figure 6 when troubleshooting Central Dispatch with Siebel eBusiness Applications.
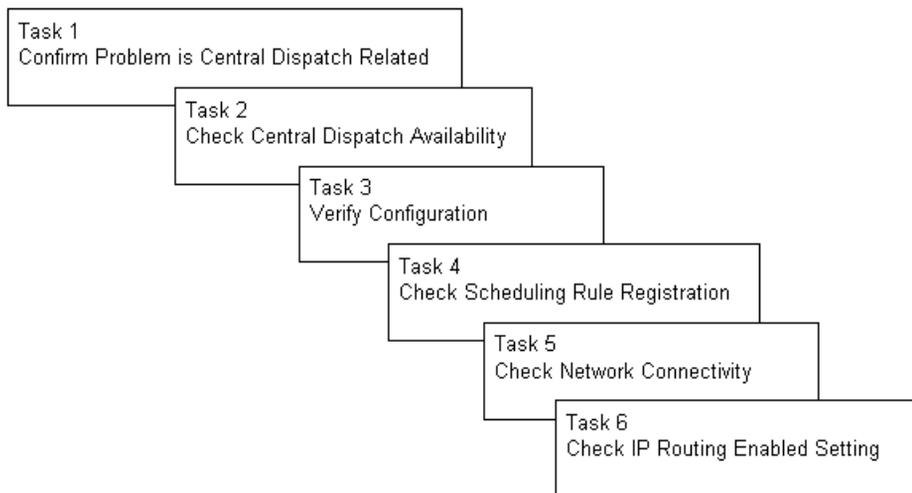
Figure 6. Troubleshooting Tasks

Task 1: Confirm Problem is Central Dispatch Related

To confirm whether the problem is a Central Dispatch issue, try connecting directly to the Siebel Server without using Central Dispatch. To do this, modify the following connect string:

```
siebel[.protocol][.encryption][.compression]://VIP:siebel_port/
Enterprise/Component
```

Replace it with the following:

```
siebel[.protocol][.encryption][.compression]://
Gateway:siebel_port/Enterprise/Component/Siebel_Server
```

To test the connection

1 Shut down all Web servers.

2 Shut down all but one Siebel Server.

3 Change the connect string above in one of the virtual directories in the *eapps.cfg* file.

4 Restart one Web server using the modified file.

5 Try connecting to the Siebel Server.

If you can connect using the new connect string but cannot connect using the load-balanced connect string, then the problem is related to Central Dispatch.

Task 2: Check Central Dispatch Availability

Use the Dispatch Manager Site View tab to view the status of each server. If any server is red, investigate the cause. If all servers appear as green, select the Messages lower tab for messages labeled critical and investigate the cause.

You can also run the `netstat -anP tcp` command to list all active TCP sockets. There should be some sockets using the VIP as the Local Address.

Task 3: Verify Configuration

Before proceeding with troubleshooting, verify the following:

■ Verify that the EnterpriseVIP is set correctly on the Name Server by running List `EntParameter EnterpriseVIP` command through the Siebel Server Manager.

■ If necessary, reset the `ResonatePassword` through Siebel Server Manager by running the `EntParameter ResonatePassword;` for example, `EntParameter ResonatePassword= "newpassword".)`

■ Verify that the connect strings are set correctly on the Web server. In the `eapps.cfg` file on each Web server, your "load balance component" connect strings should have the VIP (or corresponding hostname) and Vport (2320 by default), and only specify Enterprise name and component name. For example:

```
siebel.tcp.none.zlib://VIP:2320/Enterprise_name/
OM_component_name
```

■ Perform the installation verification tasks listed in the *Resonate Central Dispatch and Resonate Commander Installation Guide,* available on the *Siebel eBusiness Third-Party Bookshelf*.

Task 4: Check Scheduling Rule Registration

Use Dispatch Manager to verify that the expected rules exist and that there are no extra or duplicate rules. If you do not find all of the expected rules, examine the log files for the applicable Siebel components for errors running CDAction.

Task 5: Check Network Connectivity

Check client-to-scheduler, scheduler-to-server, and server-to-client connectivity.

TIP: If you use the command IPCONFIG /ALL to display the Windows IP configuration, make sure that Resonate Agent is at the top of the list.

Task 6: Check IP Routing Enabled Setting

Check the IP Routing Enabled setting in the IPCONFIG /ALL display. If the IP Routing Enabled is set to No, Resonate will not work. For details on how to set the IP Routing Enabled, refer to your Windows documentation.

NOTE: For more information on performing these tasks, see TechNote 316, posted on SupportWeb.

Generating Troubleshooting Information for Central Dispatch

You can generate output to assist with troubleshooting using the following utilities:

■ rxpstat utility

Command-line utility provided by Central Dispatch that produces statistics related to the state of all nodes in the Central Dispatch site. It is installed in the *Central_Dispatch*/bin directory. The command rxpstat -a returns a full listing of information.

- `netstat -r`

  Displays the contents of the routing table of the node where it is run.

- `netstat -anP tcp`

  Provides a listing of all the current TCP connections for a system, including the local and remote IP address and TCP port. Use this command to check what network connections are in place and the state of each TCP connection.

Known Issues with Load-Balancing Using Central Dispatch

Problem: Unexpected timeouts occur. Login works fine, but session is reset with error message after at least 10 minutes of inactivity when used again. eApps log displays the error message `Send message failed`. Most users do not experience any problems. No errors appear in the Siebel Server log.

Solution: Verify the values of the `HTTP_INACTIVE_CONN_TIMEOUT` and `SERVER_INACTIVE_CONN_TIMEOUT` environment variables are set correctly on every machine in the Central Dispatch site. Restart the machines after changing environment variables.

Problem: Siebel Server startup or shutdown takes a long time. Intermittent error messages in the Siebel Server log file—`Resonate command timed out`.

Solution: Check to make sure that the `Heartbeat Interval` and `# of Heartbeat until down` parameters are set to 1 and 100 respectively. You can use the Dispatch Manager to set these parameters. If the issue persists, contact Siebel Technical Support.

Problem: The browser displays the error message `Server busy or not available`, the eApps log displays the message `sisnapi handshake failed`, and no connections are shown in the Dispatch Manager.

Solution: The VIP assigned to the Central Dispatch site may be in use by another machine.

To verify, stop the Central Dispatch site and try to ping the VIP. If the VIP can be pinged then the VIP is not unique. Assign a VIP that is unique to the Central Dispatch site.

Problem: The browser displays the error message Server busy or not available, the eApps log displays the message sisnapi handshake failed, short-lived connections are shown in the Dispatch Manager, and no errors are shown in the Siebel Server log.

Solution: Verify that the VIP is the same in all of the following three places: the Enterprise VIP registered with the Siebel Gateway Name Server, the VIP used in the eApps.cfg file, and the VIP for the Central Dispatch site. (Use Central Dispatch Manager to check the VIP configured for Central Dispatch. Check the enterprise parameter EnterpriseVIP.)

Problem: The browser displays the error message, Server busy or not available, the eApps log displays the message sisnapi handshake failed, and there are connections shown in the Dispatch Manager.

- **Solution a:** Check the IP address of the VIP and Central Dispatch scheduler nodes in the Central Dispatch Manager. If they are in different subnets, reassign them to the same subnet. If the Secondary Scheduler is on a different subnet, this problem can occur when the Primary Scheduler becomes unavailable.

- **Solution b:** If you are using the Compaq teaming NIC, make sure you have followed the instructions in Tech Note 321.

- **Solution c:** Make sure that you are using a supported network interface card. For a list of the supported network interface cards, see SupportWeb.

Problem: The browser displays the error message Server busy or not available, the eApps log displays the message sisnapi handshake failed, connection reset by peer, and short-lived connections are shown in the Dispatch Manager. This occurs because scheduling rules are not created for a load-balanced Siebel Server as expected, and Central Dispatch does not route any load to that server.

Solution: This occurs when the Siebel Server is not part of the Load Balanced Siebel environment. Verify that the UseSCB server-level parameter is set to true. If the parameter is set to false, the Siebel Server will not register scheduling rules with Central Dispatch and connections into that server will fail.

Problem: One server does not receive any sessions. This presentation of the problem occurs when there are multiple Siebel Servers in the Enterprise.

Solution: Set the server level parameter `UseSCB` is set to true. If the parameter is set to false, the Siebel Server will not register scheduling rules with Central Dispatch and connections into that server will fail.

Problem: The browser displays the error message `Server busy or not available`, the eApps log displays the message `sisnapi handshake failed`, connection reset by peer, short-lived connections are shown in the Dispatch Manager, and the Siebel Server log shows the error message `invalid password`.

Solution a: Check the setting for the Resonate Admin user in the Enterprise environment variables, and that the password is registered with the Siebel Server. If the password is not set correctly, the Siebel Server cannot register scheduling rules with the Central Dispatch site, and attempts to connect are refused.

Solution b: This problem can also occur when domain users are locked out by exceeding allowable attempts to login with an invalid password.

Problem: On Solaris, after Central Dispatch and Siebel Server installation, Central Dispatch site appears to be running, but Siebel Server startup fails with error message `HOST NOT FOUND`.

Solution: Check that the network configuration file (`/etc/hosts`) has the reference `loghost` correctly mapped to the IP address of the network gateway (network gateway, not Siebel Gateway Name Server).

Installing in Unattended or Console Modes 4

This chapter provides instructions for installing without the installation GUI, using unattended mode or console mode. Complete instructions for installing using the GUI are provided in subsequent chapters.

For performance or security reasons, you may choose to install the Siebel eBusiness Applications servers using one of these modes instead of the installation GUI.

■ Use unattended installation mode if user input of configuration parameters during the installation is not allowed in your environment.

■ Use console installation mode when installing over a WAN. This is because installing over a WAN can use large amounts of bandwidth resulting in undesirable lag times during installation. The console installation provides a text-only interface that lets you bypass the Java-based GUI.

Unattended Installation

In some secure computing environments, user input of installation parameters during the installation is not allowed. In this case, you can run the installation process in *unattended* installation mode.

Unattended installation prepackages the required installation and configuration parameters so that you need only execute a command to perform it. However, unattended installation provides no feedback or error notification. Therefore, it is vital that you test your configuration in a development environment before system-wide deployment in a production environment.

Unattended installation consists of two parts:

Editing the siebel.ini Files for Unattended Installation

Before starting installation, you must modify portions of siebel.ini file, as described in the following procedure. After you are done with the installation you need to launch the Configuration Wizard through the icons created in your Start menu by the installer. For instructions on how to launch the Configuration Wizard, see Chapter 6.

To modify the siebel.ini file for the main installer

1 Using a text editor, modify the appropriate siebel.ini file for the appropriate product. The locations of siebel.ini files are listed below.

NOTE: You should pull a fresh copy of each siebel.ini you are planning to modify and save it in a unique location to avoid overwriting the original file.

- Siebel Enterprise Server installer; for example,
  E:\windows_server_ses_base\ses\siebel.ini.

- Siebel Web Server Extensions installer; for example,
  E:\windows_server_eapp_lep_1\eappweb\siebel.ini.

- CORBA Object Manager installer; for example,
  E:\windows_server_corba_lep_1\corbaom\siebel.ini.

NOTE: In each step, make sure that you have entered the correct values, because your entries are not validated by the installer.

2 Locate the [Dialog] section and set all keys to no, except the ones beginning with *uninst,* to disables all prompts.

3 Locate the [Defaults] section and set the appropriate folder name and installation directories.

4 Locate the [Defaults.ProductSelection] section and set those products you want to install to yes.

5 Locate the [Defaults.LanguageSelection] and set the languages you want to install to yes; for example, if you want to install French then add the following line to this section.

FRA = yes

6 Set the configuration keys in the appropriate .ini file as shown below.

For example,

■ ses

[RunAfter.Windows]

setupeBA = no

setupeInt = no

ConfigGateway = no

ConfigServer = no

■ eappweb

[RunAfter]

ConfigEappweb = no

■ corbaom

[RunAfter]

ConfigCorbaOM.configutil = no

CAUTION: Do *not* set the keys for importing report files (ImportActuateFile) and creating virtual directories (eapps) in the [RunAfter.Windows] section to no.

Optional Components
Anything not specifically defined in [Module.OS] is a required component.

```
Siebel\OBJMGR           = Object Manager Component
Siebel\SYNCSRVR         = Handheld Synchronization
Siebel\HELP             = Object Manager Help Files
Siebel\SDQCONNECTOR     = Siebel Data Quality Connector
Siebel\SEARCH           = Remote Search Support
Siebel\JAVABEAN         = Siebel Java Integrator

Db                = Siebel Database support files
Db\FILES          = Siebel Sample Database
Db\DB2UDB         = IBM DB2 UDB for Unix and Windows
Db\ORACLE         = Oracle Database Enterprise Edition
Db\MSSQL          = Microsoft SQL Server 2000
Db\ISERIES        = IBM DB2 UDB for iSeries
Dwdb\DWREP        = Siebel Data Warehouse configuration

Eai               = Siebel EAI Connectors
Eai\SAPPROD       = Siebel EAI Connector for SAP R/3
Eai\BIZTALK       = Siebel Connector for Microsoft BizTalk Server
Eai\OLEDB         = OLE DB for Siebel EAI
Eai\ORACLE        = Siebel EAI Connector for Oracle
Eai\EAIACTIVEX    = COM Data Control for Siebel EAI
Eai\AVAYA         = Siebel EAI Connector for Avaya CRM Central
Eai\WEBSPHERE = Siebel EAI Connector for WebSphere Commerce Suite
Eai\JAVABEAN= Java Data Bean for Siebel EAI

Rptsrvr         = Siebel Report Server Access
Rptsrvr\REPORTS = Siebel Report Server Access
```

Running the Installation From the Command Line

After you have modified the appropriate siebel.ini files in the previous procedure, run the unattended installation from the command line. However, before running an unattended installation, be aware of the following guidelines:

■ Any data entry error that you make during installation will be captured in the installation log file log.txt, located in the *SIEBEL_ROOT* directory. Consider using the -log *logfile* command to create an additional setup initialization log file.

■ All CDs should be mounted or you must have a staging point to use for installation. For more details on creating staging point, see "Creating a Staging Point" on page 65.

NOTE: These instructions are for installing the Siebel Enterprise Server using unattended mode. Installation in unattended mode of other server products is similar.

CAUTION: Do not use Microsoft Terminal Services to run an unattended installation or your installation may fail.

To install in unattended mode

■ From a DOS prompt, navigate to the \ses directory and enter:

```
setup.exe -args ss_setup_ini=main installer siebel.ini path
LanguageDir=language directory parent
```

where:

main installer siebel.ini path is the full path to the main installer siebel.ini file.

language directory parent is the full path to the language parent directory on the language CD. This eliminates the prompt for CD swapping.

NOTE: If you created a staging point as described under "Creating a Staging Point" on page 65, omit the code line: languagedir=*language directory parent*.

For example:

```
Setup.exe -args
ss_setup_ini=E:\windows_server_ses_base\ses\siebel.ini
LanguageDir=E:\windows_server_ses_lang\ses
```

NOTE: Since configuration is not supported in Unattended mode, launch the Configuration Wizard if you want to configure the server. For details on how to launch and use the Configuration Wizard, refer to Chapter 6, "Installing the Siebel Server."

Console-Mode Installation

Installing the Siebel Server and related server products over a WAN can use large amounts of bandwidth resulting in undesirable lag times in installation. The Siebel console installation provides a text-only installation that lets you bypass the Java-based GUI for faster performance.

The prompts for the console mode of installation are identical to those of the Java-based GUI. However, because the console mode of installation does not provide GUI controls, such as a Browse button, you must substitute appropriate command-line responses instead of the displayed GUI responses, such as *Click Next*.

Console-mode installation consists of two parts:

■ "Editing the siebel.ini Files for Console-Mode Installation" on page 94.

■ "Installing in Console Mode" on page 96.

Editing the siebel.ini Files for Console-Mode Installation

Before starting installation, you must disable portions of siebel.ini file. After you are done with installation, launch the Configuration Wizard through the icons created in your Start menu by the installer. For instructions on how to launch the configuration, see "Configuring the Siebel Server" on page 131.

To modify the siebel.ini file

1 Using a text editor, modify the appropriate `siebel.ini` file or files as listed below:

NOTE: You should pull a fresh copy of each `siebel.ini` to modify and save it in a unique location to avoid overwriting the original file.

- Siebel Enterprise Server installer; for example,
  `E:\windows_server_ses_base\ses\siebel.ini`.

- Siebel Web Server Extensions installer; for example,
  `E:\windows_server_eapp_lep_1\eappweb\siebel.ini`.

- CORBA Object Manager installer; for example,
  `E:\windows_server_corba_lep_1\corbaom\siebel.ini`.

2 Locate `[RunAfter.Windows]`or `[RunAfter]`, depending on which `.ini` file you are modifying, section and change it as follows:

- `Siebel Enterprise Server`

  setupeBA = no

  setupeInt = no

  ConfigGateway = no

  ConfigServer = no

- `Siebel Web Server Extensions`

  ConfigEappweb = no

- `CORBA Object Manager`

  ConfigCorbaOM.configutil = no

NOTE: Setting all keys to *no* disables all configurations.

Installing in Console Mode

The following procedures describe installation of the Siebel application in console mode.

NOTE: Because there is no Browse button in console mode, you should note the paths for both your base CD and your language CD installation executables, so that you can enter this information when prompted (for example, `E:\windows_server_ses_lang\ses\language\setup.exe`).

To install in console mode

1 Insert the *Windows Server Programs; for example, for SES insert the Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the server.

2 From a DOS prompt, navigate to the main installer directory.

3 Execute the following command:

```
setup.exe -is:javaconsole -console -arg ss_setup_ini = main
installer siebel.ini path
```

where:

main installer siebel.ini path is the full path to the main installer siebel.ini file.

For example, `setup.exe -is:javaconsole -console -args SS_SETUP_INI=d:\temp\siebel.ini`

The console mode installation script appears. Refer to the installation-specific chapters in this guide for reference regarding the definition of specific prompts.

NOTE: Configuration is not supported in console mode. To configure Siebel Server products, you need to launch the Configuration Wizard. Information about using the Configuration Wizard to configure products is provided in subsequent chapters.

Additional Flags for Installation Commands

You may optionally append any of the following flags to your installation command:

- -is:log *logfile*

  where:

  logfile is the full path name and the name of the file to be generated (for example, `c:\temp\gateway.log`This flag generates an additional log file. The logging information in the file is limited to initialization errors, such as JVM. Use this flag for debugging or for troubleshooting when you cannot invoke the installation process.

  NOTE: The default log file that records status errors during installation is created in the *SIEBEL_ROOT* directory.

- -is:javaconsole *-console*

  This flag generates a script-type (non-GUI) installation. This method is most useful when installing over a WAN. For more information, see "Console-Mode Installation" on page 94.

- -is:tempdir *temp directory_location*

This flag directs the installer to the location to install the temporary files.

Additional Flags for Installation Commands

Installing the Siebel Gateway 5

This chapter explains how to install and configure the Siebel Gateway on the Windows platform using the standard GUI installation method. For alternative installation methods, refer to Chapter 4, "Installing in Unattended or Console Modes."

For detailed information on the role of the Siebel Gateway within the Siebel environment, see Chapter 1, "Siebel Server Installation Overview."

The installation and configuration of the Siebel Gateway consists of several tasks. Table 8 illustrates the sequence of steps.

Table 8. Siebel Gateway Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Verify Siebel Gateway installation prerequisites, such as TCP/IP connectivity. See "Verifying Siebel Gateway Prerequisites" on page 100.
	2 Install redundant disk arrays (optional). See "Verifying Siebel Gateway Prerequisites" on page 100.
	3 Install Siebel Gateway from SES Installer. See "Installing the Siebel Gateway" on page 102.
	4 Configure Siebel Gateway for operation. See "Starting the Siebel Gateway Manually" on page 110.
	5 Review the software installation. See "Reviewing the Software Installation for Siebel Gateway" on page 110.

Verifying Siebel Gateway Prerequisites

Review the following guidelines before installing the Siebel Gateway.

> **CAUTION:** Do not install Siebel eBusiness Applications without first reviewing *System Requirements and Supported Platforms* for any required additional software.

■ If the machine on which you are installing the Siebel Gateway will also support a Siebel Server, you must also have all the required third-party products installed for that component, as listed in *System Requirements and Supported Platforms*.

■ The SES installer requires InstallShield MFC Runtime components as a prerequisite to installation. If this software component is missing, the SES installer will exit with a log message stating the installation requirement of MFC components. If you have already installed other products that contained these components, the installer continues. This software is located on the *Windows Server Ancillary Programs CD 1* under `ThirdParty\Microsoft\`*language*`\mfc` (where *language* is the language in which the product is distributed).

■ Plan your use of clustering or a redundant disk arrays (RAID) to configure against a single point of failure. For information about implementing redundant disk arrays, see "Installing a Redundant Disk Array on the Siebel Gateway" on page 101. For information on clustering prerequisites, see "Clustering Prerequisites for the Siebel Gateway" on page 101.

■ Each machine that will support a Siebel Server must have TCP/IP network connectivity to the machine on which the Siebel Gateway will be installed. Verify network connectivity between all such machines, using the `ping` utility.

■ Install the Siebel Gateway only once for each Siebel Enterprise Server. It is recommended that you only install one Siebel Gateway on a machine. If needed, multiple Siebel Enterprises can be supported by a single Siebel Gateway.

■ Verify that the network names of the servers that will support the Siebel Gateway and all Siebel Servers are recorded in Appendix A, "Deployment Planning Worksheets." You will need this information later when installing the Siebel Servers and Siebel clients.

■ You cannot install additional products into a root directory after applying a patch.

Installing a Redundant Disk Array on the Siebel Gateway

The Siebel Gateway maintains the configuration information for all Siebel Servers in all the Siebel Enterprise Servers it manages. Loss of the Siebel Gateway due to a disk crash could bring your Siebel software to a halt while the system is restored. Similarly, the Siebel Server temporarily stores transaction files synchronized to and from Siebel Remote mobile users. The loss of these files will result in the need to re-extract the database for all affected mobile users.

It is strongly recommended that you install a redundant disk array (RAID) or some other type of redundant disk configuration on your Siebel Gateway and on those Siebel Servers that will support the Siebel Remote product. Both hardware and software RAID are options. (Siebel Remote supports synchronization of data between Siebel Mobile Web Clients and the Siebel Database Server through a dial-up connection.)

For information on implementing redundant disk arrays, see your Microsoft documentation.

A redundant disk configuration substantially reduces the risk of data loss and minimizes the difficulty of error recovery for both types of server. Refer to your hardware vendor's documentation and your operating system documentation for instructions on how to install and configure a redundant disk array.

Clustering Prerequisites for the Siebel Gateway

If you will be operating the Siebel Gateway as part of a cluster, you must install it on a clustered disk drive in the same resource group that the Siebel Gateway Service resource will run. For information about clustering, see Chapter 7, "Clustering Your Siebel Deployment for Failover."

The Siebel installer allows you to install all servers at once for which you have a license. If you will be operating certain servers as part of a cluster, you must install and configure the Siebel Gateway and the Siebel Server separately.

Installing the Siebel Gateway

Be sure that all machines on which the Siebel Server will be installed meet the hardware and software requirements detailed in *System Requirements and Supported Platforms* for this release.

The SES Installer verifies not only that you have the required software for installation of Siebel 7.5, but that the software is the version level necessary.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually your C: drive) even if you intend to install Siebel eBusiness Applications onto another drive.

Follow the instructions below to install the Siebel Gateway.

NOTE: The following procedure is for installing the base product. For patch installation instructions, refer to *Maintenance Release Guide* provided with the patch.

To install the Siebel Gateway

1 Insert the *Windows Server Programs Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

2 In Windows Explorer, double-click `seawinsesbase` or `siawinsesbase`, as appropriate to the Siebel applications that you are installing.

NOTE: If you are installing Siebel Industry Applications, you will install `siawinsesbase`.

---

3 Navigate to:

`D:\windows_server_ses_base\ses\base` and double-click `setup.exe`

The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

4 Click Next.

If you have installed other Siebel components on the same machine, the installer displays the message that an existing installation has been found.

5 Depending on whether you are installing your Siebel Gateway files for the first time or adding a new language to an existing instance, take the appropriate action, then click Next.

■ To install the Siebel Enterprise Server software in a new instance, select None as the default and click Next. Proceed to Step 6.

■ To install a new language in an existing instance, select the displayed instance and click Next. Proceed to Step 10.

See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

The Installer Path screen appears.

6 Select the directory in which you want to install Siebel Enterprise Server.

By default, setup installs in the `C:\sea7xx` directory. If desired, you may choose a different drive for installation by either clicking Browse or typing the drive and directory location that you recorded in Appendix A, "Deployment Planning Worksheets."

NOTE: This directory name must not contain spaces, although underscores are allowed.

---

7 Click Next.

The installer prompts you to select the server that you want to install.

8 Choose from the following options and then click Next:

■ Select just the Siebel Gateway for installation and configuration. (You will install and configure the other server components individually later.)

■ Select all the check boxes to install all the servers at once for which your organization has a license.

If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard prompt you for the installation parameters of each component individually and in the sequence required.

CAUTION: Some products installable through the All function have pre-installation requirements, which if not met, will make their installation pointless. Before selecting the All function, review the installation instructions for each component you plan to install. For instructions on installing Siebel Analytics, see *Siebel Analytics Installation and Administration Guide*.

The installer prompts you to select the type of installation setup you prefer.

9 Choose the type of installation to execute from the following options; then click Next to continue:

NOTE: For the Siebel Gateway, all three options install the same Siebel Gateway components.

■ **Typical**

■ **Compact**

■ **Custom**

10 Confirm the language packs you are installing for the Siebel Gateway and click Next.

Servers are installed, at a minimum, with the primary language in which the server will be run. This is the primary (base) language for your Enterprise. Optionally, you can install one or more additional languages.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer program performs a validation check to make sure that installation prerequisites were met.

If they were not, a prompt appears stating which installation requirement was not met, such as, installation of Microsoft Data Access Components (MDAC), for example.

The installer prompts you that the setup program will install program shortcuts to your Program Folder with the name Siebel Enterprise Server 7.x. You can override this by entering a different name.

The installer displays the location into which it will install the Siebel Gateway and any other servers you have elected to install. It also displays the file size.

11 If this is acceptable, click Next. Otherwise, click Back to adjust your installation parameters or location.

The installer proceeds to install the specified files.

After all Siebel Gateway files have been installed, a warning screen appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the Siebel Language Code language
pack CD and select setup.exe.
```

12 Click OK.

A dialog box titled Insert CD for `language` Language Pack appears (where `language` stands for the language pack you are installing), and displays a file called `siebel.ini`. However, you do not need to do anything with this file.

13 Remove the current CD from the drive and insert the appropriate Language Pack CD.

14 Locate `seawinseslanguage,` where `language` stands for the language pack you are installing and double-click on it.

> **NOTE:** If you are installing Siebel Industry Solutions, you will install `siawinseslanguage`.

15 Run `setup.exe`.

A message appears stating that language files are being installed.

When all language files have been installed, a new message box appears, stating:

```
Please reinsert the base CD and browse to the setup.exe to enable
setup to continue.
```

16 Click OK.

17 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

18 Run `setup.exe`.

The first screen in the Siebel Software Configuration Wizard for Siebel Gateway Configuration appears.

19 Select one of the following options to continue.

- Proceed to .

■ Close out of the Siebel Software Configuration Wizard and configure later. In this case the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

❑ Click Finish to close the InstallShield Wizard.

Configuring the Siebel Gateway

Follow the steps below to configure the component for operation regardless of whether you will operate this server as part of a cluster.

To configure the Siebel Gateway

1 If you closed out of the Siebel Software Configuration Wizard after installation, relaunch it, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131. Otherwise, proceed to Step 2.

The Windows User Account screen appears.

2 On the Windows User Account screen, type the following information:

Windows User Account. Type your domain name and, separated by a backward slash (\), your Windows 2000 or Windows NT user account name. (This should be the account name created to run this service.)

Windows User Account Password. Type the password for the Windows 2000 or Windows NT Account. (This should be the password you created to run this service.)

Windows User Account Password (confirm). Retype the password for configuration.

NOTE: If you did not give this account Service Owner privileges, the configuration utility prompts you to add them. In this case, click OK and the utility adds the privileges automatically.

3 Click Next.

The Gateway Name Server Listening Port screen appears.

4 Accept the default port on which the Siebel Gateway should listen, or type an alternate port number if 2320 is used by another application.

NOTE: You may select any port number that is free on the machine where the Siebel Gateway is running. However, if a firewall is configured between your Web clients and your Siebel Gateway, and Central Dispatch is not being used, you must first open your chosen port on the firewall.

5 Click Next to configure the service in either of the following ways:

■ Accept the default to start the Siebel Gateway automatically whenever you restart.

NOTE: If you will be clustering this Siebel Gateway, do not configure it for automatic start. Instead, you will start and stop it through the MS Cluster Administrator.

■ Deselect the check box to start the service manually each time the Windows operating system starts up.

CAUTION: The Name Server Windows service must be running before any Siebel Server in the Enterprise can be started. If you do not set the Siebel Gateway to start automatically, you must start it manually each time you restart your machine.

6 Click Next.

The Start the Siebel Gateway Now screen appears.

7 Configure the service in either of the following ways:

■ Accept the default to start the Siebel Gateway automatically after configuration is complete.

CAUTION: If you will be clustering this Siebel Gateway, do not configure it for automatic start.

■ Deselect the check box to start the service manually following configuration.

> **CAUTION:** If you selected the option to install all server products at once, you must make sure that the Siebel Gateway has started before you configure the Siebel Server.

8 Click Next to review the configuration values you entered on the previous Configuration Wizard screens and if you are satisfied, click Finish.

> **NOTE:** If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

When the configuration activities are over, a message box appears with the text:

```
The configuration changes were applied successfully.
```

9 Click OK.

10 If you have not yet closed out of the InstallShield Wizard, click Finish.

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt or the log generated by the Siebel application at *SIEBEL_ROOT*\gtwysrvr\LOG.

11 If you did not configure the Siebel Gateway for automatic start, you must start it before you can install the Siebel Server. You can start it manually or through the MS Cluster Administrator, if you are clustering it.

For information about starting the Siebel Gateway manually, see "Starting the Siebel Gateway Manually" on page 110. For information about starting the Siebel Gateway through the Cluster Administrator, see the vendor's documentation.

Post-Installation Tasks for Siebel Gateway

Perform the following tasks after running the Siebel Gateway installation program:

■ "Reviewing the Software Installation for Siebel Gateway" on page 110

■ "Starting the Siebel Gateway Manually" on page 110 (optional)

Reviewing the Software Installation for Siebel Gateway

Review the directory structure created by the Siebel Gateway installation within the *SIEBEL_ROOT* directory. The directory structure is located under the directory specified during the installation.

The directory structure should match the one shown below.

_uninst\

>Contains files required to uninstall the product.

gtwysrvr\

>ADMIN\

>>Contains the .scm file used during configuration of the Siebel Gateway and which you select through a GUI when launching the Siebel Software Configuration Wizard from a DOS prompt.

>BIN\

>>*language(s)*

>>Among other files, contains ssincfgw.exe, used to launch the Siebel Software Configuration Wizard from a DOS prompt.

>LOCALE\

>>*language(s)*

>>Contains language-specific files. These files are not configurable.

>LOG\

>>Name Server logs

Starting the Siebel Gateway Manually

If, during configuration, you elected to always start the Siebel Gateway manually, you must do so every time you install and configure a Siebel Server component and every time you operate Siebel eBusiness Applications.

To start the Siebel Gateway manually on Windows 2000

1 Navigate to the Windows Start menu and select Programs > Administrative Tools > Services.

2 Select the Siebel Gateway Name Server and click Action > Start.

To start the Siebel Gateway Server manually on Windows NT

1 Navigate to the Windows Start menu and select
Settings > Control Panel > Services.

2 Select the Siebel Gateway Name Server and click Start.

Troubleshooting Siebel Gateway Installation

This section describes potential errors that can result from a faulty installation or configuration.

Problem: The Siebel Gateway does not start.

Solution: If you find that you are not able to start the Siebel Gateway, you may not have privileges as the Siebel Service Owner. Review the instructions in Chapter 2, "Preparing for the Installation."

NOTE: If you cannot start the Siebel Gateway, you will not be able to configure and start the Siebel Server.

Problem: Could not start Siebel Gateway service on *MACHINE NAME.*

```
Error XXX: The service did not start due to logon failure.
```

Solution: Navigate to Control Panel > Services, and select the Siebel Gateway. Click startup and re-type your user name and password.

Problem: I receive an error at system startup that a driver is missing.

Solution: This can occur if you uninstall an earlier Siebel eBusiness Application version without first stopping the Siebel Server and Siebel Gateway. If the services are no longer visible within the Services menu, call Siebel Technical Support for instructions.

Installing the Siebel Server   6

This chapter describes how to install and configure the Siebel Server on the Windows platform using the standard GUI installation method. For alternative installation methods, refer to Chapter 4, "Installing in Unattended or Console Modes."

For detailed information on the role of the Siebel Server within the Siebel environment, see Chapter 1, "Siebel Server Installation Overview."

The installation and configuration of the Siebel Server consists of several tasks. Table 9 on page 113 illustrates the sequence of steps.

Table 9. Server Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Verify that the Siebel Gateway has started. See "Starting the Siebel Gateway Manually" on page 110.
	2 Verify Siebel Server installation prerequisites are met. See "Siebel Server Deployment Considerations" on page 115.
	3 If you are clustering servers, verify that clustering software has been configured on each machine that you intend to cluster. See "Clustering Prerequisites for the Siebel Server" on page 116.
Database Administrator	**4** Install your RDBMS instance. See "Installing Your Database Instance" on page 116.

Table 9. Server Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**5** Configure any database-specific connectivity software. See "Configuring Database Connectivity Software" on page 116.
	6 Verify network connectivity. See "Verifying Network Connectivity" on page 117.
	7 Install Fulcrum SearchServer. See "Installing Fulcrum SearchServer" on page 120.
	8 Verify that Central Dispatch was installed on all Siebel Servers for which you want to implement load-balancing. See "Verifying Central Dispatch Installation" on page 120.
	9 Create a Siebel File System directory for each database tableowner. See "Creating a File System" on page 54.
	10 Verify that the Siebel Gateway has started. See "Pre-Installation Checklist for the Siebel Server" on page 122.
	11 Install Siebel Server files. See "Installing the Siebel Server" on page 123 and "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130.
	12 Configure the Siebel Enterprise Server. See "Configuring the Siebel Server" on page 131.
	13 If you are installing additional languages, see "Post-Installation Tasks for the Siebel Server" on page 148.
	14 Review the installation directory. See "Reviewing the Software Installation for the Siebel Server" on page 149.
	15 Verify that the ODBC Data Source is functioning properly. See "Verifying the Siebel Server ODBC Data Source" on page 153.
	16 Verify the connection to Siebel Mobile Web Clients. See "Establishing Network Connectivity for Mobile Users" on page 161.
	17 Set the Siebel Server locale. See "Setting the Database Client Locale for Siebel Server" on page 161.
	18 Disable the appropriate language-specific Application Object Managers (AOM) on this Siebel Server. See "Disabling Language-Specific Application Object Managers" on page 164.

Siebel Server Deployment Considerations

■ Depending on the requirements of your business, you may deploy one or more Siebel Enterprise Servers. For information on multiple Siebel Enterprise Servers, see "Siebel Enterprise Server Overview" on page 28.

■ The Siebel Server installation process must be completed on each machine that will operate a Siebel Server. Also, the installation process must be run once for each Siebel Server. "Deployment of Siebel 7 Gateway Versus Siebel 6 Gateway" on page 38 provides guidance on determining the number and configuration of Siebel Servers. Be sure that all machines on which the Siebel Server will be installed meet the hardware and software requirements detailed in *System Requirements and Supported Platforms*. The SES Installer verifies not only that you have the required software for installation of Siebel 7.x, but that the software is the version level necessary.

■ The configuration of the Siebel Enterprise Server, if it does not already exist, and the Siebel Servers will be completed after software installation when the Siebel Software Configuration Wizard launches automatically. Alternatively, you can save configuration until a later time. However, you cannot operate the Siebel Server until configuration has taken place.

■ Every Siebel Server that supports a given Siebel Database Server must belong to the same Siebel Enterprise Server, regardless of the platform on which the Siebel Servers are operating. When you install the first Siebel Server within an Siebel Enterprise Server, you will be automatically prompted to configure the Siebel Enterprise Server. Additional Siebel Servers installed in that Siebel Enterprise Server automatically inherit its parameters.

■ You only can choose which component groups to enable on the first Siebel Server (Siebel Enterprise Server), and the subsequent Siebel Servers will inherit the same component groups. For this reason, you should enable all the component groups that are planned for your environment, and then disable specific component groups on each individual Siebel Server that does not need that particular component group. If you forget to enable a component group through the Configuration Wizard, you will need to enable it manually later on using Server Administration.

Clustering Prerequisites for the Siebel Server

If you will be operating a Siebel Server as part of a cluster, you must install it on a clustered disk drive in the same resource group that the Siebel Server Service resource will run. For information about clustering, see Chapter 7, "Clustering Your Siebel Deployment for Failover."

The Siebel Installer allows you to install all servers at once for which you have a license. If you will be operating certain servers as part of a cluster, you must install and configure the Siebel Gateway and the Siebel Server separately.

Installing Your Database Instance

If this has not already been done, ask your database administrator to install the RDBMS your site will be using. During installation of the Siebel Server, you must have an established connection to that database for installation to be successful. For information about installing the Siebel Database, see Chapter 8, "Creating the DB2 Universal Database for Windows and UNIX," Chapter 10, "Creating the Microsoft SQL Server Database," or Chapter 12, "Creating the Oracle Database," as appropriate.

Configuring Database Connectivity Software

Microsoft SQL Server. No configuration is required after the Microsoft SQL Server ODBC driver, as specified in *System Requirements and Supported Platforms*, has been installed on each machine. Siebel eBusiness Applications automatically create an ODBC data source using connectivity parameters that you specify during installation of the Siebel Server.

Oracle. Verify that the Oracle Net8 or Net9 database connectivity software, as appropriate to your database, is installed on each machine, according to the Oracle documentation.

For more information, see *System Requirements and Supported Platforms* for database connectivity software requirements.

Before installing the Siebel Server and Siebel Enterprise Server, you must use the Oracle Net8 (or Net9) Easy Configuration utility to define a database alias with the proper connection information for your Siebel Database Server, if you have not already done so. Record the connect string in Appendix A, "Deployment Planning Worksheets." You will specify this connect string when installing the Siebel Server.

> **NOTE:** Siebel Server connections to the Oracle Database are made through dedicated server processes rather than through Oracle MTS. Siebel Systems does not recommend the use of MTS and its use may negatively affect performance.

DB2 UDB for Windows and UNIX. Define a database alias with the proper connection information for your database. This alias will be the connect string used when installing the Siebel Server. Record the connect string in Appendix A, "Deployment Planning Worksheets." You will specify this connect string when installing the Siebel Server.

Use either the DB2 Client Configuration Assistant or the Command Line Processor (CLP) to define your database alias. For more information, see *DB2 Universal Database for Windows* or *IBM DB2 Universal Database Command Reference*.

Verifying Network Connectivity

You must verify that your servers are properly connected to the network and, through the network, to each other.

To verify network connectivity between Siebel Servers and the Siebel Gateway, Siebel Database Server, and Siebel File System

1 Use the appropriate test utility for your network type. For example, for TCP/IP networks, use the `ping` utility to verify network connectivity to the Siebel Database Server and Siebel Gateway.

2 Verify connectivity to the Siebel Database Server:

- **Microsoft SQL Server 2000.** Use the (Windows 2000) Programs > Administrative Tools > Data Sources (ODBC) or (Windows NT) Control Panel - ODBC icon to verify that the proper ODBC driver has been installed and to create and test a data source to your database server.

■ **Oracle.** Use the `tnsping` utility and database alias from a Command Prompt window to make sure that you can connect to the database, using the network connect string that you defined in the previous step.

■ **DB2 UDB for Windows and UNIX.** Use a DB2 Command Window to verify connectivity to your database.

3 Choose Start > Programs > (IBM DB2) or (DB2 for Windows NT) > Command Window, and type:

```
DB2 connect to database_alias user user_ID using password
```

where:

database_alias is your database alias on DB2.

user_ID is your user name on DB2.

password is your password for that user name.

If your connection is valid, you should see a message that looks like the following:

```
Database Connection Information

Database Server     = DB2/NT x.x.x
SQL authorization ID = SADMIN
Database alias       = DB Alias
```

If your connection is not valid, verify your configuration.

CAUTION: Be sure to use the Command Window for this procedure and not the Command Line Processor window that appears directly above it. The Command Line Processor window looks similar to a Command Window, but it uses slightly different syntax. For this procedure, the commands will not work in a Command Line Processor window; they must be issued in a Command Window.

4 To close the connection, type db2 terminate.

> **NOTE:** You can also use the DB2 Command Center GUI tool to do this.

The Siebel Server installation will create its own ODBC data source.

5 Provide a network connection from the Siebel Server to the Siebel File System, using one of the two following methods:

- Connect a shared network drive or device.

  You may elect to map a drive letter (for example, K:\) on the computer that is mapped to the Siebel File System directory.

  > **CAUTION:** If this method is used, the drive letter must be permanently mapped to the Siebel File System, and the same drive letter must be mapped on all machines that will support a Siebel Server.

- For UNC (Universal Naming Convention) shares, the syntax is *Siebel_Server**sharename*.

> **NOTE:** Because of the above requirements, it is strongly recommended that you use a UNC sharename, rather than a shared drive, to connect to the Siebel File System.

Regardless of the method used to connect to the Siebel File System, verify that the Siebel File System directory is visible and that the Siebel Service Owner Account/ Manager Account can copy files to and from it.

> **NOTE:** If you are clustering the Siebel File System, you will need to use the Network IP resource or Network Hostname Resource assigned to that Cluster File Share.

Network connectivity to the Siebel Gateway, Siebel Database Server, and Siebel File System is now verified.

Verifying Central Dispatch Installation

Verify that Central Dispatch has been installed on this machine if any of the conditions below is true, or if this particular server is part of a load-balanced environment.

You intend to deploy:

■ Load-balancing on this Siebel Server

■ Load-balancing on Web servers (even if the load-balancing software is not Central Dispatch)

An exception to the previously described deployment rule occurs if you will be operating multiple servers as part of a cluster. In this case, you cannot install on machines you will be clustering. Instead, you will install Resonate on servers you reserve for performing load-balancing.

If you will be making use of Microsoft Clustered Services, see Chapter 7, "Clustering Your Siebel Deployment for Failover" for important information concerning the use of Central Dispatch with MSCS.

Installing Fulcrum SearchServer

Any Siebel Server can also be configured to execute searching or can be pointed to another remote SearchServer to handle search execution tasks. If you want to use a server as a SearchServer, you must install Fulcrum SearchServer from the *Windows Server Ancillary Programs* CD-ROM before installing the Siebel Server on that machine.

For more information about Fulcrum SearchServer, see *Siebel Search Administration Guide*.

Installation Tasks for the Siebel Server

You must run the SES Installer for each Siebel Server instance to be installed on a computer.

The Siebel Server installation program performs the following tasks:

- Sets up its own directory structure.

- Copies the software to the disk.

- Installs the Siebel Server Windows service and the Siebel Server components.

The Siebel Software Configuration Wizard, which launches automatically after all Siebel Server files are installed, performs the following tasks:

- Configures the Siebel Enterprise Server (if required) and the Siebel Server.

- Enables Server components upon exiting the utility.

  The term Siebel Enterprise Server is used by Siebel Systems to refer to a group of Siebel Servers that can be administered and configured as a unit rather than individually. It does not refer to a separate computer or a separate program.

  Therefore, when you install the first Siebel Server in your deployment, you automatically configure the Siebel Enterprise Server. All subsequent Siebel Servers installed that connect to the same database must be installed under this Siebel Enterprise Server.

Pre-Installation Checklist for the Siebel Server

Make sure you perform the following tasks before installing the Siebel Server.

1 Make sure that you have installed the Siebel Gateway and that it is running. To check the status of this service, navigate to the Services dialog box, through the Windows Control Panel.

NOTE: You will be unable to complete the Siebel Server installation if the Siebel Gateway is not running.

2 Shut down all open programs running on the server.

3 Stop any active Siebel Server Windows 2000 or Siebel Server Windows NT services, except the Siebel Gateway.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually `C:`) even if you intend to install Siebel eBusiness Applications into another drive.

■ The SES installer requires that MFC Runtime components are installed as a prerequisite to installation. For more information regarding the location of MFC Runtime components on your Siebel eBusiness Applications CD-ROMs, consult *System Requirements and Supported Platforms* on the *Siebel Bookshelf*. If this software component is missing, the SES installer will exit with a log message stating the installation requirement of MFC components.

4 Make sure that you have already installed the appropriate version of all third-party software products required before you install the Siebel Server. Otherwise, the Required Software Components prompt appears. For more information, see *System Requirements and Supported Platforms*.

NOTE: Siebel Server requires MDAC and MFC installed.

Installing the Siebel Server

Follow the instructions below to install the Siebel Server software on a server running under any supported MS Windows operating system.

NOTE: The following procedure is for installing the base product. For patch installation instructions, refer to *Maintenance Release Guide* provided with the patch.

To install the Siebel Server

1 Log in using the Siebel Service Owner Account. This account must belong to the Windows domain of the Siebel Enterprise Server.

NOTE: If you do not log in using the Siebel Service Owner Account, make sure that the account you use belongs to the Windows domain of the Siebel Enterprise Server and has full write permissions to the Siebel File System.

2 Insert the *Windows Server Programs Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

3 In Windows Explorer, double-click `seawinsesbase` or `siawinsesbase`, as appropriate to the Siebel applications that you are installing.

NOTE: If you are installing Siebel Industry Applications, double-click `siawinsesbase`.

4 Navigate to:

`D:\windows_server_ses_base\ses` and double-click `setup.exe`

The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

5 Click Next.

6 Depending on whether you are installing your Siebel Server for the first time or adding a new language to an existing instance, take the appropriate action:

■ To install the server software in a new instance, select None as the default and click Next. Proceed to Step 7.

■ To install a new language in an existing instance, select the displayed instance and click Next. Proceed to Step 11 on page 126.

See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

7 Select the displayed default directory for file installation or use the Browse button to select a different drive or directory, and then click Next.

The installer prompts you to select the server that you want to install.

8 Select from the following options and click Next:

■ Install all the components at once for which your organization has a license by selecting all the check boxes.

■ Select just the Siebel Server at this time for installation and configuration. (You will install and configure the other server components individually later.)

NOTE: If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard will prompt you for the installation parameters of each component individually and in the sequence required.

CAUTION: Some products that can be installed through the All function have pre-installation requirements, which if not met, will make their installation pointless. Before selecting the All function, review the installation instructions for each component you plan to install. For instructions on installing Siebel Analytics, see *Siebel Analytics Installation and Administration Guide*.

The installer prompts you to select the type of installation setup you prefer.

9 Choose the type of Siebel Server installation to execute from the following options and click Next.

For a list of the installable components for each type, see Table 10 on page 125.

- **Typical.** This setup option will install all Siebel Server components.

- **Compact.** This setup option will install only those components necessary to run the Siebel Server, but no additional components or help.

- **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

> **NOTE:** The listed Custom Installation options are all selectable. Some options listed under Typical that are required will also be installed as part of the Custom installation.

Table 10. Installable Components

Installation Setup	Products
Typical	■ Handheld Synchronization
	■ Object Manager component—Object Managers for eBusiness Applications
	■ Siebel Data Quality Connector—Used to configure Siebel Data Quality with FirstLogic software
	■ Siebel Enterprise Server (installed)
	■ Remote Search Support—Files supporting Siebel Remote Search functionality
	■ Siebel Java Integrator
Compact	■ Object Manager Component
	■ Remote Search Server Support
	■ Siebel Java Integrator
Custom	■ Siebel Enterprise Server (installed)
	■ Object Manager component
	■ Handheld Synchronization
	■ Siebel Data Quality Connector
	■ Remote Search Support
	■ Siebel Java Integrator

■ If you chose the Custom installation type, proceed to Step 10; otherwise, proceed to Step 11 on page 126.

10 Select the components that you want to install and click Next.

11 Confirm the language packs you are installing for the Siebel Server and click Next.

NOTE: If you already installed a server and a primary language into this installation instance, that language will not be part of the menu. This is because that language has already been installed and is considered as your primary(base) language.

Servers are installed, at a minimum, with the primary language in which the server will be run. Optionally, you can install one or more additional languages.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer program performs a validation check to make sure that installation prerequisites were met and if yes prompts you about the eBriefings and eContent Services; otherwise, it will error out.

12 Indicate the eBriefings and eContent licensing your organization has purchased by clicking the appropriate radio button option, and then click Next.

■ eBriefings. Proceed to Step 14 on page 127.

■ eBriefings and eContent Services. Proceed to Step 13.

■ Neither. Proceed to Step 14 on page 127.

NOTE: The installer performs a validation check.

---

13 Read the license agreement.

■ To accept and continue with installation, click Yes. Proceed to Step 14 on page 127.

■ To decline, click No. The installer will prompt you that this response will cause it to quit.

CAUTION: You cannot select eBriefings and eContent Services without accepting the license agreement. If you reject the agreement, the Configuration Wizard will exit.

■ To return to an earlier screen to change your selection, click Back.

The installer displays the location into which it will install the Siebel Server and any other servers you have elected to install. It also displays the file size.

14 Review the information and take the appropriate action:

■ If these parameters are acceptable, click Next.

■ Otherwise, click Back to adjust your installation parameters or location.

The installer proceeds to install the specified files.

After all Siebel Server files you specified have been installed, a dialog box appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the CD containing the Siebel Language
Code language pack and select setup.exe file from the Siebel
Language Code folder..
```

15 Click OK.

A dialog box titled Insert CD for `language` Language Pack appears (where `language` stands for the language pack you are installing), and displays a file called `siebel.ini`. However, you do not need to do anything with this file.

16 Remove the current CD from the drive and insert the appropriate language pack CD.

17 Locate `seawinseslanguage,` where `language` stands for the language pack you are installing and double-click on it.

> **NOTE:** If you are installing Siebel Industry Solutions, locate `siawinseslanguage`.

18 Double-click on `setup.exe`.

A message appears stating that language files are being installed.

When all language files have been installed, a new message box appears, stating:

```
Please reinsert the base CD and browse to setup.exe to enable
setup to continue.
```

19 Click OK.

20 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

21 Double-click on `setup.exe`.

The first screen in the Siebel Software Configuration Wizard for Siebel Enterprise Server Configuration appears.

- If this is the primary installation of your Siebel Server, proceed to "Configuring the Siebel Server" on page 131.

- If you choose to close out of the Siebel Software Configuration Wizard and want to configure later, the installer displays the message:

  The InstallShield Wizard has successfully installed the Siebel Enterprise Server. Click Finish to exit the Wizard.

22 Click Finish to exit the installation process.

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt or the log generated by the Siebel application at *SIEBEL_ROOT*\siebsrvr\LOG.

Installing Multiple Siebel Language Packs on the Siebel Server

If you will be installing multiple language versions of Siebel eBusiness Applications on your Siebel Servers, review the following configuration facts:

■ You should run the Siebel Enterprise Server Software Configuration Wizard only once for each Siebel Server.

■ When you configure a server, you have the option of creating Application Object Managers (AOMs) for every language that has been installed on that server.

■ AOMs are created when you run the Configuration Wizard, based on the language packs you have installed. However, AOMs for languages that have not been installed can be created manually. For more information on this, consult Siebel Expert Services.

■ When new AOM components are created, they are automatically assigned to every server and they will attempt to run on every server with the parent component group assigned and enabled. (For information about server component groups and their members, see Appendix B, "Enabling Server Components.")

■ When you add a new server, it will inherit every component group and every AOM by default.

For the deployment scenarios for installation of multiple languages on your Siebel Servers, see *Global Deployment Guide*.

Adding a New Product to an Existing Installation

When you add a new product to an existing installation (for example, when adding a Siebel Server to the same directory in which you have installed a Siebel Gateway), it is vital that you install the same set of languages for the second product.

Because both products share the same root directory, they are treated by the installer as one product in terms of patches and the addition of new languages. Therefore, if the set of languages are not identical for both, the last language you installed takes precedence.

NOTE: Once an installation directory is patched, a new product cannot be added to that directory. In that case, install the product in a new installation directory.

Configuring the Siebel Server

Follow the steps below to configure the Siebel Server for operation.

NOTE: If you are configuring additional Siebel Servers within one Siebel Enterprise Server, some of the parameter screens described in this section do not appear again.

Launching the Siebel Software Configuration Wizard

The Siebel Software Configuration Wizard launches automatically after you install the files for most server components. The only exception to this rule occurs with installation of the Siebel Database Server. Because you must run certain scripts manually after Siebel Database Server file installation, you must manually launch the Configuration Wizard after the scripts have been run to complete configuration.

You can relaunch the utility independent of the installer any time for any given component. For example:

- To reconfigure a pre-existing server in your deployment.

- To configure installed files at a later time.

  CAUTION: You cannot operate any of the server components until you have configured them.

To launch the wizard from your Windows desktop

■ Navigate to Start > Programs > Siebel Servers 7.0 and select Configure *Server Type*

where:

Server Type = the server you want to configure; for example, the Siebel Gateway.

To launch the wizard from a DOS command

1 Open a DOS command window and navigate to the BIN subdirectory component you want to configure within your *SIEBEL_ROOT* directory; for example, D:\\sea700\siebsrvr\BIN.

2 Enter one of the following commands.

■ To configure any component except the Siebel Database Server, enter:

    ssincfgw -l *LANGUAGE*

■ To configure the Siebel Database Server, enter:

    ssincfgw -l *LANGUAGE* -v y

where:

LANGUAGE = the language in which you want to run the Siebel Software Configuration Wizard; for example, ENU for U.S. English or DEU for German.

This launches a menu of configuration modules for each component you have installed.

3 Select the component you want to configure and click Open.

The Siebel Configuration Wizard launches for that component. All component Configuration Wizard modules have an .scm extension.

To configure the Siebel Server

1 If you closed out of the Siebel Software Configuration Wizard after installation, relaunch it, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131. Otherwise, proceed to Step 2.

NOTE: If you have just installed a new language following your initial installation and configuration of a multilingual Siebel Enterprise Server, access the Siebel Software Configuration Wizard from Start > Programs > Siebel Enterprise Server 7.x > Configure Siebel Server.

The co-located Siebel Gateway Name Server screen appears.

2 Take the appropriate action depending on your installation:

- Select the checkbox if :

  ❑ You are configuring a Siebel Server that is located on the same machine as the Siebel Gateway.

- Leave the check box deselected and proceed to Step 4 if:

  ❑ You are configuring a Siebel Server that is not located on the same machine as the Siebel Gateway.

  ❑ You are configuring a Siebel Server that is located on the same machine as the Siebel Gateway, but you have changed default Siebel Gateway port number to something other than 2320 (for example, 31900). If this is the case, you need to append the port number to the Siebel Gateway host name on the next screen, which is the Siebel Gateway Host screen (for example, gtwyhost : 31900).

  ❑ You are configuring a Siebel Server that is located on the same machine as the Siebel Gateway, but you are clustering the Siebel Server. This is because if you select Yes for this check box, the Configuration Wizard uses the physical machine name of the node on which the installation is being performed instead of the logical name. This will cause incorrect configuration of your clustered servers.

- Select Yes and proceed to Step 3 if the conditions described above do not apply to your installation.

3 On the Enterprise for this Server screen, if you are configuring a new Siebel Enterprise Server, type the name of this Siebel Enterprise Server and click Next.

NOTE: This should be the name selected by the deployment team that you recorded in your copy of Appendix A, "Deployment Planning Worksheets."

The Use Resonate Central Dispatch screen appears. Proceed to Step 5 on page 135.

4 On the Gateway Name Server Hostname screen, type the following values and then click Next:

Gateway Name Server Hostname. Type the host (network) name of the machine on which you installed the Siebel Gateway for this Siebel Enterprise Server.

NOTE: If you will be clustering this Siebel Server, use the *logical* host name of the Siebel Gateway.

If your database is MS SQL Server, the name you use must not contain brackets.

CAUTION: Verify that your Siebel Gateway service has started before proceeding. Otherwise, you cannot configure the Siebel Server.

Enterprise Server. Type a description of the Siebel Enterprise Server under which this and other Siebel Servers will be installed, for example, `Siebel`.

This name must possess the following characteristics:

❑ It can be a mixture of alpha and numeric characters, but it must lead with an alpha character.

❑ It cannot include special characters such as apostrophes, accents, ampersands, slashes, or spaces (underscores are allowed) and must be unique within the Siebel Enterprise Server.

❑ It cannot exceed 12 characters.

The Use Resonate Central Dispatch screen appears.

5 On the Use Resonate Central Dispatch screen, indicate whether or not you want to use Resonate Central Dispatch and click Next:

■ If you installed Resonate *anywhere in this Siebel Enterprise Server,* and not just on this server, click Yes, *unless this machine is part of a cluster.*

NOTE: You must repeat this for each node in the Siebel Enterprise Server on which Resonate is installed.

If you select Yes, a text box appears, alerting you that you must set the variables SERVER_INACTIVE_CONN_TIMEOUT and HTTP_INACTIVE_CONN_TIMEOUT on this server machine and any other machines within the Resonate site.

CAUTION: If you have Resonate running on the same machine on which you are also configuring a Siebel Server, but you do not want to configure the Siebel Server for use with Resonate, you must set the UseSCB server parameter to FALSE while the Siebel Gateway is running. Otherwise, the Siebel Server will not start properly. For information on how to set server parameters, see *Siebel Server Administration Guide*.

■ If you did not install Resonate or this machine is part of a server cluster, leave the check box deselected.

The Select the Software Your Siebel Installation Will Use for Data Matching screen appears.

6 Select from one of the following and click Next:

■ Siebel Data Quality Matching

NOTE: Siebel Data Quality Matching identifies and corrects duplicate records, and provides an interface from which the user can merge them.

■ Siebel Data Quality Connector

■ None

If you have already installed your initial language pack and are configuring a second or greater number of language packs post-initial configuration, see "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130.

7 Specify the database platform that will support this Siebel Enterprise Server and click Next:

■ IBM DB2 UDB for UNIX and Windows

■ IBM DB2 UDB for iSeries

■ Microsoft SQL Server

■ Oracle Database Enterprise Edition

The Database User Account screen appears.

8 Specify the values you recorded in the Deployment Planning Worksheet for your Siebel Database Server:

Database User Account. This is the account under which the Siebel Server logs into the database. This should be the Siebel administrator account, SADMIN.

Database User Account Password. Depending on your database platform, type in the appropriate value below.

■ **DB2 Universal Database.** db2.

■ **Oracle.** sadmin.

■ **MS SQL Server.** MSSQL. (This must be all caps.)

Database User Account Password (confirm). Re-enter the password to confirm it.

Depending on the database platform you selected proceed to the step indicated below:

■ **All DB2 UDB Databases and Oracle.** The Schema Qualifier/Table Owner screen appears. Proceed to Step 9 on page 137.

■ **MS SQL Server.** The SQL Server Name screen appears. Proceed to Step 10 on page 137.

9 On the Schema Qualifier/Table Owner screen, type the values you recorded in the Deployment Planning Worksheet for the owner of the Siebel Database Server and click Next.

■ **Schema Qualifier/Table Owner.** Identify the name of the schema that contains your Siebel tables and indexes relevant to your database platform:

❑ **All DB2 UDB Databases:** Type the name of the schema that contains your Siebel tables and indexes; the default is SIEBEL.

❑ **Oracle:** Type the name of the schema that contains the Siebel tables.

■ **Database Alias.** Identify either the alias, the host name or the connect string, identified for your Siebel Database Server, as illustrated below:

❑ **DB2 UDB for Windows and UNIX.** Type the alias cataloged for your DB2 database in DB2 Connect. Proceed to Step 11 on page 138.

❑ **Oracle Connect String (Oracle only).** Type the Oracle connect string for your Siebel Database Server. Proceed to Step 11 on page 138.

10 On the SQL Server Name screen, type the appropriate values into the fields below. You should have recorded them in Appendix A, "Deployment Planning Worksheets."

SQL Server Name. Type the network name or IP address of the database server on which you are installing the Siebel Database Server.

SQL Server Database Name. Type the name of the SQL Server database where the Siebel tables and indexes will reside.

To continue, click Next and proceed to Step 11 on page 138.

The Register External Oracle DB ODBC Driver screen appears.

11 Select Register External Oracle DB ODBC Driver if you plan to deploy the Siebel Connector for Oracle Applications or the Siebel Connector for PeopleSoft, and then click Next.

NOTE: These connectors help to exchange data with your back-office system that store data in the Oracle Database.

The Siebel File System Screen appears.

12 Specify the following Siebel File System parameters and then click Next:

Siebel File System. Use the Browse button to locate the Siebel File System directory you set up. (This is the directory you created under "Creating a File System" on page 54.) If you did not already create a directory for this purpose, you can do that now. Specify the Siebel File System directory using the format: \\SiebelFS*siebel7xx*

where:

NOTE: *SiebelFS* is the host name of the machine (assuming that a dedicated machine is used for the Siebel File System) and *siebel7xx* is the name of the share.This directory will contain files associated with your Siebel components. You may either use a UNC share name or specify a drive letter.

ChartServerHost. Accept the default name, localhost.

The Chart Image Format screen appears.

13 Select the type of chart image format you want to use, and then click Next:

GIF (Graphics Interchange Format). This memory-intensive file format is used for graphics requiring very high resolution.

JPEG (Joint Photographics Experts Group). This file format compresses either full-color or gray-scale digital images such as photographs.

PNG (Portable Network Graphics). This extensible file format provides a portable and lossless compression of raster images.

The Encryption Type screen appears.

14 On the Encryption Type screen, select the type of encryption that should be used for network communications between the Siebel Server and the Web server, and then click Next:

NONE. No networking protocol.

MSCRYPTO. Microsoft encrypted communications protocol for communication between Siebel components.

RSA. Required protocol if you will be using the RSA Security Systems 128-bit strong encryption feature for data transport.

NOTE: Siebel Web Clients must also be configured to connect to the Siebel Server using the same encryption. For more information see Chapter 14, "Installing the Siebel Web Server Extension."

- If you indicated on a previous screen that you installed Resonate Central Dispatch, the System Account for Resonate Administrator screen appears. Proceed to Step 15 on page 139.

15 On the System Account for Resonate Administrator screen, indicate the login ID and password needed for the Resonate Manager Account (also known as the Resonate Administrator), then click Next:

System account for Resonate administrator. Type the login name you set up previously for the Resonate manager or administrator account. This name should start with the domain name (for example, HQ\).

Password for Resonate administrator system account. Type the Windows password under which the Resonate service runs.

Password for Resonate administrator system account (confirm). Retype the password to confirm it.

The Gateway VIP screen appears.

16 Type the Gateway VIP you recorded in the Deployment Planning Worksheet.

17 On the Remote Search Server Hostname screen, type in the following values for the Remote Search Server host, and then click Next:

Remote Server Hostname. Type the Remote Search Server host name.

Remote Server Port Number. Type the port number on which the Search Server is configured to listen or accept the default.

The Enable Component Groups screen appears.

18 Select the components you want to enable and click Next.

NOTE: You may select multiple component groups. For a list of the components within each group, see Appendix B, "Enabling Server Components."

- If you included Siebel Remote as one of the component groups to enable, then proceed to Step 19 on page 140.

- If you did not include Siebel Remote as one of the component groups to enable, proceed to Step 20 on page 140.

19 On the Network Port for the Synchronization Managers screen, type the network port on which you want Synchronization Manager to listen, and then click Next.

The Siebel Server Name screen appears.

20 Indicate the values for the following parameters and click Next:

Siebel Server Name. Accept the default name, or specify another name for this Siebel Server.

NOTE: This Siebel Server name must be unique in this Siebel Enterprise Server and must contain no more than 12 characters.

Siebel Server description. Provide a description for this Siebel Server; for example, `Siebel 07` or accept the default.

The Override Synchronization Manager Port screen appears.

21 Indicate whether you want to override the Siebel Enterprise Server port for Synchronization Manager, which controls Siebel Remote.

NOTE: If you are installing and configuring multiple servers that will be running Synchronization Manager on a single machine, each requires a unique port number to run.

- To override the default port, click Yes and then Next. Proceed to Step 22.

- To accept the default, leave the check box unselected and click Next. The Windows User Account screen appears. Proceed to Step 23 on page 141.

22 On the Local Port for Synchronization Managers screen, type the local port with which to override the Siebel Enterprise Server port for Synchronization Manager, and then click Next.

The Windows User Account screen appears.

23 Identify your Windows User Account information to enable Windows to start service automatically, and then click Next.

Windows User Account Name. Type the Windows User Account Name with domain name for the machine on which you are installing; for example, `HQ\username`.

Windows User Account Password. Type your Windows User Account Password.

Windows User Account Password. (confirm). Retype your password to confirm it.

The Set Siebel Server Service to Start Automatically screen appears.

24 Specify whether or not you want the Siebel Server service to start automatically when you restart the Windows operating system, and then click Next:

- To start the Siebel Server automatically, click Yes.

■ To start the Siebel Server manually each time your system restarts, accept the default.

CAUTION: If you will be operating this Siebel Server as part of a cluster, *do not click Yes.* The Siebel Server service must always be started and stopped through the MS Cluster Administrator.

The Start the Siebel Service Now screen appears.

25 Specify whether you want the service to start now or want to defer service startup to a later time, and then click Next:

■ If you click Yes, Setup starts the Siebel Server service when configuration is complete.

■ If you accept the default, service startup will occur only when you manually start it.

CAUTION: If you will be operating this Siebel Server as part of a cluster, accept the default, which is manual startup. The Siebel Server service must only be started and stopped through the MS Cluster Administrator.

The Configuration Parameter Review screen appears, showing the configuration parameter values you typed on the previous screens.

26 Review these values for accuracy against the values in your copy of Appendix A, "Deployment Planning Worksheets."

a If you need to correct any values, click Previous to back out through the configuration screens until you reach the location of the false value.

b When you have corrected the error, click Next until you reach the list on this screen again.

c When you are satisfied, click Finish.

A progress bar appears, and when configuration activities are over, a message box appears with the text:

```
The configuration changes were applied successfully.
```

27 Click OK.

28 If you did not configure the Siebel Server for automatic start, you must start it manually. See "Starting the Siebel Server Services for Windows" on page 152.

However, if you are clustering this server, start it through the MS Cluster Administrator. See your Microsoft documentation on this topic.

NOTE: You may or may not be prompted to restart, based on the requirements of your operating system.

Configuring a Language Pack on the Siebel Server

You should always install all languages on each server in your Siebel Enterprise Server and configure them at the same time on each individual machine. Please review "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for instructions on installing and configuring multiple Siebel language packs.

However, if you are installing a new language at a later date on the same Siebel Enterprise Servers, you will only configure a subset of parameters as described in the following procedure.

To configure a secondary language pack

1 Follow Step 1 through Step 6 of "Configuring the Siebel Server" on page 131.

The Select Primary Language screen appears.

2 On the Select Primary Language screen, select the language that you want to use as the primary(base) language.

NOTE: This is the primary(base) language for your Siebel Enterprise Server. The language in which you want your Siebel Server to run and which you normally want to read messages.

The Register External Oracle DB ODBC Driver screen appears.

3 Select Register External Oracle DB ODBC Driver if you plan to deploy the Siebel Connector for Oracle Applications or the Siebel Connector for PeopleSoft, and then click Next.

NOTE: These connectors help to exchange data with your back-office system that store data in the Oracle Database.

The Remote Search Server Hostname screen appears.

4 On the Remote Search Server Hostname screen, type in the following values for the Remote Search Server host, and then click Next:

Remote Server Hostname. Type the Remote Search Server host name.

Remote Server Port Number. Type the port number on which the Search Server is configured to listen or accept the default.

- If you included Siebel Remote as one of the component groups to enable, then proceed to Step 5.

    The Network Port for Synchronization Managers screen appears.

- If you did not include Siebel Remote as one of the component groups to enable, proceed to Step 6.

5 On the Network Port for the Synchronization Managers screen, type the network port on which you want Synchronization Manager to listen, and then click Next.

The Siebel Server Name screen appears.

6 On the Siebel Server Name screen, indicate the values for the following parameters and click Next:

Siebel Server Name. Accept the default name, or specify another name for this Siebel Server.

NOTE: This Siebel Server name must be unique in this Siebel Enterprise Server and must contain no more than 12 characters.

Siebel Server description. Provide a description for this Siebel Server; for example, Siebel 06 or accept the default.

The Select the Languages for Object Manager Components screen appears.

7 Select the language or languages for which you want to define language-specific Object Manager components, and then click Next.

NOTE: You must define an Object Manager component for each language in which you want the Siebel Web Client to run. Components will be created for each language you select through this screen.

The Override Synchronization Manager Port screen appears.

8 On the Override Synchronization Manager Port screen, indicate whether you want to override the Siebel Enterprise Server port for Synchronization Manager, which controls Siebel Remote.

NOTE: If you are installing and configuring multiple servers that will be running Synchronization Manager on a single machine, each requires a unique port number to run.

- To override the default port, click Yes and then Next. Proceed to Step 9.

- To accept the default, leave the check box unselected and click Next. The Windows User Account screen appears. Proceed to Step 10.

9 On the Local Port for Synchronization Managers screen, type the local port with which to override the Siebel Enterprise Server port for Synchronization Manager, and then click Next.

The Windows User Account screen appears.

10 On the Windows User Account screen, identify your Windows User Account information to enable Windows to start service automatically, and then click Next.

Windows User Account Name. Type the Windows User Account Name with domain name for the machine on which you are installing; for example, HQ\username.

Windows User Account Password. Type your Windows User Account Password.

Windows User Account Password. (confirm). Retype your password to confirm it.

11 Specify whether or not you want the Siebel Server service to start automatically when you restart the Windows operating system, and then click Next:

■ To start the Siebel Server automatically, click Yes.

■ To start the Siebel Server manually each time your system restarts, accept the default.

CAUTION: If you will be operating this Siebel Server as part of a cluster, *do not click Yes.* The Siebel Server service must always be started and stopped through the MS Cluster Administrator.

The Start the Siebel Service Now screen appears.

12 Specify whether you want the service to start now or want to defer service startup to a later time, and then click Next:

■ If you click Yes, Setup starts the Siebel Server service when configuration is complete.

■ If you accept the default, service startup will occur only when you manually start it.

CAUTION: If you will be operating this Siebel Server as part of a cluster, accept the default, which is manual startup. The Siebel Server service must only be started and stopped through the MS Cluster Administrator.

The Configuration Parameter Review screen appears, showing the configuration parameter values you typed on the previous screens.

13 Review these values for accuracy against the values in your copy of Appendix A, "Deployment Planning Worksheets."

a If you need to correct any values, click Previous to back out through the configuration screens until you reach the location of the false value.

b When you have corrected the error, click Next until you reach the list on this screen again.

c When you are satisfied, click Finish.

A progress bar appears, and when configuration activities are over, a message box appears with the text:

```
The configuration changes were applied successfully.
```

14 Click OK.

15 If you did not configure the Siebel Server for automatic start, you must start it manually. See "Starting the Siebel Server Services for Windows" on page 152.

However, if you are clustering this server, start it through the MS Cluster Administrator. See your Microsoft documentation on this topic.

NOTE: You may or may not be prompted to restart, based on the requirements of your operating system.

Post-Installation Tasks for the Siebel Server

Perform the following tasks after running the Siebel Server installation program:

■ "Reviewing the Software Installation for the Siebel Server"

■ "Starting the Siebel Server Services for Windows" on page 152

■ "Verifying the Siebel Server ODBC Data Source" on page 153

■ "Establishing Network Connectivity for Mobile Users" on page 161

■ "Synchronizing Siebel Server Component Groups" on page 161

■ "Setting the Database Client Locale for Siebel Server" on page 161

■ "About Language-Specific Application Object Managers" on page 163

Reviewing the Software Installation for the Siebel Server

Review the directory structure created by the Siebel Server installation, as illustrated below. The example below results from a Typical installation.

The \siebsrvr subdirectory is located under the root directory you specified during the installation; for example, D:\sea700.

```
ACTUATE
ADMIN
BIN
bscripts
CLASSES
DBTEMPL
DOCKING
HELP
INPUT
ISSTEMPL
LEX
LOCALE
LOG
LOGARCHIVE
MSGTEMPL
NLP
OBJECTS
OUTPUT
REPORTS
SDQConnector
SEARCH
SQLTEMPL
TEMP
UPGRADE
WEBMASTER
WEBTEMPL
XML
upgrade.log
language.txt
base.txt
tcupgrade.htm
```

ACTUATE. Contains files related to Siebel Reports Server.

ADMIN. Contains files used by and editable by Siebel administrators.

BIN. Binary file directory, containing language subdirectories related to language-specific server components. Also contains files used by Siebel Technical Support for installation workarounds.

bscripts. Web server-related files.

CLASSES. Web server-related files.

DBTEMPL. Contains dictionary and local database files required by Siebel Remote for regional users and Siebel Mobile Web Client users.

DOCKING. Contains transaction files, visibility databases, and others, required by Siebel Remote.

HELP. Contains help files.

INPUT. Web server-related files.

ISSTEMPL. Contains templates for the SIS (Siebel Interactive Selling) CDA application.

LEX. Contains files used by spell check program.

LOCALE. Contains language-specific files.

LOG. Contains client and utility log files.

LOGARCHIVE. Archive of client and utility log files.

MSGTEMPL. Stores language-specific files for mail merge.

NLP. Web server-related files.

OBJECTS. Siebel Repository directory containing language-specific subdirectories related to language-specific repository files.

OUTPUT. Web server-related files.

REPORTS. Contains report executables.

SDQConnector. Contains the DLLs, configuration files, and other files necessary to connect the Siebel Data Quality Universal Connector to one or more external data quality products. An external data quality product is certified though the Siebel Alliance program.

SEARCH. Contains the indexes and scripts used to administer and execute Siebel Search and Siebel Advanced Search.

SQLTEMPL. Contains SQL scripts used by the Siebel Server. These files should not be modified.

TEMP. Stores temporary files for use by the Siebel Server.

UPGRADE. Files and scripts related to version upgrades of Siebel eBusiness Applications. Also holds temporary, backup, and state log files used during an upgrade.

WEBMASTER. Source of Web Publics file; synchronized to the Web server at run time. If you must modify `.css`, `.img`, or `.js` files, modify them in this directory on each Siebel Server.

WEBTEMPL. Contains Siebel Web templates, containing applets and views for any type of Web client.

XML. Web server-related files.

base.txt. Contains primary(base) language and version information.

language.txt. Contains language and version information.

upgrade.log. Contains upgrade logs.

Starting the Siebel Server Services for Windows

If you did not select automatic Siebel Server startup, you must start the Siebel Server services manually after you finish installation of the Siebel Server.

NOTE: If you will be clustering a particular server, you must start and stop it, using the Cluster Administrator, rather than with the following procedure.

This procedure is not necessary if you selected automatic startup during configuration.

To start the Siebel Server service

1 From the Windows Start menu:

Windows 2000. Choose Programs > Administrative Tools > Services.

Windows NT. Choose Settings > Control Panel > Services.

2 On the Services dialog box, scroll to the Siebel Server service. The name of the service has the following format:

```
Siebel Server enterprise server_siebel server
```

where:

`enterprise server` = the name of your Siebel Enterprise Server.

`siebel server` = the name of the Siebel Server you have just installed.

3 To start the service:

Windows 2000. Select Action > Start.

Windows NT. Click Start.

CAUTION: If the Siebel Server service does not start, look in the installation logs for error messages. The installation log is called SVRsetup.log and is located in the Siebel Server root directory. You can also check \log\sw_cfg_util.log.

To administer the Siebel Enterprise Server and all its Siebel Servers, you must launch Server Manager.

To launch Server Manager

1 After you have installed the Siebel Server, install the Siebel Web Server Extension onto a server you have designated as your Web server. For information on installing this plug-in, see Chapter 14, "Installing the Siebel Web Server Extension."

2 Launch the Siebel Web Client.

3 From the View menu, select Site Map.

4 On the Site Map, select Server Administration, and refer to the operation instructions in *Siebel Server Administration Guide*.

Verifying the Siebel Server ODBC Data Source

The Siebel Server installation program automatically creates an ODBC system data source name (DSN) that it uses to connect to the Siebel Database Server. Prior to verifying the Siebel Server ODBC data source, make sure that the Siebel Server service is started.

To verify the ODBC data source for DB2 UDB for Windows 2000 and UNIX

1 Navigate to Start > Programs > Administrative Tools > Data Sources (ODBC).

2 On the ODBC Data Source Administrator dialog box, select System DSN.

3 Review this data source (whose default name is SiebSrvr_*EnterpriseName*) and record the name in Appendix A, "Deployment Planning Worksheets." if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

4 On the ODBC Data Source Administrator dialog box, select the data source and click Configure.

A DB2 Message box appears to let you know your connection status.

If you are not connected, you will be prompted about whether you want to connect now to the data source.

5 Click Yes.

The Connect To DB2 Database dialog box appears.

6 Type your user ID and passwords into the applicable fields and click OK.

A message box should appear, announcing:

```
Connect Completed Successfully
```

NOTE: If you still cannot connect, verify that your database is running and that you used the correct login information.

7 From the Windows command prompt, navigate to *SIEBEL_ROOT*\siebsrvr\bin and execute the following command:

```
odbcsql /s data_source /u database_account_name/p password
```

where:

data_source = the name of the data source.

database_account_name = a valid database account name.

password = the corresponding database account password.

When you connect, a confirmation message should appear.

To verify the ODBC data source for DB2 under Windows NT

1 Navigate to Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC) > System DSN.

2 Review this data source (whose default name is SiebSrvr_*EnterpriseName*) and record the name in Appendix A, "Deployment Planning Worksheets," if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

3 On the ODBC Data Source Administrator dialog box, select the data source and click Configure.

A DB2 Message box appears to let you know your connection status.

If you are not connected, you will be prompted about whether you want to connect now to the data source.

4 Click Yes.

The Connect To DB2 Database dialog box appears.

5 Type your user ID and passwords into the applicable fields and click OK.

A message box appears, announcing:

```
Connect Completed Successfully
```

NOTE: If you still cannot connect, verify that your database is running and that you used the correct login information.

To verify the ODBC data source for Oracle under Windows 2000

1 Navigate to Start > Programs > Administrative Tools > Data Sources (ODBC).

2 On the ODBC Data Source Administrator dialog box, select the System DSN tab.

3 Review this data source; its default name is SiebSrvr_*EnterpriseName*.

4 Record the name of the ODBC data source in Appendix A, "Deployment Planning Worksheets," if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

5 Select the data source SiebSrvr_*EnterpriseName*, which is the name you gave the Enterprise during its configuration, and click the Configure button.

The ODBC Oracle Driver Setup dialog box appears.

6 To test the connection, click the Test Connect button:

If the connection is valid, you will see a message box to that effect.

NOTE: If the connection could not be made, see "Troubleshooting ODBC Data Source Connection" on page 159.

7 In your registry, locate the following registry entry:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\ODBC\ODBC.INI\SiebSrvr_EnterpriseNa
me]
```

Verify that the following two options are set to 1:

```
    ColumnsAsChar = 1

    ColumnSizeAsCharacter = 1
```

NOTE: These two options are critical to guarantee correct ODBC driver behavior.

To verify the ODBC data source for Oracle under Windows NT

1 Navigate to Start > Settings > Control Panel, choose Data Sources (ODBC) > System DSN.

2 Review this data source; its default name is SiebSrvr_*EnterpriseName*.

3 Record the name of the ODBC data source in Appendix A, "Deployment Planning Worksheets," if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

4 Select the data source SiebSrvr_*EnterpriseName*, which is the name you gave the Enterprise during its configuration, and click the Configure button.

The ODBC Oracle Driver Setup dialog box appears.

5 To test the connection, click the Test Connect button:

- If the connection is valid, you will see a message box to this effect.

- If the connection could not be made, see "Troubleshooting ODBC Data Source Connection" on page 159.

To verify the ODBC data source for MS SQL Server under Windows 2000

1 Navigate to Start > Programs > Administrative Tools > Data Sources (ODBC).

2 On the ODBC Data Source Administrator dialog box, select System DSN.

3 Record the name of the ODBC data source in Appendix A, "Deployment Planning Worksheets." if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

4 Select the data source SiebSrvr_*EnterpriseName*, which is the name you gave the Enterprise during its configuration, and click the Configure button.

The Microsoft SQL Server DSN Configuration dialog box appears.

5 Click Client Configuration.

The Add Network Library Configuration dialog box appears.

6 Verify that the port number for the database is correct. If it is not, edit it.

To continue, click OK.

The Microsoft SQL Server DSN Configuration dialog box appears again.

7 Click Next.

A second MS SQL Server DSN Configuration dialog box appears.

8 Select verification with SQL Server using a login ID and password, and enter these in the Login ID and Password fields.

The program tests the connection:

- If the connection is valid, you will see a message box to this effect.

- If the connection could not be made, see "Verifying Network Connectivity" on page 117 and "Troubleshooting ODBC Data Source Connection" on page 159.

To verify the ODBC data source for MS SQL Server under Windows NT

1 Navigate to Start > Settings > Control Panel, choose Data Sources (ODBC) > System DSN. Review this data source; its default name is SiebSrvr_*EnterpriseName*.

2 Record the name of the ODBC data source in Appendix A, "Deployment Planning Worksheets," if you have not already done so.

You will need this information when you are installing the Siebel Database Server.

NOTE: Siebel Systems does not recommend changing the default settings created automatically with the ODBC data source.

---

3 Select the data source SiebSrvr_*EnterpriseName,* which is the name you gave the Enterprise during its configuration, and click the Configure button.

The Microsoft SQL Server DSN Configuration dialog box appears.

4 Click Client Configuration.

The Add Network Library Configuration dialog box appears.

5 Verify that the port number for the database is correct. If it is not, edit it.

To continue, click OK.

The Microsoft SQL Server DSN Configuration dialog box appears again.

6 Click Next.

A second MS SQL Server DSN Configuration dialog box appears.

7 Select verification with SQL Server using a login ID and password, and enter these in the Login ID and Password fields.

The program tests the connection:

- If the connection is valid, you will see a message box to this effect.

- If the connection could not be made, see "Verifying Network Connectivity" on page 117 and "Troubleshooting ODBC Data Source Connection" on page 159.

Troubleshooting ODBC Data Source Connection

If your connection test for the ODBC data source fails, follow the instructions below to research the cause.

DB2 UDB for Windows and UNIX

To troubleshoot connection problems on Windows 2000 and Windows NT, see "Verifying Network Connectivity" on page 117 and verify that your database is running. The installer verifies that the correct driver exists on the machine at installation time.

Oracle

Follow the instructions below to troubleshoot connection problems on Windows 2000 and Windows NT.

To troubleshoot a failed ODBC connection

1 Verify that the ODBC driver was correctly installed by reviewing the file structure under *SIEBEL_ROOT*\BIN.

2 If the files have been correctly copied to the \BIN subdirectory, verify that the Oracle connect string that you entered during Siebel Server configuration was valid.

MS SQL Server

Follow the instructions below to troubleshoot connection problems on Windows 2000 and Windows NT.

To troubleshoot a failed ODBC connection

1 Verify that the ODBC driver was correctly installed by reviewing the file structure under *SIEBEL_ROOT*\BIN.

2 If the files have been correctly copied to the \BIN subdirectory, verify that the data source name (SiebSrvr_*EnterpriseName*) that you entered during Siebel Server configuration was valid.

Establishing Network Connectivity for Mobile Users

Siebel Mobile Web Client users must be able to connect to the Siebel Remote Server, using TCP/IP to synchronize with the master database. Make sure that you have the correct network software and hardware installed to support this connectivity, and that your remote users are able to establish a TCP/IP connection to the server using the `ping` utility.

Synchronizing Siebel Server Component Groups

Although Siebel eBusiness Applications, release 7.0 on Windows now lets you enable Siebel Server components during initial configuration of the Siebel Server, you must still synchronize them, using Server Manager. See *Siebel Server Administration Guide* for instructions.

Setting the Database Client Locale for Siebel Server

Before you configure the Siebel Database Server, you must set the language characteristics of your Siebel Servers.

CAUTION: This procedure is required regardless of whether you install only one language pack or multiple language packs.

The code page of the operating system on which your Siebel Server runs must match that of your Siebel Database Server instance. The languages installed on each must also match. To find all the code pages supported by Siebel eBusiness Applications at mid-tier and code pages supported at the database level, refer to *System Requirements and Supported Platforms*.

Oracle

Siebel eBusiness Applications supports only binary collation sequencing in development environments. Therefore, either you must set NLS_SORT to BINARY or you must choose a Territory value that includes binary when setting the locale for your development environment.

To set locale parameters

1 From the Start menu, click Run.

2 Type regedit and click OK.

3 Select HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\.

4 In the right column, right-click NLS_LANG and select Modify.

The Edit String dialog box appears.

5 Change the entry to the appropriate language, territory (locale), and character set (for example, GERMAN_GERMANY.WE8MSWIN1252 for German as spoken in Germany), and then click OK.

6 From the Task bar, click Edit > New > String Value.

A placeholder for the new value (New Value #1) appears in the right column.

7 Select New Value #1, then, from the Task bar, navigate to Edit > Rename and rename it NLS_SORT.

8 In the right column, right-click NLS_SORT and select Modify.

The Edit String dialog box reappears.

9 Type the appropriate collation sequence and click OK.

> **NOTE:** Siebel eBusiness Applications only supports binary sorting in a development environment. For more information about supported collation sequencing for Oracle in development and production environments, see Chapter 12, "Creating the Oracle Database."

10 Quit the Registry Editor.

Microsoft SQL Server

When setting the language characteristics of your database for MS SQL Server, Siebel Systems recommends that you set the sort order at the database instance level only. For details on MS SQL Server sort orders supported by Siebel eBusiness Applications in development and production environments, see Chapter 10, "Creating the Microsoft SQL Server Database."

You can set the language per session by issuing the SET LANGUAGE command in the Query Analyzer.

DB2 UDB for Windows and UNIX

Setting the language characteristics of your database is part of creating your database instance. An editable command for this purpose is provided in Chapter 8, "Creating the DB2 Universal Database for Windows and UNIX" and is part of the editable sample database creation script, located in Appendix C, "Sample Database Creation Scripts."

Setting Database Client Locale for Siebel Server

You must set the target locale for your Siebel Servers, regardless of the database you use.

To set the target locale of the Siebel Server

1 From any Siebel Web Client application, access Server Manager and click Screens > Server Administration > Servers.

2 Click the Server Parameters view tab.

3 In the Siebel Servers list, select the appropriate Siebel Server.

4 In the Server Parameters list, select the appropriate Language Code parameter.

5 In the Current Value field, change the value to the appropriate language for this Siebel Enterprise; for example, esn for Spanish.

   For a list of all languages supported by Siebel eBusiness Applications and their codes, see *System Requirements and Supported Platforms*.

About Language-Specific Application Object Managers

The installation of each Siebel language pack includes language-specific Application Object Managers that do not overwrite those related to other language packs you may have already installed.

Be aware that after you install all the language packs you require among all your Siebel Servers, you must do the same among all your Web servers. For more information about this, see Chapter 14, "Installing the Siebel Web Server Extension."

When you enable a component group for an Enterprise Server, you automatically enable the language-specific Application Object Managers for that component among all the Siebel Servers in that Enterprise Server. For more information on component group enablement, see Step 18 on page 140 under "To configure the Siebel Server."

Disabling Language-Specific Application Object Managers

If your deployment is multilingual, you must execute a script to disable the language-specific Application Object Managers that are running by default (in other words, the Application Object Managers for your primary(base) language) on any Siebel Server that you may want dedicated to a secondary language.

To disable language-specific Application Object Managers on Siebel Servers

1 From a DOS command window, navigate to the installation directory for any one of several Siebel Servers in the Enterprise on which you want to disable a language-specific Application Object Manager.

2 Execute the following command:

```
disable_lang.bat lang server1 [server2...]
```

where:

lang = language component you want to disable.

server1, 2, and so on = names of the Siebel Servers on which you want to disable the component.

The script invokes srvrmgr.

If the execution was successful, you should see the srvrmgr banner and a message:

```
connected to 0 servers of n
```

You should also see the message:

```
command completed
```

displayed as many times as you specified servers on which to disable language-specific Application Object Managers.

Troubleshooting Siebel Server Installation

Installation problems can be caused by a number of things, but the reasons listed below are the most common:

■ **Insufficient user privileges.** For information about setting up appropriate administrative user privileges to install Siebel Server, see Chapter 2, "Preparing for the Installation."

■ **Trying to install the Siebel Server out of sequence.** For the required installation sequence, see Chapter 2, "Preparing for the Installation."

■ **Failure to install required hardware or software.** Installation errors related to software requirements are logged in the SES installer log file. For prerequisites, see *System Requirements and Supported Platforms*.

The following list provides other, less common reasons for a faulty installation or configuration:

Problem: The following error messages occur in an Enterprise supported by an MS SQL Server Database:

■ In the SVRsetup.log file, "5000: Bad key name., exiting..."

■ In Microsoft SQL Server DSN Configuration, "completed with error(s):2000046," in the server field.

Solution: You used brackets in the name you gave to one or more of your Siebel Servers or to your Siebel Enterprise Server. Uninstall these and reinstall them, giving them a new name.

Problem: Siebel Server processes start, but terminate again immediately.

Solution: If Resonate Central Dispatch is installed on the Siebel Server, but the Enterprise is not configured for Resonate, Siebel programs may fail. With the Siebel Gateway running, use Server Manager to set the UseSCB parameter on this Siebel Server to FALSE.

Problem: The Siebel Server does not start after configuration.

Solution a: Verify that the Siebel Gateway was started. Start it if it was stopped.

Solution b: Verify that the values input during configuration were valid.

Solution c: Verify that you have sufficient system privileges to start the service. For more information on this subject, see Chapter 2, "Preparing for the Installation."

Problem: Siebel Server does not start and the log file shows a Central Dispatch timeout error for the server.

Solution: Increase your Central Dispatch timeout value, using the Siebel parameter SCBtimeout.

NOTE: The default setting of this parameter is 300 seconds.

To verify the current SCBtimeout parameter setting

1 From the DOS command window, enter the following command:

```
srvrmgr -g gateway address -e Siebel Enterprise name
```

where:

gateway address = the IP address of your Siebel Gateway.

Siebel Enterprise name = the alias of your Siebel Enterprise Server.

2 At the prompt, enter:

```
list parameter SCBTimeout for Server Siebel Server name
```

where:

Siebel Server name = the alias of the Siebel Server in which the components failed to start.

At this point, you will want to add more time, starting with an additional 60 seconds, to the value returned by the above procedure.

To increase the timeout value for a failed component

■ Run the srvrmgr utility from Step 1 of "To verify the current SCBtimeout parameter setting" on page 166 and at the srvrmgr prompt type:

```
change parameter SCBTimeout=new value for server Siebel Server
name
```

where:

new value = the new timeout value (in seconds).

Siebel Server name = the alias of the Siebel Server.

If, after trying this procedure, the component still does not start, increase the SCBTimeout parameter in 60 second increments up to 600. If you still experience problems, contact Siebel Technical Support.

For more information on changing parameter values, see *Siebel Server Administration Guide*.

Clustering Your Siebel Deployment for Failover 7

The purpose of this chapter is to describe how to deploy Siebel eBusiness Applications with MSCS (Microsoft Cluster Service), as certified by Siebel Systems. For a listing of Siebel-certified cluster technologies, refer to *System Requirements and Supported Platforms*.

This chapter assumes that you have read Microsoft's documentation on the installation (if your platform is Windows NT) and operation of MSCS. Under Windows 2000, MSCS is installed as an optional component of the operating system.

Clustering should be fully operational before you begin the Siebel eBusiness Applications installation process.

About Clustered Servers

Clustering servers allows you to automatically migrate and restart resources, such as Siebel Servers, between two nodes of a cluster.

A logical computer, which is a computer comprised of multiple cluster nodes, can run on only one node at any given time. Should that node fail, the clustering software can be configured to failover the service or application to the secondary node to minimize any application outage. This is comparable to an application restart. As a result, the Siebel eBusiness Application operating at the time of the failover will experience a brief interruption of service.

- All users connected to that Application Object Manager (AOM) on that Siebel Server will have to reconnect and login again. See "Components that Should be Clustered" on page 170 and Table 13 on page 174.

- If the Siebel Server was hosting a Communications Server, then your CTI toolbar will be disabled. All users will have to reconnect and login again.

Clustering is best suited to promote the availability of those components that must be accessible on a server that is not load balanced and constitute a single point of failure.

NOTE: You should not install Central Dispatch Software on the same machine where Siebel components are clustered.

In deployments for which high server availability is critical, clustering eliminates any single point of failure within the system.

Components that Should be Clustered

Consider enabling clustering on those servers on which you will operate components or server software, such as:

■ Siebel Gateway Name Server (without Central Dispatch components)

■ Siebel Servers hosting components not managed by Central Dispatch

NOTE: Most components not load balanced by Central Dispatch should be clustered. Exceptions to this are components such as Server Request Processor which can run on all servers, Business Integration Manager, Work Flow Process Manager, and Server Request Broker which can run on multiple nodes for redundancy.

■ Siebel File System

■ Siebel Database Server

NOTE: Siebel eBusiness Applications can be high availability (HA) enabled by employing both load-balancing techniques and failover clustering technologies. These technologies are complementary and mutually exclusive in a Siebel environment. Clustered Siebel object managers must be run either as a single instance or statically load-balanced.

Figure 7 shows a representative grouping of clustered components.
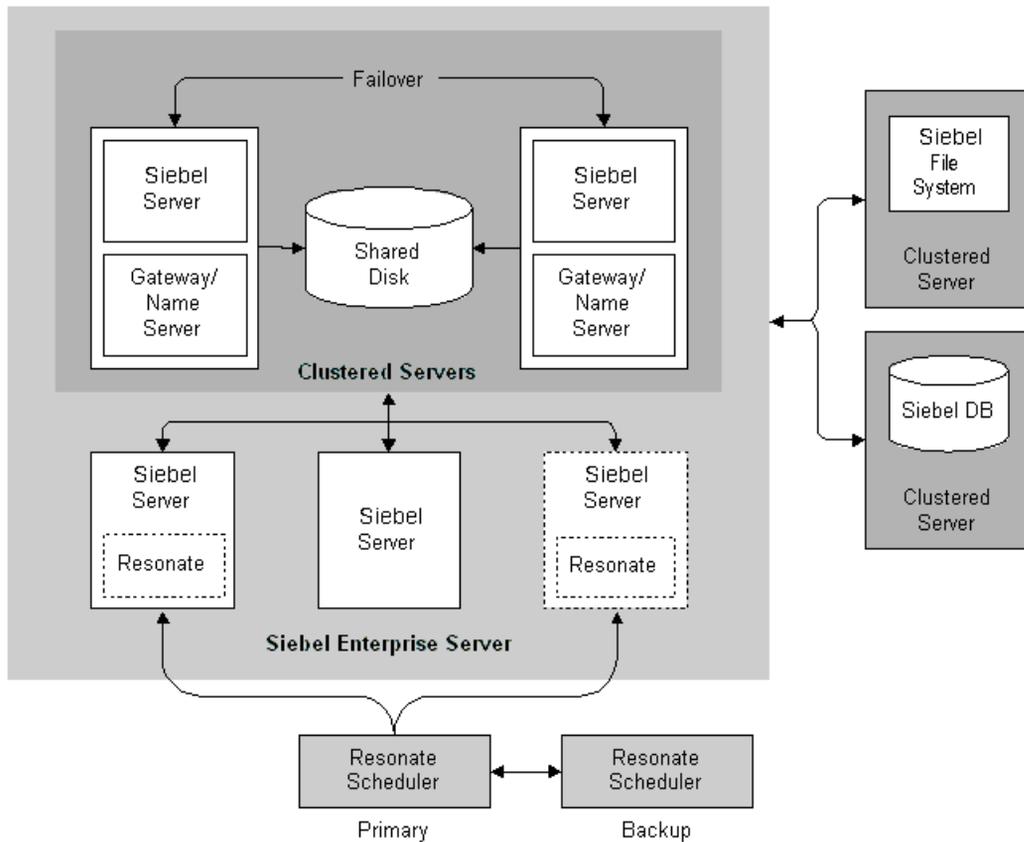
Figure 7. Clustered and Load-Balanced Servers in a Siebel Enterprise Environment

Siebel Components Supported on Clustered Solutions

Table 11 lists the components that are supported on clustered solutions within the Siebel architecture.

Table 11. Siebel Components Supported with Clustering

Component	Comments
Siebel Gateway Name Server (without Central Dispatch)	Fully supported.
Siebel Server[1]	Server components can be either clustered or load-balanced but not both. Some object managers do not support or require clustering. For details, see "Siebel High Availability Support Matrix" on page 173.
Web Server with SWSE Plug-in[2]	Fully supported for non-load balanced SWSE plug-ins only.
Siebel File System	Fully supported.
Siebel Database Server	Subject to DB vendor support.
Siebel Analytics Server	MSCS support only. For details see *Siebel Analytics Installation and Configuration Guide*
Siebel Analytics File System with Repository	MSCS support only. For details see *Siebel Analytics Installation and Configuration Guide*
Siebel third-party server components	See Table 12 on page 173.

1. If installing multiple Siebel Servers on a cluster (whether or not they are all registered with the cluster solution), select Static port allocation in the Component Port Selection dialog, then specify a unique port number for each component. Components operated by all Siebel Servers on a cluster must use unique port numbers, to make sure that they do not conflict when operating on the same node or Siebel Server.

2. When installing the SWSE with a non-standard port, provide the web server port as part of the Web Server address or hostname.

Siebel Third-Party Components with Clustering Limitations

Table 12 lists third-party components with clustering limitation.

Table 12. Third-Party Components with Clustering Limitations

Component	Comments
RDBMS Servers	As supported by the RDBMS vendor within the confines of Siebel support.
Siebel CORBA Object Manager	Not supported.
LDAP/ADSI Directory Servers	Depends on LDAP vendor. For high availability, use built-in replication if clustering is not supported by your vendor.
Central Dispatch	Not supported. For high availability, use built-in failover capability.
Universal Queuing Server	Not supported. For high availability, use built-in failover capability.
Actuate eReport Server integration with Siebel	Not supported.
Informatica	Not supported.
Documents server/ Microsoft Word Server-side integration	Not supported.
Fulcrum/Hummingbird Search Server	Not supported.
First Logic Data Quality	Not supported.
CTI hardware/switch	Not supported.
ChartWorks	Not supported.

Siebel High Availability Support Matrix

Table 13 on page 174 summarizes various Siebel functions, together with the high availability techniques that can be used with them. These are categorized as follows:

■ **Preferred.** Indicates that more than one high availability technique is supported for this function, but this is the preferred technique, and should be used wherever possible.

■ **Supported.** Indicates high availability technique is supported for this function. This technique can be used where the preferred technique is not appropriate.

■ **Blank.** Not supported.

Table 13. Siebel Function Support Matrix

Process	Clustering	Load Balancing	Software Provided Load Balancing
Communications Manager	Supported		Preferred
CORBA Object Manager	Supported		Preferred
Dynamic Assignment	Supported		
eConfigurator	Supported	Preferred	
eDocument Server			Supported
ePricer	Supported		Preferred
EAI	Supported	Preferred	Supported
EAI Object Manager	Supported	Preferred	
Email Agent	Supported		
Field Service	Supported		Preferred
File System Manager	Supported		Preferred
Interactive Assignment	Supported		Preferred
MQ Series Receiver	Supported		
Replication Agent	Supported		
Central Dispatch Scheduler		Supported	
SAP BAPI Integration	Supported		
SAP IDOC Receiver	Supported		
SAP IDOC Receiver for MQ	Supported		

Table 13. Siebel Function Support Matrix

Process	Clustering	Load Balancing	Software Provided Load Balancing
Server Request Broker	Supported		Preferred
Server Request Processor	Supported		Preferred
Siebel Marketing	Supported		Preferred
Siebel Remote[1]	Supported		
Thin Client (Object Managers)	Supported	Preferred	
Workflow Manager	Supported		

1. Make sure that the `DockConnString` parameter in the remote client configuration file is referencing the Virtual(Logical) Server Name. This must be configured properly for remote synchronization to work after a cluster failover.

Clustering Strategies

You may run the same application on two nodes, using one as the active and the other as the backup, or different applications on individual nodes, as described in the following sections.

Active-Active Configuration

In an active-active configuration, both nodes in the cluster are used. Each of them may host different instances of the same application or different applications. For example, the Siebel Database may run on one node and a Siebel Server on another, or the Siebel Gateway may run on one node and a Siebel Server on the other node.

Alternatively, one active node can host a production server and another active node can host a development or testing server. When a failover occurs, the production node fails over to the development or testing node. The development or testing environments on the secondary node are stopped and the production services are given priority.

Active-Passive Configuration

An active-passive configuration is one in which only one node is being used to host application. The other one is idled and serves as a hot backup. One of two clustered nodes acts as a standby that remains idle (passive) until a failure occurs in the active node. In this case, the previously running applications would come back on line when the passive node became active.

Choosing the Right Strategy

Both active-active and active-passive clusters are valid solutions. The main trade-offs between the two configurations are cost and performance of the active server after a failover.

Active-active clusters use all the hardware on a continuous basis, thereby offering a better return on investment. Should a failover occur, the load from the failed server would be added to the already existing load on the surviving server with the effect of overloading it and potentially degrading the performance of all applications on that server.

However, because failovers should be very infrequent and should last only a short time, this degradation is, in practice, often acceptable. Therefore, servers are often deployed on active-active clusters.

Active-passive clusters require a standby server that is used only in exceptional circumstances (failovers). Therefore, these incur additional hardware cost without providing additional capacity. The benefit of active-passive clusters lies in the fact that, even after a failover, the same level of hardware resources are available for each application, thereby eliminating any performance impact to the application. This is particularly important for performance-critical areas such as the database. In fact, the most common use of active-passive clusters is for database servers.

Clustering Guidelines

Clustering is a form of high availability (HA) system architecture designed to maximize availability of data and application services for users. Clustering creates a layer of redundancy so that when a function fails, other resources are available to take over the failed function. This process needs to be:

- Automatic—no operator intervention should be needed.

- Transparent—the users should not need to change anything.

Siebel eBusiness Applications can be deployed using a highly available architecture by employing both load-balancing techniques and failover clustering technologies.

Following the guidelines below will help promote successful failover protection in your system. However, these guidelines are in no way meant to be exhaustive or all-inclusive.

- If your platform is NT or Windows 2000, install MSCS software on each node you intend to cluster. (You must leave some nodes unclustered if you deploy Central Dispatch for load-balancing or connection brokering.)

- On the copy you made of Appendix A, "Deployment Planning Worksheets," fill out the section related to MSCS, so that you can refer to this during installation. You should have a pool of IP addresses to select from for the purpose of clustering.

■ Configure computers, disk arrays, and MSCS cluster software, making sure that cluster groups of disks have been created and made available.

■ Clusters should have at least two network/NICs. One network is normally dedicated to cluster heartbeat traffic, with the other used for general network access. The heartbeat network is not normally publicly accessible. The public network has the cluster IP addresses and carries cluster traffic, non-cluster traffic, and acts as a backup for the heartbeat traffic.

■ You should install and have running Siebel Gateway Name Server (without Central Dispatch Software).

■ You should have multiple running Siebel Servers within the same Siebel Enterprise. If you have multiple Siebel Servers running that are not clustered, these should be load balanced using Central Dispatch.

■ It is important to cluster the Siebel Database Server as it is a single point of failure. If you intend to cluster the Siebel Database Server, you should have installed it and it should be running within its own cluster node. The Siebel Database Server should be the first server to be clustered.

NOTE: You can cluster Siebel eBusiness Applications if the Siebel supported db platform has cluster support from the database vendor; see your database vendor documentation on how to cluster your database.

Clustering Requirements

On Windows platforms, Siebel eBusiness Application, supports Microsoft Cluster Services (MSCS). The minimum requirements for a cluster environment are as follows:

■ You have installed and configured a clustering software on each node to detect failure of the node, to recover, and to manage all servers as a single system. See *System Requirements and Supported Platforms* for a list of supported cluster technologies.

■ You have not installed Central Dispatch Software in a clustered environment on any nodes hosting the Siebel Gateway or the Siebel Server or any nodes that have been clustered for failover.

■ All hardware used for this purpose is cluster-certified by your vendor. Contact your hardware vendor for confirmation.

Installing Siebel eBusiness Applications with MSCS

Follow the steps below to deploy MSCS with your Siebel eBusiness Applications servers. Refer to the information that you added earlier to your copy of Appendix A, "Deployment Planning Worksheets."

Creating a Cluster Resource Group for MSCS

Each server should be hosted in a cluster resource group. Individual servers (for example, a Gateway or a File Server) can run in different resource groups. As a minimum, each cluster resource group must have the following resources:

■ Physical disk

■ IP address

■ Network name

For information on how to create a cluster resource group under MSCS, see Microsoft product documentation.

Testing the Cluster Group in MSCS Environment

Test the cluster group to make sure it will function on both nodes.

To test the cluster group

1 Select the cluster that is now online.

2 Right-click the cluster and select Move Group.

The cluster should move from the current node to the backup.

The cluster is now configured with disk, IP address, and network name, at a minimum and is ready for the installation of the Siebel software.

Clustering the Database Server with MSCS

If you intend to cluster your Siebel Database Server, follow the procedures provided by your database vendor.

Clustering the Siebel File System with MSCS

To cluster the Siebel File System, follow the steps below.

To cluster the Siebel File System

1 Using Cluster Administrator, bring the group that the Siebel File System will belong to on line on one of the nodes.

2 Using Windows Explorer, navigate to that node and create the Siebel File System directory on the shared disk resource of that group.

3 Using Cluster Administrator, create the Siebel File System resource in the group on the same node:

   a In the New Resource dialog box, specify the following values:

   ❏ Name and Description

   ❏ Resource type—select File Share

   b Click Next.

   c In the Possible Owners dialog box, make sure that both cluster nodes are listed as Possible Owners, and click Next.

   d In the Dependencies dialog box, list the Physical Disk, IP Address, and Network Name resources as resource dependencies, and click Next.

   e In the File Share Parameters dialog box, type the UNC share name for the Siebel File System. (This is the share name by which the File System will be accessed.)

   For Path, specify the full path to the File System directory you created in Step 2, including the drive letter.

   f Click Permissions to grant the necessary privileges on this share.

   g Click Finish to create the Resource, and then bring it on line.

Clustering the Siebel Gateway Name Server with MSCS

To install the Siebel Gateway, you must move the cluster group that will contain the Siebel Gateway to the machine on which you are working.

To cluster the Siebel Gateway

1 Install the Siebel Gateway on the primary node.

The Gateway must be installed on a clustered disk drive that is a resource in the same cluster resource group in which the Siebel Gateway resource will run.

For information about installing the Siebel Gateway, see Chapter 5, "Installing the Siebel Gateway."

CAUTION: When prompted during Siebel Gateway installation about whether you want the Gateway to start automatically, you must choose No. All starting and stopping of the Gateway must occur through the Cluster Administrator.

---

2 Move the cluster resource group from the first node to the second node.

3 Open a DOS command window on the second node and change the directory, as follows:

SIEBEL_ROOT\gtwysrvr\ADMIN

4 Enter:

cluster_gtwy.bat *svcpasswd*

where:

svcpasswd is the Windows OS password.

NOTE: This batch file is created by the Siebel Gateway install on the first node, at the time the first node is installed with the Siebel Gateway. This batch will be used to configure the second node instance of the Gateway Name server.

---

5 Using Cluster Administrator, create a resource for the Siebel Gateway service within the resource group previously created for the Gateway:

a Use the following parameters:

```
Resource Type: Generic Service

Service Name: gtwyns

Dependencies: Physical Disk, Network Name, IP Address
```

> **NOTE:** The service name must match the name used in the Windows registry under regedit > HK_LOCAL_MACHINE > SYSTEM > Current Control Set > Services.

b Click Use Network Name for computer name.

6 Using Cluster Administrator, test failover by switching the SiebSrvr between cluster nodes.

To uninstall a clustered Siebel Gateway with MSCS

1 Switch to node 1.

2 Open a command prompt session on the same node.

3 Navigate to the \BIN subdirectory of the Siebel Gateway Name Server installation directory.

4 Run the rm_gtwy.scm script on node 2 to start the Siebel Configuration Wizard.

5 Make sure that the Siebel Gateway is running on the primary node, then follow the standard uninstallation procedures. For instructions, see Chapter 18, "Uninstalling Siebel eBusiness Applications."

6 To uninstall the second node for Siebel Gateway Name Server:

a Open a command prompt session on the same node.

b Navigate to the \BIN subdirectory of the Siebel Gateway Name Server installation directory.

c Run the rm_gtwy.scm script to start the Siebel Configuration Wizard.

Clustering the Siebel Server with MSCS

Follow the procedure below to cluster your Siebel Servers unless your database is Oracle and you are configuring an active-active cluster, as discussed under "Active-Active Configuration" on page 176. In the latter case, see "Active-Active Server Clustering With Oracle Database" on page 187 for instructions.

NOTE: If installing multiple Siebel Servers on a cluster (whether or not they are all registered with the cluster solution), select Static port allocation in the Component Port Selection dialog, then specify a unique port number for each component. Components operated by all Siebel Servers on a cluster must use unique port numbers, to ensure that they do not conflict when operating on the same node or Siebel Server.

To cluster the Siebel Server with MSCS

1 Install the Siebel Server on the primary node.

The Siebel Server must be installed on a clustered disk drive that is a resource in the same cluster resource group in which the Siebel Server resource will run.

For information, see Chapter 6, "Installing the Siebel Server."

CAUTION: When configuring the Siebel Server, do *not* answer, "Yes," to the prompt on the Co-located Siebel Gateway Name Server screen! If you select this option, the Configuration Wizard uses the physical machine name of the node on which installation is being performed. Instead, leave this check box blank and specify the logical host name on the Gateway Name Server Hostname screen.

2 Move the cluster resource group from the first node to the second node.

3 Open a DOS command window on the second node and navigate to the drive that belongs to the cluster resource group in which the Siebel Server was installed; for example:

```
I:\SIEBEL_ROOT\siebsrvr\ADMIN
```

4 Enter:

cluster_srvr.bat *svcpasswd*

where:

svcpasswd is the Windows OS password.

> **NOTE:** This batch file is created at the time the first node is installed with the gateway. It will configure the second node instance of the Gateway Name server.

5 Using Cluster Administrator, create a resource for the Siebel Server service within the resource group previously created for the Siebel Server:

a Use the following parameters:

Resource Type: Generic Service

Service Name: *siebsrvr_Enterprise_Name_hostname*

Dependencies: *Physical Disk, Network Name*, *IP Address, Gateway Service* (if the Siebel Server is in the same resource group)

> **NOTE:** The service name must match the name used in the Windows registry under: regedit > HK_LOCAL_MACHINE > SYSTEM > Current Control Set > Services.

b Click Use Network Name for computer name.

This concludes the procedure for Windows NT users.

6 If your platform is Windows 2000, launch Server Manager in command line mode:

> **NOTE:** Switch back to the first installed node before performing this step. You must do this while the server is running on the first installed node.

a Enter the following command:

```
srvrmgr /e /g /u /p
```

where:

`e` = the name of the Enterprise Server to which this cluster resource group belongs.

`g` = either the cluster group host name for the Siebel Gateway, if the Gateway was clustered, or the machine name for the Siebel Gateway for this Enterprise Server.

`u` = Siebel Administrator user name, for example, `sadmin`.

`p` = Siebel Administrator password.

b Set the proper server name by entering the following command:

```
change param ServerHostAddress = virtualhost_name for server
logical_Siebel_Server_Name
```

where:

virtualhost_name is the name assigned to the logical clustered server constituted of two or more physical servers.

7 Using Cluster Administrator, test failover by switching the SiebSrvr between cluster nodes.

To uninstall a clustered Siebel Server in MSCS environment

1 Make sure that the Siebel Server is running on the primary node, then follow the standard uninstallation procedures. For instructions, see Chapter 18, "Uninstalling Siebel eBusiness Applications."

NOTE: If the Siebel Server is not running on the primary node, you must switch it there.

2 To uninstall the second node for Siebel Server:

a Open a command prompt session on the same node.

b Navigate to the \BIN subdirectory of the Siebel Server installation directory.

    c Execute the SiebCTL.exe utility using the following command:

```
siebctl -d -S siebsrvr -i "Siebel Enterprise Name_Siebel Server
Name"
```

where:

Siebel Enterprise Name is the name of the Enterprise Server into which the Siebel Server was installed.

Siebel Server Name is the name of the Siebel Server.

For example, siebctl -d -S SiebSrvr -i MerlinEnt_MerlinSrv

NOTE: Make sure spacing before and after each parameter is correct. The -i parameter is required for removing the Siebel Server on the second node.

3 Uninstall the first node following the standard uninstallation procedures. For instructions, see Chapter 18, "Uninstalling Siebel eBusiness Applications."

To troubleshoot a clustered Siebel Server

1 Make sure the Siebel Server can be brought online on each node in the cluster using the cluster manager for your clustering solution.

2 Using Siebel Server Manager, verify all enabled components are either running, online, or available.

NOTE: Depending upon the number of Siebel components that are enabled on a Siebel Server, the resources (CPU and memory) required to start up a Siebel Server can be substantial. Therefore, avoid starting several Siebel Servers on the same node concurrently.

3 Verify that you can run the components on every node on which the Siebel Server can be made online. For example, run EIM on an empty batch, or run a Workflow Process using the Workflow Simulator.

4 If you are not able to start a component on a node, examine the Siebel Server log file (`$SIEBEL_ROOT/enterprises/`*enterprise-name*`/`*siebel-server-name*`/` `logs/`*enterprise-name.siebel-server-name.*`log`) as well as the related log files for the component.

5 If you have installed Siebel Remote, verify the following:

- The column APP_SERVER_NAME in the table S_NODE contains the Virtual Machine name for all Remote Clients. Test this by performing a database extract and then querying the S_NODE table.

- The DockConnString parameter in the remote client cfg file is referencing the Virtual Server Name. This must be configured properly to ensure remote synchronization works after a cluster failover.

- When a Siebel Remote Server is made active on a node, the hostname remains consistent. If possible, have a Siebel Remote user defined and extracted prior to the test and perform synchronization for the remote user on each node the Siebel Remote Server is made online.

Active-Active Server Clustering With Oracle Database

If your database is Oracle and you will be clustering the Siebel Server, using active-active configuration, use the following procedure.

To cluster the Siebel Server in active-active configuration

1 Install the Siebel Server on the primary node.

This creates an ODBC datasource called `SiebSrvr_siebel`.

2 Move the cluster resource group from the first node to the second node.

3 From the first installed node, open a DOS command window and navigate to the drive that belongs to the cluster resource group in which the Siebel Server was installed; for example:

`E:\`*SIEBEL_ROOT*`\siebsrvr\ADMIN`

4 Enter:

```
cluster_srvr.bat svcpasswd
```

where:

svcpasswd is the Windows OS password.

NOTE: This batch file is created at the time the first node is installed with the gateway. It will configure the second node instance of the Gateway Name server.

---

5 Using Cluster Administrator, create a resource for the Siebel Server service within the resource group previously created for the Siebel Server.

    a Use the following parameters:

    Resource Type: Generic Service

    Service Name: *siebsrvr_Enterprise_Name_hostname*

    Dependencies: `Physical Disk, Network Name`, `IP Address, Gateway Service` (if the Siebel Server is in the same resource group)

NOTE: The service name must match the name used in the Windows registry under: `regedit > HK_LOCAL_MACHINE > SYSTEM > Current Control Set > Services`.

---

    b Click Use Network Name for computer name.

6 Install the Siebel Server on the second node in the second cluster resource group, giving it a host name (for example, NSIEBSRVR2).

This second installation overwrites the previous ODBC datasource `Siebsrvr_siebel` to the new location.

7 Switch the second cluster resource group from the second node back to the first.

8 Open a DOS command window and navigate to the drive on which you created that cluster resource group; for example:

```
I:\SIEBEL_ROOT\siebsrvr\ADMIN
```

9 Using Cluster Administrator, create a resource for the Siebel Server service within the resource group previously created for the Siebel Server:

    a Use the following parameters:

    Resource Type: Generic Service

    Service Name: *siebsrvr_Enterprise_Name_hostname*

    Dependencies: `Physical Disk, Network Name, IP Address, Gateway Service` (if the Siebel Server is in the same resource group)

    NOTE: The service name must match the name used in the Windows registry under: regedit > HK_LOCAL_MACHINE > SYSTEM > Current Control Set > Services.

---

    b Click Use Network Name for computer name.

10 Enter:

    cluster_srvr.bat *svcpasswd*

    where:

    svcpasswd is the Windows OS password.

NOTE: This batch file is created at the time the first node is installed with the gateway. It will configure the second node instance of the Gateway Name server.

---

11 Launch the ODBC Data Source Administrator and click the System DSN tab.

12 Add a new ODBC system DSN datasource, giving it a different name; for example, SiebSrvr_NSIEBSRVR2.

    When finished, close out of the ODBC Data Source Administrator utility.

13 Launch Server Manager in command line mode and enter the following command:

```
change param connect = new system DSN datasource name for server
first_cluster_resource_host name
```

where:

first_cluster_resource_host name = the name you gave the host in Step 6 above.

For more information about using Server Manager, see the *Siebel Server Administration Guide*.

14 Switch the cluster resource group from the first node to the second.

15 Using the drive described in Step 3 on page 187 as an example, navigate to E:*SIEBEL_ROOT*\siebsrvr\temp\ and make a backup copy of SiebelOdbc.dsn by saving it with a different name.

16 Edit SiebelOdbc.dsn by globally replacing all references to SiebSrvr_siebel to the new system DSN datasource name (for example, SiebSrvr_NSIEBSRVR2) and save the file.

17 Open a DOS command window and enter:

```
regedit SiebelOdbc.dsn
```

18 Exit DOS.

Clustering Web Servers with MSCS

Cluster your Web servers according to the procedures provided by your Web server vendor.

NOTE: Load balancing may be a more efficient use of resources depending on the architecture of your enterprise. To reduce total cost of ownership, it is recommended that you load balance Web servers as opposed to clustering.

Clustering Siebel Web Server Extension (SWSE) Plug-Ins for IIS

To cluster your SWSE plug-ins, use the following procedure.

To cluster Siebel Web Server Extensions with MSCS

1 Designate one Web server in the cluster as the primary server.

You must then make all changes to the Web site on this primary server.

2 Synchronize all the other servers in the cluster by using the following command:

```
%systemroot%\system32\inetsrv\iissynch secondary server
```

Example:

```
C:\winnt\system32\inetsrv\iissync SVCLT2
```

3 Install the Siebel Web Server Extension according to the instructions in Chapter 14, "Installing the Siebel Web Server Extension," but with the following differences:

- The installation directory you specify for the SWSE must be on a clustered disk drive.

- If you clustered the Siebel Gateway, you must use the IP address for a clustered Gateway.

4 Switch the Web server resource group to node 2.

5 Rename the original SWSE installation folder and install the SWSE a second time on node 2, using the same parameters as you did for the initial installation.

6 Cluster the Web site:

a Set up a default Web site according to the vendor documentation. (This default site is created automatically when you install IIS Web Server.)

b Modify the default Web site to respond only to the cluster IP address for the cluster group containing IIS, using Internet Service Manager:

❑ Select the primary Web server.

❑ Select Default Web Site > Properties.

❑ Select the Web Site tab.

❑ Set the cluster group IP address.

CAUTION: No other sites can be using this IP address or cluster failover may not work.

c Verify that all Siebel eBusiness Applications are installed to the default Web site.

CAUTION: When installing the SWSE, provide the Web server port as part of the Web Server address/hostname if it is a non-standard port.

7 Synchronize the IIS Web Server sites on the two servers, using the command in Step 2 on page 191.

8 Using IIS, stop the default Web site and create a new MSCS cluster resource group, as described in the MSCS product documentation with the following parameters:

```
Resource Type: IIS Server Instance
```

■ `Type: WWW`

■ `IIS Server: Default Web Site`

■ `Dependencies: Physical Disk, IP Address, Network Name`

To uninstall a clustered SWSE

1 Follow the standard uninstallation procedures for uninstalling *Siebel Web Server Extensions Full Uninstall* on node 1. For instructions, see Chapter 18, "Uninstalling Siebel eBusiness Applications."

2 Switch to node 2.

3 Select the copy of the SWSE directory that you made in Step 5 on page 191 of "Clustering Siebel Web Server Extension (SWSE) Plug-Ins for IIS" and give it the name of the original installation directory.

4 Follow the standard uninstallation procedures for uninstalling *Siebel Web Server Extensions Full Uninstall* on node 2.

Testing and Troubleshooting Clustering

After you have installed the Siebel Gateway and Siebel Server successfully, use the Cluster Manager program to start and stop the Siebel Server on each node of the cluster.

NOTE: Depending on the number of Siebel components on a Siebel Server, the resources required to start a Siebel Server can be substantial. Therefore, avoid starting (or bringing online) several Siebel Servers on the same node concurrently.

To verify that Siebel application and the clustering technologies you have implemented are operating correctly

1 Test each Siebel Server by bringing each node in the cluster online and validate that all enabled components are either *running*, *online*, or *available*.

2 Test that each component runs on every node on which the Siebel Server is active. For example, run EIM on an empty batch, or run a Workflow Process using the Workflow Simulator.

   NOTE: If a component on a node will not start, examine the Siebel Server log file (*SIEBEL_ROOT**enterprises**enterprise-name**siebel-server-name*\logs*enterprise-name.siebel-server-name*.log) as well as the log files for the component.

3 If Siebel Remote is installed, check the column APP_SERVER_NAME in the S_NODE table to make sure it contains the Virtual Machine name for all Remote Clients. Test this by performing a database extract and then querying the S_NODE table.

4 Verify that when a Siebel Remote Server is activated on a node, the hostname remains consistent. If possible have a Siebel Remote user defined and extracted prior to the tests and perform synchronization for the remote user on each node the Siebel Remote Server is made online on.

Creating the DB2 Universal Database for Windows and UNIX   8

This chapter is written for database administrators who will create the IBM DB2 UDB database and want to optimize it for Siebel eBusiness Applications. The chapter provides an overview of Siebel Database layout, sizing, and configuration recommendations for the Siebel Database.

The optimization and creation of the Siebel Database consists of several tasks, described in Table 14.

Table 14. Database Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Create a local user, with administrative privileges, as the DB2 instance owner for the domain of the database administrator.
Database Administrator	**2** Verify that the system administrator has performed Step 1.
	3 Verify that the DB2 client is installed. See "Verifying Installation of the DB2 UDB Client" on page 196.
	4 Review the database layout guidelines and lay out your database accordingly. See "Database Layout Guidelines" on page 196.
	5 Review the recommended DB2 parameter settings. See "DB2 Database Configuration Guidelines" on page 201.
	6 Create your database instance. See "Creating the Database" on page 209 and also Appendix C, "Sample Database Creation Scripts."

Verifying Installation of the DB2 UDB Client

When you use DB2 UDB, the DB2 UDB Application Development Client must be installed on your database server. To verify, navigate to the appropriate directory on the database server and check that the DB2 UDB Application Development Client is installed. For current versions of application development client components, see *System Requirements and Supported Platforms*.

If the DB2 Application Development Client is not installed, you must install it. For more information, refer to the relevant IBM documentation.

Database Layout Guidelines

As with most client-server applications, the overall performance of Siebel eBusiness Applications is largely dependent on the I/O performance of the Database Server. To promote optimal I/O performance, it is critical that the tables and indexes in the database be arranged across available disk devices in a manner that evenly distributes the I/O load.

The mechanism for distributing database objects varies by RDBMS, depending on the way in which storage space is allocated. Most databases can force a given object to be created on a specific disk.

Using a Redundant Disk Array

A redundant array of independent disks, or RAID, can provide large amounts of I/O throughput and capacity, while appearing to the operating system and RDBMS as a single large disk (or multiple disks, as desired, for manageability). The use of RAIDs can greatly simplify the database layout process by providing an abstraction layer above the physical disks while promoting high performance.

Planning the Distribution of Your Database Objects

Regardless of the RDBMS you implement and your chosen disk arrangement, be sure that you properly distribute the following types of database objects:

■ Database log or archive files

■ Temporary work space used by the database

■ Tables and indexes

In most implementations, the Siebel tables listed in Table 15 and their corresponding indexes are either the most commonly used, or they can be large in some or in all deployments. For example, the tables S_EVT_ACT, S_CONTACT, and S_ORG_EXT are large in all enterprise-level deployments of Siebel eBusiness Applications. These tables and indexes should be separated across devices. As a general rule, indexes should be in a different tablespace and, if possible, on different physical devices from the tables on which they are created.

Table 15. Most Frequently Used and Largest Siebel Tables

Table Names	
S_ACCNT_CHRCTR	S_INVOICE
S_ACCNT_CO_MSTR	S_INVOICE_ITEM
S_ACCNT_POSTN	S_INV_LGR_ENTRY
S_ADDR_ORG	S_OPTY_POSTN
S_ADDR_PER	S_OPTY_PROD
S_ASSET	S_OPTY_TERR
S_CALL_LST_CON	S_OPTY_POSTN
S_CON_CHRCTR	S_ORG_EXT
S_CON_TERR	S_ORG_TERR
S_ACCNT_CHRCTR	S_PARTY
S_CRSE_TSTRUN	S_PARTY_PER
S_CRSE_TSTRUN_A	S_PARTY_REL
S_CS_RUN	S_PARTY_RPT_REL
S_CS_RUN_ANSWR	S_POSTN_CON
S_CTLGCAT_PATH	S_PROC_REQ
S_CYC_CNT_ASSET	S_PROD_BASELINE

Table 15. Most Frequently Used and Largest Siebel Tables

Table Names	
S_DNB_CON_MRC	S_PROD_CONSUME
S_DNB_ORG	S_PROD_SHIPMENT
S_DNB_ORG_SIC	S_PROD_TARGET
S_DNB_UPDATE	S_QUOTE_ITEM
S_DOCK_INIT_ITEM	S_SRM_REPLY
S_DOCK_TXN_LOG	S_SRM_REQUEST
S_DOCK_TXN_LOGT	S_SRM_REQ_PARAM
S_DOCK_TXN_SET	S_SRV_REQ
S_DOCK_TXN_SETT	
S_ESCL_ACTN_REQ	
S_ESCL_LOG	
S_ESCL_REQ	
S_EVT_ACT	
S_EXP_ITEM	
S_EXP_RPT	
S_EXP_RPT_APPR	
S_IC_CALC	
S_IC_CALC_IT	
S_IC_CMPNT_EARN	
S_IC_TXN	
S_IC_TXN_IT	
S_IC_TXN_POSTN	
S_INVC_ITM_DTL	
S_INVLOC_ROLLUP	

If you use Siebel Enterprise Integration Manager (EIM) frequently, you may want to put the interface tables (names starting with EIM_) on different devices from the Siebel base tables, because both are accessed simultaneously during EIM operations.

NOTE: Siebel tablespaces on DB2 UDB should be database-managed tablespaces (DMS) rather than system-managed tablespaces (SMS).

Reorganizing Fragmented Tables and Indexes

It is recommended that you use the REORGCHK utility to reorganize tables and indexes that have a tendency to become fragmented.

No strict guidelines can be offered as to which tables and indexes may be fragmented due to the variety in application and customer operation variables at any given customer site. However, database administrators (DBAs) should pay attention to the status of large or heavily used tables, since fragmentation of these tables can affect performance significantly. (For a list of these Siebel tables, see Table 15 on page 197.)

It is not a good idea to reorganize S_ESCL_LOG, S_DOCK_INIT_ITEM, S_ESCL_ACTN_REQ, S_EVT_ACT, S_OPTY_POSTN, s_OPTY_TERR, S_ORG_EXT, S_APSRVR_REQ, and all S_DOCK_INITM_%% tables (where % is a digit), because these tables are defined to be in append mode.

To reorganize tables

1 Run REORGCHK on heavily used tables, and then review the resulting reports and extract list of any fragmented objects.

2 Based on the results of REORGCHK, reorganize any tables, as needed, by running REORG TABLE.

3 After table reorganization, update statistics by using the runstats utility on any reorganized tables with the following minimum parameters:

```
runstats on table tablename with distribution and detailed indexes
all shrlevel change
```

You may add other parameters as required, but use the `shrlevel change` parameter to allow concurrent access to your tables while `runstats` executes.

CAUTION: Because the `runstats` utility overwrites statistics loaded by Siebel applications, if you use `runtstats`, you should always execute `loadstats.sql` afterwards, using either DB2 CLP or `odbcsql`. Otherwise, valuable statistics will be lost.

To execute loadstats.sql using odbcsql

■ Enter the following command:

```
odbcsql /s DATASOURCE NAME /u username /p password /v separator /
<siebsrvr_root>/dbsrvr/db2udb/loadstats.sql TABLEOWNER NAME
```

Logical Device Layout

You can use tablespaces to place objects on logical containers, creating tablespaces to span one or more containers. Tablespaces can be used to place objects on multiple physical containers to promote parallel I/O. Spreading the data and index information across several containers (physical devices) can improve the performance of queries.

Mirroring

At a minimum, the transaction log should be mirrored to guarantee database recovery in the event of a single device failure. The instance home directory must be mirrored, if resources are available. Hardware or operating system mirroring generally provides the best performance.

DB2 Database Configuration Guidelines

This section provides guidelines for obtaining optimum performance from a DB2 Universal Database. These guidelines will be useful to a broad segment of customers. However, you should choose values for the parameters described in this guide that reflect conditions in your particular environment. See your IBM DB2 technical documentation for additional information.

Increasing the Number of ODBC Statement Handles

DB2 UDB can quickly run out of ODBC statement handles, depending on the number of business objects your Enterprise uses. Because it is difficult to know how many business objects your users actually use, you should increase this number automatically each time you install the DB2 UDB client, or when rebinding database utilities.

It is recommended that you increase the number of CLI packages to six by rebinding the CLI packages, using the special DB2 CLIPKG bind option.

To rebind the CLI packages

1 Navigate to the sqllib/bnd in the DB2 instance home directory using a method appropriate to your operating system.

On most Windows machines, navigate to C:\sqllib\bnd from a DB2 Command window.

2 Connect to the DB2 UDB database.

3 Enter the following command:

```
db2 bind @db2cli.lst blocking all grant public clipkg 6
```

For more information about the DB2 bind command and the CLIPKG option, see *DB2 UDB Administration Guide.*

DB2 Database Manager Configuration Parameters

You can set the database configuration parameters using the `update database manager configuration` command of the DB2 Command Line Processor or using the DB2 Control Center.

NOTE: See the IBM DB2 technical documentation for more information on modifying the database configuration parameters.

Table 16 describes DB2 database manager configuration parameters that differ from the default settings. Set these parameters for each DB2 instance. Use the configuration information below for the listed parameters. For parameters not listed in this table, accept the default settings.

Table 16. DB2 Database Manager Configuration Parameters

Parameter	Explanation	Setting/Comment
SHEAPTHRES	Sort heap threshold (4 KB)	100000 Deployments with 3,000 or more concurrent users and using over 5 GB of RAM can increase it to 300000.
DIR_CACHE	Directory cache support	YES
ASLHEAPSZ	Application support layer heap size (4 KB)	1024
RQRIOBLK	Max. requester I/O block size (bytes)	65535
MON_HEAP_SZ	Database monitor heap size (4 KB)	128 (minimum)
QUERY_HEAP_SZ	Query heap size (4 KB)	16384
KEEPDARI	Keep DARI process	YES
MAXAGENTS	Max. number existing agents	1000 (minimum)
NUM_INITAGENTS	Initial number agents in pool	10

Table 16. DB2 Database Manager Configuration Parameters

Parameter	Explanation	Setting/Comment
NUM_POOLAGENTS	Number of agents in the agent pool kept active at all times	80
MAX_COORDAGENTS	Max. number coordinating agents	MAXAGENTS
INDEXREC	Index re-creation time	RESTART
MAX_QUERYDEGREE	Max. query degree of parallelism	1
INTRA_PARALLEL	Enable intra-partition parallelism	NO

DB2set Parameters

Use the db2set command to set the parameters (for example, db2set DB2_RR_TO_RS = YES) referenced in Table 17.

(Under Windows, you access this through the DB2 Command Line Processor, accessible from the DB2 for Windows 2000 or NT client.)

Table 17. db2set Parameters

Parameter	Explanation	Setting
DB2_HASH_JOIN	Turns off hash joins in optimizer.	NO
DB2_RR_TO_RS	Improves DB2 performance with Siebel eBusiness Applications. *Set to YES only in production environment servers.*	YES
DB2_MMAP_WRITE	Recommended setting only; you should evaluate this setting for your particular configuration and environment.	OFF
DB2_MMAP_READ	Recommended setting only; you should evaluate this setting for your particular configuration and environment.	OFF
DB2_CORRELATED_PREDICATES	When set to YES, the optimizer is able to determine whether predicates in a query are related, which permits DB2 to calculate the filter factor more accurately.	YES
DB2_INDEX_2BYTEVARLEN	If you use DB2 *v7*, set this parameter to ON. Otherwise, you will not be able to create indexes with columns greater than 255 bytes. You do not need to set this parameter for DB2 *v8* because DB2 *v8* supports type-2 indexes.	ON
DB2_PIPELINED_PLANS	Tells the DB2 optimizer to favor pipeline execution plans—plans that are left deep and have no temporary result sets.	ON
DB2_INTERESTING_KEYS	Limits the number of execution plans generated by the DB2 optimizer.	ON

Table 17. db2set Parameters

Parameter	Explanation	Setting
DB2_PARALLEL_IO	Useful when using RAID devices. For more information, see your DB2 vendor documentation.	ON
DB2_STRIPED_CONTAINERS	Useful when using RAID devices. For more information, see your DB2 vendor documentation.	ON
EXTSHM	This parameter only applies to AIX. Use this parameter only if you need to run 32-bit applications where more than 11 shared memory segments per process are required and you need shared memory of the shmat variety. Shmat is PowerPC hardware segment related, therefore memory is more efficiently managed and protected in all segments.For more information, see "EXTSHM" on page 205.	ON
DB2ENVLIST	When starting a DB2 UDB server and running EXTSHM, EXTSHM must be part of the DB2 environment. This parameter must be set when the database is created.	EXTSHM
DB2_NO_PKG_LOCK	To bind the Siebel package with siebbind, this package must be off.	OFF

EXTSHM

This parameter must be set when both the DB2 UDB and DB2 UDB EEE databases are created, and included in the script that starts them.

You should also include this parameter in the script that starts the DB2 client.

Additionally, this line must appear in the `sqllib/db2profile` for the DB2 UDB EEE server.

NOTE: After changing any of these settings, you must perform a `db2stop/db2start` to implement the changes in your DB2 database.

DB2 Database Configuration Parameters

The database configuration parameters can be set using the `update database configuration` command of the DB2 Command Line Processor or using the DB2 Control Center.

NOTE: See the IBM DB2 technical documentation for more information on modifying the database configuration parameters.

Table 18 describes DB2 database configuration parameters that differ from the default settings. However, these are guidelines only.

Set these parameters for *each* database within an instance on which you run your Siebel application. Use the configuration information below. For other parameters, accept the default settings.

Table 18. DB2 Database Configuration Parameters

Parameter	Explanation	Setting
DFT_DEGREE	Degree of parallelism (1 = turn query parallelism off)	1
DFT_QUERYOPT	Default query optimization class	3
DBHEAP	Database heap (4 KB)	7429(32bit) 10000(64bit)
CATALOGCACHE_SZ	Catalog cache size (4 KB)	5558(32bit) 8000(64bit)
LOGBUFSZ	Log buffer size (4 KB)	256 (NT);

Table 18. DB2 Database Configuration Parameters

Parameter	Explanation	Setting
UTIL_HEAP_SZ	Utilities heap size (4 KB)	5000(32bit) 10000(64bit)
LOCKLIST	Max. storage for lock list (4 KB)	25000 (The setting should never be smaller than this, but may be increased.)
APP_CTL_HEAP_SZ	Max. applications control heap size (4 KB). Controls the number of users that can be included within one connection to the database.	900 For customers using Siebel connection pooling feature, for best scalability, increment the parameter by 1200 for each 10 users per connection.
SORTHEAP	Sort list heap (4 KB) Lower values should be used for development environments; higher values for production. However, increasing this value can lead to insufficient memory on the DB server. Also this parameter may need to be set below the recommended range if you have a high number of Siebel users. Therefore, you need to always monitor DB server memory and performance to find the best setting for your environment.	1000–5000
STMTHEAP	SQL statement heap (4 KB)	8192
STAT_HEAP_SZ	Statistics heap size (4 KB)	14000(32bit) 16000(64bit)
MAXLOCKS	Percentage of lock lists per application	20(32bit) 30(64bit)
LOCKTIMEOUT	Lock timeout (sec.)	300
CHNGPGS_THRESH	Changed pages threshold	30

Table 18. DB2 Database Configuration Parameters

Parameter	Explanation	Setting
NUM_IOCLEANERS	Number of asynchronous page cleaners	Number of CPUs
INDEXSORT	Index sort flag	YES
SEQDETECT	Sequential detect flag	YES
DFT_PREFETCH_SZ	Default prefetch size (4 KB)	32
LOGRETAIN	Sequential or circular log files.	RECOVERY Set this parameter to RECOVERY in a *production environment.* Otherwise, you will lose data should your database crash. When LOGRETAIN is set to RECOVERY, you must also activate USEREXIT or implement another method to manage the archived logs, so that LOGPATH does not fill up.
MAXAPPLS	Maximum number of active applications.	Based on twice the number of users.
AVG_APPLS	Average number of active applications.	Depends on the environment.
MAXFILOP	Maximum DB files open per application.	500
LOGFILSIZ	Log file size (4 KB).	20000
LOGPRIMARY	Number of primary log files.	25-50 The value of LOGPRIMARY and LOGSECOND together may not exceed 128.
LOGSECOND	Number of secondary log files.	Up to 103 The value of LOGPRIMARY and LOGSECOND together may not exceed 128.

Table 18. DB2 Database Configuration Parameters

Parameter	Explanation	Setting
SOFTMAX	Percent log file reclaimed before soft checkpoint.	80
APPLHEAPSZ	Default application heap (4 KB).	2500
PCKCACHESZ	Package cache size (4 KB).	40000
NUM_IOSERVERS	Number of disks on which the database resides.	Number of disks

Creating the Database

To help you automate database instance creation, Siebel Systems provides a sample script, located in Appendix C, "Sample Database Creation Scripts," that you can edit to reflect your deployment's requirements to create the database objects.

It is recommended that you use a small, non-production environment for testing purposes.

After you install the Siebel Database Server files on the Siebel Server machine (described in Chapter 9, "Installing the Siebel Database Server for DB2 UDB"), you may modify the database table and index creation scripts to specify the file group names you created for Siebel tables and indexes. For more information, see "Overriding Default Storage Parameters" on page 217.

Capacity Planning

One of the most important factors to determine about your database is its overall size. In your planning, you will need to allocate space for system storage, temporary tablespace, log files, and other system files required by DB2, and space for Siebel data and indexes. If you allocate too little space for your system, performance will be affected and, in extreme cases, the system itself may be halted. If you allocate too much, you waste space.

The space needed by DB2 will vary primarily based on the total number and types of users supported. It is recommended that you consult the IBM DB2 technical documentation for more information on these requirements.

The space required for Siebel data and indexes will vary depending on what Siebel functionality you implement and the amount and nature of data supported. At a minimum, Siebel 7 requires that you size your DB2 database to between 1 and 1.5 GB.

The process for making accurate database size calculations is a complex one involving many variables. The following guidelines will assist you in the process:

- Determine the total number, and types, of users of Siebel eBusiness Applications (for example, 500 sales representatives and 75 sales managers).

- Determine the Siebel functionality that you will implement and the entities required to support them. Typically, the largest entities are as follows:

  - Accounts

  - Activities

  - Contacts

  - Forecasts

  - Opportunities

  - Service Requests

- Estimate the average number of entities per user (for example, 100 accounts per sales representative) and calculate an estimated total number of records per entity for your total user base.

- Determine the estimated data sizes for the largest entities by using standard sizing procedures for your specific database, and *Siebel Data Model Reference*. Calculate the average record size per entity and multiply by the total number of records. Typically, these entities span multiple physical tables, all of which must be included in the row size calculation.

- Add additional space for the storage of other Siebel data. A rough guideline for this additional amount would be one-half the storage required for these key entities.

NOTE: Indexes typically require approximately the same amount of space as data.

- Allow for a margin of error in your total size calculation.

- Factor growth rates into your total size calculation.

- Create separate additional tablespaces and containers, preferably on separate disk devices, to better manage large or contentious tables and indexes.

Physical Device Layout

To make sure that your database performs well, create at least one container for each available logical or physical disk device. Data and log devices should reside on different disk spindles to reduce contention between random and serial I/O. All DB2 devices should reside on different disk spindles to minimize I/O contention. When this approach is not possible, spread devices containing database objects that are often used together across different spindles. These objects include tables, their indexes, and commonly joined tables.

NOTE: If you are using a high performance disk subsystem, you might choose a different physical device layout. Consult your DBA and the disk subsystem vendor for the optimal setup.

Allocating Sufficient DB2 Database Log Space

You must create database transaction logs large enough to support various large transactions used by the Siebel software. On DB2, three parameters affect the amount of log space reserved:

LOGFILSIZ. The size of the log file.

LOGPRIMARY. The number of log files to preallocate and use.

LOGSECOND. Extra log files that are allocated only if they are needed for a large transaction.

To run on a large system, create approximately 1 GB of total log space. It is recommended that you create 25-50 primary log files of 32 MB each. This is accomplished by setting the LOGFILSIZ database configuration parameter to 20000 and the LOGPRIMARY parameter to 25-50. In addition, to support very large transactions, set the LOGSECOND parameter to 128 minus the value of LOGPRIMARY.

Smaller systems may use less log space.

Log File Archiving

The database parameter LOGRETAIN is not enabled by default; this parameter may be important to you. When LOGRETAIN is set to OFF, the log files are reused in a circular fashion. This means that roll-forward recovery cannot be used. When LOGRETAIN is set to RECOVERY, all log files are kept on the system for the administrator to archive and delete.

If LOGRETAIN is set to NO, you can do only backup (restore) recovery and cannot do roll-forward recovery. This may have implications for your disaster recovery process related to your production Siebel Database Servers.

It is recommended that your database administrator (DBA) review the setting for this parameter.

Activating Bufferpools

A bufferpool is an area of main system memory that is used for holding pages of data that have been fetched from the tablespace. In DB2, each tablespace is associated with a bufferpool. Adding more space to a bufferpool will enhance the performance of the database.

You must have at least three bufferpools for the Siebel tablespaces. You can use the default bufferpool (called IBMDEFAULTBP) to buffer data pages from all the Siebel 4 KB tablespaces.

You must also create additional bufferpools with 16 KB and 32 KB page sizes for sorting and other SQL processing. A sample configuration is shown in Table 19.

Table 19. Sample Bufferpool Configuration

Bufferpool	Suggested Bufferpool Size	Page Size
IBMDEFAULTBP	50% of available memory	4 KB
BUF32K	32 MB	32 KB
BUF16K	25% of available memory	16 KB

Different operating systems support different maximum amounts of DB2 addressable memory. Depending on the memory configuration of a given server, the suggested pool sizes for IBMDEFAULTBP and BUF16K bufferpools may exceed these maximums, requiring you to allocate a smaller percentage. To determine optimal bufferpool sizes, use DB2 monitoring features.

Creating Tablespaces

The Siebel Database Server installation process specifies the tablespaces in which to store your Siebel tables and indexes.

A Siebel DB2 database consists of at least four tablespaces using database-managed space (DMS). Each tablespace can have one or more tablespace containers to store the data.

It is recommended that you use a small, non-production environment for testing purposes. You should create a *minimum* of four DB2 tablespaces to hold your tables and indexes—a 4 KB, a 16 KB, and a 32 KB tablespace, for your various sized tables, and a tablespace to hold your indexes. The tablespaces must be created as database-managed space.

To create the tablespaces

1 Create at least four DB2 tablespaces for tables of various sizes as shown in Table 20.

Table 20. DB2 Tablespace Values for Both Non-Unicode and Unicode-Enabled Databases

DB2 Tablespace Name	Bufferpool Name	Recommended Value	Description
Non-Unicode-Enabled Database			
SIEBEL_4K	IBMDEFAULTBP	2 GB	Tablespace name for tables with row sizes of at most 4005 bytes.
SIEBEL_16K	BUF16K	300 MB	Tablespace name for tables with row sizes from 4006 bytes through 16,293 bytes.
SIEBEL_32K	BUF32K	100 MB	Tablespace name for tables with row sizes greater than 16,293 bytes.
Unicode-Enabled Database			

Table 20.   DB2 Tablespace Values for Both Non-Unicode and Unicode-Enabled Databases

DB2 Tablespace Name	Bufferpool Name	Recommended Value	Description
SIEBEL_4K	IBMDEFAULTBP	3 GB	Tablespace name for tables with row sizes of at most 4005 bytes.
SIEBEL_16K	BUF16K	700 MB	Tablespace name for tables with row sizes from 4006 bytes through 16,293 bytes.
SIEBEL_32K	BUF32K	100 MB	Tablespace name for tables with row sizes greater than 16,293 bytes.

NOTE: It is recommended that you use the default tablespace names.

2 Create any additional tablespaces that may be used for storing individual tables, such as S_DOCK_TXN_LOG. If you expect to have large, heavily used tables, put these in their own tablespace.

3 Create at least a 4 KB, 16 KB, and 32 KB temporary tablespace to use for sorting and other SQL processing as described in the following sections. If you do not create them, your database will experience serious performance and stability problems. It is recommended that you use system-managed space (SMS) for all temporary tablespaces. These temporary tablespaces should also be expandable to 2 GB for storage purposes.

NOTE: Good practice dictates that you have many tablespaces that contain tables and indexes so that not all indexes reside in one tablespace. Otherwise, you may run out of pages.

4 Create at least one container per tablespace.

5 Record the tablespace names on the Appendix A, "Deployment Planning Worksheets."

> **NOTE:** If you intend to use the DB2 Load utility to populate EIM tables, be aware that it makes the tablespace in which the EIM table resides unavailable for the duration of the load. Placing the EIM tables in one or more separate tablespaces allows concurrent activity on the database while the load utility is running.

Creating and Setting the Language Characteristics of Your Database

> **NOTE:** As part of database creation, you must create and set the language characteristics of your database, even if you deploy in only one language. To do this, you must know which of the Siebel-supported languages your database will run, the codeset your database uses, the territory (also called the locale) for your language (such as Canadian French), and the collating sequence your users prefer. For production DB2 database servers, you can use any collating sequences, but for development only IDENTITY collating sequence is supported.

Setting the language characteristics of the database is part of the sample script in Appendix C, "Sample Database Creation Scripts."

> **CAUTION:** When creating a Unicode-enabled database, make sure you set the parameter DB2_INDEX2BYTEVARLEN to ON or your database creation will fail.

To look up the Siebel language code, territory, and codeset for your database, see *System Requirements and Supported Platforms*.

Codeset

DB2 distinguishes between a code page (also known as a character set) and a codeset. A *codeset* is defined as a textual string that describes the character encoding standard used for the database, whereas a *code page* is a numeric representation of the same standard.

Territory

The territory, or region, is a combination of the language and the locale; for example, French would be a language example, while Canada or France would be locales in which French is used with regional differences.

Sort Order

The sort order is specified during the initial installation of a database and defines the way in which the database will sort character data. Sort order support depends on both the code page of the database and whether it will be used in a development or a production environment. For more information on supported sort orders, see *System Requirements and Supported Platforms* available on SupportWeb.

Development Environment Databases

Repository object names in your development database must sort in the same order that they would under UTF-16 binary sort order, because Siebel Tools uses this sort order internally. Otherwise, repository merges during future upgrades of the Siebel Database will fail. This is because in UTF-16 binary sort order codepoints U + E000 to U + FFFF sort after codepoints U + 10000 to U + 10FFFF, whereas in Unicode codepoint order they sort before. For information on production environment database restrictions, see *System Requirements and Supported Platforms* available on SupportWeb.

NOTE: You must make sure your data is exported and imported correctly.

To create your database

1 See *System Requirements and Supported Platforms* for the values that apply to your language.

2 Locate the primary(base) language your database will use, the territory for your language, and the applicable codeset.

3 Using the DB2 UDB Command Line Processor, enter the following command:

```
db2 create database dbname using codeset territory collate using
identity
```

where:

dbname is the alias for your database.

codeset is the textual representation of your code page.

NOTE: If you are installing a Unicode database, You must enter UTF-8 as the codeset and retain the hyphen. UTF-8 is the parameter used for Unicode implementation on DB2 although the actual processing will use UCS-2. This is because when you specify UTF-8 as the encoding for the VARCHAR type, the encoding for the VARGRAPHIC type is automatically set to UCS-2, even though the UCS-2 is not specified as the parameter.

---

territory is the territory for the language your database runs in under that codeset.

Overriding Default Storage Parameters

Siebel Systems provides the option of overriding default storage parameters, such as the tablespaces you created using the instructions under "Creating Tablespaces" on page 213, in which specific tables or indexes are created. To override these defaults, edit the ddl.ctl file located in the dbsrvr*DBSRVR_PLATFORM* directory.

NOTE: The ddl.ctl file should be modified only by a qualified DBA.

For each Siebel table, you can specify a tablespace by using the Table Space parameter. In the following example, the tablespace for the table S_APP_VIEW is set to DATA1.

As provided by Siebel Systems, the .ctl file does not set storage parameters for the objects it creates, so they will default to the parameters of the tablespaces in which they are created. However, the Table Space parameter will only work under the following conditions:

■ The table does not yet exist (for example, when you are performing a new database installation).

■ The table needs to be rebuilt, in other words, there are schema changes made to the table such that an ALTER TABLE command is not sufficient to implement the schema changes, requiring that the Siebel application drop and recreate the table.

As shown in the following example, you can use the Table Space parameter to set storage parameters for specific tables.

```
[Object 219]
Type = Table
Name = S_APP_VIEW
Column 1 = ROW_IDVARCHAR(15)NOTNULL
Column 2 = CREATEDTIMESTAMPNOTNULL DEFAULT %NOW%
Column 3 = CREATED_BYVARCHAR(15)NOTNULL
Column 4 = LAST UPDTIMESTAMP NOTNULL DEFAULT %NOW%
Column 5 = LAST_UPD_BYVARCHAR(15)NOTNULL
Column 6 = DCKING_NUMNUMERIC(22,7)DEFAULT 0
Column 7 = MODIFICATION_NUMNUMERIC(10,0)NOTNULL DEFAULT 0
Column 8 = CONFLICT_IDVARCHAR(15)NOTNULL DEFAULT '0'
Column 9 = NAMEVARCHAR(50)NOTNULL
Column10 = DESC_TEXTVARCHAR(255)
Column11 = LOCAL_ACCESS_FLGCHAR(1)
Table Space = data1
```

The following example illustrates how to override the defaults for specific tables and indexes.

```
[Object 7135]
Type = Table
Name = S_EVT_ACT
Group = Activity-1
Append Mode = Yes
Column 1 = ROW_ID WVARCHAR(15) NOTNULL
Column 2 = CREATED TIMESTAMP NOTNULL
DEFAULT %NOW%
Column 3 = CREATED_BY WVARCHAR(15) NOTNULL
Column 4 = LAST_UPD TIMESTAMP NOTNULL
DEFAULT %NOW%
Column 5 = LAST_UPD_BY WVARCHAR(15) NOTNULL
Column 6 = DCKING_NUM NUMERIC(22,7) DEFAULT 0
Column 7 = MODIFICATION_NUM NUMERIC(10,0) NOTNULL
DEFAULT 0
Column 8 = CONFLICT_ID WVARCHAR(15) NOTNULL
```

```
DEFAULT '0'
Column 9 = ACTIVITY_UID WVARCHAR(30) NOTNULL
DEFAULT 'x'
...
Column 166 = TODO_CD WVARCHAR(30)
Column 167 = USER_MSG_ID WVARCHAR(15)
Column 168 = WC_START_VIEW WVARCHAR(250)
Column 169 = WC_TYPE_CD WVARCHAR(30)

[Object 7136]
Type = Index
Name = S_EVT_ACT_F1
Table = S_EVT_ACT
Column 1 = CON_PRDINT_ID ASC
Index Space = S_EVT_ACT_TBS_IDX

[Object 7137]
Type = Index
Name = S_EVT_ACT_F10
Table = S_EVT_ACT
Allow Reverse Scans = Yes
Column 1 = TARGET_OU_ID ASC
Column 2 = APPT_START_DT DESC
Column 3 = ROW_ID ASC
Table Space = S_EVT_ACT_TBS

[Object 7138]
Type = Index
Name = S_EVT_ACT_F11
Table = S_EVT_ACT
Column 1 = PAR_EVT_ID ASC
Index Space = S_EVT_ACT_TBS_IDX
```

Installing the Siebel Database Server for DB2 UDB   9

This chapter is written for system administrators who will install the Siebel Database Server and for database administrators who will assist in this process.

The installation and configuration of the Siebel Database Server consists of several tasks. Table 21 on page 221 illustrates the sequence of steps.

Table 21. Database Server Installation and Configuration Tasks

Who Performs It?	Task	
System Administrator	**1**	Fill out your copy of Appendix A, "Deployment Planning Worksheets," with all RDBMS-specific information.
	2	If you intend to implement clustering on this Siebel Database Server, review IBM documentation on how to do this.
Database Administrator	**3**	Create the DB2 database instance. See Chapter 8, "Creating the DB2 Universal Database for Windows and UNIX."
System Administrator	**4**	Install the Siebel Database Server software. See "Database Server Software Installation for DB2" on page 224.
	5	Review the software installation. See "Reviewing the Software Installation of Database Server for DB2" on page 230.
Database Administrator	**6**	Create tableowner and administrator accounts. See "Creating Tableowner and Administrator Accounts on DB2" on page 233.
	7	Install the stored procedures and user-defined functions. See "Installing the Stored Procedures and User-Defined Functions on DB2" on page 235.

Table 21. Database Server Installation and Configuration Tasks

Who Performs It?	Task
Siebel Administrator	**8** Install seed data, tables, and indexes. See "Installing Database Server Components on DB2" on page 236.
	9 Review the database installation log for errors. See "Reviewing the Log Files for Database Server Installation on DB2" on page 243.
	10 Conduct troubleshooting to fix any errors and rerun the script, if necessary. See "Troubleshooting Database Server on DB2" on page 244.
	11 Import the Siebel Repository. See "Importing the Siebel Repository on Database Server on DB2" on page 244.
	12 Review the repository import log files for errors. See "Reviewing the Log Files for Repository Import on Database Server on DB2" on page 249.
	13 Conduct troubleshooting to fix any errors and rerun the script, if necessary. See "Importing a New Language to Your Repository on Database Server on DB2" on page 253.
	14 Review the system preference settings for Enterprise Database Server code page. See "Verifying System Preferences for Database Server Installation on DB2" on page 251.
	15 If you are deploying multiple languages, install multilingual seed data. See "Installing Multilingual Seed Data on Database Server on DB2" on page 252.
	16 If you are deploying multiple languages, import multilingual seed data to your repository table rows. See "Importing a New Language to Your Repository on Database Server on DB2" on page 253.
Database Administrator	**17** Populate the Siebel File System. See "Populating the Siebel File System for Database Server on DB2" on page 255.

About the Database Server

The Siebel Database Server stores the data used by Siebel eBusiness Applications. Siebel Dedicated Web Clients (Siebel Mobile Web Clients in connected mode), Siebel Tools Clients, and Siebel Server components connect directly to the Database Server and make changes in real time. Dedicated Mobile Web Clients download a subset of the server data to use locally, periodically synchronizing with the Database Server through the Siebel Server to update both.

Installation and configuration of the Siebel Database Server software configures the Siebel Database automatically.

Pre-Installation Tasks for Database Server Installation for DB2

Before installing the Siebel Database Server, you must complete the following tasks:

■ Obtain the services of a qualified database administrator who will assist you during your installation.

■ Complete all the steps described under Chapter 5, "Installing the Siebel Gateway" and Chapter 6, "Installing the Siebel Server" to install at least one Siebel Server.

■ If this Enterprise will be multilingual, make sure that you install all the languages that you want the Siebel Database to support onto the Siebel Server from which you will be performing file installation.

■ If you have not done so already, make sure you have installed the IBM FixPack required for this release on the machine that will act as your database server. Otherwise, your installation will fail. For more information, see *System Requirements and Supported Platforms* on *Siebel Bookshelf*.

■ Make sure that DB2 is properly configured, as documented in Chapter 8, "Creating the DB2 Universal Database for Windows and UNIX"

■ Allocate and configure disk space appropriate to your installation requirements and DB2.

■ If you have not already done so, copy the Deployment Planning Worksheet, located in Appendix A, "Deployment Planning Worksheets," and fill out the appropriate page with the following:

■ **DB2 database alias.** This is the appropriate DB2 database alias that you created when installing the DB2 software.

- ■ **Tableowner/database owner account user name and password.** DB2 requires that you assign a user name and password to each database you create. Prior to installing the database server tablespaces and indexes, you will be prompted to edit the `grantusr.sql` script and enter this information before proceeding. SIEBEL is the default tableowner account user name and password for Siebel applications.

- ■ **Siebel 4-KB tablespace.** The name of the tablespace on the DB2 server where the 4 KB Siebel data tables are stored.

- ■ **Siebel 16-KB tablespace.** The name of the tablespace on the DB2 server where tables reside whose row length is equal to or greater than 4005 bytes, but less than 16384 bytes.

- ■ **Siebel 32-KB tablespace.** The name of the tablespace on the DB2 server where tables reside whose row length is 32768 bytes.

- ■ **Siebel Index Tablespace.** The name of the space on the DB2 server where the Siebel indexes are stored.

- ■ In Siebel eBusiness Applications, release 7.x.x, statistics are generated automatically during table, index, and seed data installation and during the repository import process. However, it is recommended that statistics be kept up to date through standard database administration procedures.

Database Server Software Installation for DB2

Installation of the database server software consists of the following tasks:

- ■ "Installing the Database Server Software for DB2"

- ■ "Reviewing the Software Installation of Database Server for DB2" on page 230

- ■ "Setting Up Your Environment to Support Global Time Zone" on page 232

- ■ "Creating Tableowner and Administrator Accounts on DB2" on page 233

After you install the software and create the Siebel tableowner and administrator accounts and privileges, you are ready to configure the installed software for use with your database. For information on database server configuration, see "Configuring the Database Server on DB2" on page 236.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually c:) even if you intend to install Siebel eBusiness Applications into another drive.

Installing the Database Server Software for DB2

Complete the steps below to install the Siebel Database Server files. You must already have a Siebel Server installed on this computer.

To install the Siebel Database Server software

1 Insert the *Windows Server Programs Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

2 In Windows Explorer, double-click seawinsesbase or siawinsesbase, as appropriate to the Siebel applications that you are installing.

NOTE: If you are installing Siebel Industry Applications, double-click siawinsesbase.

---

3 Navigate to D:\windows_server_ses_base\ses and double-click setup.exe.

The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

4 Click Next.

If you have already installed the Siebel Server on the same machine, the installer displays the message that an existing installation has been found.

5 Depending on whether you are installing your Siebel Database Server or adding a new language to an existing instance, take the appropriate action:

- To install the server software in a new instance, select None as the default and click Next. Proceed to Step 6.

- To install a new language in and existing instance, select the displayed instance and click Next. Proceed to Step 10.

  See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

NOTE: You must install the Siebel Database Server in the same directory in which you installed the Siebel Server.

---

6 Select the displayed default directory for file installation or use the Browse button to select a different drive or directory, and then click Next.

The installer prompts you to select the server that you want to install.

7 Select from the following options and click Next:

- Install all the components at once for which your organization has a license by selecting all the check boxes.

- Select just the Siebel Database Server at this time for installation and configuration. (You will install and configure the other server components individually later.)

NOTE: If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard prompt you for the installation parameters of each component individually and in the sequence required.

The installer prompts you to select the type of installation setup you prefer.

8 Choose the type of Siebel Database Server installation to execute from the following options; then click Next to continue:

- **Typical.** This setup option will install all Siebel Database Server components except those displayed.

- **Compact.** There is no compact installation option for this server.

■ **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

CAUTION: If you select Custom installation, make sure that you also select Sample Database the first time you install the software, since these attachments must be copied to the Siebel File System directory after configuration. Otherwise, the required file attachments will not be installed.

For a list of the installable components, see the following table.

Installation Setup	Products
Typical	Database files including all the components below: ■ Sample Database—File attachments for Siebel seed data ■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server ■ Oracle—Database scripts for the Siebel Database on Oracle ■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2 UDB ■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries
Custom	Select the database files you want to install from the components below: ■ Sample Database—File attachments for Siebel seed data ■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server ■ Oracle—Database scripts for the Siebel Database on Oracle ■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2 ■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries

❑ If you chose the Custom installation type, proceed to Step 9.

❑ If you chose the Typical installation type, proceed to Step 10.

9 Select the database platform components that you want to install and click Next.

CAUTION: If you perform a Custom installation, make sure to select Siebel Sample Database.

---

10 Confirm the Language Pack or Packs you are installing for the Siebel Database Server and click Next.

Servers are installed, at a minimum, with the primary language in which the server will be run. This is the primary(base) language for your Enterprise. Optionally, you can install one or more additional languages.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer displays the location into which it will install the Siebel Database Server and any other servers you have elected to install. It also displays the file size.

11 Review your installation selections. If you want to make changes, click Back. To proceed with installation, click Next.

After all server files you specified, have been installed, a warning screen appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the Siebel Language Code language
pack CD and select setup.exe.
```

12 Click OK.

A dialog box titled Insert CD for *language* Language Pack appears (where *language* stands for the Language Pack you are installing), and displays a file called siebel.ini. However, you do not need to do anything with this file.

13 Remove the current CD from the drive and insert the appropriate Language Pack CD.

14 Locate seawinses*language* or siawinses*language,* as appropriate, where *language* stands for the Language Pack you are installing, and double-click it. Double-click on setup.exe.

   ■ If installing Siebel Enterprise Applications, proceed to the information concerning Step 15.

   ■ If you are installing Siebel Industry Solutions, you may also be prompted to install an additional CD, depending on the language you are installing. If this is the case, perform the following steps:

   a Click OK, but do not do so until you have removed the first CD-ROM and inserted the second language CD-ROM.

   When all files on the second language CD have been installed, you will be prompted to reinsert the first language CD.

   b Reinsert the first language CD and click OK.

   After a short time, a message box appears, stating:

   ```
   Please reinsert the base CD and browse to setup.exe to enable
   setup to continue.
   ```

15 Click OK.

16 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

17 Navigate to windows_server_ses_ base > ses and open setup.exe.

After all server files specified have been installed, the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

18 Click Finish.

19 Proceed to "Reviewing the Software Installation of Database Server for DB2."

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt.

Reviewing the Software Installation of Database Server for DB2

Review the directory structure created by the Database Server installation, as illustrated below. The example below results from a Custom installation.

The *DB2UDB* subdirectory is located under the *DBSRVR_ROOT*\ directory within the Siebel root directory you specified during the installation; for example, D:*SIEBEL_ROOT*\dbsrvr\DB2UDB\.

DBSRVR_ROOT

```
BIN
COMMON
DB2UDB

    SIEBPROC

        AIX
        HPUX
        SOLARIS
        WIN32

    SQLPROC
    UPGRADE

LANGUAGE
FILES
LOCALE
PE60
```

BIN. Contains files for internal use.

COMMON. Contains common database platform-independent files.

DB2UDB. Installation as well as upgrade files specific to DB2 UDB.

> **SIEBPROC**
>
>> **AIX.** User Defined Functions (UDFs) and stored procedures for DB2 AIX systems.
>>
>> **HPUX.** UDFs and stored procedures for HP-UX systems.
>>
>> **SOLARIS.** UDFs and stored procedures for DB2 Solaris systems.
>>
>> **WIN32.** UDFs and stored procedures for Windows operating systems.
>
> **UPGRADE.** Directories containing files to enable upgrade from specific versions of Siebel eBusiness Applications supported for upgrade to the current release.
>
> **SQLPROC.** Binary files required to install stored procedures which perform data migration as part of an upgrade.

LANGUAGE. Contains language- and database-specific files for the ancestor repository and supporting files. For example, ENU would contain language-specific U.S. English files, or DEU would contain German-language-specific files. Additional subdirectories will exist under this level, based on the language packs that you install.

LOCALE. Contains translation files for the Upgrade Wizard. For Siebel use only.

PE60. Files used for uploading data from Siebel Sales Personal Edition.

FILES. This directory installs if you chose to install Sample File Attachments. These files should be copied to the appropriate subdirectory of the Siebel File System. See "Populating the Siebel File System for Database Server on DB2" on page 255.

If this has not already been done, the database administrator must now create the tableowner and administrator accounts with appropriate privileges to complete configuration of your Siebel Database Server. See "Creating Tableowner and Administrator Accounts on DB2" on page 233.

Setting Up Your Environment to Support Global Time Zone

Global deployments typically span multiple time zones, making it difficult to manage time-sensitive information that must be exchanged among customers and employees working around the world. Siebel Systems' Global Time Zone feature helps your organization meet contractual response times and commitments in spite of time zone differences.

The Global Time Zone feature converts and stores date and time data, using the Universal Time Zone (UTC) standard, which is equivalent to Greenwich Mean Time, but without daylight savings time.

If you intend to operate your deployment with the Global Time Zone feature enabled, you must also set the operating system of your database servers to UTC time, or its equivalent. For more information on enabling Global Time Zone, see *Global Deployment Guide*.

Although enabling this feature is optional in Siebel 7, it is strongly recommended that you operate your production environment with Global Time Zone enabled.

NOTE: The Global Time Zone parameter (Universal Time Coordinated system preference) is enabled (set to TRUE) in Siebel 7 by default. If you do not want to enable Global Time Zone feature, you must reset this parameter to FALSE through Server Manager by navigating to Application Administration > System Preferences.

Creating Tableowner and Administrator Accounts on DB2

Your database administrator must manually create the Siebel tableowner account (default: SIEBEL), the Siebel administrator account (default: SADMIN), and the SSE_ROLE group. The database administrator must then add the Siebel administrator account to the SSE_ROLE group at the operating system level.

Execute the grantusr.sql script against your database server to grant the appropriate privileges to these users. The grantusr.sql script must be run before you configure the Siebel Database Server.

This script is located in the *DBSRVR_PLTFRM_ROOT* subdirectory (for example, sea7.x.x\dbsrvr\DB2UDB). Your database administrator should review and run this script, which performs the following functions:

■ Grants DBA administration (DBADM) privileges to tableowner SIEBEL.

■ Grants CONNECT privileges to the SSE_ROLE.

NOTE: You cannot create the LDAPUSER account by running grantusr.sql. This account must belong to the SSE_ROLE group and be created by the database administrator or the NT/2000 network administrator, as appropriate. For more information about LDAP security adapter authentication, see *Security Guide for Siebel eBusiness Applications* on *Siebel Bookshelf*.

CAUTION: Do not change the name of the Siebel administrator account, SADMIN. This account must be created for you to log onto Siebel as the Siebel administrator.

Tableowner and Administrator Account for Siebel Marketing
If you are planning to use Siebel Marketing, grant drop table, drop index, create table, and create index rights at the database level within the OLTP schema to the tableowner or the database userid used for Siebel Marketing. For more details, see *Siebel Marketing Guide*.

To run the grantusr.sql script

1 Execute the `grantusr.sql` script from a DB2 Command window, using an account with DBA privileges.

The usual DB2 System Administration account will be called `db2admin` for this procedure.

> **CAUTION:** Be sure to use the Command window, not the Command Line Processor to enter these commands, since the Command Line Processor window uses different syntax. These commands will, therefore, not work unless issued in a Command Window.

■ Enter the following commands:

```
db2 connect to DB2database Alias user
Instance Owner Username using password

db2 -vf SIEBEL_ROOT\dbsrvr\db2udb\grantusr.sql
```

where:

`DB2database Alias` = the DB2 alias you use.

`Instance Owner Username` = the login ID of the instance owner.

`password` = password for the database instance (length and allowable characters depend on the rules of your underlying RDBMS platform).

`SIEBEL_ROOT` = your Siebel root directory.

2 Enter the tablespace name you recorded in the copy you made of Appendix A, "Deployment Planning Worksheets," then exit.

Before starting configuration, proceed to "Installing the Stored Procedures and User-Defined Functions on DB2" on page 235.

Installing the Stored Procedures and User-Defined Functions on DB2

DBAs who want to install the stored procedures and user-defined functions on the Siebel Database Server must first transfer them there, and have installed the database server components. (For information on installing Siebel Database Server components, see "Installing Database Server Components on DB2" on page 236.)

The user-defined functions (UDFs) and stored procedures must be transferred to and installed on the Siebel Database Server to support the Siebel product. Any method that transfers the necessary files to the correct location on the Database Server is acceptable.

Copying and Installing Stored Procedure Code on DB2

To copy and install the stored procedure code, follow the procedure below appropriate to your database server platform.

For information on how to perform basic DB2 tasks, see IBM's *Quick Beginnings* guide, particularly, *Appendix-B: Basic Task Knowledge,* on the online *Browse V7 Bookshelf*.

To copy and install the stored procedure code under Windows

1 Log onto the Siebel source installation machine, and navigate to the source installation subdirectory that contains the Siebel Database installation objects.

> **NOTE:** If you are deploying with DB2 v8 64bit which is supported for AIX, Solaris, and HP in 7.5.3, then you need to copy the siebproc64 library file to the sqllib/ function directory and rename it from `siebproc64` to `siebproc`.

The directory that contains the files to install is:

DBSRVR_ROOT \DB2UDB\SIEBPROC*DBSRVR_OS*

where:

DBSRVR_ROOT = the database component subdirectory of your Siebel eBusiness Applications, release 7, installation directory (*SIEBEL_ROOT*\dbsrvr).

DBSRVR_OS = the operating system your database server runs on, for example, `WINNT` or `WIN32`.

2 Copy the file siebproc.dll to the FUNCTION subdirectory within the DB2 UDB instance directory on the machine where DB2 UDB is installed.

For example, on Windows, this location might be C:\SQLLIB\FUNCTION or C:\program files\sqllib.

Proceed to "Configuring the Database Server on DB2."

Configuring the Database Server on DB2

Configuring the Siebel Database Server for installation consists of two sets of tasks:

■ "Installing Database Server Components on DB2"

■ "Importing the Siebel Repository on Database Server on DB2" on page 244

You will perform both configuration tasks using the Siebel Software Configuration Wizard - Configure DB Server.

Follow the steps below to configure the component for operation.

Installing Database Server Components on DB2

When you choose Install a new Siebel Database from the Siebel Database Server Options menu, the Siebel Software Configuration Wizard:

■ Creates Siebel tables and indexes in a specified tablespace.

■ Inserts Siebel seed data.

■ Installs Siebel seed data specific to your database.

■ Installs views, packages, and procedures for your database.

NOTE: Every time you install a new database language, you will need to launch the Siebel Software Configuration Wizard and navigate to Siebel Database Server Options > Install > Add a language to existing database. For a complete list of languages supported by Siebel eBusiness Applications in this release, and their corresponding Siebel language codes, see *System Requirements and Supported Platforms* on the *Siebel Bookshelf*.

To install Siebel database server components on DB2

1 Launch the Database Server Configuration Wizard, using any method described in Chapter 2, "Preparing for the Installation."

The Gateway Server Address screen appears.

2 Type the following values as you recorded them in your copy of Appendix A, "Deployment Planning Worksheets," and then click Next.

Gateway Server Address. The domain name and alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Enterprise Server, for example, siebel.

The Siebel Server Directory screen appears.

3 On the Siebel Server Directory screen, perform either of the following tasks and click Next:

■ Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\sea7.x.x\siebsrvr.)

■ Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

4 On the Siebel Database Server Directory screen, perform either of the following tasks and click Next:

■ Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, `D:\sea7.x.x\dbsrvr`.)

■ Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

5 Select IBM DB2 UDB for UNIX and Windows and click Next.

The Siebel Database Operation screen appears:

```
Siebel Database Server Options: Siebel Database Operation

Install Database

Upgrade Database

Import/Export Repository

Migrate Repository

Run Database Utilities
```

6 To install the Siebel database server components, select Install Database and click Next.

The Siebel User/Role Creation screen appears, prompting you to execute the `grantusr.sql` script to create tableowner and administration accounts, if you have not already done so.

7 Indicate whether or not you have already run the `grantusr.sql` script to set up tableowner and administration accounts:

■ If you already ran `grantusr.sql`, click the uppermost radio button, and then click Next. Proceed to Step 9.

The Select Installation Operation screen appears.

■ If you did not already run `grantusr.sql`, click the lower radio button, and then click Next. The Configuration Wizard quits. Proceed to Step 8.

8 Run the `grantusr.sql` script, then relaunch the Configuration Wizard and start this procedure over.

If you already ran `grantusr.sql`, the Select Installation Operation screen appears:

```
Siebel Database Language Options: Select Installation
Operation

Select Installation Operation:

Install Siebel Database

Add a Language to an Existing Siebel Database
```

9 On the Select Installation Operation screen, click Install Siebel Database, and then click Next.

10 On the Database Encoding screen, identify the appropriate database encoding method:

- If your database uses a Unicode code page, click `UNICODE Database`.

- If your database uses a non-Unicode code page, click `Non-UNICODE Database`.

CAUTION: Choose the correct option for your database to prevent installation of the wrong data types. The database will not be able to create Unicode data types on a non-Unicode page setting, so check this setting carefully before choosing the option.

The Language Selection screen appears.

11 On the Language Selection screen, choose the language in which you want to run your database, and then click Next.

NOTE: If you only installed a primary(base) language and no additional languages, this screen does not appear.

The ODBC Data Source Name screen appears.

12 Indicate the name for the ODBC data source and then click Next.

NOTE: The data source is created automatically by the Siebel Server installation, using the format SiebSrvr_*enterprise_server_name*.

The Database User Name screen appears.

13 On the Database User Name screen, indicate the following about your database:

Database User Name. Type the user name of the Siebel administrator, for example, SADMIN.

Database Password. Type the password for the Siebel administrator, for example, db2.

Database Password (confirm). Retype the password to confirm it.

14 Click Next to continue.

The Database Table Owner screen appears.

15 On the Database Table Owner screen, indicate the following about your database, and then click Next to continue:

Database Tableowner. Type the Siebel Database tableowner name, for example, siebel. This is the account that will own the Siebel objects.

Database Password. Type the Siebel Database tableowner password, for example, db2.

Database Password (confirm). Retype the password to confirm it.

The Database Server OS screen appears.

16 On the Database Server OS screen, select the platform on which your database server runs, and then click Next.

The Index Table Space Name screen appears.

17 On the Index Table Space Name screen, indicate the index space and 4 KB tablespace names, and then click Next to continue:

Index Tablespace Name. The name you give to your 4 KB index space; for example, SBL_INDX.

4K Tablespace Name. The name you give to your 4 KB tablespace; for example, TBS_4K.

NOTE: Tablespace names should not contain spaces; use underscores, if needed.

The 16K Table Space Name screen appears.

18 On the 16K Table Space Name screen, indicate the following values, and then click Next to continue:

16K Tablespace Name. Type the name you give to your 16 KB tablespace; for example, TBS_16K.

32K Tablespace Name. Type the name you give to your 32 KB tablespace; for example, TBS_32K.

The Configuration Parameter Review screen appears.

19 On the Configuration Parameter Review screen, review the configuration values you entered on the previous Configuration Wizard screens:

- If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

- When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is
```

```
C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_install.ucf
```

> **NOTE:** If a program or system error occurs and you need to rerun the Siebel
> Upgrade Wizard, you can do so, starting at the point at which the wizard failed,
> by navigating to \siebsrvr\bin and entering:
> siebupg.exe /m master_install.ucf

The Siebel Upgrade Wizard screen appears, displaying the items to be executed
or imported.

20 To begin, click OK.

If you need to change the values you previously entered, re-launch the
Configuration Wizard. This allows you to reconfigure with different values.

The Siebel Upgrade Wizard Complete screen appears when installation is
complete.

You have now finished installing the Siebel database server components.

Reviewing the Log Files for Database Server Installation on DB2

The database server component installation creates a number of log files, such as UpgWiz.log, UpgWiz_01.log (which increments to additional logs) within the *SIEBEL_ROOT*\Siebsrvr\log subdirectory, which you must review for any errors.

NOTE: UpgWiz.log is the most recently created log file; UpgWiz_01 is the next most recent, and so on.

When you install your primary(base) language pack, it creates a special log file with the name dataimp_prim_lang.log.

Acceptable Errors for Database Server Installation on DB2

The log files may include errors that are expected and benign. Compare any error messages found in the log files to the sample error messages in the errors.rtf file, which is located in the installation subdirectory for your database platform, for example, DB2UDB. (If a log file is not listed in the errors.rtf file, then there are no acceptable error messages for that log file.) No further action is required if the log files contain only errors listed in the errors.rtf file.

NOTE: Only one of each type of error occurring in a particular log file appears in the errors.rtf file.

If you find errors not listed in the errors.rtf file, correct the condition that caused the errors, and rerun the Upgrade Wizard. The wizard will restart from the point where it left off.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Troubleshooting Database Server on DB2

Typically, problems during database installation result from insufficient storage space having been allocated, or from the installer having improper user privileges.

Importing the Siebel Repository on Database Server on DB2

When you import the Siebel Repository, you populate all the repository tables in the Siebel Database Server with the new Siebel 7 application objects.

Regardless of how many Siebel eBusiness Applications you are using (for example, Siebel Sales, Siebel Service, and Siebel Marketing), you will load the repository tables only once.

To import the Siebel Repository

1 Launch the Database Server Configuration Wizard using any method described in Chapter 2, "Preparing for the Installation."

The Gateway Server Address screen appears.

2 Type the values you recorded in your copy of Appendix A, "Deployment Planning Worksheets," for the following parameters, and then click Next.

Gateway Server Address. The alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Enterprise Server, for example, siebel.

The Siebel Server Directory screen appears.

3 On the Siebel Server Directory screen, perform either of the following tasks, and then click Next:

■ Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\siebsrvr.)

■ Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

4 On the Siebel Database Server Directory screen, perform either of the following tasks, and then click Next:

- Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, `D:\dbsrvr`.)

- Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

5 Select IBM DB2 UDB for UNIX and Windows and click Next.

The Siebel Database Operation screen appears.

6 On the Siebel Database Operation screen, select Import/Export Repository, and then click Next.

The Select Repository Operation screen appears:

```
Import Repository Parameters: Select Repository Operation

Select Repository Operation:

Import Repository

Add Language to an Existing Repository

Export Repository
```

7 On the Select Repository Operation screen, choose one of the following options, as appropriate:

- **Import Repository.** To import the Siebel Repository for the first time with a primary(base) language, select this option. Click Next and proceed to Step 8.

  The Import Selection screen appears.

- **Export Repository.** Exports the Siebel Repository into a platform-independent file that can be sent to Siebel Technical Support for analysis if needed. Click Next and proceed to Step 14 on page 247.

  For instructions on importing a new language to the Siebel Repository, see "Importing a New Language to Your Repository on Database Server on DB2" on page 253.

  The Import Selection screen appears.

8 On the Import Selection screen, indicate the following:

■ If you want to import a standard Siebel 7 repository, click the radio button corresponding to the Import Standard Siebel Repository option.

■ If you want to import a Siebel 7 repository that you have customized to a new environment, click the radio button corresponding to the Import Custom Repository option.

9 Click Next to continue.

The ODBC Data Source Name screen appears.

10 Indicate the name for the ODBC data source and then click Next.

NOTE: The data source is created automatically by the Siebel Server installation, using the format SiebSrvr_*enterprise_server_name*.

The Database User Name screen appears.

11 On the Database User Name screen, indicate the following about your database, and then click Next:

Database User Name. User name of the Siebel administrator, for example, SADMIN.

Database Password. Password for the Siebel administrator, for example, db2.

Database Password (confirm). Retype the password to confirm it.

The Database Table Owner screen appears.

12 On the Database Table Owner screen, indicate the following about your database, and then click Next:

Database Tableowner. Type the Siebel Database tableowner name, for example, siebel. This is the account that will own the Siebel objects.

Database Password. Type the Siebel Database tableowner password, for example, db2.

Database Password (confirm). Retype the password to confirm it.

13 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. If you are importing your repository for the first time, this is the second field appearing on the screen. Accept the default installation path and file name for this repository or type another valid installation path.

Proceed to .

14 On the Export Repository Name screen, type the following values, and click Next:

Export Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. Accept the default installation path and file name for this repository or type another valid installation path.

Proceed to .

The Configuration Parameter Review screen appears, showing the values you typed on the previous screens.

15 Review the configuration values you entered on the previous Configuration Wizard screens:

- If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

- When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is
```

```
C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_imprep.ucf
```

NOTE: If a program or system error occurs and you need to rerun the Siebel Upgrade Wizard, you can do so, starting at the point at which the wizard failed, by navigating to *SIEBEL_ROOT*\siebsrvr\bin and entering siebupg.exe /m master_imprep.ucf.

The Siebel Upgrade Wizard screen appears, displaying the items to be executed or imported.

16 To begin, click OK.

A window appears, displaying information about Siebel Upgrade Wizard repository import activities.

The Siebel Upgrade Wizard displays a message when installation is complete.

To verify that the import was successful, review the log files. See "Reviewing the Log Files for Repository Import on Database Server on DB2" on page 249.

Reviewing the Log Files for Repository Import on Database Server on DB2

The repository import process creates a number of log files, such as UpgWiz.log and UpgWiz_01.log (which increments to additional logs) within the *SIEBEL_ROOT*\siebsrvr\LOG subdirectory, which you must review for any errors. Further log files are created when the upgrade wizard encounters a problem and you attempt a retry.

NOTE: UpgWiz.log is the most recently created log file; UpgWiz_01 is the next most recent, and so on.

When you import a repository with a new language, it creates the following special log files:

```
update_ver.log
seeduver1.log
imprep_lang.log
restore_ver.log
```

Acceptable Errors

The log files may include errors that are expected and benign. Compare any error messages found in the log files to the sample error messages in the errors.rtf file, which is located in the database server platform subdirectory, for example, db2udb. (If a log file is not listed in the errors.rtf file, then there are no acceptable error messages for that log file.) No further action is required if the log files contain errors listed in the errors.rtf file.

NOTE: Only one of each type of error occurring in a particular log file appears in the errors.rtf file.

If you find errors not listed in the errors.rtf file, correct the condition that caused the errors, and rerun the Upgrade Wizard.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Troubleshooting Siebel Repository Import for Database Server on DB2

Typical problems that may occur at this stage consist of the following:

- Importing a repository with the same name as an existing repository.

- Database runs out of tablespace pages and cannot allocate new data pages.

- DB2 errors regarding the settings for DB2 configuration parameters such as APP_CTL_HEAP_SZ. These must be reset, in most cases, to higher values, since Siebel Systems' guidelines suggest only minimum values.

The above errors should appear in the log files produced by the repository import process.

Post-Installation Tasks for Database Server Installation on DB2

Perform the following tasks after you complete your installation of the Siebel Database Server:

- "Verifying System Preferences for Database Server Installation on DB2"

- "Installing Multilingual Seed Data on Database Server on DB2" on page 252

- "Importing a New Language to Your Repository on Database Server on DB2" on page 253

- "Populating the Siebel File System for Database Server on DB2" on page 255

Verifying System Preferences for Database Server Installation on DB2

After you complete installation and configuration of your Siebel Database Server, you must verify system preferences for the Siebel application in Siebel Tools. For installation instructions for Siebel Tools, see *Siebel Tools Reference*.

To verify system preferences

1 Launch Siebel Tools and navigate to Screens > System Administration > System Preferences.

2 Look for `System Preference Name = Enterprise DB Server Code Page` and verify that the value has been set correctly, based on the value that you selected during installation of the database server components ("Installing Database Server Components on DB2" on page 236). For a list of the appropriate values, see Table 22.

NOTE: The Code Page value must be in lowercase, for example, utf-16.

Table 22. Acceptable Values for Enterprise DB Server Code Page

Value	Language	Database
utf-16* (Unicode)	All	DB2
cp932 (or equivalent)	Japanese	DB2
cp1252 (or equivalent)	Western European	All

*Also known as UCS-2; although the value entered *must be utf-16*.

3 If your database is Unicode-enabled, verify that column UNICD_DATATYPS_FLG in table S_APP_VER has the Unicode flag set correctly. If your database is:

- Codepage = N

- Unicode DB2/SQL Server = Y

NOTE: The data type flag must be uppercase.

Installing Multilingual Seed Data on Database Server on DB2

If your organization deploys internationally and, therefore, requires data to be in multiple languages, you must install multilingual seed data (for example, lists of views, responsibilities, or system preferences). To do this, you add new language packs to your database after you have installed the primary(base) language for your database server. This populates the List of Values (LOV) with seed data in the new language.

Only after you successfully install seed data in your primary(base) language, can you add seed data in other languages to your database. Adding this seed data also adds new LOV data in the new language.

CAUTION: You cannot add secondary languages to the Siebel Database for an Siebel Enterprise Server unless you have already installed them on the associated Siebel Server.

To install multilingual seed data

1 Follow the instructions under "Installing the Database Server Software for DB2" on page 225, using the CD for the new language that you want to install.

2 On the Existing Installations Found screen, select the database instance to which you want to add the language.

3 When installation is complete, launch the Database Server Configuration Wizard and repeat Step 1 through Step 9 under "Installing Database Server Components on DB2" on page 236.

The Select Installation Operation screen appears.

4 On the Select Installation Operation screen, select Add a language to an existing Siebel Database, and then click Next.

The Base Language screen appears.

5 On the Base Language screen, select the language in which you want your Siebel Database to run, primarily, and click Next. This is called your "base" language.

6 Repeat Step 11 through Step 18 of "Installing Database Server Components on DB2" on page 236.

The Repository Name screen appears.

7 On the Repository Name screen, type the name of the repository you created earlier or accept the default name, and then click Next.

> **NOTE:** To add seed data in a new language to your database, you must have already imported your repository in its primary(base) language.

8 Repeat Step 19 through Step 20 OF "Installing Database Server Components on DB2" on page 236.

> **NOTE:** To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following installation of multilingual seed data, you must navigate to \siebsrvr\bin\ and enter: siebupg.exe /m master_install_*LANG*.ucf

9 Enable the multilingual list of values (MLOV) capability within Siebel eBusiness Applications. For information, see *Siebel Tools Reference*.

Importing a New Language to Your Repository on Database Server on DB2

After you successfully import your Siebel Repository in its primary(base) language, you may add additional languages to it.

By adding a new language to your repository, you populate rows of localizable information, which allows Siebel eBusiness Applications to better operate in the new language.

Regardless of how many Siebel eBusiness Applications you are using (such as Siebel Sales, Siebel Service, and Siebel Marketing), you perform this step only once for each language you want to install.

To import a new language to your repository

1 Follow Step 1 through Step 6 under "Importing the Siebel Repository on Database Server on DB2" on page 244.

The Select Repository Option screen appears.

2 On the Select Repository Operation screen, choose Add Language to an Existing Repository and click Next.

> **NOTE:** If you already imported your Siebel Repository and its primary(base) language, select this option to add another language to the repository.

The Language Selection screen appears.

3 On the Language Selection screen, specify the new language you are adding on top of your primary(base) language in the Siebel Repository and click Next.

4 Repeat Step 10 through Step 12 of "Importing the Siebel Repository on Database Server on DB2" on page 244.

The Import Repository screen appears.

5 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Localized Repository Name. Accept the default installation path and file name for this repository or type another valid installation path.

6 Repeat Step 15 through Step 16 of "Importing the Siebel Repository on Database Server on DB2" on page 244.

> **NOTE:** To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following importing new languages to the repository, you must navigate to \siebsrvr\bin\ and enter: siebupg.exe /m master_imprep_*LANG*.ucf

Populating the Siebel File System for Database Server on DB2

Specific files needed to run the Siebel File System, such as correspondence templates and Siebel Marketing files, are provided with the Siebel Database Server software. A subdirectory called files is created automatically when you install the Siebel Database Server.

Your DBA must populate the appropriate subdirectory of the Siebel File System with these file attachments after installing the Database Server and before running the Siebel Web Client.

To populate the File System directory

1 Copy the appropriate files from the \files subdirectory of the Siebel Database Server software to the \att subdirectory of the Siebel File System.

2 Copy the KB.kb file from the \files subdirectory of the Siebel Database Server software to the \cms directory within the Siebel File System.

3 Verify that the files are where they need to be.

Creating the Microsoft SQL Server Database **10**

This chapter is written for database administrators. It provides an overview of Siebel Database configuration and sizing recommendations for Microsoft SQL Server and describes how to create the MS SQL Server Database.

The optimization and creation of the Siebel Database consists of several tasks, illustrated in Table 23.

Table 23. Database Configuration Tasks

Who Performs It?	Task
Database Administrator	**1** Review the database layout guidelines and lay out your database accordingly. See "Database Layout Guidelines" on page 257.
	2 Review the list of SQL Server parameter settings that have an impact on the performance of Siebel eBusiness Applications and reset these according to the guidelines in this chapter. See "MS SQL Server Configuration Guidelines" on page 262.
	3 Create your database objects. See "Creating the Database" on page 264.
	4 Review ongoing database administration tasks. See "Ongoing Microsoft SQL Server Database Administration" on page 268.

Database Layout Guidelines

The overall performance of Siebel eBusiness Applications is largely dependent on the I/O performance on the Database Server. To promote optimal I/O performance, tables and indexes in the database must be arranged across available disk volumes so that the I/O load is evenly distributed.

Using a Redundant Disk Array

RAID devices—arrays of physical disks—can provide large amounts of I/O throughput and capacity while appearing to the operating system and RDBMS as a single large disk (or multiple disks, as desired, for manageability). The use of RAID arrays can greatly simplify the database layout process by providing an abstraction layer above the physical disks while promoting high performance.

NOTE: Performance of the RAID feature provided by Operating System is not satisfactory. You should use the RAID provided by you hardware vendors for better performance.

Table 24 describes a sample disk layout for a server dedicated to Microsoft SQL Server, where the database uses a single filegroup residing on a disk array. The use of a single RAID array for the database devices provides satisfactory performance in many cases without the administrative overhead of using individual filegroups.

Table 24. Microsoft SQL Server Recommended Disk Layout

Disk	Objects	Comments
Single mirrored	Windows OS	N/A
Single disk	Windows pagefile	Segregate for maximum performance.
Single mirrored	SQL Server logfile	Segregate sequential I/O for database performance.
3–5 disks (minimum) in a RAID configuration	Siebel Database data and indexes	Add as many spindles as required for performance and storage capacity.

If your Enterprise requires the highest performance standards, you should create heavily used tables and their corresponding indexes, such as those listed under "Planning the Distribution of Your Database Objects" on page 259 on a specific SQL server filegroup within your database. By creating a filegroup on a specific disk or on multiple disks, you can control where tables and indexes in your database are physically located. For a discussion of this, see "Logical Device Layout" on page 261.

Use of RAID devices, and following Microsoft's recommended default disk layout, has the advantage of avoiding the need to perform the complex calculations required to size your database when separating database objects into individual filegroups.

Your choice to use RAID devices or multiple filegroups to distribute database objects, will depend solely on how great your performance needs are. It is recommended that you work with your hardware vendor to determine the optimal RAID configuration for your specific requirements.

Planning the Distribution of Your Database Objects

Regardless of your chosen disk arrangement, be sure that you properly distribute the following types of database objects:

- Database log

- Temporary work space used by the database

- Tables and indexes

In most implementations, the tables and corresponding indexes in the following list of tables tend to be the either the most heavily used, or they have the potential to be large in some or in all deployments. The tables S_EVT_ACT, S_CONTACT and S_ORG_EXT are large in all large deployments of Siebel eBusiness Applications.

Table 25 should be separated across devices, and the log should be on a separate disk.

Table 25. Most Frequently Used and Largest Siebel Tables

Table Names	
S_ACCNT_CHRCTR	S_INVOICE
S_ACCNT_CO_MSTR	S_INVOICE_ITEM
S_ACCNT_POSTN	S_INV_LGR_ENTRY
S_ADDR_ORG	S_OPTY_POSTN
S_ADDR_PER	S_OPTY_PROD

Database Layout Guidelines

Table 25. Most Frequently Used and Largest Siebel Tables

Table Names	
S_ASSET	S_OPTY_TERR
S_CALL_LST_CON	S_OPTY_POSTN
S_CON_CHRCTR	S_ORG_EXT
S_CON_TERR	S_ORG_TERR
S_ACCNT_CHRCTR	S_PARTY
S_CRSE_TSTRUN	S_PARTY_PER
S_CRSE_TSTRUN_A	S_PARTY_REL
S_CS_RUN	S_PARTY_RPT_REL
S_CS_RUN_ANSWR	S_POSTN_CON
S_CTLGCAT_PATH	S_PROC_REQ
S_CYC_CNT_ASSET	S_PROD_BASELINE
S_DNB_CON_MRC	S_PROD_CONSUME
S_DNB_ORG	S_PROD_SHIPMENT
S_DNB_ORG_SIC	S_PROD_TARGET
S_DNB_UPDATE	S_QUOTE_ITEM
S_DOCK_INIT_ITEM	S_SRM_REPLY
S_DOCK_TXN_LOG	S_SRM_REQUEST
S_DOCK_TXN_LOGT	S_SRM_REQ_PARAM
S_DOCK_TXN_SET	S_SRV_REQ
S_DOCK_TXN_SETT	
S_ESCL_ACTN_REQ	
S_ESCL_LOG	
S_ESCL_REQ	
S_EVT_ACT	

Table 25. Most Frequently Used and Largest Siebel Tables

Table Names	
S_EXP_ITEM	
S_EXP_RPT	
S_EXP_RPT_APPR	
S_IC_CALC	
S_IC_CALC_IT	
S_IC_CMPNT_EARN	
S_IC_TXN	
S_IC_TXN_IT	
S_IC_TXN_POSTN	
S_INVC_ITM_DTL	
S_INVLOC_ROLLUP	

If you will make frequent use of Siebel Enterprise Integration Manager (EIM), you may want to put the interface tables (names starting with EIM_) in different filegroups as well as separate disk arrays from the Siebel base tables, because both are accessed simultaneously during EIM operations.

Logical Device Layout

Use filegroups for assigning database objects to one or more files within a filegroup for maximum performance of the Siebel Database. When you group objects, you have the ability to distribute a filegroup across multiple disks, thereby causing less resource contention.

If your Enterprise does not require very high performance, based on the number of concurrent users, for example, use of RAID devices and Microsoft's default setting may suffice. A database administrator must do the requisite sizing calculations to assess the performance requirements beforehand.

Mirroring the Transaction Log

At a minimum, the transaction log should be mirrored to guarantee complete database recovery in the event of a single device failure. Hardware or operating system mirroring generally provides the best performance.

MS SQL Server Configuration Guidelines

This section contains guidelines for obtaining optimal performance from the Microsoft SQL Server database for use with Siebel eBusiness Applications.

NOTE: These settings should be used only as guidelines for your initial configuration. Your final settings will vary based on the server hardware configuration, the number of users, and the type of workload.

Additional information on the configuration of Microsoft SQL Server is available in the Microsoft documentation, information provided by your hardware vendor, and other sources. You should also refer to the Microsoft documentation for additional information concerning tuning options for Microsoft SQL Server.

CAUTION: Never make changes to your Siebel Database schema unless instructed on how to do so for a specific purpose by Siebel eBusiness Applications documentation. Otherwise, you may corrupt your entire system and thereby render it unsupportable.

Guidelines for setting the Microsoft SQL Server parameters for maximum performance follow. For more information, see your Microsoft SQL Server technical documentation.

Review the descriptions of the following parameters and reset as appropriate to your deployment.

max degree of parallelism. This option is used to configure Microsoft SQL Server's use of parallel query plan generation. In general, parallel query processing creates competition among resources when multiple simultaneous connections are taking place.

A value of 0 means that every processor on the database server will be considered in generating a parallel query plan. A value of 1 means that only one processor on the database server will be used for a query plan generation. It is recommended that you set this value to 1, turning off parallelism, thereby avoiding parallel query plan generation.

In a multi-user, multi-connection environment, it is recommended that you use one processor for parallel query plan execution. Also, if you use parallel EIM threads with Enterprise Integration Manager (EIM), use one processor for parallel query plan execution because the parallel EIM threads are effectively handling parallel queries. To select one processor for parallel query plan execution, in the SQL Server Properties screen, select the Processor tab, in the Parallelism section, select `Use 1 processor`.

If you are upgrading to a newer version of the database, set the value to 0 to allow Microsoft SQL Server to use all available CPUs.

auto create statistics. This option allows SQL Server to create new statistics for database columns as needed to improve query optimization. This option should be enabled.

auto update statistics. This allows Microsoft SQL Server to automatically manage database statistics and update them as necessary to promote proper query optimization. This option should be enabled.

NOTE: Turn both `auto create statistics` and `auto update statistics` off when running concurrent EIM threads and performing a full scan of your tables. For information about running full scans, see "Updating Statistics" on page 269.

---

tempdb. This is the database that Microsoft SQL Server uses for temporary space needed during execution of various queries. Set the initial size of your TEMPDB to a minimum of 100 MB, and configure it to allow auto-growth to allow SQL Server to expand the temporary database as needed to accommodate your activity.

Creating the Database

To help you create your database instance, Siebel Systems provides a list of supported MS SQL Server code pages in *System Requirements and Supported Platforms*.

It is recommended that you use a small, non-production environment for testing purposes.

After you install the Siebel Database Server files on the Siebel Server machine (described in the following chapter), you may modify the database table and index creation scripts to specify the filegroup names you created for Siebel tables and indexes. For more information, see "Overriding Default Storage Parameters" on page 268.

Capacity Planning

One of the most important items to determine about your database is its overall size. Database size consists of the space required for system storage, temporary storage space, log files, and the like required by Microsoft SQL Server, as well as the space required for Siebel data and indexes.

The first of these factors will vary, primarily based on the total number and types of users supported. It is recommended that you consult the documentation provided by Microsoft for more information on these requirements.

The space required for Siebel data and indexes will vary depending on what Siebel functionality you will implement and the amount and nature of data supporting that functionality. At a minimum, Siebel 7 requires that you size your Microsoft SQL Server database to be a minimum of 1 GB.

The process for making accurate database size calculations is a complex one, involving many variables. The following guidelines will assist you in the process:

■ Determine the total number and types of users of Siebel applications (for example, 500 sales representatives and 75 sales managers).

■ Determine the Siebel functionality that you will implement and the entities required to support it. Typically, the largest entities are as follows:

   ■ Accounts

- ■ Activities

- ■ Contacts

- ■ Forecasts

- ■ Opportunities

- ■ Service Requests

■ Estimate the number of entities per user (for example, 100 accounts per sales representative) and calculate the total number of records per entity for your total user base.

■ Using standard sizing procedures for SQL Server, and using *Siebel Data Model Reference*, calculate the average record size per entity and multiply by the total number of records. Typically, these entities span multiple physical tables, all of which must be included in the row size calculation. This will determine the estimated data size for the largest entities.

■ You must add more space for the storage of other Siebel data. A rough guideline for this additional amount would be one-half the storage required for these key entities.

■ Indexes typically require approximately the same amount of space as data.

■ Be certain to allow a margin of error in your total size calculation.

■ Be certain to factor growth rates into your total size calculation.

Allocating Sufficient MS SQL Server Database Log Space

You must place your log on a disk large enough to hold the log as it expands. It is recommended that you monitor the disk regularly for its level of utilization. Very large transactions may, for example, require at least 1 GB.

Setting the Language Characteristics of Your Database

As part of database creation, you must set the language characteristics of your database, even if you deploy in only one language.

Sort Order

The sort order is a characteristic that requires special consideration regarding the Siebel Database. On MS SQL Server, the sort order of a database instance is specified during database creation and defines the way in which the instance will sort character data.

Although each SQL Server system database and each object within a database can have its own unique sort order, it is recommended that you set the sort order at the database instance level only.

Siebel support for a given sort order depends on both the code page of the database and whether it will be used in a development or a production environment.

Development Environment Databases

Repository object names in your development environment database must sort using binary sort order. Otherwise, repository merges during future upgrades of the Siebel Database will fail. For more information on supported sort orders, see *System Requirements and Supported Platforms*, available on SupportWeb.

CAUTION: When installing MS SQL Server, the instance is set by default to dictionary sort order and, if not changed, every database inherits this setting. The master database cannot be changed without rebuilding the instance. Therefore, it is strongly recommended that the instance sort order be set to binary at installation time. Please consult your Microsoft documentation for instructions on setting this.

Production Environment Databases

It is strongly recommended that you use binary sort order in production databases as well for performance reasons. For information on production environment database restrictions, see *System Requirements and Supported Platforms* available on SupportWeb.

NOTE: Customers are responsible for ensuring that their data is backed up and restored correctly.

Overriding Default Storage Parameters

Siebel Systems provides the option of overriding the default storage parameters, such as the filegroups you create to hold specific tables or indexes. To do this, edit the ddl.ctl file located in the dbsrvr*DBSRVR_PLATFORM* directory.

NOTE: The ddl.ctl file should be modified only by a qualified DBA.

For each Siebel table, you can specify a filegroup by using the Table Space parameter. In the following example, the filegroup for the table S_APP_VIEW is set to DATA1. As provided by Siebel, the .ctl file does not set storage parameters for the objects it creates, so they will default to the parameters of the filegroups in which they are created.

As shown in the example below, you can use the Table Space parameter to set storage parameters for specific tables.

```
[Object 219]
Type = Table
Name = S_APP_VIEW
Column 1 = ROW_IDVARCHAR(15)NOTNULL
Column 2 = CREATEDTIMESTAMPNOTNULL DEFAULT %NOW%
Column 3 = CREATED_BYVARCHAR(15)NOTNULL
Column 4 = LAST UPDTIMESTAMP NOTNULL DEFAULT %NOW%
Column 5 = LAST_UPD_BYVARCHAR(15)NOTNULL
Column 6 = DCKING_NUMNUMERIC(22,7)DEFAULT 0
Column 7 = MODIFICATION_NUMNUMERIC(10,0)NOTNULL DEFAULT 0
Column 8 = CONFLICT_IDVARCHAR(15)NOTNULL DEFAULT '0'
Column 9 = NAMEVARCHAR(50)NOTNULL
Column10 = DESC_TEXTVARCHAR(255)
Column11 = LOCAL_ACCESS_FLGCHAR(1)
Table Space = data1
```

Ongoing Microsoft SQL Server Database Administration

After you have installed your Siebel application on Microsoft SQL Server, some other tasks must be performed on a periodic basis. These are in addition to such common database administration tasks as monitoring and backup.

Updating Statistics

The cost-based optimizer in Microsoft SQL Server uses statistics about tables and indexes to compute the most efficient access plans. When statistics become inaccurate, as can happen for tables with high insertion or deletion rates and for their associated indexes, the performance of database operations can degrade dramatically.

You should always perform a full scan of all your tables under the following circumstances, even if you implement automatic statistics updating:

■ After your Siebel Database installation and before starting Siebel eBusiness Applications.

■ After you run concurrent EIM threads.

■ After you insert, update, or delete large amounts of data.

Using Query Analyzer, perform a full scan of each table by entering the following command:

```
update statistics Table Name with full scan
```

It is strongly recommended that you enable the automatic creation and updating of statistics, using the parameters documented in "MS SQL Server Configuration Guidelines" on page 262. This way, statistics are automatically kept up to date and the administrative overhead of updating them manually is removed.

If you do not implement automatic statistics updating, then periodically perform the full scan described in this section.

Monitoring Fragmentation

Use the following Microsoft SQL Server command to determine whether a clustered index and its associated tables are highly fragmented:

```
DBCC SHOWCONTIG
```

If this command returns a value for scan density of less than 60%, use the following Microsoft SQL Server command to defragment tables without having to drop indexes:

```
DBCC INDEXDEFRAG
```

You may want to use this option periodically against the entire database.

If DBCC SHOWCONTIG returns a value of less than 30%, or when you suspect that indexes might be interleaved on the disk, consider rebuilding the index, using:

```
DBCC DBREINDEX
```

You have completed configuring your Microsoft SQL Server database. Proceed to Chapter 11, "Installing the Siebel Database Server for Microsoft SQL Server." For more information about monitoring fragmentation, see the appropriate Microsoft SQL Server documentation.

Clustering Your Database Server

Microsoft SQL Server 2000 provides failover clustering (MSCS), which increases the availability of Siebel Databases. By using failover clustering, hardware or operating systems can be configured, as can planned upgrades, to fail over to any other node in the failover cluster configuration. This type of configuration minimizes system downtime through improved server availability.

Siebel Systems supports any database clustering solution certified by the database vendor. For information about how to cluster a SQL Server database for failover, see your vendor documentation.

Installing the Siebel Database Server for Microsoft SQL Server 11

This chapter provides information for system administrators who will install the Siebel Database Server and for database administrators who will assist in this process.

The installation and configuration of the Siebel Database Server consists of several tasks. Table 26 on page 271 illustrates the sequence of steps.

Table 26. Database Server Installation and Configuration Tasks

Who Performs It?	Task	
System Administrator	**1**	Fill out your copy of Appendix A, "Deployment Planning Worksheets," with all RDBMS-specific information.
	2	If you intend to implement load-balancing, install and configure Central Dispatch. See Chapter 3, "Implementing Load-Balancing with Central Dispatch."
	3	If you intend to implement clustering on this database server, review the Microsoft MSCS documentation on this subject.
Database Administrator	**4**	Create the Microsoft SQL Server instance. See Chapter 10, "Creating the Microsoft SQL Server Database" and Appendix C, "Sample Database Creation Scripts."
System Administrator	**5**	Install the Siebel Database Server software. See "Database Server Software Installation on MS SQL Server" on page 273.
	6	Review the software installation. See "Reviewing the Software Installation of Database Server on MQ SQL" on page 279.
	7	Reset the Global Time Zone parameter, if required, for your multilingual deployment. See "Setting Up Your Environment to Support Global Time Zone" on page 280.
Database Administrator	**8**	Create the tableowner and administrator accounts. See "Creating Tableowner and Administrator Accounts on MS SQL Server" on page 281.

Table 26. Database Server Installation and Configuration Tasks

Who Performs It?	Task	
Siebel Administrator	**9**	Install the Siebel Database Server seed data, tables, and indexes. See "Installing Siebel Database Server Components on MS SQL Server" on page 282.
	10	Review the installation log files. See "Reviewing the Log Files for DB Server Components on MS SQL Server" on page 287.
	11	Import the Siebel Repository. See "Importing the Siebel Repository on MS SQL Server" on page 289.
	12	Review the repository import log files. See "Reviewing the Log Files for Importing Repository on MS SQL Server" on page 293.
	13	Verify your system preferences as they relate to your Enterprise DB Server code page. See "Verifying System Preferences" on page 295.
	14	If you are deploying multiple languages, install multilingual seed data. See "Installing Multilingual Seed Data on MS SQL Server" on page 296.
	15	If you are deploying multiple languages, import multilingual seed data to your repository table rows. See "Importing a New Language to Your Repository on MS SQL Server" on page 298.
Database Administrator	**16**	Populate the appropriate subdirectory of the Siebel File System. See "Populating the Siebel File System on MS SQL Server" on page 300.

About the Database Server

The Siebel Database Server stores the data used by Siebel eBusiness Applications. Siebel Dedicated Web Clients (Siebel Mobile Web Clients in connected mode), Siebel Tools Clients, and Siebel Server components connect directly to the Database Server and make changes in real time. Dedicated Mobile Web Clients download a subset of the server data to use locally, periodically synchronizing with the Database Server through the Siebel Server for updates.

Installation and configuration of the Siebel Database Server software configures the Siebel Database automatically.

Pre-Installation Tasks for Database Server Installation on MS SQL Server

Before installing the Siebel Database Server, you must complete the following tasks:

■ Obtain the services of a qualified database administrator to assist you during your installation.

■ Complete the appropriate RDBMS-specific information you recorded in the copy you made of Appendix A, "Deployment Planning Worksheets."

■ Make sure that the Microsoft SQL Server instance has been created and is properly configured, as described in Chapter 10, "Creating the Microsoft SQL Server Database."

■ Complete all the steps in the appropriate sections of Chapter 5, "Installing the Siebel Gateway,"and Chapter 6, "Installing the Siebel Server."

■ If this Enterprise will be multilingual, make sure that all the languages that you want the Siebel Database to support are first installed onto the associated Siebel Server.

Database Server Software Installation on MS SQL Server

Installation of the database server software consists of the following tasks:

■ "Installing the Database Server Software on MS SQL Server"

■ "Reviewing the Software Installation of Database Server on MQ SQL" on page 279

■ "Setting Up Your Environment to Support Global Time Zone" on page 280

■ "Creating Tableowner and Administrator Accounts on MS SQL Server" on page 281

After you install the software and create the Siebel tableowner and administrator accounts and privileges, you are ready to configure the installed software for use with your database. For information on database server configuration, see "Configuring the Database Server on MS SQL Server" on page 282.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually C:) even if you intend to install Siebel eBusiness Applications into another drive.

Installing the Database Server Software on MS SQL Server

Complete the steps below to install the Siebel Database Server files. You must already have a Siebel Server installed on this computer.

To install the Siebel Database Server software

1 Insert the *Windows Server Programs Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

2 In Windows Explorer, double-click seawinsesbase or siawinsesbase, as appropriate to the Siebel applications that you are installing.

3 Navigate to:

   D:\windows_server_ses_base\ses and double-click setup.exe

   The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

4 Click Next.

   If you have already installed the Siebel Server on the same machine, the installer displays the message that an existing installation has been found.

5 Depending on whether you are installing your Siebel Database Server or adding a new language to an existing instance, take the appropriate action:

   ■ To install the server software in a new instance, select None as the default and click Next. Proceed to Step 6.

■ To install a new language in an existing instance, select the displayed instance and click Next. Proceed to Step 10 on page 277.

See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

NOTE: You must install the Siebel Database Server in the same directory in which you installed the Siebel Server.

---

6 Select the displayed default directory for file installation or use the Browse button to select a different drive or directory, and then click Next. Proceed to Step 10 on page 277.

The installer prompts you to select the server that you want to install.

7 Select from the following options and click Next:

■ Install all the components at once for which your organization has a license by selecting all the check boxes.

■ Select just the Siebel Database Server at this time for installation and configuration. (You will install and configure the other server components individually later.)

NOTE: If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard prompt you for the installation parameters of each component individually and in the sequence required.

The installer prompts you to select the type of installation setup you prefer.

8 Choose the type of Siebel Database Server installation to execute from the following options; then click Next to continue:

■ **Typical.** This setup option will install all Siebel Database Server components except those displayed.

■ **Compact.** There is no compact installation option for this server.

■ **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

CAUTION: If you select Custom installation, make sure that you also select Sample Database the first time you install the software, since these attachments must be copied to the Siebel File System directory after configuration. Otherwise, the required file attachments will not be installed.

For a list of the installable components, see the following table.

Installation Setup	Products
Typical	Database files including all the components below: ■ Sample Database—File attachments for Siebel seed data ■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server ■ Oracle—Database scripts for the Siebel Database on Oracle ■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2 UDB ■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries
Custom	Select the database files you want to install from the components below: ■ Sample Database—File attachments for Siebel seed data ■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server ■ Oracle—Database scripts for the Siebel Database on Oracle ■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2 ■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries

❑ If you chose the Custom installation type, proceed to Step 9.

❑ If you chose the Typical installation type, proceed to Step 10.

9 Select the database platform components that you want to install and click Next.

> **CAUTION:** If you perform a Custom installation, make sure to select Siebel Sample Database.

10 Confirm the Language Pack or Packs you are installing for the Siebel Database Server and click Next.

Servers are installed, at a minimum, with the primary language in which the server will be run. This is the primary (base) language for your Enterprise. Optionally, you can install one or more additional languages.

> **NOTE:** In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer prompts you that the setup program will install program shortcuts to your Program Folder with the name Siebel Enterprise Server 7.x.x.

11 Click Next and the installer automatically adds program icons to a folder in the Windows Program file called Siebel Enterprise Server 7.x.x.

> **NOTE:** To override the default action and install the program icons to a different Program folder in the list under Existing Folders, enter the name for that folder.

The installer displays the location into which it will install the Siebel Database Server and any other servers you have elected to install. It also displays the file size.

After all server files you specified, have been installed, a warning screen appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the Siebel Language Code language
pack CD and select setup.exe.
```

12 Click OK.

A dialog box titled Insert CD for *language* Language Pack appears (where *language* stands for the Language Pack you are installing), and displays a file called `siebel.ini`. However, you do not need to do anything with this file.

13 Remove the current CD from the drive and insert the appropriate Language Pack CD.

14 Locate `seawinses`*language* or `siawinses`*language,* as appropriate, where *language* stands for the Language Pack you are installing, and double-click it.

- If installing Siebel Enterprise Applications, proceed to the information concerning Step 15.

- If you are installing Siebel Industry Solutions, you may also be prompted to install an additional CD, depending on the language you are installing. If this is the case, perform the following steps:

a Click OK, but do not do so until you have removed the first CD and inserted the second language CD.

When all files on the second language CD have been installed, you will be prompted to reinsert the first language CD.

b Reinsert the first language CD and click OK.

After a short time, a message box appears, stating:

```
Please reinsert the base CD and browse to setup.exe to enable
setup to continue.
```

15 Click OK.

16 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

17 Navigate to windows_server_ses_ base > ses and open setup.exe.

After all server files specified have been installed, the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

18 Click Finish.

19 Proceed to "Reviewing the Software Installation of Database Server on MQ SQL."

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt.

Reviewing the Software Installation of Database Server on MQ SQL

Review the directory structure created by the Database Server installation, as illustrated below. The example below results from a Custom installation.

The *MSSQL* subdirectory is located under the *DBSRVR_ROOT* directory within the Siebel root directory you specified during the installation; for example, *SIEBEL_ROOT*\dbsrvr\MSSQL\.

DBSRVR_ROOT

```
BIN
COMMON
LANGUAGE
MSSQL

UPGRADE
```

```
FILES
LOCALE
PE60
```

BIN. Contains files for internal use.

COMMON. Contains common database platform-independent files.

LANGUAGE. Contains language- and database-specific files for the ancestor repository and supporting files. For example, ENU would contain language-specific U.S. English files, or DEU would contain German language-specific files.

MSSQL. Scripts specific to MS SQL Server, including upgrade scripts for previous versions of Siebel eBusiness Applications.

UPGRADE. Directories containing files to enable upgrade from specific versions of Siebel eBusiness Applications supported for upgrade to the current release.

FILES. This directory installs if you chose to install Sample File Attachments. These files should be copied to the appropriate subdirectory of the Siebel File System. See "Populating the Siebel File System on MS SQL Server" on page 300.

LOCALE. Contains translation files for the Upgrade Wizard. For use by Siebel Systems only.

PE60. Files used for uploading data from Siebel Sales Personal Edition.

Setting Up Your Environment to Support Global Time Zone

Global deployments typically span multiple time zones, making it difficult to manage time-sensitive information that must be exchanged among customers and employees working around the world. Siebel Systems' Global Time Zone feature helps your organization meet contractual response times and commitments in spite of time zone differences.

The Global Time Zone feature converts and stores date and time information, using the Universal Time Zone (UTC) standard, which is equivalent to Greenwich Mean Time but without daylight savings time.

If you intend to operate your deployment with the Global Time Zone feature enabled, you must also set the operating system of your database servers to UTC time or its equivalent. For more information on enabling Global Time Zone, see *Global Deployment Guide*.

Although enabling this feature is optional in Siebel 7, it is strongly recommended that you operate your production environment with Global Time Zone enabled.

NOTE: The Global Time Zone parameter (Universal Time Coordinated system preference) is enabled (set to TRUE) in Siebel 7 by default. If you do not want to enable Global Time Zone feature, you must reset this parameter to FALSE through Server Manager by navigating to Application Administration > System Preferences.

Creating Tableowner and Administrator Accounts on MS SQL Server

Your database administrator must manually create the Siebel administrator account (default: *SADMIN*), the LDAPUSER account, and the *SSE_ROLE* group. Add the Siebel administrator logon to the sysadmin fixed server role. After the upgrade or install, the Siebel administrator account may be dropped from the sysadmin role, and added to the *SSE_ROLE*.

To grant the appropriate privileges to these users, execute the grantusr.sql script against your database server. Your database administrator should review and run the grantusr.sql script before you configure the Siebel Database Server. This script is located in the *DBSRVR_PLTFRM_ROOT* subdirectory (for example, sea700\dbsrvr\MSSQL).

The default user name, password, and database associated with the logon are listed in the grantusr.sql script, as the following example shows:

```
sp_addlogin SADMIN, SADMIN, siebeldb

go

sp_addlogin SIEBEL, SIEBEL, siebeldb

go

sp_addlogin LDAPUSER, LDAPUSER, siebeldb
```

To change the login or the name of the database, edit the `grantusr.sql` script to change all references to the login or the database name. (The length and allowable characters of the login ID and password depend on the rules of your underlying RDBMS platform. See your Microsoft documentation for instructions.)

CAUTION: Do not change the name of the Siebel administrator account, `SADMIN`. This account must exist for you to log in to Siebel eBusiness Applications as the Siebel administrator.

Tableowner and Administrator Account for Siebel Marketing

If you are planning to use Siebel Marketing, grant drop table, drop index, create table, and create index rights at the database level within the OLTP schema to the tableowner or the database userid used for Siebel Marketing. For more details. see *Siebel Marketing Guide.*

To run the grantusr.sql script

1 Open `grantusr.sql` in MS Query Analyzer.

2 Execute the script.

Configuring the Database Server on MS SQL Server

Configuring the Siebel Database Server for installation consists of two sets of tasks:

■ "Installing Siebel Database Server Components on MS SQL Server"

■ "Importing the Siebel Repository on MS SQL Server" on page 289

You will perform both configuration tasks using the Siebel Software Configuration Wizard - DB Server Configuration.

Installing Siebel Database Server Components on MS SQL Server

When you choose Install a new Siebel Database from the Siebel Database Server Options menu, the Siebel Software Configuration Wizard:

■ Creates Siebel tables and indexes.

■ Inserts Siebel seed data.

■ Installs Siebel seed data specific to your database.

NOTE: Every time you install a new primary (base) language, you will need to launch the Siebel Software Configuration Wizard and navigate to Siebel Database Server Options > Install > Add a language to existing database. For a complete list of languages supported by Siebel eBusiness Applications in this release, and their corresponding Siebel language codes, see *System Requirements and Supported Platforms* on the *Siebel Bookshelf*.

To install Siebel database server components

1 Launch the Database Server Configuration Wizard, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131.

The Gateway Server Address screen appears.

2 Type the following values as you recorded them in your copy of Appendix A, "Deployment Planning Worksheets," and then click Next.

Gateway Server Address. The domain name and alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Siebel Enterprise Server, for example, siebel.

The Siebel Server Directory screen appears.

3 On the Siebel Server Directory screen, perform either of the following tasks and click Next:

■ Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\siebsrvr.)

■ Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

4 On the Siebel Database Server Directory screen, perform either of the following tasks and click Next:

- Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, D:\dbsrvr.)

- Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

5 Select Microsoft SQL Server.

Click Next.

The Siebel Database Operation screen appears.

6 Select Install Database and click Next.

The Siebel User/Role Creation screen appears, prompting you to execute the grantusr.sql script to create tableowner and administration accounts, if you have not already done so.

7 Indicate whether or not you have already run the grantusr.sql script to set up tableowner and administration accounts:

- If you already ran grantusr.sql, click the uppermost radio button, and then click Next. Proceed to Step 9.

  The Select Installation Operation screen appears.

- If you did not already run grantusr.sql, click the lower radio button, and then click Next. The Configuration Wizard quits. Proceed to Step 8.

8 Run the grantusr.sql script, then return to Step 1, relaunch the Configuration Wizard, and start this procedure over.

If you already ran grantusr.sql, the Select Installation Operation screen appears.

9 On the Select Installation Operation screen, click Install Siebel Database, and then click Next.

10 On the Database Encoding screen, identify the appropriate database encoding method:

- If your database uses a Unicode code page, click UNICODE Database.

■ If your database uses a non-Unicode code page, click Non-UNICODE Database.

CAUTION: Carefully choose the correct option for your database to prevent installation of the wrong data types. The database will not be able to create Unicode data types on a non-Unicode page setting, so check this setting carefully before choosing the option.

The Language Selection screen appears.

11 On the Language Selection screen, choose the language in which you want to run your database, and then click Next.

NOTE: If you only installed a primary (base) language and no additional languages, this screen does not appear.

The ODBC Data Source Name screen appears.

12 Indicate the name for the ODBC data source and then click Next.

NOTE: The data source is created automatically by the Siebel Server installation, using the format SiebSrvr_*enterprise_server_name*.

The Database User Name screen appears.

13 On the Database User Name screen, indicate the following about your database:

Database User Name. Type the user name of the Siebel administrator, for example, SADMIN.

Database Password. Type the password for the Siebel administrator, for example, MSSQL.

Database Password (confirm). Retype the password to confirm it.

Click Next.

The Database Table Owner screen appears.

14 On the Database Table Owner screen, indicate the following about your database:

Database Tableowner. Type the DBO login ID for the Siebel Database.

Database Password. Type the password for this account, for example, MSSQL.

Database Password (confirm). Retype the password to confirm it.

The Database Server OS screen appears.

15 On the Database Server OS screen, select the platform on which your database server runs, and then click Next.

The Configuration Parameter Review screen appears.

16 On the Configuration Parameter Review screen, review the configuration values you entered on the previous Configuration Wizard screens:

- If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

- When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is

C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_install.ucf
```

NOTE: If a program or system error occurs and you need to rerun the Siebel Upgrade Wizard, you can do so, starting at the point at which the wizard failed, by navigating to \SIEBEL_ROOT\siebsrvr\bin and entering: siebupg.exe /m master_install.ucf

The Siebel Upgrade Wizard screen appears, displaying the items to be executed or imported.

17 To begin, click OK.

If you need to change the values you previously entered, relaunch the
Configuration Wizard. The relaunch will allow you to reconfigure with different
values.

The Siebel Upgrade Wizard Complete screen appears when installation is
complete.

You have now finished installing Siebel database server components.

Reviewing the Log Files for DB Server Components on MS SQL Server

The database server component installation creates a number of log files, such as
UpgWiz.log, UpgWiz_01.log (which increments to additional logs) within the
SIEBEL_ROOT\log subdirectory, which you must review for any errors.

NOTE: UpgWiz.log is the most recently created log file; UpgWiz_01 is the next most
recent, and so on.

When you install your primary (base) language Pack, it creates a special log file
with the name dataimp_prim_lang.log.

Acceptable Errors

The log files may include errors that are expected and benign. Compare any error
messages found in the log files to the sample error messages in the errors.rtf file,
which is located in the installation subdirectory for your database platform, for
example, MSSQL. (If a log file is not listed in the errors.rtf file, then there are no
acceptable error messages for that log file.) No further action is required if the log
files contain errors listed in the errors.rtf file.

NOTE: Only one of each type of error occurring in a particular log file appears in the
errors.rtf file.

If you find errors not listed in the errors.rtf file, correct the condition that caused
the errors, and rerun the Upgrade Wizard. The wizard will restart from the point
where it left off.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Troubleshooting Siebel Database Server on MS SQL Server

Typically, problems during database installation result from insufficient allocation of storage space or from improper user privileges by the installer.

Importing the Siebel Repository on MS SQL Server

When you import the Siebel Repository, you populate all the repository tables in the Siebel Database Server with the new Siebel 7 application objects.

Regardless of how many Siebel eBusiness Applications you are using (for example, Siebel Sales, Siebel Service, and Siebel Marketing), you will load the repository tables only once.

To import the Siebel Repository

1 Launch the Database Server Configuration Wizard using any method described in Chapter 2, "Preparing for the Installation."

The Gateway Server Address screen appears.

2 Type the values you recorded in your copy of Appendix A, "Deployment Planning Worksheets" for the following parameters, and then click Next:

Gateway Server Address. The alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Siebel Enterprise Server, for example, siebel.

The Siebel Server Directory screen appears.

3 On the Siebel Server Directory screen, perform either of the following tasks, and then click Next:

- Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\siebsrvr.)

- Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

4 On the Siebel Database Server Directory screen, perform either of the following tasks, and then click Next:

- Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, D:\dbsrvr.)

■ Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

5 Select Microsoft SQL Server and click Next.

6 On the Siebel Database Operation screen, select Import/Export Repository, and then click Next.

The Select Repository Operation screen appears.

7 On the Select Repository Operation screen, choose one of the following options, as appropriate:

■ **Import Repository.** To import the Siebel Repository for the first time with a primary (base) language, select this option. Click Next and proceed to Step 8.

The Import Selection screen appears.

■ **Export Repository.** Exports the Siebel Repository into a platform-independent file that can be sent to Siebel Technical Support for analysis if needed. Click Next and proceed to Step 13 on page 292.

For instructions on importing a new language to the Siebel Repository, see "Importing a New Language to Your Repository on MS SQL Server" on page 298.

The Import Selection screen appears.

8 On the Import Selection screen, indicate the following:

■ If you want to import a standard Siebel 7 repository, click the uppermost radio button.

■ If you want to import a Siebel 7 repository that you have customized to a new environment, click the bottom radio button.

To continue, click Next and proceed to Step 9.

The ODBC Data Source Name screen appears.

9 Indicate the name for the ODBC data source and then click Next.

NOTE: The data source is created automatically by the Siebel Server installation, using the format Sieb`Srvr_enterprise_server_name`.

The Database User Name screen appears.

10 On the Database User Name screen, indicate the following about your database, and then click Next:

Database User Name. User name of the Siebel administrator, for example, SADMIN.

Database Password. Password for the Siebel administrator, for example, MSSQL.

Database Password (confirm). Retype the password to confirm it.

The Database Table Owner screen appears.

11 On the Database Table Owner screen, indicate the following about your database, and then click Next:

Database Tableowner. Type the DBO login ID for the Siebel Database.

Database Password. Type the password for this account, for example, MSSQL.

Database Password (confirm). Retype the password to confirm it.

■ When *importing* your repository for the first time, or when importing a secondary language repository on top of your base-language repository, the Import Repository Name screen appears. Proceed to Step 12.

■ If you are *exporting* your repository, the Export Repository Name screen appears. Proceed to Step 13.

12 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. If you are importing your repository for the first time, this is the second field appearing on the screen. Accept the default installation path and file name for this repository or type another valid installation path.

Proceed to .

13 On the Export Repository Name screen, type the following values, and click Next:

Export Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. Accept the default installation path and file name for this repository or type another valid installation path.

The Configuration Parameter Review screen appears, showing the values you typed on the previous screens.

14 Review the configuration values you entered on the previous Configuration Wizard screens:

■ If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

■ When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is
```

```
C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_imprep.ucf
```

NOTE: If a program or system error occurs and you need to rerun the Siebel Upgrade Wizard, you can do so, starting at the point at which the wizard failed, by navigating to *SIEBEL_ROOT*\siebsrvr\bin and entering siebupg.exe /m master_imprep.ucf.

The Siebel Upgrade Wizard screen appears, displaying the items to be executed or imported.

15 To begin, click OK.

A window appears, displaying information about Siebel Upgrade Wizard repository import activities.

The Siebel Upgrade Wizard displays a message when installation is complete.

To verify that the import was successful, review the log files. See "Reviewing the Log Files for Importing Repository on MS SQL Server."

If you need to change the values you previously entered, relaunch the Configuration Wizard by double-clicking the Configure DB Server icon within Start > Programs > Siebel Enterprise Servers 7.x.x. This relaunch will allow you to reconfigure with different values.

Reviewing the Log Files for Importing Repository on MS SQL Server

The repository import process creates a number of log files, such as UpgWiz.log and UpgWiz_01.log (which increments to additional logs) within the *SIEBEL_ROOT*/log subdirectory, which you must review for any errors. Further log files are created when the upgrade wizard encounters a problem and the user attempts a retry.

When you import a repository with a new language, it creates the following special log files:

```
update_ver.log
seeduver1.log
imprep_lang.log
restore_ver.log
```

Acceptable Errors

The log files may include errors that are expected and benign. Compare any error messages found in the log files to the sample error messages in the `errors.rtf` file, which is located in the database server platform subdirectory, for example, `MSSQL`. (If a log file is not listed in the `errors.rtf` file, then there are no acceptable error messages for that log file.) No further action is required if the log files contain errors listed in the `errors.rtf` file.

NOTE: Only one of each type of error occurring in a particular log file appears in the `errors.rtf` file.

If you find errors not listed in the `errors.rtf` file, correct the condition that caused the errors, and rerun the Upgrade Wizard.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Troubleshooting Importing Siebel Repository on MS SQL Server

Typical problems that may occur at this stage consist of the following:

■ Importing a repository with the same name as an existing repository.

■ Database runs out of tablespace pages and cannot allocate new data pages.

The above errors should appear in the log files produced by the repository import process.

Post-Installation Tasks for DB Server Installation on MS SQL Server

Perform the following tasks after you complete your installation of the Siebel Database Server:

■ "Verifying System Preferences" on page 295

■ "Installing Multilingual Seed Data on MS SQL Server" on page 296

■ "Importing a New Language to Your Repository on MS SQL Server" on page 298

■ "Populating the Siebel File System on MS SQL Server" on page 300

Verifying System Preferences

After you complete installation and configuration of your Siebel Database Server, you must verify system preferences for the Siebel application in Siebel Tools. For installation instructions for Siebel Tools, see *Siebel Tools Reference*.

To verify system preferences

1 Launch Siebel Tools and navigate to Screens > System Administration > System Preferences.

2 Look for `System Preference Name = Enterprise DB Server Code Page` and verify that the value has been set correctly, based on the value that you selected during installation of the database server components ("Installing Siebel Database Server Components on MS SQL Server" on page 282). For a list of the appropriate values, see Table 27.

NOTE: The Code Page value must be in lowercase, for example, utf-16.

Table 27. Acceptable Values for Enterprise DB Server Code Page

Value	Language	Database
utf-16* (Unicode)	All	MS SQL Server
cp1252 (or equivalent)	Western European	All

*Also known as UCS-2; although the value entered *must be utf-16*.

3 If your database is Unicode-enabled, verify that column UNICD_DATATYPS_FLG in table S_APP_VER has the Unicode flag set correctly. If your database is:

- Codepage = N

- Unicode DB2/SQL Server = Y

NOTE: The data type flag must be uppercase.

Installing Multilingual Seed Data on MS SQL Server

If your organization deploys internationally and, therefore, requires data in multiple languages, you must install multilingual seed data (for example, lists of views, responsibilities, or system preferences). To install multilingual see data, you add new Language Packs to your database after you have installed the primary (base) language for your database server. This installation populates the List of Values (LOV) with seed data in the new language.

Only after you successfully install seed data in your primary (base) language can you add seed data in other languages to your database. Adding this seed data also adds new LOV data in the new language.

CAUTION: You cannot add secondary languages to the Siebel Database for a Siebel Enterprise Server unless you have already installed them on the associated Siebel Server.

To install multilingual seed data

1 Follow the instructions under "Installing the Database Server Software on MS SQL Server" on page 274, using the CD for the new language that you want to install.

2 On the Existing Installations Found screen, select the database instance to which you want to add the language.

3 When installation is complete, launch the Database Server Configuration Wizard and repeat Step 1 through Step 9 under "Installing Siebel Database Server Components on MS SQL Server" on page 282.

The Select Installation Operation screen appears.

4 On the Select Installation Operation screen, select Add a language to an existing Siebel Database, and then click Next.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The Base Language screen appears.

5 On the Base Language screen, select the language in which you primarily want your Siebel Database to run and click Next. This language is called your base language.

6 Repeat Step 11 through Step 15 of "Installing Siebel Database Server Components on MS SQL Server" on page 282.

The Repository Name screen appears.

7 On the Repository Name screen, type the name of the repository you created earlier or accept the default name, and then click Next.

NOTE: To add seed data in a new language to your database, you must have already imported your repository in its primary (base) language.

8 Repeat Step 16 through Step 17 of "Installing Siebel Database Server Components on MS SQL Server" on page 282.

NOTE: To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following installation of multilingual seed data, you must navigate to \siebsrvr\bin\ and enter:
siebupg.exe /m master_install_*LANGUAGE*.ucf

---

9 Enable the multilingual list of values (MLOV) capability within Siebel eBusiness Applications. For information, see *Global Deployment Guide*.

Importing a New Language to Your Repository on MS SQL Server

After you successfully import your Siebel Repository in its primary (base) language, you may add additional languages to it.

By adding a new language to your repository, you populate rows of localizable information, which allows Siebel eBusiness Applications to operate better in the new language.

Regardless of how many Siebel eBusiness Applications you are using (such as Siebel Sales, Siebel Service, and Siebel Marketing), you perform this step only once for each language you want to install.

To import a new language to your repository

1 Follow Step 1 through Step 6 under "Importing the Siebel Repository on MS SQL Server" on page 289.

The Select Repository Option screen appears.

2 On the Select Repository Operation screen, choose Add Language to an Existing Repository and click Next.

NOTE: If you already imported your Siebel Repository and its primary (base) language, select this option to add another language to the repository.

The Language Selection screen appears.

3 On the Language Selection screen, specify the new language you are adding on top of your primary (base) language in the Siebel Repository and click Next.

4 Repeat Step 9 through Step 11 of "Importing the Siebel Repository on MS SQL Server" on page 289.

The Import Repository screen appears.

5 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Localized Repository Name. Accept the default installation path and file name for this repository or type another valid installation path.

6 Repeat Step 14 through Step 15 of "Importing the Siebel Repository on MS SQL Server" on page 289.

7 Enable the Multilingual List of Values (MLOV) capability within the Siebel application. For more information, see *Global Deployment Guide*.

NOTE: To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following importing new languages to the repository, you must navigate to \siebsrvr\bin\ and enter:
siebupg.exe /m master_imprep_*LANG*.ucf

Populating the Siebel File System on MS SQL Server

Specific files needed to run the Siebel File System, such as correspondence templates and Siebel Marketing files, are provided with the Siebel Database Server software. A subdirectory called `files` is created automatically when you install the Siebel Database Server.

Your DBA must populate the `\att` subdirectory of the Siebel File System with these file attachments after installing the Database Server and before running the Siebel Web Client.

To populate the Siebel File System directory

1 Copy the appropriate files from the `\files` subdirectory of the Siebel Database Server software to the `\att` subdirectory of the Siebel File System.

2 Copy the `KB.kb` file from the `\files` subdirectory of the Siebel Database Server software to the `\cms` directory within the Siebel File System.

3 Verify that the files are in the proper directory.

Creating the Oracle Database **12**

This chapter provides an overview of Siebel Database configuration and sizing recommendations for Oracle. The chapter also describes how to create the Oracle Database for use with Siebel eBusiness Applications.

The optimization and creation of the Siebel Database consists of several tasks, which are illustrated in Table 28.

Table 28. Database Configuration Tasks

Who Performs It?	Task
Database Administrator	**1** Review the database layout guidelines, and lay out your database accordingly. See "Oracle Database Layout Guidelines" on page 302.
	2 Review the list of Oracle parameter settings that have an impact on the performance of Siebel eBusiness Applications, and reset them according to the guidelines in this chapter. See "Oracle Database Configuration Guidelines" on page 306.
	3 Create your database objects. See "Creating the Database" on page 310.
	4 Review ongoing database administration tasks. See "Ongoing Oracle Database Administration" on page 319.

Oracle Database Layout Guidelines

As with most client-server applications, the overall performance of Siebel eBusiness Applications is largely dependent on the I/O performance of the Database Server.

To assure optimal I/O performance, you must arrange tables and indexes across available disk devices so that the I/O load is evenly distributed. Put indexes for a given table on a different disk from the table data whenever possible.

Using a Redundant Disk Array With Oracle

A redundant array of independent disks, or RAID, can provide large amounts of I/O throughput and capacity, while appearing to the operating system and RDBMS as a single large disk (or multiple disks, as desired, for manageability). The use of RAIDs can greatly simplify the database layout process by providing an abstraction layer above the physical disks, while ensuring high performance.

Planning the Distribution of Your Database Objects

Regardless of the RDBMS you implement, and your chosen disk arrangement, be certain that you properly distribute the following types of database objects:

- Database log or archive files
- Rollback segments
- Temporary work space used by the database
- Tables and indexes

In most implementations, the Siebel tables listed in Table 29 and their corresponding indexes tend to be either the most commonly used, or they have the potential to be large in some, or in all, deployments. For example, the tables S_EVT_ACT, S_CONTACT, and S_ORG_EXT are large in all sizeable deployments of Siebel eBusiness Applications.

Table 29. Most Frequently Used and Largest Siebel Tables

Table Names	
S_ACCNT_CHRCTR	S_INVOICE
S_ACCNT_CO_MSTR	S_INVOICE_ITEM
S_ACCNT_POSTN	S_INV_LGR_ENTRY
S_ADDR_ORG	S_OPTY_POSTN
S_ADDR_PER	S_OPTY_PROD
S_ASSET	S_OPTY_TERR
S_CALL_LST_CON	S_OPTY_POSTN
S_CON_CHRCTR	S_ORG_EXT
S_CON_TERR	S_ORG_TERR
S_ACCNT_CHRCTR	S_PARTY
S_CRSE_TSTRUN	S_PARTY_PER
S_CRSE_TSTRUN_A	S_PARTY_REL
S_CS_RUN	S_PARTY_RPT_REL
S_CS_RUN_ANSWR	S_POSTN_CON
S_CTLGCAT_PATH	S_INVC_ITM_DTL
S_CYC_CNT_ASSET	S_INVLOC_ROLLUP
S_DNB_CON_MRC	S_POST_CON
S_DNB_ORG	S_PROC_REQ
S_DNB_ORG_SIC	S_PROD_BASELINE
S_DNB_UPDATE	S_PROD_CONSUME

Table 29. Most Frequently Used and Largest Siebel Tables

Table Names	
S_DOCK_INIT_ITEM	S_PROD_SHIPMENT
S_DOCK_TXN_LOG	S_PROD_TARGET
S_DOCK_TXN_LOGT	S_QUOTE_ITEM
S_DOCK_TXN_SET	S_SRM_REPLY
S_DOCK_TXN_SETT	S_SRM_REQUEST
S_ESCL_ACTN_REQ	S_SRM_REQ_PARAM
S_ESCL_LOG	S_SRV_REQ
S_ESCL_REQ	
S_EVT_ACT	
S_EXP_ITEM	
S_EXP_RPT	
S_EXP_RPT_APPR	
S_IC_CALC	
S_IC_CALC_IT	
S_IC_CMPNT_EARN	
S_IC_TXN	
S_IC_TXN_IT	
S_IC_TXN_POSTN	

These tables and indexes should be separated across devices. As a general rule, indexes should be in a different tablespace and, if possible, on different physical devices from the tables on which they are created.

Planning Database Distribution if a RAID Disk Array Is Not Used

If a RAID device is not in use, even if space is at a premium, you must separate the indexes whose names end with _P1 from the tables on which they are created. These tables are heavily used in join operations.

If you will make frequent use of Siebel Enterprise Integration Manager (EIM), you may want to put the interface tables and indexes (names starting with EIM_) on different devices from the Siebel base tables. Both tables are accessed simultaneously during EIM operations.

Logical Device Layout

You can use tablespaces to place objects on data files, which create tablespaces to span one or more data files. Tablespaces can be used to place objects on multiple physical data files to promote parallel I/O. Spreading the data and index information across several data files (physical devices) can improve the performance of queries.

Mirroring Important Oracle Files

Many companies today use RAID storage systems that make Oracle online redo log mirroring unnecessary.

If your organization does not use RAID storage systems, you should, at a minimum, mirror the redo log, as this is essential when a database goes through crash-recovery.

Also, when redo logs are mirrored at the RAID storage system level (usually RAID1 or RAID0 + 1), there is usually no need to mirror them at the Oracle level, since the RAID controller assures that these volumes can always be recovered. Mirroring at the RAID level usually improves database performance (especially beneficial for read operation).

If you have the resources, the Oracle control files should be mirrored as well. Otherwise, you can put the Oracle control files into a RAID-5 device as it is not heavily accessed and disk performance is not a concern. The information it records, though, is very critical for the Oracle database. Any updates to the control file—for example, the current System Change Number (SCN) or transaction tables—ripple across all members of the control file specification.

NOTE: For data that is accessed heavily, disk subsystem mirroring (hardware mirroring) generally provides better performance compared to RAID5.

Oracle Database Configuration Guidelines

This section contains guidelines for obtaining optimum performance from an Oracle database. Refer to your Oracle technical documentation for additional information.

The init.ora file contains parameters that have a major impact on the performance of Siebel applications.

NOTE: Use the following settings only as guidelines for your initial configuration. Your final settings will vary based on the server hardware configuration, the number of users, and the type of workload.

In the init.ora file, Oracle provides default parameter values for small, medium, and large database configurations. Unless the configuration parameters are specified in the following settings, set them to the large database values. Refer to your Oracle documentation for detailed descriptions of each of the parameters and their effects on database performance and system resource utilization.

Brief descriptions of these parameters follow:

OPTIMIZER_MODE. Select the rule-based optimizer by setting OPTIMIZER_MODE to RULE.

NOTE: Siebel optimizes and certifies Siebel applications on a standard Oracle installation using Rule-Based Optimizer (RBO). Using advanced features like Cost-Based Optimizer (CBO) and table partitioning are not supported and could have a detrimental effect on query performance.

If there is a reason to believe that the issues are caused by CBO, table partitioning, or other database features that are not currently supported, Siebel Support will request that you reproduce issues against a standard installation using RBO.

DB_BLOCK_BUFFERS. The minimum recommended value is 10,000 blocks (assuming a block size of 8 KB). This yields 80 MB of block buffers. If significant I/O activity occurs, you can increase this value, provided that enough RAM is available.

In a production system, it is recommended that you assign this parameter a minimum value of 256 MB. Also, your system should have a minimum of 512 MB RAM.

SHARED_POOL_SIZE. Start with a minimum value of 100 MB in your production environment. A DBA should adjust this value upward based on the available physical memory of the hardware and performance, whether connections are dedicated, or run Multi-Threaded Server (MTS) and the application type.

Siebel eBusiness Applications make heavy demands on the dictionary cache for columns. In Oracle, you cannot explicitly set the size of the column cache. Instead, column cache is set as a fixed percentage of the shared pool size. By setting a large shared pool size, you set a large column cache size.

The number of repositories active in your Siebel schema also adds to dictionary overhead since Siebel eBusiness Applications maintains a record for each column in each table for each repository. As a result, if you have six active repositories, the Siebel dictionary will be six times larger than it needs to be.

DB_FILE_MULTIBLOCK_READ_COUNT. The database buffer cache parameter dictates the number of data blocks read in a single Oracle I/O operation during a table scan.

For most implementations, this value should be set between 16 and 32 blocks and adjusted as necessary. You may want to set an initial value of 32. To reduce I/O overhead, this parameter should ideally be between 64 and 256 KB, depending on the tables undergoing scanning, the number of disk drives/devices, the tablespace structure, and other variables.

To optimize performance during upgrades, this value should be set higher than for installation or daily operation and the parameter ARCHIVE_LOGGING should be switched off.

SORT_AREA_SIZE. This value is specified in bytes, and may be adjusted according to the number of users, the amount of RAM available, and the size of sorted queries. You should start with an initial value of 2,000,000 (2 MB).

SORT_AREA_RETAINED_SIZE. When a sort operation is complete, Oracle releases the memory it used in SORT_AREA_SIZE and retains only the memory defined in this parameter. This value is specified in bytes, and determines how much sort area is retained for each user process.

Start by setting this parameter equal to SORT_AREA_SIZE. If the Siebel Database Server is running low on memory, deallocate all the sort memory after the sort by setting it to zero.

If users regularly execute implicit sort operations, such as order by, this memory does not need to be deallocated. Therefore, if the Siebel Database Server is not using virtual memory, set SORT_AREA_RETAINED_SIZE the same as SORT_AREA_SIZE.

On the other hand, if the Siebel Database Server is running short on memory, set SORT_AREA_RETAINED_SIZE = 0. This completely deallocates all sort memory after sort operations.

Should the sort exceed the value of SORT_AREA_SIZE, it will spill over onto the disk. For this reason, you must consider the TEMP tablespace default storage size. Allocate uniform and equal extents (set default PCTINCREAE to ZERO) in the TEMP tablespace that are the same size as SORT_AREA_SIZE, and assign the default MINEXTENTS 2. These parameter settings are recommended because if a sort operation spills over to disk, it will then use more than the SORT_AREA_SIZE in temporary space. Since Oracle will then need to allocate more extents to contain the sort operation, and Oracle performs this serially using enqueues, an already suboptimal system performance will be magnified several-fold.

CURSOR_SHARING. This parameter is set to EXACT by default and you should not change it unless directed by Siebel Technical Support.

OPEN_CURSORS. This parameter controls the amount of spaces that should be reserved for the maximum number of cursors (a cursor being the same as an open query). The minimum open cursor requirement for Oracle support is 1000 and the maximum is 2000. This parameter may be adjusted according to observed usage patterns.

NOTE: Setting this number higher than 2000 commits more memory for the database server, thereby affecting performance. Setting it lower than 1000 can cause an error that prevents you from continuing.

DB_BLOCK_SIZE. Small block size leads to high levels of row chaining and large numbers of levels in B*tree indexes, creating serious performance problems. It is recommended that you set the block size to a minimum of 8 KB to prevent excessive row chaining and performance degradation with EIM.

NLS_SORT. The collating sequence, also called the sort order, is specified during the initial installation of your database and defines the way in which the database will sort character data.

For detailed information on Siebel sort order recommendations, see "Sort Order" on page 315.

You should specify the same sort order at the database client level, so that output there does not need to be resorted.

NOTE: Customers are responsible for ensuring that their data is exported and imported correctly.

NLS_DATE_FORMAT. Set the NLS_DATE_FORMAT parameter as needed. (The default setting is DD-MON-YY.)

For information about the formats supported, consult your Oracle documentation.

Creating the Database

To help you automate database instance creation, Siebel Systems provides a sample script, located in Appendix C, "Sample Database Creation Scripts." Edit this script to reflect your deployment's requirements to create the database objects.

It is recommended that you use a small, non-production environment for testing purposes.

After you install the Siebel Database Server files on the Siebel Server machine (described in Chapter 13, "Installing the Siebel Database Server for Oracle"), you may modify the database table and index creation scripts to specify the file group names you created for Siebel tables and indexes. For more information, see "Overriding Default Storage Parameters" on page 318.

Capacity Planning

One of the most important factors to determine about your database is its overall size. In your planning, you will need to allocate space for system storage, rollback or temporary storage space, log files, and other system files required by Oracle, as well as space for Siebel data and indexes. If you allocate too little space for your system, performance will be affected and, in extreme cases, the system itself may be halted. If you allocate too much, you will waste space.

The space needed by Oracle will vary primarily based on the total number and types of users supported, as well as the transaction mix and rate. Consult the Oracle documentation for more information on these requirements.

The space required for Siebel data and indexes will vary depending on what Siebel eBusiness Applications functionality you will implement and the amount and nature of data supporting that functionality.

The process for making accurate database size calculations is a complex one involving many variables. The following guidelines will assist you in the process:

■ Be certain to factor growth rates into your total size calculation.

■ Determine the total number and types of users of Siebel eBusiness Applications (for example, 500 sales representatives and 75 sales managers).

- Determine the Siebel eBusiness Applications functionality that you will implement and the entities required to support them. Typically, the largest entities are as follows:

    - Accounts

    - Activities

    - Contacts

    - Forecasts

    - Opportunities

    - Service Requests

- Estimate the average number of entities per user (for example, 100 accounts per sales representative) and calculate an estimated total number of records per entity for your total user base.

- Using standard sizing procedures for your specific database, and *Siebel Data Model Reference,* calculate the average record size per entity and multiply by the total number of records. Typically, these entities span multiple physical tables, all of which must be included in the row size calculation. This will determine the estimated data size for the largest entities.

- You must add additional space for the storage of other Siebel data. A rough guideline for this additional amount would be one-half the storage required for these key entities.

- Indexes typically require approximately the same amount of space as data.

- Allow for a margin of error in your total size calculation.

If you require additional help in planning capacity and the number of machines required for your implementations, contact Siebel Technical Support.

Sizing Redo Logs

If redo logs are too small, frequent log switches occur, creating resource-intensive Oracle check-pointing in which all dirty buffers are flushed. Although a range of 10 to 15 minutes or longer for log switching is preferable under a normal OLTP (Online Transaction Processing) load, during periods of heavy DML (Data Manipulation Language) activity (for example, during large EIM loads or upgrades), the logs may switch more frequently than every two minutes. However, when this occurs, overall database performance will suffer as a result.

You can check the frequency of this operation either in the alert log or by querying v$loghist. It is best to use verification when there is the greatest activity and the heaviest load on the database.

If this activity occurs too frequently, drop and recreate individual redo log groups with larger sizes.

To achieve optimum performance, placing subsequent log file groups on alternative devices is critical. This prevents the archiver process (ARCH) and the log writer process (LGWR) from competing for I/Os on the same device, since ARCH reads from the previous group, while LGWR is writing to the current group. This process causes the read-write head of the device to move back and forth, contributing to inefficient I/O. When log file groups are located on separate devices, the speed of both processes improves as they do not contend for the same hardware resource.

Creating Tablespaces

An Oracle Database running Siebel 7.5 requires that the DBA allocate a minimum of 3 GB of space. This space can be allocated as follows:

■ Data—1 GB

■ Index—2 GB

Allocate a minimum of 500 MB for rollback segment. Be aware that these can grow to as much as 1 GB in size.

This allocation suffices for a fresh installation of Oracle 8*i* (non-Unicode-enabled) or Oracle 9*i* (Unicode- or non-Unicode-enabled).

The following additional guidelines should help you in creating tablespaces:

■ To improve performance on your production system, create at least two tablespaces for Siebel implementation—one for indexes and one for data.

■ Distribute objects that you anticipate to be large or points of contention by creating additional separate tablespaces (preferably on separate disk devices).

■ Be sure that you or whoever is responsible for setting up permissions grants the Siebel tableowner account the privilege and sufficient quota to create tables and indexes in these tablespaces.

NOTE: Besides the tableowner, the database User ID used for Siebel Marketing also requires additional rights at the database level within the OLTP schema. You must grant drop table, drop index, create table, and create index rights to this user. For more details, see *Siebel Marketing Guide*.

■ Set storage parameters for your data and index tablespaces. The Siebel installation procedure does not set storage parameters for the objects it creates. The storage configuration for each objects will follow the default storage parameters of its tablespace.

NOTE: In development or test environment, multiple Siebel eBusiness Application installations can co-exist on one Oracle instance. Each Siebel installation can be installed under one tableowner; for example, more than one test environment can share one Oracle instance.

To promote suitable initial sizing and successful installation

1 Set the initial extent to a very small size (the minimum is one database block), so that empty tables and indexes do not consume large amounts of space. For example, start with either two or four blocks (in other words, 16 KB or 32 KB with an 8 KB block size). This promotes less fragmentation.

NOTE: Even if you have 10,000 objects, this uses only 312 MB, which is far less space required than for some standard office software packages.

2 Set the default next extent for your data and index tablespaces to a minimum of 100 KB.

3 Monitor object growth and fragmentation carefully.

> **NOTE:** The Siebel software will automatically alter the storage parameters for certain objects as shown in the example below:
> ```
> alter table S_PROC_INST_LOG
> STORAGE (NEXT 10M PCTINCREASE 0) PCTUSED 90 PCTFREE 5
> ```

Creating Temporary Tablespaces

All user temporary tablespace definitions should be modified from the default of SYSTEM to the name of the temporary tablespace; for example, TEMP or TEMP_TS. Otherwise, SORT operations interfere with Oracle dictionary management.

To find out which users are assigned to which temporary tablespaces, query the TEMPORARY_TABLESPACE column of DBA_USERS, and if any users are assigned to a tablespace other than the one allocated for temporary sort-type operations, correct the situation.

Creating the Language Characteristics of Your Database

When creating your database, you must specify the character set at the database level. You will specify other language characteristics at the database client level. For information about setting database client language parameters, see Chapter 13, "Installing the Siebel Database Server for Oracle."

You specify the character set of your Oracle database with the following command:

```
CREATE DATABASE INSTANCE_NAME CHARACTER SET CHARACTER_SET_NAME
```

where:

INSTANCE_NAME is the name of your Oracle instance.

CHARACTER_SET_NAME is the textual name of the character set you want to run; for example, WE8MSWIN1252.

NOTE: National character does not concern Siebel installation because Siebel does not use the three datatypes, which can store data in the national character set (NCHAR, NVARCHAR2, NCLOB.) You should choose your own national character set.

Sort Order

The sort order is specified during the initial installation of a database and defines the way in which the database will sort character data. Sort order support depends on both the code page of the database and whether it will be used in a development or a production environment.

Development Environment Databases

Repository object names in your development database must sort using binary sort order. Siebel Tools uses this sort order internally. Otherwise, repository merges during future upgrades of the Siebel Database will fail. For more information on supported sort orders, see *System Requirements and Supported Platforms*, available on SupportWeb.

Production Environment Databases

For performance reasons, it is strongly recommended that you use binary sort order in production databases. For information on production environment database restrictions, see *System Requirements and Supported Platforms*, available on SupportWeb.

For information about setting the order in which your database sorts data, see NLS_SORT under "Oracle Database Configuration Guidelines" on page 306. For information about setting the NLS date format, see NLS_DATE_FORMAT within the same section.

Defining Rollback Segments

Rollback segments (RBS) are used when a process is performing inserts, updates, or deletions (DML).

Oracle assigns each transaction to a rollback segment. As a rule of thumb, the total number of rollback segments required should be based on four concurrent transactions per rollback segment. However, database administrators should monitor their database and configure rollback segments based on the requirements of the Siebel applications running.

To make sure you have sufficient rollback segments for larger implementations

1 Create multiple rollback segments, each with multiple extents, at least, initially.

2 Calculate 5-10 active transactions (user activity consisting of an insert, update, or deletion) per extent, and from two to six extents per rollback segment.

To make sure you have sufficient rollback segments for smaller implementations

1 Create a single, much larger rollback segment for Siebel Server components, such as Enterprise Integration Manager (EIM). Siebel Server components can point directly to this rollback segment when performing long-running queries.

2 To promote optimal system performance, create your rollback segments in a dedicated tablespace on a dedicated disk. Rollback segments typically support high I/O rates, so this action will improve system performance measurably.

Partitioning

Siebel eBusiness Applications do not currently support Oracle partitioning. While partitioning may, at first, appear to work with Siebel eBusiness Applications, the following results will most likely be observed:

■ No performance benefit because Siebel eBusiness Applications uses Rule-Based Optimizer mode.

- Siebel 6 and Siebel 7 development-to-production migration and version upgrade processes do not recognize partitioning and, therefore, do not propagate existing partitioning definitions to the new environment.

NOTE: Siebel optimizes and certifies Siebel applications on a standard Oracle installation using Rule-Based Optimizer (RBO). Using advanced features like Cost-Based Optimizer (CBO) and table partitioning are not supported and could have a detrimental effect on query performance.

If there is a reason to believe that the issues are caused by CBO, table partitioning, or other database features that are currently not supported, Siebel Support will request that you reproduce issues against a standard installation using RBO.

Overriding Default Storage Parameters

Siebel Systems provides the option of overriding the default storage parameters, such as the tablespaces in which specific tables or indexes are created. To override these parameters, appropriately edit the ddl.ctl file located in the dbsrvr*DBSRVR_PLATFORM* directory.

NOTE: The ddl.ctl file should be modified only by a qualified DBA.

For each Siebel object (table or index), you can specify a tablespace by using the Table Space parameter. In the following example, the tablespace for the table S_APP_VIEW is set to DATA1. As provided by Siebel, the .ctl file does not set storage parameters for the objects it creates, so they will default to the parameters of the tablespaces in which they are created. However, the Table Space parameter will only work under the following conditions:

■ The table does not yet exist (for example, when you are performing a new database installation).

■ The table needs to be rebuilt, in other words, there are schema changes made to the table such that an ALTER TABLE command is not sufficient to implement the schema changes, requiring that the Siebel application drop and recreate the table.

The example below illustrates the use of the Table Space parameter to set storage values for specific tables.

```
[Object 219]
Type = Table
Name = S_APP_VIEW
Column 1 = ROW_IDVARCHAR(15)NOTNULL
Column 2 = CREATEDTIMESTAMPNOTNULL DEFAULT %NOW%
Column 3 = CREATED_BYVARCHAR(15)NOTNULL
Column 4 = LAST UPDTIMESTAMP NOTNULL DEFAULT %NOW%
Column 5 = LAST_UPD_BYVARCHAR(15)NOTNULL
Column 6 = DCKING_NUMNUMERIC(22,7)DEFAULT 0
Column 7 = MODIFICATION_NUMNUMERIC(10,0)NOTNULL DEFAULT 0
Column 8 = CONFLICT_IDVARCHAR(15)NOTNULL DEFAULT '0'
Column 9 = NAMEVARCHAR(50)NOTNULL
Column10 = DESC_TEXTVARCHAR(255)
Column11 = LOCAL_ACCESS_FLGCHAR(1)
Table Space = data1
```

If you use locally managed tablespaces and want to change the storage parameters, see your Oracle technical documentation.

Ongoing Oracle Database Administration

After your Siebel eBusiness Applications installation is up and running, monitor the following areas on a regular basis:

- **Insertion rates on tables.** You will probably want to set the INI_TRANS value for tables with high insertion rates to a value higher than 1; a typical setting is 4.

  This parameter determines how many simultaneous inserts can occur on the database blocks that store data for those tables and, therefore, can affect performance in an intensive data-entry environment.

  It is recommended that you use multiple freelists for the table S_DOCK_TXN_LOG, since this table receives numerous inserts.

- **SGA cache hits.** Determine whether SGA parameters need to be adjusted for your system.

■ **The extents used by each object.** A large number of extents on a table or index creates response time degradation for transactions that access the table or index.

■ **Siebel tables that are subject to frequent INSERT and DELETE operations.** This transaction mixture can cause some databases to become fragmented over time.

You should monitor the space utilization and fragmentation of these tables and perform regular database maintenance procedures as recommended by your database vendor. The following list contains the names of the tables you should monitor.

```
S_DOCK_TXN_LOG
S_DOCK_TXN_LOGT
S_DOCK_TXN_SET
S_DOCK_TXN_SETT
S_DOCK_INST
S_DOCK_INIT_ITEM
```

■ **Rollback segments.** Make sure that you have enough segments available and that they are the optimum size for the most common operations.

Installing the Siebel Database Server for Oracle **13**

This chapter is written for system administrators who will install the Siebel Database Server and for database administrators who will assist in this process.

The installation and configuration of the Siebel Database Server consists of several tasks, illustrated in Table 30 on page 321.

Table 30. Database Server Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Fill out your copy of Appendix A, "Deployment Planning Worksheets," with all RDBMS-specific information.
	2 If you intend to implement load-balancing on this database server, install and configure Resonate Central Dispatch. See Chapter 3, "Implementing Load-Balancing with Central Dispatch."
Database Administrator	**3** Create the database instance. See Chapter 12, "Creating the Oracle Database" and Appendix C, "Sample Database Creation Scripts."
System Administrator	**4** Install the Siebel Database Server software. See "Database Server Installation on Oracle" on page 324.
	5 Review the software installation. See "Reviewing the Software Installation of Database Server for Oracle" on page 330.
	6 Reset the Global Time Zone parameter, if required, for your multilingual deployment. See "Setting Up Your Environment to Support Global Time Zone" on page 331.
Database Administrator	**7** Create the tableowner account (schema) name that owns the tables, views, sequences, packages, triggers, and other objects. See "Creating Tableowner and Administrator Accounts for DB Server on Oracle" on page 333.

Table 30. Database Server Installation and Configuration Tasks

Who Performs It?	Task
Siebel Administrator	**8** Install the Siebel Database Server seed data, tables, and indexes. See "Installing Database Server Components on Oracle" on page 334.
	9 Review the errors.rtf log. See "Reviewing the Log Files for Database Server Installation on Oracle" on page 339.
	10 Import the Siebel Repository. See "Importing the Siebel Repository on Database Server for Oracle" on page 340.
	11 Review the errors.rtf log. See "Reviewing the Log Files for Repository Import on Oracle" on page 345.
	12 Review the system preference settings for Enterprise Database Server code page. See "Verifying System Preferences After Database Installation on Oracle" on page 347.
	13 If you are deploying multiple languages, install multilingual seed data. See "Installing Multilingual Seed Data on Your DB Server on Oracle" on page 348.
	14 If you are deploying multiple languages, import multilingual seed data to your repository table rows. See "Importing a New Language to Your Repository on Oracle" on page 350.
Database Administrator	**15** Populate the Siebel File System. See "Populating the Siebel File System for Database Server on Oracle" on page 351.

About the Database Server

The Siebel Database Server stores the data used by Siebel eBusiness Applications. Siebel Dedicated Web Clients (Siebel Mobile Web Clients in connected mode), Siebel Tools Clients, and Siebel Server components connect directly to the Database Server and make changes in real time. Dedicated Mobile Web Clients download a subset of the server data to use locally, periodically synchronizing with the Database Server through the Siebel Server to update both.

Installation and configuration of the Siebel Database Server software configures the Siebel Database automatically.

Pre-Installation Tasks for Database Server for Oracle

Before installing the Siebel Database Server, you must complete the following tasks:

■ Obtain the services of a qualified database administrator to assist you with installation.

■ Make sure that the Oracle Database instance has been created and is properly configured, as documented in Chapter 12, "Creating the Oracle Database."

■ Complete the appropriate RDBMS-specific information in a photocopy you make of Appendix A, "Deployment Planning Worksheets" as follows:

■ **The Oracle Connect String.** You will need this to connect to your Oracle database.

■ **The Tableowner Account (Schema) Name and Password.** The term "tableowner" refers to the schema that owns the database objects such as tables, indexes, views, and triggers. Prior to installing the Database Server, you will edit the grantusr.sql script and enter this information. SIEBEL is the default Tableowner Account user name and password for Siebel applications.

■ **The Siebel Data Tablespace.** The name of the default tablespace on the Oracle server where the Siebel data tables are stored.

■ **The Siebel Index Tablespace.** The name of the default tablespace on the Oracle server where the Siebel indexes are stored.

■ Complete all the steps in the appropriate sections of Chapter 5, "Installing the Siebel Gateway," and Chapter 6, "Installing the Siebel Server."

■ If this Enterprise will be multilingual, make sure that all the languages that you want the Siebel Database to support are first installed onto the associated Siebel Server.

■ Install Oracle database client software onto the machine you intend to use as your Siebel Database Server.

Database Server Installation on Oracle

Installation of the database server software consists of the following tasks:

■ "Installing the Database Server Software on Oracle"

■ "Reviewing the Software Installation of Database Server for Oracle" on page 330

■ "Setting Up Your Environment to Support Global Time Zone" on page 331

■ "Creating Tableowner and Administrator Accounts for DB Server on Oracle" on page 333

After you install the software and create the Siebel tableowner and administrator accounts and privileges, you are ready to configure the installed software for use with your database. For information on database server configuration, see "Configuring the Database Server on Oracle" on page 334.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually `c:`) even if you intend to install Siebel eBusiness Applications into another drive.

Installing the Database Server Software on Oracle

Complete the steps below to install the Siebel Database Server files. You must already have a Siebel Server installed on this computer.

To install the Siebel Database Server software

1 Insert the *Windows Server Programs Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

2 In Windows Explorer, double-click seawinsesbase or siawinsesbase, as appropriate to the Siebel applications that you are installing.

3 Navigate to:

D:\windows_server_ses_base\ses and double-click setup.exe

The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

4 Click Next.

If you have already installed the Siebel Server on the same machine, the installer displays the message that an existing installation has been found.

5 Depending on whether you are installing your Siebel Database Server or adding a new language to an existing instance, take the appropriate action:

■ To install the server software in a new instance, select None as the default and click Next. Proceed to Step 6.

■ To install a new language in an existing instance, select the displayed instance and click Next. Proceed to Step 10.

See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

NOTE: You must install the Siebel Database Server in the same directory in which you installed the Siebel Server.

6 Select the displayed default directory for file installation or use the Browse button to select a different drive or directory, and then click Next.

The installer prompts you to select the server that you want to install.

7 Select from the following options and click Next:

■ Install all the components at once for which your organization has a license by selecting all the check boxes.

■ Select just the Siebel Database Server at this time for installation and configuration. (You will install and configure the other server components individually later.)

NOTE: If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard prompt you for the installation parameters of each component individually and in the sequence required.

The installer prompts you to select the type of installation setup you prefer.

8 Choose the type of Siebel Database Server installation to execute from the following options; then click Next to continue:

■ **Typical.** This setup option will install all Siebel Database Server components except those displayed.

■ **Compact.** There is no compact installation option for this server.

■ **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

CAUTION: If you select Custom installation, make sure that you also select Sample Database the first time you install the software, since these attachments must be copied to the Siebel File System directory after configuration. Otherwise, the required file attachments will not be installed.

For a list of the installable components, see the following table.

Installation Setup	Products
Typical	Database files including all the components below:
	■ Sample Database—File attachments for Siebel seed data
	■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server
	■ Oracle—Database scripts for the Siebel Database on Oracle
	■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2 UDB
	■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries
Custom	Select the database files you want to install from the components below:
	■ Sample Database—File attachments for Siebel seed data
	■ MS SQL Server—Database scripts for the Siebel Database on MS SQL Server
	■ Oracle—Database scripts for the Siebel Database on Oracle
	■ DB2 for Windows and UNIX—Database scripts for the Siebel Database on DB2
	■ DB2 for iSeries—Database scripts for the Siebel Database on iSeries

❑ If you chose the Custom installation type, proceed to Step 9.

❑ If you chose the Typical installation type, proceed to Step 10.

9 Select the database platform components that you want to install and click Next.

CAUTION: If you perform a Custom installation, make sure to select Siebel Sample Database.

---

10 Confirm the Language Pack or Packs you are installing for the Siebel Database Server and click Next.

Servers are installed, at a minimum, with the primary language in which the server will be run. This is the primary(base) language for your Enterprise. Optionally, you can install one or more additional languages.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer prompts you that the setup program will install program shortcuts to your Program Folder with the name Siebel Enterprise Server 7.x.x.

11 Click Next and the installer adds program icons to a folder in the Windows Program file called Siebel Enterprise Server 7.x.x.

> **NOTE:** To override the default action and install the program icons to a different Program folder in the list under Existing Folders, enter the name for that folder.

The installer displays the location into which it will install the Siebel Database Server and any other servers you have elected to install. It also displays the file size.

After all server files you specified, have been installed, a warning screen appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the Siebel Language Code language
pack CD and select setup.exe.
```

12 Click OK.

A dialog box titled Insert CD for *language* Language Pack appears (where *language* stands for the Language Pack you are installing), and displays a file called siebel.ini. However, you do not need to do anything with this file.

13 Remove the current CD from the drive and insert the appropriate Language Pack CD.

14 Locate seawinses*language* or siawinses*language,* as appropriate, where *language* stands for the Language Pack you are installing, and double-click it.

- If installing Siebel Enterprise Applications, proceed to the information concerning Step 15.

- If you are installing Siebel Industry Solutions, you may also be prompted to install an additional CD, depending on the language you are installing. If this is the case, perform the following steps:

a Click OK, but do not do so until you have removed the first CD and inserted the second language CD.

When all files on the second language CD have been installed, you will be prompted to reinsert the first language CD.

b Reinsert the first language CD and click OK.

After a short time, a message box appears, stating:

```
Please reinsert the base CD and browse to setup.exe to enable
setup to continue.
```

15 Click OK.

16 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

17 Navigate to windows_server_ses_ base > ses and open setup.exe.

After all server files specified have been installed, the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

18 Click Finish.

19 Proceed to "Reviewing the Software Installation of Database Server for Oracle."

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt.

Reviewing the Software Installation of Database Server for Oracle

Review the directory structure created by the Database Server installation, as illustrated below. The example below results from a Custom installation.

The *ORACLE* subdirectory is located under the *DBSRVR_ROOT*\ directory within the Siebel root directory you specified during the installation; for example, *SIEBEL_ROOT*\dbsrvr\ORACLE\.

DB_SERVER_ROOT

   BIN
   COMMON
   LANGUAGE
   ORACLE

   UPGRADE

```
FILES
LOCALE
PE60
```

BIN. Contains files for internal use.

COMMON. Contains database platform-independent files.

LANGUAGE. Contains language- and database-specific files for the ancestor repository and supporting files. For example, ENU would contain language-specific U.S. English files, or DEU would contain German-language-specific files.

ORACLE. Scripts specific to Oracle, including upgrade scripts for previous versions of Siebel eBusiness Applications.

UPGRADE. Directories containing files to enable upgrade from specific versions of Siebel eBusiness Applications supported for upgrade to the current release.

FILES. This directory installs if you chose to install Sample File Attachments. These files should be copied to the appropriate subdirectory of the Siebel File System. See "Populating the Siebel File System for Database Server on Oracle" on page 351.

LOCALE. Contains translation files for the Upgrade Wizard. For use by Siebel Systems only.

PE60. Files used for uploading data from Siebel Sales Personal Edition.

Setting Up Your Environment to Support Global Time Zone

Global deployments typically span multiple time zones, making it difficult to manage time-sensitive information that must be exchanged among customers and employees working around the world. Siebel Systems' Global Time Zone feature helps your organization meet contractual response times and commitments in spite of time zone differences.

The Global Time Zone feature converts and stores date and time data, using the Universal Time Zone (UTC) standard, which is equivalent to Greenwich Mean Time, but without daylight savings time.

If you intend to operate your deployment with the Global Time Zone feature enabled, you must also set the operating system of your database servers to UTC time, or its equivalent. For more information on enabling Global Time Zone, see *Global Deployment Guide*.

Although enabling this feature is optional in Siebel 7, it is strongly recommended that you operate your production environment with Global Time Zone enabled.

NOTE: The Global Time Zone parameter (Universal Time Coordinated system preference) is enabled (set to TRUE) in Siebel 7 by default. If you do not want to enable Global Time Zone feature, you must reset this parameter to FALSE through Server Manager by navigating to Application Administration > System Preferences.

Creating Tableowner and Administrator Accounts for DB Server on Oracle

Your database administrator must execute the grantusr.sql script against your database server to create the Siebel tableowner (default: *SIEBEL*), Siebel administrator (default: SADMIN), and LDAPUSER accounts, and the role *SSE_ROLE*. Your database administrator must execute this script before configuring the Siebel Database Server.

This script is located in the *DBSRVR_ROOT\DBSRVR_PLTFRM_ROOT* subdirectory (in this case, Oracle) of your Siebel root directory.

This script performs the following functions:

■ Creates the role SSE_ROLE and grants "create session" privilege to this role.

■ Creates the user SIEBEL (the Siebel tableowner) and grants SSE_ROLE, RESOURCE, and other appropriate privileges to SIEBEL.

■ Creates the users SADMIN and LDAPUSER and grants the role SSE_ROLE to them.

The default user name and password for the logon are listed in the grantusr.sql script. If you want another logon, edit the grantusr.sql script and change all the references to your preferred name. However, keep in mind that the length and allowable characters for the login ID and password depend on the rules of your underlying RDBMS platform. See your Oracle documentation for instructions.

CAUTION: Do not change the name of the Siebel administrator account, SADMIN. This account must be created for you to log onto Siebel eBusiness Applications as the Siebel administrator.

Tableowner and Administrator Account for Siebel Marketing

If you are planning to use Siebel Marketing, grant drop table, drop index, create table, and create index rights at the database level within the OLTP schema to the tableowner or the database userid used for Siebel Marketing. For more details. see *Siebel Marketing Guide*.

To run the grantusr.sql script

1 Run the grantusr.sql script from SQL*Plus, using an account with DBA privileges, and using the following command:

```
@c:\SIEBEL_ROOT\dbsrvr\oracle\grantusr.sql
```

NOTE: You must specify the full path to the dbsrvr directory.

---

2 Type the tablespace name listed in Appendix A, "Deployment Planning Worksheets."

Configuring the Database Server on Oracle

Configuring the Siebel Database Server for installation consists of two sets of tasks:

■ "Installing Database Server Components on Oracle"

■ "Importing the Siebel Repository on Database Server for Oracle" on page 340

You will perform both configuration tasks using the Siebel Software Configuration Wizard - DB Server Configuration.

Follow the steps below to configure the component for operation.

Installing Database Server Components on Oracle

When you choose Install a new Siebel Database from the Siebel Database Server Options menu, the Siebel Software Configuration Wizard:

■ Creates Siebel tables and indexes in a specified tablespace.

■ Inserts Siebel seed data.

■ Installs Siebel seed data specific to your database.

■ Installs views, packages, and procedures for your database.

NOTE: Every time you install a new database language, you will need to re-install the Siebel Database Server components by launching the Siebel Software Configuration Wizard and navigating to Siebel Database Server Options > Install > Add a language to existing database. For a complete list of languages supported by Siebel eBusiness Applications in this release, and their corresponding Siebel language codes, see *System Requirements and Supported Platforms* on the *Siebel Bookshelf*.

To install Siebel database server components

1 Launch the Database Server Configuration Wizard, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131.

The Gateway Server Address screen appears.

2 Type the following values as you recorded them in your copy of Appendix A, "Deployment Planning Worksheets," and click Next.

Gateway Server Address. The domain name and alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Siebel Enterprise Server, for example, siebel.

The Siebel Server Directory screen appears.

3 On the Siebel Server Directory screen, perform either of the following tasks and click Next:

■ Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\siebsrvr.)

■ Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

4 On the Siebel Database Server Directory screen, perform either of the following tasks and click Next:

■ Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, D:\dbsrvr.)

■ Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

5 Select Oracle Database Enterprise Edition and click Next.

The Siebel Database Operation screen appears.

6 To install seed data, select Install Database and click Next.

The Siebel User/Role Creation screen appears, prompting you to execute the grantusr.sql script to create tableowner and administration accounts, if you have not already done so.

7 Indicate whether or not you have already run the grantusr.sql script to set up tableowner and administration accounts:

■ If you already ran grantusr.sql, click the uppermost radio button, and then click Next. Proceed to Step 9.

The Select Installation Operation screen appears.

■ If you did not already run grantusr.sql, click the lower radio button, and then click Next. The Configuration Wizard quits. Proceed to Step 8.

8 Run the script, then relaunch the Configuration Wizard and start this procedure over.

If you already ran grantusr.sql, the Select Installation Operation screen appears.

9 On the Select Installation Operation screen, click Install Siebel Database, and then click Next.

10 On the Database Encoding screen, identify the appropriate database encoding method:

■ If your database uses a Unicode code page, click UNICODE Database.

■   If your database uses a non-Unicode code page, click Non-UNICODE
    Database.

CAUTION: Carefully choose the correct option for your database to prevent
installation of the wrong data types. The database will not be able to create
Unicode data types on a non-Unicode page setting, so check this setting carefully
before choosing the option.

The Language Selection screen appears.

11 On the Language Selection screen, choose the language in which you want to
run your database, and then click Next.

NOTE: If you only installed a primary(base) language and no additional
languages, this screen does not appear.

The ODBC Data Source Name screen appears.

12 Indicate the name for the ODBC data source and then click Next.

NOTE: The data source is created automatically by the Siebel Server installation,
using the format SiebSrvr_*enterprise_server_name*.

The Database User Name screen appears.

13 On the Database User Name screen, indicate the following about your database
and click Next:

Database User Name. Type the user name of the Siebel administrator, for example,
sadmin.

Database Password. Type the password for the Siebel administrator, for example,
sadmin.

Database Password (confirm). Retype the password to confirm it.

The Database Table Owner screen appears.

14 On the Database Table Owner screen, indicate the following about your database, and then click Next:

Database Table Owner. The Siebel Database tableowner, or the account that will own the Siebel objects. For Oracle, this is `ora***`.

Database Table Owner Password. The Siebel Database tableowner password; for example, `ora***`.

Database Password (confirm). Retype the password to confirm it.

The Index Tablespace Name screen appears.

15 On the Index Tablespace Name screen, type the following parameters, and then click Next:

Index Table Space Name. Type the name for your index table space; for example, `DATA01`.

Table Space Name. Type the name for your table space; for example, `DATA02`.

The Database Server OS screen appears.

16 On the Database Server OS screen, select the platform on which your database server runs, and then click Next.

The Configuration Parameter Review screen appears.

17 On the Configuration Parameter Review screen, review the configuration values you entered on the previous Configuration Wizard screens:

- If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

- When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is
```

```
C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_install.ucf
```

NOTE: If a program or system error occurs and you need to rerun the Siebel Upgrade Wizard, you can do so, starting at the point at which the wizard failed, by navigating to \siebsrvr\bin and entering:
```
siebupg.exe /m master_install.ucf
```

The Siebel Upgrade Wizard screen appears, displaying the items to be executed or imported.

18 To begin, click OK.

If you need to change the values you previously entered, re-launch the Configuration Wizard. This will allow you to reconfigure with different values.

The Siebel Upgrade Wizard Complete screen appears when installation is complete.

You have now finished installing the database server components.

Reviewing the Log Files for Database Server Installation on Oracle

The database server component installation creates a number of log files, such as UpgWiz.log, UpgWiz_01.log (which increments to additional logs) within the *SIEBEL_ROOT*\log subdirectory, which you must review for any errors.

NOTE: UpgWiz.log is the most recently created log file; UpgWiz_01 is the next most recent, and so on.

When you install your primary(base) language Pack, it creates a special log file with the name dataimp_prim_lang.log.

Acceptable Errors

The log files may include errors that are expected and benign. Compare any error messages found in the log files to the sample error messages in the errors.rtf file, which is located in the installation subdirectory for your database platform, for example, ORACLE. (If a log file is not listed in the errors.rtf file, then there are no acceptable error messages for that log file.) No further action is required if the log files contain errors listed in the errors.rtf file.

NOTE: Only one of each type of error occurring in a particular log file appears in the errors.rtf file.

If you find errors not listed in the errors.rtf file, correct the condition that caused the errors, and rerun the Upgrade Wizard. The wizard will restart from the point where it left off.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Importing the Siebel Repository on Database Server for Oracle

When you import the Siebel Repository, you populate all the repository tables in the Siebel Database Server with the new Siebel eBusiness Applications, Release 7.x application objects.

Regardless of how many Siebel eBusiness Applications you are using (for example, Siebel Sales, Siebel Service, and Siebel Marketing), you will load the repository tables only once.

To import the Siebel Repository

1 Launch the Database Server Configuration Wizard using any method described in "Launching the Siebel Software Configuration Wizard" on page 131.

The Gateway Server Address screen appears.

2 Type the values you recorded in your copy of Appendix A, "Deployment Planning Worksheets," for the following parameters:

Gateway Server Address. The alias of the host on which you installed the Siebel Gateway.

Enterprise Server Name. The name you gave to your Siebel Enterprise Server, for example, siebel.

3 Click Next.

The Siebel Server Directory screen appears.

4 On the Siebel Server Directory screen, perform either of the following tasks, and then click Next:

- Accept the default value displayed in the Siebel Server Directory field. (This is the *SIEBSRVR_ROOT* directory, for example, D:\siebsrvr.)

- Use the browse button to select an alternate directory path.

The Siebel Database Server Directory screen appears.

5 On the Siebel Database Server Directory screen, perform either of the following tasks, and then click Next:

- Accept the default path displayed in the Siebel Database Server Directory field. (This is the *DBSRVR_ROOT* directory, for example, D:\dbsrvr.)

- Use the Browse button to select an alternate directory.

The RDBMS Platform screen appears.

6 Select Oracle Database Enterprise Edition and click Next.

The Siebel Database Operation screen appears.

7 On the Siebel Database Operation screen, select Import/Export Repository, and then click Next.

The Select Repository Operation screen appears.

8 On the Select Repository Operation screen, choose one of the following options, as appropriate:

- **Import Repository.** To import the Siebel Repository for the first time with a primary(base) language, select this option. Click Next and proceed to Step 9.

  The Import Selection screen appears.

- **Export Repository.** Exports the Siebel Repository into a platform-independent file that can be sent to Siebel Technical Support for analysis if needed. Click Next and proceed to Step 15 on page 344.

  For instructions on importing a new language to the Siebel Repository, see "Importing a New Language to Your Repository on Oracle" on page 350.

The Import Selection screen appears.

9 On the Import Selection screen, indicate the following:

- If you want to import a standard Siebel 7 repository, click the uppermost radio button.

- If you want to import a Siebel 7 repository that you have customized to a new environment, click the bottom radio button.

NOTE: Select Import Custom Siebel 7 Repository when you are importing a multilingual repository from a test or development environment. This will import *all* languages to your target repository.

To continue, click Next and proceed to Step 10.

The ODBC Data Source Name screen appears.

10 Indicate the name for the ODBC data source and then click Next.

> **NOTE:** The data source is created automatically by the Siebel Server installation, using the format SiebSrvr_*enterprise_server_name*.

The Database User Name screen appears.

11 On the Database User Name screen, indicate the following about your database, and then click Next:

Database User Name. Type the user name of the Siebel administrator, for example, sadmin.

Database Password. Type the password for the Siebel administrator, for example, sadmin.

Database Password (confirm). Retype the password to confirm it.

The Database Table Owner screen appears.

12 On the Database Table Owner screen, indicate the following about your database, and then click Next:

Database Table Owner. The Siebel Database tableowner, or the account that will own the Siebel objects. For Oracle, this is ora***.

Database Table Owner Password. The Siebel Database tableowner password; for example, ora***.

Database Password (confirm). Retype the password to confirm it.

13 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. If you are importing your repository for the first time, this is the second field appearing on the screen. Accept the default installation path and file name for this repository or type another valid installation path.

Proceed to .

14 On the Export Repository Name screen, type the following values, and click Next:

Export Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. Accept the default installation path and file name for this repository or type another valid installation path.

Proceed to .

15 On the Export Repository Name screen, type the following values, and click Next:

Export Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Repository File Name. Accept the default installation path and file name for this repository or type another valid installation path.

The Configuration Parameter Review screen appears, showing the values you typed on the previous screens.

16 Review the configuration values you entered on the previous Configuration Wizard screens:

■ If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

■ When you are satisfied, click Finish.

A message box appears with the prompt:

```
To apply the configuration now, press "OK".

To apply the configuration later, press "Cancel".

The command line to apply the configuration later is
```

```
C:\SIEBEL_ROOT\siebsrvr\bin\siebupg.exe /m master_imprep.ucf
```

NOTE: If a program or system error occurs and you need to rerun the Siebel Upgrade Wizard, you can do so, starting at the point at which the wizard failed, by navigating to *SIEBEL_ROOT*\siebsrvr\bin and entering the following command: siebupg.exe /m master_imprep.ucf.

The Siebel Upgrade Wizard screen appears, displaying the items to be executed or imported.

17 To begin, click OK.

A window appears, displaying information about Siebel Upgrade Wizard repository import activities.

The Siebel Upgrade Wizard displays a message when installation is complete.

To verify that the import was successful, review the log files. See "Reviewing the Log Files for Repository Import on Oracle."

If you need to change the values you previously entered, re-launch the Configuration Wizard by double-clicking the Configure DB Server icon within Start > Programs > Siebel Enterprise Servers 7.x.x. This allows you to reconfigure with different values.

Reviewing the Log Files for Repository Import on Oracle

The repository import process creates a number of log files, such as UpgWiz.log and UpgWiz_01.log (which increments to additional logs) within the *SIEBEL_ROOT*\log subdirectory, which you must review for any errors. Further log files are created when the upgrade wizard encounters a problem and you attempt a retry.

NOTE: UpgWiz.log is the most recently created log file; UpgWiz_01 is the next most recent, and so on.

When you import a repository with a new language, it creates the following special log files:

```
update_ver.log
seeduver1.log
imprep_lang.log
restore_ver.log
```

Acceptable Errors for Repository Import on Database Server on Oracle

The log files may include errors that are expected and benign. Compare any error messages found in the log files to the sample error messages in the `errors.rtf` file, which is located in the database server platform subdirectory, for example, `oracle`. (If a log file is not listed in the `errors.rtf` file, then there are no acceptable error messages for that log file.) No further action is required if the log files contain errors listed in the `errors.rtf` file.

NOTE: Only one of each type of error occurring in a particular log file appears in the `errors.rtf` file.

If you find errors not listed in the `errors.rtf` file, correct the condition that caused the errors, and rerun the Upgrade Wizard.

Do not review error numbers alone, since these may have changed following installation of a new driver version. Instead, compare the actual error descriptions to find out which are acceptable errors for this platform.

CAUTION: Although other errors are rarely encountered, this review is critical. Certain errors, such as a failure to create indexes, may result in performance problems or anomalous behavior in Siebel eBusiness Applications.

Troubleshooting Siebel Repository Import for Oracle Database Installation

Typical problems that may occur at this stage consist of the following:

■ Importing a repository with the same name as an existing repository.

■ Database runs out of tablespace pages and cannot allocate new data pages.

The above errors should appear in the log files produced by the repository import process.

Post-Installation Tasks for Database Server on Oracle

Perform the following tasks after you complete your installation of the Siebel Database Server:

■ "Verifying System Preferences After Database Installation on Oracle"

■ "Installing Multilingual Seed Data on Your DB Server on Oracle" on page 348

■ "Importing a New Language to Your Repository on Oracle" on page 350

■ "Populating the Siebel File System for Database Server on Oracle" on page 351

Verifying System Preferences After Database Installation on Oracle

After you complete installation and configuration of your Siebel Database Server, you must verify system preferences for the Siebel application in Siebel Tools. For installation instructions for Siebel Tools, see *Siebel Tools Reference*.

To verify system preferences

1 Launch Siebel Tools and navigate to Screens > System Administration > System Preferences.

2 Look for `System Preference Name = Enterprise DB Server Code Page` and verify that the value has been set correctly, based on the value that you selected during installation of the database server components ("Installing Database Server Components on Oracle" on page 334). For a list of the appropriate values, see Table 31.

NOTE: The Code Page value must be in lowercase, for example, utf-8.

Table 31. Acceptable Values for Enterprise DB Server Code Page

Value	Language	Database
utf-8 (Unicode)	All	Oracle9i
cp932 (or equivalent)	Japanese	Oracle
cp1252 (or equivalent)	Western European	All

3 If your database is Unicode-enabled, verify that column `UNICD_DATATYPS_FLG` in table S_APP_VER has the Unicode flag set correctly. If your database is:

- Codepage = `N`
- Unicode DB2/SQL Server = `Y`

NOTE: The data type flag must be uppercase.

Installing Multilingual Seed Data on Your DB Server on Oracle

If your organization deploys internationally and, therefore, requires data to be in multiple languages, you must install multilingual seed data (for example, lists of views, responsibilities, or system preferences). To do this, you add new Language Packs to your database after you have installed the primary(base) language for your database server. This populates the List of Values (LOV) with seed data in the new language.

Only after you successfully install seed data in your primary(base) language, can you add seed data in other languages to your database. Adding this seed data also adds new LOV data in the new language.

CAUTION: You cannot add secondary languages to the Siebel Database for a Siebel Enterprise Server unless you have already installed them on the associated Siebel Server.

To install multilingual seed data

1 Follow the instructions under "Installing the Database Server Software on Oracle" on page 324, using the CD for the new language that you want to install.

2 On the Existing Installations Found screen, select the database instance to which you want to add the language.

3 When installation is complete, launch the Database Server Configuration Wizard and repeat Step 1 through Step 9 under "Installing Database Server Components on Oracle" on page 334.

The Select Installation Operation screen appears.

4 On the Select Installation Operation screen, select Add a language to an existing Siebel Database, and then click Next.

The Base Language screen appears.

5 On the Base Language screen, select the language in which you want your Siebel Database to run, primarily, and click Next. This is called your "base" language.

6 Repeat Step 11 through Step 16 of "Installing Database Server Components on Oracle" on page 334.

The Repository Name screen appears.

7 On the Repository Name screen, type the name of the repository you created earlier or accept the default name, and then click Next.

NOTE: To add seed data in a new language to your database, you must have already imported your repository in its primary(base) language.

---

8 Repeat Step 17 through Step 18 of "Installing Database Server Components on Oracle" on page 334.

> **NOTE:** To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following installation of multilingual seed data, you must navigate to `\siebsrvr\bin\` and enter:
> `siebupg.exe /m master_install_LANGUAGE.ucf`

9 Enable the multilingual list of values (MLOV) capability within Siebel eBusiness Applications. For information, see *Global Deployment Guide*.

Importing a New Language to Your Repository on Oracle

After you successfully import your Siebel Repository in its primary(base) language, you may add additional languages to it.

By adding a new language to your repository, you populate rows of localized User Interface strings for repository objects, which allows Siebel eBusiness Applications to better display the UI in the new language.

Regardless of how many Siebel eBusiness Applications you are using (such as Siebel Sales, Siebel Service, and Siebel Marketing), you perform this step only once for each language you want to install.

To import a new language to your repository

1 Follow Step 1 through Step 8 under "Installing Multilingual Seed Data on Your DB Server on Oracle" on page 348.

The Select Repository Option screen appears.

2 On the Select Repository Operation screen, choose Add Language to an Existing Repository and click Next.

> **NOTE:** Select this option to add another language to the repository.

The Language Selection screen appears.

3 On the Language Selection screen, specify the new language you are adding on top of your primary(base) language in the Siebel Repository and click Next.

4 Repeat Step 9 through Step 12 of "Importing the Siebel Repository on Database Server for Oracle" on page 340.

The Import Repository screen appears.

5 On the Import Repository Name screen, type the following values, and click Next:

Import Repository Name. Accept the default name (Siebel Repository) or type another valid name.

Localized Repository Name. Accept the default installation path and file name for this repository or type another valid installation path.

6 Repeat Step 16 through Step 17 of "To import the Siebel Repository" on page 341.

NOTE: To rerun the Upgrade Wizard at the point a program failed or a system error occurred, following importing new languages to the repository, you must navigate to \siebsrvr\bin\ and enter:
siebupg.exe /m master_imprep_*LANG*.ucf

Populating the Siebel File System for Database Server on Oracle

Specific files needed to run the Siebel File System, such as correspondence templates and Siebel Marketing files, are provided with the Siebel Database Server software. A subdirectory called files is created when you install the Siebel Database Server.

Your DBA must populate the File System directory with these file attachments after installing the Database Server, and before running the Siebel Web Client.

To populate the Siebel File System directory

1 Copy the appropriate files from the \files subdirectory of the Siebel Database Server software to the \att subdirectory of the Siebel File System.

2 Copy the KB.kb file from the \files subdirectory of the Siebel Database Server software to the \cms directory within the Siebel File System.

3 Verify that the files are where they need to be.

Installing the Siebel Web Server Extension 14

The chapter is written for system administrators or Web masters who will install and configuration the Siebel Web Server Extension (SWSE).

Installing and configuring Siebel Web Server extensions consist of several tasks as listed in Table 32.

Table 32. SWSE Installation and Configuration Tasks

Who Performs It?	Task
System Administrator	**1** Plan your Web server deployment. See "Planning Siebel Web Server Deployment" on page 355.
	2 Review preconditions for installing the Siebel Web Server Extension plug-in. See "Prerequisites for Siebel Web Server Extension Installation" on page 356.
	3 Verify your Siebel Gateway and Enterprise Server installation. See "Verifying the Siebel Gateway and Enterprise Server" on page 358.
	4 Verify the requirements for installing your Web server. See "Verifying Web Server Requirements" on page 358.
	5 Verify the requirements for Siebel Language Pack installation on your Web server. See "Web Server Language Pack Requirements" on page 359.
	6 Install the Web server. See "Installing the Web Server" on page 360.
	7 Install your load-balancing software, if any.
	8 (Optional) If you will be installing Resonate Central Dispatch on this Web server. See the account information in Chapter 2, "Preparing for the Installation."
	9 If you will be using a different product to load- balance your Web servers, follow the vendor instructions for installation and configuration.
	10 (Optional) Install and configure Resonate Central Dispatch. See Chapter 3, "Implementing Load-Balancing with Central Dispatch."
	11 Install the Siebel Web Server Extension. See "Installing the Web Server" on page 360.
	12 Configure the Siebel Web Server Extension. See "Configuring the Siebel Web Server Extension" on page 363.
	13 Review the installation directories. See "Reviewing Installation Directories for Siebel Web Server Extension" on page 369.
	14 Enable HTTP compression. See "Enabling HTTP Compression for Siebel Web Applications" on page 372.
	15 Make any needed changes to what you entered during configuration. See "Editing the Web Server Extension Configuration File (eapps.cfg)" on page 375 and also Appendix D, "Structure of the eapps.cfg File."
	16 Start Windows services. See "Services You Must Restart" on page 376.
	17 If you want to create a new virtual directory, see "Adding a New Virtual Directory to IIS" on page 378.

Siebel Web Server Extension (SWSE) is one in a series of server components that enable communication between Siebel eBusiness Applications Web Clients and Siebel Servers.

Siebel eBusiness Applications are a family of zero-footprint, Web-based applications that you access through a standard Web browser.

These applications use several server components to service these Web clients:

■ **A Web server.** Client Web browsers connect to Web servers to display Siebel Web Client applications.

■ **Siebel Web Server Extension (SWSE).** A plug-in extension that runs within the Web server.

■ **Siebel Web Engine.** The SWSE communicates with the server components of the Siebel Web Engine within the Siebel Server for access to Siebel eBusiness Applications data and logic.

For information on supported hardware, operating system platforms, Web browsers, and Web servers, refer to *System Requirements and Supported Platforms*.

Planning Siebel Web Server Deployment

To deploy Siebel Web Server Extension you need to consider the following:

■ **Language Pack Installation.** Multiple Web servers can host any combination of languages supported by your Siebel deployment. Although you must install all the Language Packs that apply to the languages you want a particular Web server to host on that Web server, you do not need to install all languages on all Web servers.

You must also have installed all the languages that you intend your Siebel Web Clients to use on your Siebel Servers. For more information, see "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130.

■ **Siebel Database Server.** In either a single-node or distributed configuration, the database server resides on a separate node; its installation is independent from any other servers.

- **Web Server and Resonate Scheduler.** These cannot reside on the same physical server because the Web server must make requests to the VIP that the Scheduler listens on. A server cannot make requests to the same VIP that it is also listening or receiving traffic on.

- **Web Server and Load-Balanced Siebel Server.** These cannot reside on the same physical server because a server cannot make a request to the same VIP that it is listening or receiving traffic on.

  However, the Web server and Siebel Server *can* reside on the same machine if the Siebel Server is not part of the Resonate load-balanced site.

  NOTE: Load-balanced Siebel Servers are those servers for which Resonate Central DIspatch is being used to load balance server components.

- **Web Server and Reverse Proxy Servers.** You can only deploy Siebel applications that support the standard interactivity client on a Web server instance that is placed behind a reverse proxy server. You cannot deploy Siebel Employee applications, such as Siebel Call Center, or other Siebel applications that support the high interactivity client, on a Web server instance placed behind a reverse proxy server.

Prerequisites for Siebel Web Server Extension Installation

Before installing the Siebel Web Server Extension, you must have already installed the following components (for details on supported third-party products, see *System Requirements and Supported Platforms*):

- A supported Web server with a supported browser.

- If your browser is MS Internet Explorer, install any recommended patches.

- If your browser is IE 5.5 and you will be using Siebel Call Center and Siebel Sales, install the Microsoft XML parser.

- Siebel Gateway.

■ Siebel Enterprise Server and one Siebel Server, with the Application Object Managers enabled through Server Manager for the Siebel eBusiness Applications you purchased. For information, see *Siebel Server Administration Guide*.

NOTE: It is recommended that you wait to install additional Siebel Servers until after you have completed installation of the Siebel Web Server Extension and, if applicable, the Mobile Web Client software. This allows you to test that your connection is working from the Web server to the initial Siebel Server.

Before beginning the installation process, decide how you will distribute the server components.

■ **Single-node.** Installation of Siebel Enterprise Server components, Siebel eBusiness Application server components, and your Web server on a single machine or node.

■ **Distributed.** Distribution of the above-mentioned components across multiple Web servers connecting to multiple Application Object Managers whose load can be dynamically balanced across multiple Siebel Servers within an Enterprise Server.

NOTE: For the best performance, it is recommended that the Web server reside on a separate machine from the Siebel Enterprise Server.

Recommended Siebel Web Server Topology

Each deployment choice involves trade-off. However, in enterprise-size deployments, it is strongly recommended that you use a distributed node deployment for the following reasons:

■ **Less resource contention.** Distributing the Web server and the Siebel Server (with Application Object Manager) on different machines eliminates contention for CPU and other server resources. However, to take advantage of the performance improvement, you must have a high-speed network connection between the two machines.

■ **Load-balancing.** A single Web server can distribute the load of multiple user requests among multiple Application Object Manager instances.

- **Higher fault tolerance.** Operating multiple instances of components on multiple machines reduces downtime and the impact of failure on any one machine.

- **Greater flexibility with firewalls.** Putting the Web components of the Siebel eBusiness Applications on a different machine from the Siebel Server with Application Object Managers lets you deploy your Web server outside the firewall while keeping the Enterprise Server components behind the firewall.

- **High availability.** A multi-node configuration is required for deployments that support large numbers of concurrent users or where high availability is an operating requirement.

Verifying the Siebel Gateway and Enterprise Server

You must have installed and configured the Siebel Gateway and an Enterprise Server containing at least one Siebel Server before installing the Siebel Web Server Extension. Complete the steps in Chapter 6, "Installing the Siebel Server," to install and configure the Enterprise Server entities, following the configuration chosen in the previous step.

If you are installing Application Object Managers and Web components of a Siebel eBusiness Application on the same machine, use separate installation directories to avoid file permission problems at installation time.

Verifying Web Server Requirements

Make sure that the server that will support the Web Server Extension plug-in meets all the hardware and software platform requirements documented in *System Requirements and Supported Platforms*.

If you have more than one Web server, consider installing load-balancing software on each to take advantage of its load-balancing capabilities.

The HTTP process that hosts SWSE can communicate with multiple application servers. Siebel Systems does not recommend or support the installation of multiple SWSEs on a single Web Server in a production environment. If you want to install multiple SWSEs on a Web Server for development or testing purposes, see Technical Note 456: Installing multiple instances of Siebel Web Server Extension on one Web server on Siebel Support Web.

Web Server Language Pack Requirements

You can deploy multiple languages on one Web Server and one Siebel Web Server Extension instance.

Uninstalling the Siebel HTTP Compression Filter

CAUTION: If you installed the Siebel HTTP Compression Filter for a pre-7.0.4 release of Siebel 7 eBusiness Applications, then you *must* uninstall that filter before you enable HTTP compression in this release of Siebel eBusiness Applications.

The Siebel HTTP Compression Filter can be uninstalled in either of the following ways:

■ Uninstall the Siebel Web Server Extension in your earlier release before installing the Siebel Web Server Extension in this release. The Siebel HTTP Compression Filter in the earlier release is uninstalled as part of the process. Typically, this process is part of the larger process of uninstalling all of the components of your earlier Siebel 7 eBusiness Applications deployment, and then installing all of the components of this release.

For information about uninstalling Siebel eBusiness Applications, see Chapter 18, "Uninstalling Siebel eBusiness Applications."

■ Uninstall the Siebel HTTP Compression Filter manually.

NOTE: Although you can uninstall the Siebel HTTP Compression Filter from a previous release of Siebel 7 eBusiness Applications, you cannot uninstall the HTTP compression filter that is built into the Siebel Web Server Extension plug-in for *this release* of Siebel eBusiness Applications. However, you can disable it.

The following procedure can be used to manually remove the Siebel HTTP Compression Filter or to confirm that it is removed.

To uninstall the Siebel HTTP Compression Filter

1 On each Web server, launch Internet Service Manager.

2 Expand the Web Server Name, right-click it, and select Properties from the drop-down list.

3 On the Internet Information Services tab, select WWW Service in the Master Properties list, and then click Edit.

4 On the ISAPI Filters tab, locate a Siebel compression filter named SiebCompress.

NOTE: The SiebCompress filter is not the same as the filter named Compression. Compression is a Microsoft-provided static file compression filter, and it should not be removed.

5 Select the SiebCompress filter, and then click Remove.

6 Click Apply or OK to commit the change.

7 Repeat Step 1 through Step 4 to verify that the filter has been removed.

Installing the Web Server

Before installing the Siebel Web Server Extension, install, configure, and start Microsoft IIS from your operating system. Use the Add/Remove Programs icon to install IIS on the machine where your Web Server Extension will reside. Follow the instructions from the vendor to complete these tasks.

NOTE: You must grant the IWAM and IUSR user accounts write permission to the SWEAPP_ROOT directory and its subdirectories.

The installation program sets up the Siebel directory structures, copies required files and components to the target disk, and configures the host environment.

CAUTION: When installing Microsoft IIS 4.0, it is important that you follow a particular installation sequence. For information, see http://www.microsoft.com/TechNet/winnt/Winntas/seqntapp.asp.

Installing the Siebel Web Server Extension

To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually C:) even if you intend to install Siebel eBusiness Applications into another drive.

NOTE: It is not supported to run multiple instances of the SWSE on a single Web server to support multiple versions of Siebel eBusiness Applications in a production environment. If your business needs require doing so in your development or test environment, refer to Technical Note 456 on Siebel SupportWeb.

Follow the instructions below to install the software on a machine running under a Windows operating system.

To install Siebel Web Server Extension

NOTE: This procedure is for installing the base product. For patch installation instructions, refer to *Maintenance Release Guide* provided with the patch.

1 Log on as the OS administrator and insert the *Windows Server Programs Web Server Extensions* Language *Extension Pack 1* CD-ROM (where *Language* stands for the Language Pack you want to deploy) into the CD-ROM drive (assumed to be D:) of the chosen server.

2 In Windows Explorer, navigate to windows_server_eapp_lep1\eappweb and double-click setup.exe.

   The Welcome to InstallShield Wizard for Siebel Web Server screen appears.

3 Click Next.

4 Depending on whether you are installing your Siebel Web Server Extension for the first time or adding a new language to an existing instance, take the appropriate action:

   ■ To install the server software in a new instance, select None as the default and click Next. Proceed to Step 5.

Installing the Siebel Web Server Extension

■ To install a new language in and existing instance, select the displayed instance and click Next. Proceed to Step 5.

See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

NOTE: If you are clustering this Web Server Extension, make sure that you install the files to a directory that is on a clustered disk drive.

5 Confirm the Language Pack or Packs you are installing for the Siebel Web Server Extension and click Next.

Servers are installed, at a minimum, with a primary (base) language, which is the primary language in which the Siebel Enterprise will run. Optionally, servers may have one or more additional languages installed on them.

The installer validates installation requirements.

NOTE: If you did not install the Microsoft IIS software on this machine, a prompts appears, informing you that you must have it installed to continue. Click Cancel or Next and the installer will quit. Install the software, and then restart the installation.

The installer prompts you that the setup program will install program shortcuts to your Program Folder with the name Siebel Web Server 7.x.x.

6 Click Next and the installer automatically adds program icons to a folder in the Windows Program file called Siebel Web Server Extensions 7.x.x.

NOTE: To override the default action and install the program icons to a different Program folder in the list under Existing Folders, enter the name for that folder.

The installer displays the location into which it will install the Siebel Database Server and any other servers you have elected to install. It also displays the file size.

CAUTION: If you are co-locating the servers of your Siebel implementation on one machine, do not install the Siebel Web Server Extension in the same Siebel root directory or you will overwrite the OS registry uninstallation data for the rest of the Siebel application.

After all Siebel Web Server Extension files, including the Language Packs you specified, have been installed, the Siebel Software Configuration Wizard for Siebel Web Server Configuration launches.

If you choose to close out of the Siebel Software Configuration Wizard and want to configure later, the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

7 Click Finish.

Proceed to .

NOTE: You should install all the Language Packs that you want on your Web server before you configure the SWSE.

Configuring the Siebel Web Server Extension

Follow the steps below to configure the Siebel Web Server Extension for operation.

To configure the Siebel Web Server Extension

1 If you closed out of the Siebel Software Configuration Wizard after installation, relaunch it, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131. Otherwise, proceed to Step 2.

The Use Resonate Load Balancing screen appears.

2 Indicate whether you have Resonate Central Dispatch installed anywhere in the Enterprise; for example, on one or more Siebel Servers:

■ If you installed Resonate, click Yes, then Next.

If you selected Yes, the Gateway VIP screen appears. Proceed to Step 3.

■ If you did not install Resonate, click Next.

If you did not install Resonate, the Gateway Server Host screen appears. Proceed to Step 4 on page 364.

3 Type the following values, based on your entries in Appendix A, "Deployment Planning Worksheets."

Gateway Server VIP. Type the virtual IP address or virtual host name.

Gateway Port. The default port number is 2320.

To continue, click Next, and the Enterprise Server Name screen appears. Proceed to Step 7 on page 365.

4 On the Gateway Server Host screen, refer to your entries in Appendix A, "Deployment Planning Worksheets" and type the following:

Gateway Server Host. Type the *actual* Gateway IP address or the machine name.

Gateway Port. The default port number is 2320.

NOTE: If you clustered the Siebel Gateway, you must use the IP address of the clustered Gateway.

---

5 Click Next.

The Siebel Server Name screen appears.

6 On the Siebel Server Name screen, type the name of the Siebel Server on which those Application Object Managers are enabled that will be contacted by the Siebel Web Server Extension, and click Next.

NOTE: This should be the descriptive name for this Siebel Server, *not the machine name.*

The Enterprise Server Name screen appears.

7 Type the name of your Enterprise Server; for example, `siebel` and click Next.

The Encryption Type screen appears.

8 On the Encryption Type screen, select the encryption type the Siebel Web Clients should use to communicate with the Application Object Managers and click Next:

NONE. No networking encryption.

MSCRYPTO. Microsoft encrypted communications protocol for communication between Siebel components.

RSA. Required protocol if you will be using the RSA Security Systems 128-bit strong encryption feature for data transport.

NOTE: The Application Object Managers to which the Siebel eBusiness Applications connect must be configured to use the same protocol. For more information, see Chapter 6, "Installing the Siebel Server."

The Compression Type screen appears.

9 From the Compression Type screen, select the type of compression you want to use for communications between the Web Server and the Siebel Servers, and click Next.

- None

- ZLIB

The HTTP Port Number screen appears.

10 On the HTTP Port Number screen indicate the following, and then click Next:

HTTP Port Number. Type the HTTP port number used for Web browser communications, or accept the default setting used by the Web server (80).

HTTPS Port Number. Type the HTTPS port number used for secure Web browser connections, or accept the default setting used by the Web server (443).

The Employee's Anonymous Login Name screen appears. This screen allows you to specify an LDAP login ID and password.

CAUTION: You must type a value in the Employee's Anonymous Login Name screen fields whether or not you use LDAP.

11 On the Employee's Anonymous Login Name screen, indicate the following and then click Next:

Employee's Anonymous Login Name. The anonymous employee login name is the Siebel User ID for a valid employee that is used to start the anonymous session from which the user is shown the login page.

Employee's Anonymous Login Password. Type the password for this user ID that you recorded in your copy of the Deployment Planning Worksheet.

NOTE: You may consider typing SADMIN to use the Siebel seed data administrative user or enter another valid User ID.

Employee's Anonymous Login Password (confirm). Re-type the password to confirm it.

The Contact Login User Name screen appears.

12 On the Contact Login User Name screen, indicate the following, and then click Next:

Contact Login User Name. The contact login user name is the Siebel User ID for a valid contact user that is used to start the anonymous session from which the user is shown the login page for a Siebel customer application. If your organization makes use of a contact-based login, enter GUESTCST to use the Siebel seed data user provided for this purpose or enter another valid User ID.

NOTE: Make sure that any login ID you enter has the correct privilege to do this. The ID used should also have authorization to access the Public View.

Contact Login Password. If your organization makes use of a contact-based login, enter the password for this login ID; for example, GUESTCST.

Contact Login Password (confirm). Re-type the password to confirm it.

Make sure that it is a valid login for the application you are installing, regardless of the authentication method your company uses.

NOTE: If you do not use a contact-type login ID, you can leave this screen blank.

The Logging Error Level screen appears. This screen gathers information for Error Level for Logging.

13 On the Logging Error Level screen, specify the level of operational error logging for Siebel Web Server Extension from the following options, and then click Next:

fatal. Causes only fatal operational errors to be logged.

errors. Causes non-fatal and fatal operational errors to be logged.

warning. Causes only warning messages to be logged.

info. Causes non-fatal operational errors to be logged.

details. Causes all operational statistics, information messages, warnings, and errors to be logged.

NOTE: For the best performance, choose errors. Choose details only for debugging.

The Web Update Protection Key screen appears.

Use this screen to enter a password that allows only your Siebel administrator to refresh the application image files on your Web server by accessing any updated images your developers have placed on the Siebel Server after customizing the Siebel application with Siebel Tools.

The Web server contacts the Siebel Server and refreshes these images each time the administrator restarts it. However, administrators will find entering this password in a command line a much more efficient way to perform the image file refresh, particularly when deploying multiple Web servers.

NOTE: Although this password is set during SWSE configuration, you may change the password later on, if desired, by editing it in the eapps.cfg file, located in the \BIN subdirectory of your Web server installation.

---

14 Type the Web Update Protection key your administrator will use for Web maintenance and click Next.

The Configuration Parameter Review screen appears.

15 Review these values for accuracy against your copy of Appendix A, "Deployment Planning Worksheets."

■ If you need to change any values, use the Previous and Next buttons to access the screens on which to change entries, then to return to this screen.

■ When you are satisfied, click Finish.

A message box appears with the text:

```
The configuration changes were applied successfully.
```

16 Click OK.

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SWEAPPS_ROOT*\log.txt or the log generated by the Siebel application at *SWEAPPS_ROOT*\eapps\LOG.

Post-Installation Tasks for Siebel Web Server Extension

Perform the following post-installation tasks as required by your deployment:

■ "Reviewing Installation Directories for Siebel Web Server Extension"

■ "Setting SWSE Directory Permissions" on page 371

■ "Enabling HTTP Compression for Siebel Web Applications" on page 372

■ "Editing the Web Server Extension Configuration File (eapps.cfg)" on page 375

■ "Services You Must Restart" on page 376

■ "Adding a New Virtual Directory to IIS" on page 378

■ "Reviewing the Log Files for Siebel Web Server Extension" on page 381

Reviewing Installation Directories for Siebel Web Server Extension

Review the physical and virtual directories created during installation of the Web Server Extension on the Web server host to familiarize yourself with the locations of files, such as the configuration file (eapps.cfg).

Physical Directories

The following list shows physical Siebel directories installed on the Web server.

```
\SWEApp\
        _uninst
        ADMIN
        BIN\
                            languages\
                            eapps.cfg
                            sweiis.dll
        ISSRUN\
        LOCALE\
                            languages\
        LOG\
        PUBLIC\
                            languages\


                                            DEMO
                                            ISSRUN


        _uninst
        base.txt
        language.txt
        log.txt
        upgrade.log
```

_uninst. Contains files required for uninstallation of the product.

ADMIN. Contains the swseapps.scm used during installation. This file launches the dialog boxes used during configuration of the Siebel eBusiness Applications.

BIN. Contains the SWSE configuration file (eapps.cfg) and the dll (sweiis.dll) that is largely responsible for SWSE functionality and which allows the SWSE to communicate with the Siebel Server.

LOG. Reports any communication errors between the SWSE and the Application Object Managers in the Siebel Servers.

PUBLIC. Contains the default HTML file (`default.htm`) used to redirect the browser to the SWSE and subdirectories of the Siebel Server.

LOCALE. Contains resource files with information about any runtime errors.

ISSRUN. Contains the files for SIS (Siebel Interactive Selling) CDA runtime. CDA runtime is used most commonly for eAdvisor and sometimes as a catalog or configuration.

Virtual Directories

Virtual directories are installed on the Web server for each installed Siebel eBusiness Web application. For example, there is an `eservice` directory for the eService product.

To verify the virtual directories for the Microsoft IIS Web Server

■ Launch the Internet Services Manager and select Advanced.

   The Advanced Options menu shows the existing virtual directories.

Setting SWSE Directory Permissions

The Web server administrator and all Siebel users and groups should have read and execute permission on all Siebel Web Server Extension virtual directories. If these permissions are not granted, login pages will not be rendered properly.

The Siebel Web Server Extension plug-in should have read and write permissions to the `\SIEBEL_ROOT\SWEApp\public\`*language*`\images` directory on the Siebel Server, so that it can cache static public image files on the Web server to enhance application performance.

Enabling HTTP Compression for Siebel Web Applications

The use of HTTP compression between the browser and the Web server can improve the performance of Siebel eBusiness Applications over a wide-area network (WAN). Typically, you should consider enabling HTTP compression if a significant number of users access applications over a WAN for which network bandwidth may be a constraint.

The benefit of compression is even greater for users who access applications using standard interactivity, rather than high interactivity, because the latter is already optimized for network use.

However, if your users access applications mostly over a local-area network (LAN), turning on HTTP compression does not improve performance. Instead, it might create performance overhead related to the extra processing needed on both the client and the server sides to compress and decompress data.

HTTP compression is available for all supported Web server platforms without any additional installation. HTTP compression functionality is built into the Siebel Web Server Extension plug-in.

Before using HTTP compression, you must make it active by setting the `DoCompression` parameter in the `eapps.cfg` file.

CAUTION: If you installed the Siebel HTTP Compression Filter for a pre-7.0.4 release of Siebel 7 eBusiness Applications, then you *must* uninstall that filter before you enable HTTP compression in this release of Siebel eBusiness Applications. For information, see "Uninstalling the Siebel HTTP Compression Filter" on page 359.

Enabling HTTP Compression

You can enable or disable HTTP compression as default functionality for all applications or selectively for individual applications. By default, HTTP compression is enabled for all applications.

To enable HTTP compression

1 Open the `eapps.cfg` file, located in the *SIEBEL_ROOT*\SWEApp\BIN directory, in a text editor.

2 Do one or both of the following:

■ To enable HTTP compression as default functionality, set the DoCompression parameter to TRUE in the [defaults] section. If the DoCompression parameter is not present, add it.

■ To enable HTTP compression for an individual application, set the DoCompression parameter to TRUE in the section for that application. For example, in [/callcenter] set DoCompression = TRUE. If the DoCompression parameter is not present, add it.

NOTE: Setting a parameter for an individual application overrides the default setting that may appear in the [defaults] section. If a parameter is set as a default, then its value applies to all applications for which it is not overridden at the individual application level.

3 Save and close the eapps.cfg file. Changes to the eapps.cfg file are not active until you restart the Web server.

To disable HTTP compression as a default or for an individual application, set DoCompression to FALSE in the appropriate section of the eapps.cfg file.

Compressing Static Content
The Siebel compression filter only compresses dynamic content. For more information about static compression on IIS and instructions on how to enable it, see your IIS 5.0 vendor documentation.

If you plan to compress static Web content in IIS 5.0 on any Web server used for Siebel eBusiness Applications, make sure that you set the IIS 5.0 properties as listed below:

```
HcSendCacheHeaders          FALSE
hcNoCompressionForProxies   TRUE
HcNoCompresionForHttp       TRUE
```

For instructions on how to set properties on IIS, see your vendor documentation.

The example below illustrates a script that you can run on your IIS Web servers to enable static compression after editing it to fit your site requirements.

```
rem -------------------------------------------------------------
```

Post-Installation Tasks for Siebel Web Server Extension

```
rem run this on webserver site

rem make sure the directories c:\inetpub\AdminScripts\ are correct.

rem ------------------------------------------------------------


c:


cd \


cd inetpub


cd AdminScripts


cscript.exe adsutil.vbs set W3Svc/Filters/Compression/GZIP/
HcFileExtensions "htm" "html" "txt" "css" "js"

cscript.exe adsutil.vbs set W3Svc/Filters/Compression/DEFLATE/
HcFileExtensions "htm" "html" "txt" "css" "js"

cscript.exe adsutil.vbs set W3Svc/Filters/Compression/Parameters/
HcSendCacheHeaders "FALSE"

cscript.exe adsutil.vbs set W3Svc/Filters/Compression/Parameters/
HcNoCompressionForProxies "TRUE"

cscript.exe adsutil.vbs set W3Svc/Filters/Compression/Parameters/
HcNoCompressionForHttp10 "TRUE"


rem ------------------------------------------------------------

rem Verify the settings

rem ------------------------------------------------------------

cscript.exe adsutil.vbs get W3Svc/Filters/Compression/GZIP/
HcFileExtensions
```

```
cscript.exe adsutil.vbs get W3Svc/Filters/Compression/DEFLATE/
HcFileExtensions
```

CAUTION: Setting these properties for static compression will affect all applications served on that Web server. Therefore, carefully review your vendor documentation and your site requirements before making a decision to enable this type of compression.

Editing the Web Server Extension Configuration File (eapps.cfg)

The eappweb installer installs a single configuration file, eapps.cfg, for all the Siebel eBusiness Applications by default into the /BIN subdirectory of the installation on your Web server host.

The eapps.cfg file contains configuration information that you entered during the configuration of the Siebel Web Server Extension, including identity and connectivity information for the Application Object Managers, and login and security settings.

You may, if desired, add selected optional parameters manually to affect the selected Siebel Web Client applications as a whole. You may also override the added parameters to determine the performance of one or more applications.

For detailed information about the structure and parameters of the eapps.cfg file, see Appendix D, "Structure of the eapps.cfg File."

NOTE: If you make any changes to the eapps.cfg file, you must restart your World Wide Web Publishing Service.

To edit the eapps.cfg file

1 Double-click the file to launch your default text editor. You can use any standard text editor, such as Windows Notepad.

2 If you modify the configuration file, save it and restart the Web server.

3 You must also restart several Windows services to make your changes take effect. See "Services You Must Restart."

If your enterprise uses eChannel, eSales, or eService, you will need to configure LDAP for a secure connection. For more information, see *Security Guide for Siebel eBusiness Applications*.

Services You Must Restart

Under Windows, if you make any changes to a configuration file in the private directory \BIN (as opposed to those in the SIEBSRVR_ROOT\BIN directory, where SIEBSRVR_ROOT is the subdirectory in your SIEBEL_ROOT directory where your Siebel Server resides), you must stop and restart the following Windows Services in the order below:

■ Stop the IIS Administration Service.

■ Stop the Siebel Server.

■ Stop the Siebel Gateway.

■ Start the Siebel Gateway.

■ Start the Siebel Server.

■ Start the World Wide Web Publishing Service.

Restarting these services guarantees that Siebel Web Server Extension plug-in reads the new information from the modified configuration file.

Cache ISAPI Applications

This parameter is enabled by default in IIS 5.0 (Windows 2000, but not in IIS 4.0 Windows NT). If you run IIS 4.0, you must enable this parameter at the application level; for example, if you want to turn on Cache ISAPI for eService.

To enable Cache ISAPI Applications

1 On IIS 4.0, navigate to Start > Windows NT 4.0 Option Pack > Microsoft Internet Information Server > Internet Service Manager.

2 In the left column, locate your machine name and double-click it to show the files beneath it.

3 Locate your default Web site, then, underneath it, the application for which you want to enable cache ISAPI.

4 Right-click the application, and then select Properties.

5 Select the Virtual Directory tab and click the Configuration button.

6 On the Application Configuration dialog box (Figure 8 on page 378), select the Cache ISAPI applications check box, and then click OK.

7 Quit Internet Service Manager.
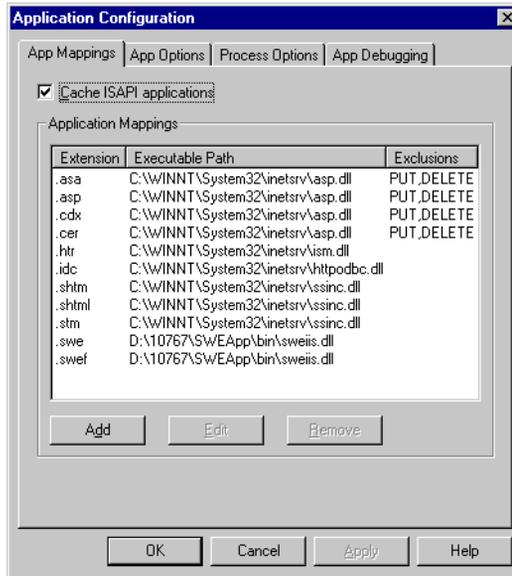
Figure 8. Enabling Cache ISAPI on IIS 4.0

Adding a New Virtual Directory to IIS

Virtual Directories are created automatically when you install the SWSE.

However, you may in some cases want to create your own virtual directory, for example, to be able to test features such as Web site Single Sign-on, so that you can point to an already existing Application Object Manager.

To do this, you would add the new virtual directory, using the IIS Administrator, then add a file called sweiis.dll, which is available from *SIEBEL_ROOT*\SWEApp\BIN. This allows communication with the Siebel Server.

Following this, you must add the name of the new virtual directory to the appropriate connect string in the eapps.cfg file in *SIEBEL ROOT*\SWEApp\BIN.

To add the new virtual directory

1 Using the IIS Administrator, navigate to the default Web site.

2 Right-click the default Web site and select Create a New Virtual Directory.

The Welcome screen for the Virtual Directory Creation Wizard appears.

3 Click Next.

4 Type your virtual directory name in the alias section (`htmlshowcase`) and click Next.

5 Type the installation path for the SWSE (for example, `C:\`*SWSEAPP_ROOT*`\SWEApp\PUBLIC\ENU`) and click Next.

6 On the Access Permissions screen, indicate the permissions you want to assign for the directory.

7 Click Finish.

IIS creates the virtual directory.

8 Right-click the new virtual directory and select Properties.

The Virtual Directory Name Properties dialog box appears.

9 Verify that the correct information was added.

For example, is the installation path for the SWSE correct?

Are the access rights assigned correct for this directory?

10 Click the Configuration button.

The Application Configuration dialog box appears.

This dialog box contains a scrollable list of `.dll`s to which you will add the `sweiis.dll`.

11 Click Add, and then click the Browse button to navigate to the location of the `sweiis.dll` file under *SIEBEL ROOT*`\SWEApp\BIN`.

The Edit/Add Application Extension Mapping dialog box appears.

12 In the Extension field type *SWE,* leaving the defaults as they are.

13 Click OK, and then click Apply.

IIS adds the .dll to the new the virtual directory.

14 Add the SWEF extension by repeating Step 11 through Step 13. However, in Step 12, substitute *SWEF* for SWE.

You must now add the name of the new virtual directory to the appropriate connect string in your eapps.cfg file.

To add the new virtual directory to eapps.cfg

1 Navigate to the *eapps.cfg* file under *SIEBEL ROOT*\SWEApp\BIN.

2 Locate the connect string for the Application Object Manager for which you want to create the virtual directory, then edit the name of the object manager (in brackets above the connect string) to be the same as your new virtual directory name.

Example for a Chinese Wireless eService object manager:

```
[/wpeserv_]

AnonUserName  = GUESTCST

AnonPassword  = ldap

ConnectString = siebel.TCPIP.None.None://dedwards5:2320/Siebel/
WirelesseServiceObjMgr_chs/SiebSrvr1

StartCommand  =
SWECmd=GotoView&SWEView=Home+Page+View+(WirelesseService)
```

3 Stop and restart the IIS Administrator.

4 Stop and restart the Web server.

Reviewing the Log Files for Siebel Web Server Extension

Siebel Web Server Extension plug-in generates one or more log files as a result of connection attempts with the Siebel Server. These log files reside in the *SWSEAPP_ROOT* directory under \SWEAppweb\LOG.

Depending on the logging level you choose, these files record errors, warnings, and general information. Events such as Web server failures or invalid configuration of the Siebel Web Engine, are captured in these logs. Analyzing the log files can provide clues for troubleshooting problems with the SWSE.

Troubleshooting Web Server Extension Installation

This section provides suggestions for troubleshooting problems you may encounter when installing the Web Server Extension.

Problem: After installation, when launching the zero-footprint client, a message appears, stating:

```
Page Cannot be displayed
```

Cause: Virtual directories were not installed or configured properly.

Solution: Refresh the connection between your browser and the Web site.

1 Make sure that the Local Path for the virtual directories is correct. This should be the following:

SIEBEL_ROOT\SWEApp\PUBLIC*language*

2 If you are trying to test a self-created virtual directory, make sure that you added the sweiis.dll parameter to your virtual directory, since this parameter allows communication with the Siebel Server. For information, see "Adding a New Virtual Directory to IIS" on page 378.

3 Make sure that the AnonUser specified in the eapps.cfg file is also specified in the database with the correct responsibilities. Otherwise, you cannot access the Home page.

4 Make sure that the connect string for the Siebel eBusiness Application is correct. Otherwise, a message similar to the following appears:

```
ConnectString = siebel.TCPIP.none.NONE://server name:2320
/siebel/ProductNameObjMgr_language/server name
```

Problem: Your Siebel eBusiness Application hangs or times out.

Cause: Appropriate parameters not available within the [default] section of the `eapps.cfg` file for the Siebel eBusiness Application.

Solution: Make sure that the defaults section of the `eapps.cfg` file contains the Employee Login value (for example, `sadmin\DatabaseName`).

Problem: After stopping the IIS Admin Services, an error message appears:

```
The service did not respond to the start or control request in a
timely fashion
```

Cause: Stopping the IIS Admin Service from Component Services in the Windows Control Panel creates an error.

Solution: Open a DOS command window and issue the following command to release all resources used by services, such as `inetinfo.exe` and `dllhost.exe`:

```
IISRESET /START
```

If, after doing this, you still cannot start the Siebel applications, you must restart the machine.

Problem: Inability to access the Web client. The browser status bar may display errors such as `SWESubmitOnEnter is undefined` and the login page may appear to hang.

Solution: Grant the IWAM and IUSR user accounts write permission to the `SWEAPP_ROOT` directory.

Problem: After installation, when launching the zero-footprint client, the login page does not display properly. For example, images may be missing.

Cause: The user does not have proper permissions to the `SWEAPP_ROOT\public\lang` directory.

Solution: Grant read, write, and execute to permissions to all users. In addition, grant read, write, and execute permissions to the anonuser specified in the eapps.cfg file.

Installing CORBA Object Manager 15

This chapter describes the steps involved in installing and configuring the Siebel CORBA Object Manager.

The installation and configuration of the CORBA Object Manager consists of several tasks. Table 33 illustrates the sequence of steps.

Table 33. CORBA OM Installation and Configuration Tasks

Who Performs It?	Task	
System Administrator	**1**	Review the prerequisites to installing Siebel CORBA Object Manager. See "Verifying Installation Prerequisites for Siebel CORBA Object Manager" on page 384.
	2	Review database connectivity information and configure connectivity to the Siebel Database. See "Configuring Database Connectivity Software for CORBA Object Manager" on page 385.
	3	Verify your connection to the network. See "Verifying Network Connectivity for Siebel CORBA Object Manager" on page 386.
	4	Install Object Request Broker software. See "Installing Object Request Broker Software" on page 387.
	5	Install Siebel CORBA Object Manager software. See "Installing the CORBA Object Manager" on page 388.
	6	Review the software installation directories. See "Post-Installation Tasks for Siebel CORBA Object Manager" on page 393.
	7	Configuration and Run the Siebel CORBA Object Manager. See "Final Configuration of the Siebel CORBA Object Manager" on page 394.
	8	(Optional) Register multiple CORBA Object Managers, as appropriate. See "Registering Multiple Object Managers for Better Performance" on page 405.

About Siebel CORBA Object Manager

The Siebel CORBA Object Manager is an alternative object manager; it allows you to access the Siebel Business Objects through a supported, industry-standard CORBA object request broker (ORB). The standard Application Object Manager is installed when you install your Siebel Servers.

Because the CORBA Object Manager is not installed as part of the standard Siebel Server installation, if you plan to use the CORBA interfaces, you must install the CORBA Object Manager on each server on which you plan to operate it.

The CORBA Object Manager does not require the creation of a Siebel Enterprise Server, or installation of a Siebel Gateway or Siebel Server. Rather, the CORBA Object Manager operates outside the Siebel Server infrastructure. Task instantiation and management, load-balancing, and other capabilities that are usually provided by the Siebel Enterprise Server infrastructure are instead provided by the CORBA environment.

Connectivity between client applications and CORBA Object Manager is provided by third-party CORBA software. For information on the specific CORBA products and versions supported by Siebel eBusiness Applications, see *System Requirements and Supported Platforms*. The CORBA Object Manager installation provides support for all supported third-party CORBA products.

Verifying Installation Prerequisites for Siebel CORBA Object Manager

- Be sure that all servers onto which the Siebel CORBA Object Manager will be installed meet the hardware and software requirements described in *System Requirements and Supported Platforms*.

- The CORBA Object Manager may be installed on a server that also supports the Siebel Enterprise Server components, although for best performance you must install the CORBA Object Manager onto a dedicated server.

■ The CORBA Object Manager installation program uses `/siebel` as the default installation directory. Whether you are installing CORBA Object Manager into a pre-existing installation directory or performing a fresh installation, make sure that you do not install CORBA into the same directory as the Siebel Server.

NOTE: It is recommended that you use a directory naming convention that identifies the component and version being installed.

■ If you will be installing the VisiBroker third-party CORBA software, you must make sure that an appropriate Java run-time environment has been installed. For more information on VisiBroker Java run-time environment requirements, see the VisiBroker documentation.

Configuring Database Connectivity Software for CORBA Object Manager

You must configure your database connectivity software to allow the Siebel CORBA Object Manager to connect to the Siebel Enterprise database:

■ **MS SQL Server.** No configuration is required once the Microsoft SQL Server ODBC driver specified in *System Requirements and Supported Platforms* has been installed on each server. Siebel automatically creates an ODBC data source using connectivity parameters that you will specify during installation of the Siebel CORBA Object Manager.

■ **Oracle.** Verify that the Oracle Net8 or Net9 database connectivity software, as appropriate to your database, is installed on each server, according to the Oracle documentation. See *System Requirements and Supported Platforms* for database connectivity software requirements.

Prior to installing the Siebel Server and Siebel Enterprise Server, you must use the Oracle Net8, (or Net9, as appropriate to your database), Easy Configuration utility to define a database alias with the proper connection information for your Siebel Database Server, if you have not done so already. Record the connect string in Appendix A, "Deployment Planning Worksheets." You will specify this connect string when installing the Siebel Server.

■ **DB2 UDB for Windows and UNIX.** Define a database alias with the proper connection information for your database. This alias will be the connect string used when installing the Siebel Server.

Use either the DB2 Client Configuration Assistant or the Command Line Processor to define your database alias. For more information, see *DB2 Universal Database for Windows* or *IBM DB2 Universal Database Command Reference.*

Verifying Network Connectivity for Siebel CORBA Object Manager

You must verify network connectivity between the server and the Siebel Database Server.

To verify network connectivity

1 Use the test utility for your network type to verify that the Siebel Servers can access the database servers. For TCP/IP networks, you should use the `ping` utility.

2 Verify connectivity to the Database Server:

■ **Microsoft SQL Server 2000.** Use the Windows 2000 Programs > Administrative Tools > Data Sources (ODBC) or Windows NT Control Panel - ODBC icon to verify that the proper ODBC driver has been installed and to create and test a data source to your database server.

■ **Oracle.** Use the `tnsping` utility and Net8 or Net9 database alias from a Command Prompt window to make sure that you can connect to the database, using the network connect string that you defined in the previous step.

■ **DB2 UDB.** Use a DB2 Command Window and make sure that you can connect to your database.

a Choose Start > Programs > (IBM DB2) or (DB2 for Windows NT) > Command Window, and type:

```
DB2 connect to Database Alias user user_ID using password
```

where:

database_alias is a valid database alias on DB2.

user_ID is a valid user name on DB2.

password is the appropriate password for that user name.

If your connection is valid, you should see a message that looks like the following:

```
    Database Connection Information

Database Server        = DB2/NT x.x.x
SQL authorization ID   = SADMIN
Database alias     = DB Alias
```

If your connection is not valid, verify your configuration.

CAUTION: Be sure to use the Command Window for this procedure and not the Command Line Processor window that appears directly above it. The Command Line Processor window looks similar to a Command Window, but it uses slightly different syntax. For this procedure, the commands do not work in a Command Line Processor window; they must be issued in a Command Window.

b To close the connection, type db2 terminate.

NOTE: You can also use the DB2 Command Center GUI tool to do this.

Installing Object Request Broker Software

You must have a working Orbix or VisiBroker environment prior to installing the Siebel CORBA Object Manager. If necessary, you must install either the Orbix or VisiBroker third-party CORBA software. For more information, see the following:

■ If you are installing Orbix third-party CORBA software, see "Getting Started" on the HTML page that appears after installing the Orbix software.

■ If you are installing VisiBroker third-party CORBA software, see Visibroker's hard copy documentation.

After installation, verify the third-party CORBA software is installed and functioning correctly.

Installing the CORBA Object Manager

Complete the following steps to install the CORBA Object Manager on each Windows server.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually C:) even if you intend to install Siebel eBusiness Applications into another drive.

To install the CORBA Object Manager

NOTE: The following procedure is for installing the base product. For patch installation instructions, refer to *Maintenance Release Guide* provided with the patch.

1 Log on as the OS administrator and insert the second *Windows Server Programs CORBA Object Manager* Language *Extension Pack 1* CD-ROM (where *Language* stands for the Language Pack you want to deploy) into the CD-ROM drive (assumed to be D:) of the chosen server.

2 In Windows Explorer, navigate to windows_server_corba_lep1\corbaom and double-click setup.exe.

The Welcome to InstallShield Wizard for Siebel CORBA Object Manager screen appears.

3 Click Next.

NOTE: Be sure to quit any other programs you may have open before continuing.

4 Select the displayed default directory for file installation, or use the Browse button to select a different drive or directory, and click Next.

5 Choose the type of CORBA Object Manager installation to execute from the following options; then click Next to continue:

■ **Typical.** This setup option installs all Siebel CORBA Object Manager components except those displayed. Proceed to Step 6.

■ **Compact.** This setup option installs only those components necessary to run the Siebel CORBA Object Manager, but no additional components, help, or CORBA sample codes. Proceed to Step 6.

■ **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install. Proceed to Step 6.

If you selected Custom, the Custom Installation Setup screen appears.

Select the components that you want to install; in other words, decide whether or not you want to install the Sample Clients and IDL (Interface Definition Language) and click Next.

Siebel Systems IDL defines the interfaces it provides through the CORBA Object Manager.

The language selection screen appears.

6 Choose the language or languages you intend to install for CORBA Object Manager on the server; then click Next.

All servers are installed with at least one language, the primary(base) language. Additional languages can be installed at a later date, if desired. When installing languages at a later date, you must also re-install any patches that have been run on the directory. For more information, see *Global Deployment Guide.*

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The Installation Verification screen appears.

7 Verify the settings:

- To apply the settings, click Next.

- To make any changes, use the Back button to go back and update any parameters. You can use the Next button to return to this screen and confirm your new values; then click Next.

The installer proceeds to install the specified files and icons.

After all CORBA Object Manager files you specified, have been installed, the Siebel CORBA Object Manager Configuration Wizard launches.

8 If you want to proceed with configuration, proceed to "Configuring Siebel CORBA Object Manager" on page 391.

9 If you want to configure later, close out of the Configuration Wizard.

The installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

10 Click Finish.

Configuring Siebel CORBA Object Manager

Follow the steps below to configure the Siebel Server for operation.

To configure Siebel CORBA Object Manager

1 If you closed out of the Siebel Software Configuration Wizard after installation, relaunch it, using any method described in "Launching the Siebel Software Configuration Wizard" on page 131. Otherwise, proceed to Step 2.

NOTE: If you have just installed a new language following your initial installation and configuration of a multilingual Siebel Enterprise Server, access the Siebel Software Configuration Wizard from Start > Programs > Siebel Enterprise Server 7.x.x > Configure CORBA OM.

The Configure Database Option: Siebel Database Platform screen appears.

2 Select the appropriate database and click Next:

- IBM DB2 UDB for UNIX and Windows

- IBM DB2 UDB for OS/390 and z/OS

- Microsoft SQL Server

- Oracle Database Enterprise Edition

The Configure Database Option: Database Alias screen appears.

3 Indicate the database alias that applies to your Enterprise and click Next:

IBM DB2 UDB

- **Database Alias.** Type the database alias cataloged for your DB2 database, for example, Production.

■ **Tableowner.** Type the name of the database account that owns your Siebel objects, for example, `siebel`.

Microsoft SQL Server

■ **SQL Server Name.** Type the network name or IP address of the database server on which you are installing the Siebel Database.

■ **SQL Server Database Name.** Type the name of the SQL Server database where the Siebel tables and indexes will reside.

Oracle Enterprise Server:

■ **Database Alias.** Type the appropriate connect string for your Siebel Server database.

■ **Tableowner.** Type the name of the database account that owns the Siebel tables.

The Configuration Parameter Review screen appears, showing the configuration parameter values you typed on the previous screens.

4 Review these values for accuracy against the values in your copy of Appendix A, "Deployment Planning Worksheets," and take the following action:

a If you need to correct any values, click Previous to back out through the configuration screens until you reach the location of the false value.

b When you have corrected the error, click Next until you reach the list on this screen again.

c When you are satisfied, click Finish.

A progress bar appears, and when configuration activities are over, a message box appears with the text:

```
The configuration changes were applied successfully.
```

5 Click OK.

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt or the log generated by the Siebel application at *CORBAOM_ROOT*\LOG.

Post-Installation Tasks for Siebel CORBA Object Manager

Before starting the CORBA Object Manager, perform the following tasks:

- "Review the Software Installation for CORBA Object Manager" on page 393.

- Copy the latest version of your customized Siebel repository file (the .srf file) to the \OBJECTS*language* subdirectory of each CORBA Object Manager installation.

- "Final Configuration of the Siebel CORBA Object Manager" on page 394.

Review the Software Installation for CORBA Object Manager

Review the directory structure created by CORBA Object Manager installation. The directory structure is located under the directory specified during the installation.

The directory structure should match the one shown below.

```
SIEBEL_ROOT\
            corbaom\
                        _uninst
                        BIN\
                        HELP\
                        IDL\
                        LOCALE\
                        LOG\
                        OBJECTS\
                        SAMPLECLIENT\
                        TEMP\
                        UPGRADE\
                        base.txt
```

```
language.txt
log.txt
```

_uninst. Contains files needed for uninstalling the product.

BIN. Contains executables and `.dlls`.

HELP. Help files.

IDL. Contains files defining the interfaces provided through the CORBA OM.

LOCALE. Language-specific message files.

LOG. Log and trace files.

OBJECTS. Contains language-specific directories with language-specific repository (`.srf`).

SAMPLECLIENT. Contains C + + source code for building a sample client.

TEMP. Contains temporary files used during execution.

UPGRADE. Files and scripts related to version upgrades by installer.

base.txt. Contains primary(base) language and version information.

language.txt. Contains language and version information.

upgrade.log. Contains upgrade logs.

Final Configuration of the Siebel CORBA Object Manager

After copying the latest version of your customized Siebel repository file (the `.srf` file) to the `\OBJECTS\`*language* subdirectory of each CORBA Object Manager installation, you may have to take additional steps to configure the Siebel CORBA OM.

These steps may be required or optional depending on which third-party CORBA software you are using and conventions of other CORBA software used in your organization. The additional steps relate to how the Siebel CORBA Object Manager will be started so that it is available for requests from client programs, and whether or not the Siebel CORBA Object Manager will publish the reference to its SiebelAppFactory object in the CORBA naming service.

NOTE: This section assumes you have a detailed understanding of CORBA, the tools, and the utilities provided by your ORB vendor.

Before performing the final configuration, you must make a decision about the following:

■ Whether you want a persistent server or an automatic server. If you use persistent server you need to start and stop the Siebel CORBA Object Manager server process or processes manually; otherwise, you need to configure the third-party CORBA software to automatically start a Siebel CORBA Object Manager server process when a client request is dispatched.

NOTE: The ORBIX implementation only supports persistent mode.

■ Whether the Siebel CORBA Object Manager should publish a reference to its SiebelAppFactory object in the naming service, or if clients will use proprietary methods of the third-party CORBA software to bind to the SiebelAppFactory.

There are several areas in which these decisions overlap:

■ What your existing CORBA policies or conventions are.

■ Whether you want to load-balance between several Siebel CORBA Object Manager servers.

■ Whether you want to use the CORBA naming service.

■ Which third-party CORBA software you have chosen.

If you are going to use the CORBA Naming Service, then you must use the persistent method. This is because the Siebel CORBA Object Manager registers its SiebelAppFactory object when it starts and removes it when it shuts down. Since the client (that uses the naming service) would not be able to invoke requests on that server unless it was running, you should not configure for automatic starting of servers.

Configuring Multiple CORBA Object Managers for Better Performance

For optimal performance register multiple Siebel CORBA Object Managers for load-balancing and redundancy. CORBA provides flexibility in terms of deploying multiple redundant servants for specific interfaces. The best deployment strategy will depend on your specific needs and the capabilities of your chosen third-party CORBA software. Please refer to "Registering Multiple Object Managers for Better Performance" on page 405 if you are planning to have multiple Object Managers.

NOTE: You need to use the Naming Service if you are planning on registering multiple CORBA OMs with the same ORB.

Using CORBA Naming Service with the Siebel CORBA Object Manager

You should use the Naming Service if you are planning on registering multiple CORBA OMs with the same ORB. Use of the Naming Service is required for ORBIX, but optional for Visibroker. The benefit of using the Naming Service with multiple CORBA OM instances is that the ORB will load balance requests across all CORBA OM instances.

The /x and /b (see below for the complete command-line syntax) arguments are interpreted using the Interoperable Naming Service (INS) convention for stringified names. Specifically, this means that a /(slash) character is a delimiter between name components, and the . (dot) character is a delimiter between the *kind* and *id* parts of a name component. The \ (backslash) is used as an escape character for literal "/" , "." , and "\" characters. A leading / is optional when specifying a stringified name. In other words, /x /Siebel and / Siebel are equivalent.

When both /x and /b are specified, the name bound in the naming service is the concatenation of Context and BindName. Siebel Systems provides the Context parameter simply as a matter of convenience. The /b argument can be a fully qualified name in stringified form as described above. For example, specifying /x Siebel\ObjMgr /b Alpha is equivalent to /b Siebel\ObjMgr\Alpha.

Final Configuration of CORBA Using Orbix

The following topics describe tasks to finalize configuration and running CORBA using Orbix.

Command-Line Syntax

The Siebel CORBA Object Manager for Orbix is implemented in the executable `ssomorbx.exe`, which is a normal console mode application and is located in the `SIEBEL_ROOT\corbaom\bin` directory. The command-line syntax used when invoking `ssomorbx` is as follows:

```
ssomorbx /n servername /c configfile /d datasource /l language /
maxconn maxconnections [/b bindname [/x context] [/r]] [otherarg
…]
```

where:

servername is the servant process name.

configfile is the name of the configuration file. This may be a filename (in which case the file must reside in the *language* subdirectory of the BIN directory) or a full pathname.

datasource is the name of the data source defined in the configuration file to which the Siebel CORBA Object Manager should connect.

language is the language code in which the Siebel CORBA Object Manager operates; for example, `enu` for U.S. English.

maxconnections is the maximum number of concurrent client connections that this server can support.

bindname is an optional argument that defines the stringified name to bind to the SiebelAppFactory object in the CORBA naming service.

context is an optional argument that defines the stringified name that defines the CORBA naming service naming-context in which the *bindname* appears. This argument and the `/x` option are only meaningful when the `/b` option is also present.

`/r` is an option that specifies that the *bindname* should be registered as a member of an OrbixNames load-balancing group using round-robin selection.

This option is only meaningful when the `/b` option is also present.

otherarg is an option argurment that specifies additional arguments that may be passed to the Orbix ORB during initialization.

Configuring CORBA Object Manager as a Persistent Server for Orbix

In persistent mode, the CORBA Object Manager is always running and available for client requests.

NOTE: The Orbix implementation only supports persistent mode.

For detailed information about all the command-line options that are used in the following procedure, see "Command-Line Syntax" on page 398. Alternatively, you can use the shortcut created during installation to invoke the CORBA Object Manager by choosing Start > Programs > Siebel CORBA Object Manager 7.x.x > Siebel CORBA Object Manager (Orbix ORB). The default servername in the shortcut is `SiebelCorbaServer`, so you must register that name in Step 2 of the following procedure for the shortcut to work.

To configure and start the CORBA Object Manager with Orbix

1 Make sure that the Orbix service, `orbixd.exe`, and Naming Services are running on the server. Start the Naming Service for the appropriate domain, if necessary.

For more information on Orbix administration, see the Orbix installation and administration documentation.

2 Start the CORBA Object Manager by executing the following command at a command prompt:

```
ssomorbx /n serverName /c configFile /d dataSource /l language
/b bindName /x context /maxconn maxConnections [/r] [otherarg…]
```

where:

serverName is the servant process name.

configFile is the configuration file for CORBA Object Manager. This may be a filename (in which case the file must reside in the *language* subdirectory of the \BIN directory) or a full pathname.

datasource is the name of the data source defined in the configuration file to which the Siebel CORBA Object Manager should connect.

language is the language code in which the Siebel CORBA Object Manager operates; for example, enu for U.S. English.

bindName is the name to which the SiebelFactory object is bound. All clients will first get a reference to the SiebelFactory object.

context is the context registered with the Naming Service.

maxConnections is the maximum number of connections to be handled by the CORBA Object Manager process.

[/r] an optional argument to specify that the *bindname* should be registered as a member of an OrbixNames load-balancing group using round-robin selection. This option is only meaningful when the /b option is also present.

[otherarg] is an option that specifies additional arguments that may be passed directly to the Orbix ORB during initialization.

For example,

```
ssomorbx /n Siebel /c corbaom.cfg /d ServerDataSrc /l ENU /b
CORBAOM /x SCOM /maxconn 25
```

3 Repeat Step 2 for each additional CORBA Object Manager you configure on this server.

Final Configuration of CORBA Using VisiBroker

The following topics describe tasks to finalize configuration and running of CORBA using VisiBroker.

Command-Line Syntax

The Siebel CORBA Object Manager for VisiBroker is implemented in the executable ssomvisi.exe, which is a normal console mode application and is located in the *SIEBEL_ROOT*\corbaom\bin directory. The command-line syntax used to invoke ssomvisi is as follows:

```
ssomvisi /n objname /c configfile /d datasource /l language [/b
bindname [/x context] [otherarg …]
```

where:

objname is the object name assigned to the SiebelAppFactory object.

configfile is the name of the configuration file. This may be a filename (in which case the file must reside in the *language* subdirectory of the \BIN directory) or a full pathname.

datasource is the name of the data source defined in the configuration file to which the Siebel CORBA Object Manager should connect.

language is the language code in which the Siebel CORBA Object Manager operates; for example, ENU for U.S. English.

bindname is an optional argument that defines the stringified name to bind to the SiebelAppFactory object in the CORBA naming service.

context is an optional argument that defines the stringified name that defines the CORBA naming service naming-context in which the *bindname* appears. This argument and the /x option are only meaningful when the /b option is also present.

otherarg is an optional argument that represents arguments passed directly to the VisiBroker ORB during initialization. Specifically, you may need to specify the -ORBInit parameter when using the CORBA naming service. For more information, see the VisiBroker documentation.

Configuring Manual Activation for VisiBroker

In persistent mode, the CORBA Object Manager is always running and available for client requests. You should configure the CORBA Object Manager as either a manual server or an automatic server, but not both.

For detailed information about all the command-line options that are used in the following procedure, see "Command-Line Syntax" on page 401. Alternatively, you can use the shortcut created during installation to invoke the CORBA Object Manager by choosing Start > Programs > Siebel CORBA Object Manager 7.x.x > Siebel CORBA Object Manager (VisiBroker ORB).

To configure and start the CORBA Object Manager as a persistent server under VisiBroker

1 Make sure that at least one VisiBroker Smart Agent, `osagent.exe`, is running on the local subnet or is, at least, visible to the current server. You can do this using the VisiBroker `osfind` utility.

For more information on the `osagent` and `osfind` utilities, see the VisiBroker documentation.

2 Start the CORBA Object Manager. At a command prompt execute the command:

```
ssomvisi /n objname /c configfile /d datasource /l language [/b
bindname [/x context] [otherarg …]
```

where:

objname is the object name assigned to the SiebelAppFactory object.

configfile is the full path and name of the Object Manager configuration file; the default is siebel.cfg, located in the same directory as ssomvisi.

datasource is the name of the data source defined in the .cfg file; the default is Server.

language is the three-letter code for the language in which to operate; for example, enu for U.S. English.

For example,

```
ssomvisi /n SiebelObjectFactory /c corbaom.cfg /d ServerDataSrc /
l ENU
```

3 Repeat Step 2 for each additional CORBA Object Manager you run on this server.

NOTE: You must change the object name specified.

---

4 Repeat Step 1 through Step 3 for each additional server you configure.

Configuring Automatic Activation for VisiBroker

You should configure the CORBA Object Manager as either a manual server or an automatic server, but not both.

To configure the CORBA Object Manager for automatic activation under VisiBroker

1 Make sure that at least one VisiBroker Smart Agent, osagent.exe, is running on the local subnet or is, at least, visible to the current server. You can do this using the VisiBroker osfind utility.

For more information on the osagent and osfind utilities, see the VisiBroker documentation.

2 Start the VisiBroker Object Activation Daemon (OAD). At a command prompt, execute:

```
oad
```

For more information on the VisiBroker Object Activation Daemon, see the VisiBroker documentation.

3 Register the CORBA Object Manager in the implementation repository. At a command prompt execute the command:

```
oadutil reg -I SiebelAppFactory -o objname -cpp CORBA Object
Manager exe -p shared -a /n -a objname -a /c -a configfile -a /d
-a datasource -a /l -a language [[-a otherarg] …]
```

where:

objname is the object name assigned to the SiebelAppFactory object.

configfile is the full path and name of the Object Manager configuration file; the default is siebel.cfg, located in the same directory as ssomvisi.

datasource is the name of the data source defined in the .cfg file; the default is Server.

language is the three-letter code for the language in which to operate; for example, enu for U.S. English.

For example,

```
oadutil reg -I SiebelAppFactory -o SiebelObjectFactory -cpp
D:\sea704\corbaom\bin\ssomvisi -p shared -a /n -a
SiebelObjectFactory -a /c -a corbaom.cfg -a /d -a ServerDataSrc -
a /l -a ENU
```

NOTE: The *objname* passed as the argument to the oadutil -o option and the -a (*objname*) in the CORBA Object Manager arguments must match.

4 Repeat Step 2 and Step 3 for each additional CORBA Object Manager you configure on this server.

NOTE: You must provide a unique *objname* each time.

5 Repeat Step 1 through Step 4 for each additional server you configure.

Registering Multiple Object Managers for Better Performance

To improve system performance, it is recommended that you register multiple CORBA Object Managers on the same host. When registering multiple CORBA Object Managers, you must use a unique name for each instance.

NOTE: You should use the Naming Service if you are planning on registering multiple CORBA OMs with the same ORB.

Persistent Mode

In persistent mode, the CORBA Object Manager is always running and available for the ORB. You must set up either the VisiBroker ORB or the Orbix ORB for persistent mode, but not both. Choose the correct set of procedures for your deployment from the following.

To register multiple object managers in persistent mode using VisiBroker ORB

1 Complete Step 1 through Step 2 on page 402.

2 Execute the ssomvisi program using the following arguments to start the CORBA Object Manager:

```
ssomvisi /n SiebelObjectFactory /c config_file /d datasource /
l language
```

Optionally, you can also make the configuration files unique and point them to distinct Siebel Repository files (.srf); for example:

Registering Multiple Object Managers for Better Performance

```
ssomvisi /n SiebelObjectFactory /c config_file _2 /d datasource
/l language
```

where:

config_file is the full path and name of the Object Manager configuration file; the default is siebel.cfg, located in the same directory as ssomvisi.

datasource is the name of the data source defined in the .cfg file; the default is Server.

language is the three-letter code for the language in which to operate, such as enu for U.S. English.

To register multiple object managers in persistent mode using Orbix ORB

1 Complete Step 1 and Step 2 on page 399; however, in Step 2, give the variable *SiebelCorbaServer* a unique name for each instance, such as *SiebelCorbaServer2* or *SiebelCorbaServer3*.

2 Complete Step 3 on page 400, but give the variable *SiebelCorbaServer* the unique name you gave this instance in the previous step; for example, *SiebelCorbaServer2.*

Shared Server Mode

To improve system performance, Siebel Systems recommends registering multiple CORBA Object Managers on the same host. When registering multiple CORBA Object Managers, you must use a unique name for each instance.

To register multiple object managers in shared server mode using VisiBroker ORB

1 Follow Step 1 through Step 2 on page 402.

2 Follow Step 4 on page 403, but give the first argument a unique name for every instance you register; for example:

```
oadutil reg /i SiebelAppFactory /o SiebelObjectFactory /cpp
SIEBEL_ROOT\bin\ssomvisi /p shared /a /n /a
SiebelObjectFactory /a /c /a SIEBEL_ROOT\bin\config_file /a
/d /a datasource /a /l /a language
```

and

```
oadutil reg /i SiebelAppFactory /o SiebelObjectFactory /cpp
SIEBEL_ROOT\bin\ssomvisi /p shared /a /n /a
SiebelObjectFactory1 /a /c /a SIEBEL_ROOT\bin\config_file /a
/d /a datasource /a /l /a language
```

Optionally, you can also make the configuration files unique and point them to distinct Siebel Repository files (.srf); for example:

```
/a /c /a SIEBEL_ROOT\bin\config_file _2 /a /d /a datasource /
a /l /a language
```

Troubleshooting CORBA Object Manager Installation

Problem: After double-clicking one of the program icons in the Siebel CORBA Object Manager 7.0 folder in the Programs menu, the following error message appears:

```
The dynamic link library orb_r.dll could not be found in the
specified path \sea700\corbaom\BIN...
```

Solution a: ORB or VisiBroker software was not installed prior to installing Siebel CORBA Object Manager.

To resolve the problem

1 Uninstall CORBA OM. See Chapter 18, "Uninstalling Siebel eBusiness Applications."

2 Install the ORB or VisiBroker software.

3 Reinstall CORBA OM.

Solution b: Verify that your OS system environment variables include the following path and add it if it is absent:

inprise HOME\vbroker

where:

inprise HOME = the location of your Inprise instance.

Problem: You receive an error message:

Troubleshooting CORBA Object Manager Installation

```
Unable to initialize threads: cannot find class java/lang/thread.
Could not create JVM.
```

Solution: Java Runtime was either not installed or a version was installed that is incompatible with the version of VisiBroker that you installed. For more information, see your VisiBroker product documentation.

Installing eAI Connector Software 16

This chapter explains how to install support files for Siebel eAI Connector Software.

For instructions on how to configure Siebel eAI Connector software, refer to Siebel documentation on the appropriate connector for your platform:

■ *Siebel Connector for Oracle Applications*

■ *Siebel Connector for SAP R/3*

■ *Siebel Connector for Siebel eBusiness Applications*

For instructions on enabling the Application Object Managers for these connectors see Chapter 6, "Installing the Siebel Server" and Appendix B, "Enabling Server Components."

Table 34 illustrates the sequence of steps required to install the specified Siebel eAI Connector software.

Table 34. eAI Connector Software Installation Tasks

Who Performs It?	Task
System Administrator	**1** Install eAI Connector software. See "Installation Tasks for eAI Connectors" on page 410.
	2 Review the installation directory. See "Reviewing the Software Installation" on page 416.
	3 Configure eAI Connector software. See the appropriate documentation on the *Siebel Bookshelf* CD-ROM.

About Siebel eAI Connector Software

The eAI Connectors selection on the Siebel Enterprise Server installer menu installs additional support files that are needed for several of the eAI components. Other important eAI Connector files are installed through the Siebel Server. For more information, see Chapter 6, "Installing the Siebel Server."

Preinstallation Considerations

Additional configuration is required if you plan to use Siebel Connector for SAP R/3 with Siebel Connector for Oracle Applications, or if you plan to use either of these connectors against multiple instances of the respective back office application. Please contact Siebel Technical Services for configuration instructions.

Siebel Connector for Oracle Applications and Siebel Connector for PeopleSoft support the following server platforms: Windows 2000, Windows NT, AIX and Solaris.

Siebel Connector for SAP R/3 supports Windows 2000 and NT servers only as of Release 7.5.

For further installation considerations, see *System Requirements and Supported Platforms*.

Installation Tasks for eAI Connectors

This section provides instructions for installing eAI Connector software.

CAUTION: To install Siebel eBusiness Applications, you must have 50-100 MB of disk space on your system drive (usually C:) even if you intend to install Siebel eBusiness Applications into another drive.

If you are installing using a staging point (for more information about this method, see Chapter 2, "Preparing for the Installation,") you will notice that some steps you perform differ from those documented in this procedure; for example, you will not need to swap CDs, as described in Step 10 to Step 16.

To install the Siebel eAI Connector Software

1 Insert the *Windows Server Programs Siebel Enterprise Server Base* CD-ROM into the CD-ROM drive of the chosen server (assumed here to be D:).

2 In Windows Explorer, double-click seawinsesbase or siawinsesbase, as appropriate to the Siebel applications that you are installing.

3 Navigate to:

D:\windows_server_ses_base\ses and double-click setup.exe

The Welcome to InstallShield Wizard for Siebel Enterprise Server screen appears.

If you have installed other Siebel components on the same machine, the installer displays the message that an existing installation has been found.

4 Depending on whether you are installing your eAI files for the first time or adding a new language to an existing instance, take the appropriate action, then click Next:

- To install the server software in a new instance, select None as the default and click Next. Proceed to Step 5.

- To install a new language in and existing instance, select the displayed instance and click Next. Proceed to Step 6.

    See also "Installing Multiple Siebel Language Packs on the Siebel Server" on page 130 for important additional information on this topic.

5 Select the displayed default directory for file installation or use the Browse button to select a different drive or directory and click Next.

The installer prompts you to select the server that you want to install.

- Install all the components at once for which your organization has a license by clicking Select All.

■ Select just Siebel eBusiness Application Integration at this time for installation and configuration. (You will install and configure the other server components individually later.)

> **NOTE:** If you install all licensed components at once, the SES Installer and the Siebel Software Configuration Wizard prompt you for the installation parameters of each component individually and in the sequence required.

6 Choose the type of eAI Connector support file installation to execute from the following options; then click Next to continue:

■ **Typical.** This setup option will install all components except those displayed.

■ **Compact.** This setup option will install only those components necessary, but no additional components or help.

■ **Custom.** This setup option lets you customize your installation by choosing the specific components you want to install.

For a list of the installable components, see the following table.

Installation Setup	Products
Typical	■ Siebel Connector for Oracle Applications -- Packaged integration to integrate Siebel eBusiness Applications with Oracle Applications. For supported versions of Oracle applications, see *System Requirements and Supported Platforms* on the *Siebel Bookshelf* CD-ROM.
	■ eAI Connectors Configuration Files
	■ COM Data Control for Siebel eAI—A set of programmatic interfaces that allow access to the Siebel business object layer.

Installation Setup	Products
Compact	■ COM Data Control for Siebel eAI—A set of programmatic interfaces that allow access to the Siebel business object layer.
Custom	■ Siebel Connector Software for Microsoft BizTalk Server—This Siebel adapter provides connectivity to Microsoft's BizTalk product, using COM-, MSMQ-, and HTTP-based interfaces.
	■ OLE DB for Siebel EAI—A set of interfaces allowing access to the Siebel business object layer.
	■ Siebel EAI Connector for Oracle.
	■ COM Data Control for Siebel EAI.
	■ Java Data Bean for Siebel EAI—A set of Java class libraries that allow access to the Siebel business object layer.

- ■ If you chose the Typical or Compact installation type, proceed to Step 8.

- ■ If you chose the Custom installation type, proceed to Step 7.

7 Select the components that you want to install and click Next.

8 Select or confirm, as appropriate, the appropriate Language Pack or Packs for the Siebel eAI Connectors and click Next.

Installation must consist of the base (primary) connector language at a minimum and, optionally, one or more additional languages.

NOTE: In a Unicode-enabled database environment, you can install any of the available Siebel language packs. In a non-Unicode database environment, you must consider the correlation of the language packs you want to install and the characters supported by your database code page. For example, in a Western European code page database, you can only install Western European language packs such as English, French, Spanish, or German language packs. And in a Japanese code page database, you can only install Japanese or English language packs.

For a list of supported code pages and encoding strategies, see *System Requirements and Supported Platforms*.

The installer performs a validation check.

The installer next prompts you that the setup program will install program shortcuts to your Program Folder with the name Siebel Enterprise Server 7.x.x.

9 Click Next and the installer automatically adds program icons to a folder in the Windows Program file called Siebel Enterprise Server 7.x.x.

NOTE: To override the default action and install the program icons to a different Program folder in the list under Existing Folders, enter the name for that folder.

The installer displays the location into which it will install the Siebel Server and any other servers you have elected to install. It also displays the file size.

10 Click Next and the installer automatically adds program icons to a folder in the Windows Program file called Siebel Enterprise Server 7.x.x.

After all Siebel Server files you specified, have been installed, a warning screen appears, stating:

```
Setup did not find the Siebel Language Code language pack on the
current media. Please insert the Siebel Language Code language
pack CD and select setup.exe.
```

A dialog box titled Insert CD for `language` Language Pack appears (where `language` stands for the Language Pack you are installing), and displays a file called `siebel.ini`. However, you do not need to do anything with this file.

11 Remove the current CD from the drive and insert the appropriate Language Pack CD.

12 Locate `seawinseslanguage,` where `language` stands for the Language Pack you are installing and double-click on it.

NOTE: If you are installing Siebel Industry Solutions, you will install `siawinseslanguage`.

---

13 Open `setup.exe`.

A message appears stating that language files are being installed.

When all language files have been installed, a new message box appears, stating:

```
Please reinsert the base CD and browse to setup.exe to enable
setup to continue.
```

14 Click OK.

15 Remove the current CD from the drive and insert the *Windows Server Programs Siebel Enterprise Server Base* CD into the CD-ROM drive again.

16 Open `setup.exe`.

The first screen in the Siebel Software Configuration Wizard for Siebel Enterprise Server Configuration appears.

If you choose to close out of the Siebel Software Configuration Wizard and want to configure later, the installer displays the message:

```
The InstallShield Wizard has successfully installed the Siebel
Enterprise Server. Click Finish to exit the Wizard.
```

17 Click Finish.

If you would like to view events that occurred during the installation, you can access the log generated by the installer at *SIEBEL_ROOT*\log.txt or the log generated by the Siebel application at *SIEBEL_ROOT*\eaiconn\LOG.

Proceed to .

Reviewing the Software Installation

Before proceeding with configuration activities, review the directory structure created by the Siebel eAI Connector software installation, as illustrated below. The example below results from a Typical installation.

The *EAI_CONNECTOR_ROOT* subdirectory is located under the *SIEBEL_ROOT* directory you specified during the installation.

If you performed a custom installation, the directory structure should match the one shown below.

```
\_uninst
\eaiconn
        BIN
                           languages\
        LOCALE\

        ORACLE\
```

_uninst. Contains files required to uninstall the Siebel product.

BIN. Binary file directory, containing language subdirectories related to language-specific connector components.

LOCALE. Contains resource files with information about any run-time errors.

ORACLE. Contains PL/SQL scripts that are used to configure Oracle Applications. For information about using these files, see *Siebel Connector for Oracle Applications*.

Installing the ChartWorks Server 17

This chapter describes installation and post-installation tasks for the ChartWorks Server for use with Siebel eBusiness Applications. The Siebel ChartWorks Server provides the functionality for the basic appearance of charts used in a variety of Siebel eBusiness Applications.

The installation and configuration of the Siebel ChartWorks Server consists of several tasks. Table 35 illustrates the sequence of steps.

Table 35. Siebel ChartWorks Server Installation and Configuration Tasks

Who Performs It?	Task
Siebel System Administrator	**1** Review "Pre-Installation Requirements" on page 417.
	2 Install ChartWorks Server. See "Installation Tasks for ChartWorks Server" on page 418.
	3 Start the server.
	4 Configure ChartWorks Server. See "Post-Installation Task for ChartWorks Server" on page 419.

Pre-Installation Requirements

For pre-installation requirements, refer to the *ChartWorks Server Installation Guide* by Visual Mining, Inc., available in PDF format on the same CD-ROM from which you install ChartWorks Server.

Installation Tasks for ChartWorks Server

The information in this section supplements the installation instructions provided by Visual Mining, Inc., which are provided in the Third-Party section of *Siebel Bookshelf* CD-ROM. It is not intended to replace them.

You may install the ChartWorks Server on any server that the Siebel Server can connect to through HTTP. Typically, it is installed on the Siebel Server. Install one ChartWorks Server per Enterprise, and, preferably, one ChartWorks Server per Siebel Server.

To install ChartWorks Server

1 Insert the *Windows Server Ancillary Programs CD 1* into the CD-ROM drive of the server on which you will install ChartWorks Server.

2 Navigate to

```
windows server
ancillary\Thirdpty\chartworks\language\server\language\windows
```

where:

language is the three-letter code for the language of your Siebel eBusiness Applications product; for example, `enu` for U.S. English.

3 To start the ChartWorks Server installer, double-click:

```
ChartWorksServerx.xSIEBEL.exe.
```

4 As you proceed from screen to screen using the installer, accept all defaults with the exception of the Select Components screen.

5 On the Select Component screen, select only Server and Server Admin Console.

Clear the other components listed.

6 Copy the file `DynamicChartResource.class`, which is located with the Visual Mining ChartWorks Server installer, to the following directory:

```
VISUALMINING_INSTALL_ROOT\ChartWorks Server
3.7.0\Server\root\classes\chartworks\es\resources
```

7 Restart your computer.

Post-Installation Task for ChartWorks Server

Following installation of ChartWorks Server software, you must complete the following post-installation task.

If you have not done so already, you must install and configure the Siebel Server. The Siebel Server configuration prompts you to set certain parameters related to communications with the ChartWorks Server. For instructions on installing Siebel Server, see Chapter 6, "Installing the Siebel Server."

Configuring the ChartWorks Server

The following procedure lists the steps you need to perform to configure ChartWorks Server.

To configure ChartWorks Server

1 Using Windows Explorer, navigate to your installation directory for ChartWorks Server; for example:

```
D:\Program Files\Visual Mining\
ChartWorks Server x.x.x\Server\root\charts
```

2 Create a new subdirectory called Siebel.chart.

3 Within the new Siebel.chart subdirectory, create a new file (for example, using Windows Notepad) and type the following three characters in uppercase but without a carriage return:

```
CDL
```

4 Save the file, giving it the name Siebel.cdx.

5 Make sure the DefaultChartFont parameter in your configuration file and the Application Default Chart Font parameter in your component definition of your Application Object Manager are set to a font that is available on your machine.

Specifying the ChartWorks Server After Installation

The installation script prompts for the ChartWorks server location and provides the default value of the localhost. You can change the ChartWorks Server specified for an Enterprise using the Server Administration user interface, after you have installed client applications.

To specify the ChartWorks Server for a Web client

1 In the Server Administration GUI, navigate to the Enterprise Configuration screen.

2 Click the Enterprise Profile Configuration view tab.

3 Select the named subsystem, Server Data Source (ServerDataSrc).

4 Query in the applet for the parameter DSChartServer.

5 Enter the location of your ChartWorks Server, for example `localhost:8001`.

6 Query in the applet for the parameter `DSChartImageFormat`.

7 Set the value of this parameter to `png`.

To specify the ChartWorks Server for a dedicated Web client

1 Open the `.cfg` file specific to the application for which you want to specify the ChartWorks Server.

2 Change the value of ChartServer parameter under DataSource sections such as `[ServerDataSrc]`.

3 Change the value of `ChartImageFormat` parameter to `png`.

Uninstalling Siebel eBusiness Applications ## 18

To uninstall Siebel Server products, you can use the Control Panel Add/Remove Programs utility or you can invoke the Uninstaller by navigating directly to the executable in Windows Explorer. Uninstallation procedures for clustered nodes constitute the only exception to this. For information about this type of uninstallation, see Chapter 7, "Clustering Your Siebel Deployment for Failover."

CAUTION: To successfully uninstall, you must use the Uninstaller created during the installation process. Do not delete Siebel product directories to uninstall products. In addition, uninstallation in console mode is not supported.

Uninstalling Earlier Versions of Siebel eBusiness Applications

When upgrading to Siebel 7.x, you must first uninstall all Siebel eBusiness Applications by using the certified uninstallation method for the version you are running. For 6.x.x and 7.0.x uninstallation information, see the *Siebel Server Installation Guide* appropriate for the installed version.

Uninstalling Siebel 7.x

Review the following procedure when uninstalling Siebel 7.x server software.

To uninstall all servers

1 Use one of the following methods to invoke the Uninstaller:

■ Navigate to the Add/Remove Programs icon and double-click it. Select the Siebel eBusiness Applications full uninstall option that applies to the server you want to remove and click Change/Remove.

■ In Windows Explorer, navigate to `SIEBELROOT\_uninst`. Double-click on `uninstaller.exe`.

CAUTION: When removing servers in an Enterprise, always remove the Siebel Gateway last, after all Siebel Servers in the Enterprise served by the Siebel Gateway are removed. Siebel Servers should be removed second to last.

The Uninstaller displays a progress bar to show the initialization of the Uninstaller.

The Welcome to the InstallShield Wizard for Siebel Enterprise Server screen appears.

2 To confirm uninstallation, click Next.

3 Select the products from the menu that you want to uninstall and click Next.

NOTE: You can choose to uninstall all server products at the same time, or you can choose to uninstall products individually.

The Uninstaller displays the name of each server, individually, that you selected for uninstallation and its location, including the file size.

■ If this is correct, click Next.

■ If not correct, click Back and select a different server on the previous screen.

If you selected the Siebel Server for uninstallation, the Specify Removal Options screen appears.

4 Indicate which of the following you want to uninstall by selecting one *or both* check boxes, and click Next:

■ Siebel Server

■ Enterprise Server

If you selected the Gateway Name Server for uninstallation, the Gateway Name Server screen appears.

5 On the Gateway Name Server screen, indicate the following, and then click Next:

Gateway Name Server. Type the name of the Gateway Name Server you are uninstalling.

Siebel Enterprise. Type the name of this Siebel Enterprise.

The Siebel Server screen appears.

6 Confirm the name of the Siebel Server displayed as the one for removal and click Next.

If this is not the name of the server you want to remove, type the correct name.

The Server Removal Options screen appears.

7 Indicate which services you want removed from the registry by either accepting the defaults, or deselecting a service, and click Next.

The Configuration Parameter Review screen appears.

8 Review these values for accuracy.

a If you need to correct any values, click Previous to back out through the configuration screens until you reach the location of the false value.

b When you have corrected the error, click Next until you reach the list on this screen again.

c When you are satisfied, click Finish.

NOTE: You may see additional prompts asking whether you want to uninstall specific files or continue with removal of a modified installation.

The Uninstaller displays a message that the Uninstallation Wizard has successfully removed those products.

9 Click Finish.

10 If prompted, restart your server.

> **NOTE:** You do not need to stop the Siebel Server; the Uninstallation Wizard does this. If you do stop the Siebel Server and uninstall, you will receive an error message:
> ```
> Errors were encountered while changing the configuration in the
> following steps: RmNSDef, RmNSEntDef
> ```

You can use `srvredit`, a command line utility, to remove a Siebel Server from the Siebel Enterprise Server as follows:

```
srvredit /g SiebelGateway /e SiebelEnterprise /s SiebelServer /x
$Server
```

You can also use `srvredit` to remove a Siebel Enterprise as follows:

```
srvredit /g SiebelGateway /e SiebelEnterprise /x $Enterprise
```

NOTE: You *cannot* use `srvredit` to remove files.

Troubleshooting the Uninstallation Process

Uninstallation is usually straightforward when the previous installation instructions have been followed correctly. This section describes Windows anomalies that can affect the uninstallation of Siebel eBusiness Applications.

Defect in InstallShield Versions Greater than 6.0.x

Customers who are installing or uninstalling Siebel eBusiness Applications, version 6.x on the Windows platform may experience a failure to uninstall that version due to a bug in InstallShield versions greater than 6.0.x.

You most likely have this problem if, on trying to uninstall Siebel eBusiness Applications, you receive a message with the text:

```
Setup failed to run installation
```

To determine which version of InstallShield resides on a given machine

1 Navigate to

   `C:\Program Files\Common Files\InstallShield\engine\6\Intel 32`

2 Select `ikernel.exe` and right-click to display Properties.

3 Select the Version tab to locate the version of the InstallShield engine residing on the machine.

You can prevent this behavior from occurring when uninstalling Siebel eBusiness Applications, versions 6.x.x by using the following workaround.

The recommended procedure is to download a utility created for this purpose from the InstallShield Web site. (Alternatively, you can also install a product that uses the desired version of InstallShield.)

The utility guarantees that the target machine for uninstallation has a proper and known state. It renames the current InstallShield engine and removes associated registry entries from the target machine, so that when Siebel eBusiness Applications uninstallation starts, the program validates that the correct InstallShield engine version (6.0.x) exists in that location.

Siebel Systems takes no responsibility for the state in which a client machine is left after running this utility. This utility is provided by InstallShield to address a known behavior caused by that vendor's product defect.

Therefore, use this utility with discretion and make sure that you thoroughly test it before you distribute it to your users.

You may use this utility on any of the following occasions:

■ Prior to installing Siebel eBusiness Applications, release 6.x products (when you are upgrading from Siebel Enterprise Applications, release 4.x or earlier to release 7).

■ Prior to uninstalling Siebel eBusiness Applications, release 6.x products.

■ Prior to installing Siebel eBusiness Applications, release 6.x patches.

Uninstalling Siebel Language Packs from the Servers

You cannot uninstall Language Packs selectively from your servers. If you must uninstall a particular Language Pack, you must uninstall the Siebel Server on which it is installed and reinstall it with the correct Language Pack or packs.

Migrating to a New Version of Siebel eBusiness Applications

When migrating to a new version of Siebel eBusiness Applications, refer to the instructions in *Upgrade Guide for Microsoft Windows*. If you are migrating to a new database platform, consult Siebel Expert Services.

Deployment Planning Worksheets A

The Deployment Planning Worksheets should be photocopied and a copy given to each member of the deployment team. You need to make copies of these masters each time you install a new Siebel Enterprise Server.

Team Lead Summary Worksheet

Section 1: Deployment Team Members

Deployment Team Lead	
System Administrator	
Database Administrator	

Section 2: Deployment Overview
RDBMS Type:

Server Name	Type	Owner	Number of Users	Server OS
Database Server				
Siebel Servers				

Enterprise Server Names and Installation Directories Worksheet

Make a copy for EACH Enterprise you install.

Section 3: Server Names

Server Name	Network Host Name	Installation Directory
Enterprise Server/Siebel Root		
Siebel Database Server		
File System		

Siebel Gateway		
CORBA Object Manager (if applicable)		
Web Server		

Siebel Accounts, VIPs, and Static IPs Worksheet

Make a copy for EACH Enterprise you install.

Section 4: Siebel Account Information

	Login/User ID	Password
Resonate Manager Account or Siebel Service Owner		
Resonate Monitoring Account		
Anonymous Employee User ID		
Contact User ID		

Section 5: VIP and Static IP Addresses

Server Name	Static IP/VIP	Subnet Mask
Gateway		
Enterprise Server		
Siebel Server		

Cluster Deployment Worksheet

Make a copy for EACH partition of your shared disk (H:\, I:\, J:\, and so on). (Choice of resource groups clustered is optional.)

Section 6: Cluster Node Network Names and IP Addresses

Cluster Node Network Name 1	
Cluster Node Network Name 2	
Cluster Node 1 IP Addresses	
Cluster Node 2 IP Address	
Subnet Mask for All Sample Addresses	
Physical Disk Name (example: D)	

Section 7: Resource Group Configuration

Resource Group Name	**Physical Disk Name**	**IP Addresses**	**Network Names**	**Generic Service/File Share/IIS Server Instance**
Siebel Gateway Group				
Siebel File System Group				
Siebel Server Group				
Web Server Group				

Ports and RDBMS Details Worksheet

Section 8: Ports and ODBC Data Source Name

Make a copy for EACH Enterprise you install.

Sync Manager	
Request Manager	
Object Manager	
ODBC Data Source Name	

Section 9: Database Information

DB2 DB Alias/Connect String/Server DB Name	

DB Owner Name (if applicable)	
Tableowner Account Username	
Tableowner Account Password	
Siebel DB File Groups (if applicable)	
4-KB Data Tablespace (if applicable)	
16-KB Data Tablespace (if applicable)	
32-KB Data Tablespace (if applicable)	
Siebel Data Tablespace (if applicable)	
Index Tablespace(if applicable)	
DB2 Instance Name(if applicable)	

Enabling Server Components B

This appendix provides a comprehensive list of all server components or business services that require enablement by users in Siebel eBusiness Applications, release 7.x.

You can enable individual server components on one Siebel Server and other components on a separate Siebel Server or servers; for example, if you want to operate some components as part of a cluster, but not others.

Enabling Server Component Groups

The component groups described in Table 36 reside on the Siebel Server and must be enabled for their particular products to function. Enabling can be undertaken at the time you initially configure the Siebel Server, or at any time thereafter, using Server Manager.

NOTE: The System Management Component Group is enabled by default and cannot be disabled.

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Assignment Management	Batch Assignment
	Assignment Manager

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Communications Management	Communications Session Manager
	Communications Configuration Manager
	Communications Inbound Manager
	Communications Outbound Manager
	Email Manager
	Page Manager
	Smart Answer Manager
Content Center	Content Project Publish
	Content Project Start
Credit Assign	Incentive Compensation Credit Assignment
	Incentive Compensation Credit Assignment Database
	Incentive Compensation Rule Manager Service
	Incentive Compensation Credit Rules to AM Rules Update Manager
Data Quality	Data Quality Manager
Dun and Bradstreet	D&B Update Mgr (D&B)
	D&B Update Mgr (Siebel)
	D&B Update Mgr (Multi-task)
Siebel Employe Relationship Management (ERM)	Employee Relationship Management Object Manager
	eTraining Object Manager
	ERM Compensation planning Service

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Enterprise Application Integration (EAI)	MQSeries Server Receiver
	MQSeries AMI Receiver
	Business Integration Manager
	Business Integration Batch Manager
	Enterprise Integration Mgr
	EAI Object Manager
	MSMQ Receiver
	WCS MQSeries Receiver
Field Service	Appointment Booking Engine
	Invoice Engine
	Field Service Cycle Counting Engine
	Field Service Mobile Inventory Transaction Engine
	Service Order Part Locator Engine
	Preventive Maintenance Engine
	Field Service Replenishment Engine
	Optimization Engine
	Field Service Object Manager
	Service Order Fulfillment Engine
Forecast Service Management	Forecast Service Manager
Handheld Synchronization	Siebel Service Handheld 7.5
	Handheld Sales CE

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Incentive Compensation	Incentive Compensation Mgr
	ICM Order Import
	ICM CalcWkbk Import
	ICM Calc Engine
	ICM Quota Import
	ICM Container Calculation
	ICM Container Recalculation
Marketing Server	List Import Service Manager
	Marketing Server
	Data Dictionary Manager
Marketing Object Manager	Marketing Object Manager
	eMarketing Object Manager
	eEvents Object Manager
Oracle Connector	Oracle Receiver
SAP Connector	SAP Send Transaction
	SAP Process Transaction
	SAP BAPI tRFC Receiver
	SAP IDOC Receiver for MQ Series
	SAP IDOC AMI Receiver for MQ Series
Siebel Core Reference Application Components (CRA)	Siebel Core Reference Application Object Manager
Sales Hierarchy Service (SalesHierSvc)	Sales Hierarchy Service Manager
Siebel Anywhere	Upgrade Kit Builder

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Siebel eChannel	Partner Manager Object Manager
	eChannel Object Manager
Siebel eDocuments [1]	Document Server
Siebel Call Center	Call Center Object Manager
	eService Object Manager
Siebel Dynamic Commerce	Dynamic Commerce
	Dynamic Auto Close
	Dynamic Commerce Alerts
Siebel ISS	eSales Object Manager
	eCustomer Object Manager
	Siebel Product Configuration Object Manager
Siebel Remote	Database Extract
	Parallel Database Extract
	Generate New Database
	Replication Agent
	Synchronization Manager
	Transaction Merger
	Transaction Processor
	Transaction Router
Siebel Sales	Sales Object Manager
	Siebel Mobile Connector Object Manager
Sales Hierarchy Service Component	Sales Hierarchy Service Manager

Table 36. Server Components That Must be Enabled

Component Group	Component Group Members
Siebel to Siebel Connector	HA Upgrade MQSeries Server Receiver
	Siebel to Siebel MQSeries Receiver
	Siebel to Siebel MSMQ Receiver
Siebel Wireless	Siebel eChannel Wireless
	Siebel Self Service Wireless
	Siebel Sales Wireless
	Siebel Service Wireless
System Management (Enabled by default and, therefore, not visible on the Enable Components screen of the Siebel Software Configuration Wizard.)	Server Manager
	Siebel Server
	Siebel Server Scheduler
	Server Request Broker
	Server Request Processor
	File System Manager
	Client Administration
Workflow Management	Workflow Action Agent
	Workflow Monitor Agent
	Workflow Process Manager
	Workflow Process Batch Manager
	Generate Triggers

1. The Siebel eDocuments component must be installed on a dedicated Document Server host machine. For more information, see *Applications Administration Guide*.

Sample Database Creation Scripts C

This appendix provides editable sample scripts to automate creating the Siebel Database for database administrators, if desired.

These scripts are intended as samples only and must be modified for use at all customer sites. The scripts apply only to those versions of DB2 UDB, MS SQL, or Oracle that Siebel Systems certifies its Siebel 7 product to run with.

CAUTION: Siebel Systems does not warranty system performance, does not guarantee that the scripts are error free, nor does it provide maintenance support for a database instance created with these scripts, should they contain any errors or omissions.

DB2 UDB Sample Script

Although you may edit the sample DB2 UDB creation script in any way to suit your site requirements, you must retain the command within the script that specifies your codeset, territory, and collating sequence or the language characteristics of your database will not be set up.

NOTE: Siebel Systems supports only binary collating sequence. Therefore, make sure that you include this value when you add the command for setting the language characteristics of your instance, as described in Chapter 8, "Creating the DB2 Universal Database for Windows and UNIX," to the sample.

Sample Database Instance Creation Script (sampledbcfg.bat)

Edit the `sampledbcfg.bat`script to fit your site requirements and run it to create a DB2 database instance.

> **CAUTION:** This database instance creation script specifies LOGRETAIN RECOVERY. This requires that you first do a database backup. If you do not first back up the database, the script fails.

The following file can be found in the directory `\sea7xx\dbsrvr\DB2UDB` under Windows.

```
rem-------------------------------------------------------------------
rem
remCopyright (C) 2001, Siebel Systems, Inc., All rights reserved.
rem
rem File: sampledbcfg.bat
rem Date: 9/10/01
rem    Purpose: Sample script demonstrates how to configure DB2 and set up a
database
rem               for Siebel applications
rem
rem Edit the parameters below to reflect the default DB installation
rem To run this type in 'sampledbcfg' from command prompt
rem Make sure db2 installation is in system path
rem Make sure that directories exist prior to db creation
rem Make sure directories have read/write privileges
rem--------------------------------------------------------------------

set DBNAME=SIEBEL
```

```
set TABLEOWNER=SIEBEL

set DBPATH=d:\DBPATH

set TEMPSPACE4K=d:\temp_4k

set TEMPSPACE16k=d:\temp_16k

set TEMPSPACE32k=d:\temp_32k

set TBS4KPATH1=d:\tbs_4k_1

set TBS4KPATH2=d:\tbs_4k_2

set TBS4KPATH3=d:\tbs_4k_3

set TBS16KPATH1=d:\tbs_16k_1

set TBS16KPATH2=d:\tbs_16k_2

set TBS16KPATH3=d:\tbs_16k_3

set TBS32KPATH1=d:\tbs_32k_1

set TBS32KPATH2=d:\tbs_32k_2

set TBS32KPATH3=d:\tbs_32k_3


db2set DB2_HASH_JOIN=NO

db2set DB2_RR_TO_RS=YES

db2set DB2_MMAP_WRITE=OFF

db2set DB2_MMAP_READ=OFF

db2set DB2_CORRELATED_PREDICATES=ON

db2set DB2_INDEX_2BYTEVARLEN=ON

db2set DB2_PIPELINED_PLANS=ON

db2set DB2_INTERESTING_KEYS=ON

db2set DB2_PARALLEL_IO=ON

db2set DB2_STRIPED_CONTAINERS=ON
```

DB2 UDB Sample Script

```
db2set DB2MEMMAXFREE=3000000
db2set DB2MEMDISCLAIM=YES


rem----------------------------------------
remSet the database manager configuration parameters
rem----------------------------------------


db2 update dbm cfg using SHEAPTHRES 100000
db2 update dbm cfg using DIR_CACHE YES
db2 update dbm cfg using QUERY_HEAP_SZ 16384
db2 update dbm cfg using ASLHEAPSZ 1024
db2 update dbm cfg using RQRIOBLK 65535
db2 update dbm cfg using MON_HEAP_SZ 128
db2 update dbm cfg using KEEPDARI YES
db2 update dbm cfg using MAXAGENTS 1000
db2 update dbm cfg using NUM_INITAGENTS 0
db2 update dbm cfg using MAX_COORDAGENTS 1000
db2 update dbm cfg using INDEXREC RESTART
db2 update dbm cfg using MAX_QUERYDEGREE 1
db2 update dbm cfg using INTRA_PARALLEL NO


rem----------------------------------------
rem Bounce the server to pick up the configuration changes
rem----------------------------------------
```

```
db2stop force

db2start


rem---------------------------------------

rem Create the database

rem---------------------------------------


db2 create database %DBNAME% USING CODESET 1252 TERRITORY US COLLATE USING
IDENTITY CATALOG TABLESPACE MANAGED BY SYSTEM USING ('%DBPATH%\CATALOG')
EXTENTSIZE 4 temporary TABLESPACE MANAGED BY SYSTEM USING ('%DBPATH%\TEMP')
EXTENTSIZE 4 user TABLESPACE MANAGED BY SYSTEM USING ('%DBPATH%\USER') extentsize
8


rem----------Set the database configuration parameters----------


db2 update db cfg for %DBNAME% using DFT_DEGREE 1

db2 update db cfg for %DBNAME% using DFT_QUERYOPT 3

db2 update db cfg for %DBNAME% using DBHEAP 7429

db2 update db cfg for %DBNAME% using CATALOGCACHE_SZ 5558

db2 update db cfg for %DBNAME% using LOGBUFSZ 512

db2 update db cfg for %DBNAME% using UTIL_HEAP_SZ 5000

db2 update db cfg for %DBNAME% using LOCKLIST 5000

db2 update db cfg for %DBNAME% using APP_CTL_HEAP_SZ 300

db2 update db cfg for %DBNAME% using SORTHEAP 1000

db2 update db cfg for %DBNAME% using STMTHEAP 8192

db2 update db cfg for %DBNAME% using PCKCACHESZ 2048

db2 update db cfg for %DBNAME% using STAT_HEAP_SZ 8000
```

```
db2 update db cfg for %DBNAME% using MAXLOCKS 20

db2 update db cfg for %DBNAME% using LOCKTIMEOUT 300

db2 update db cfg for %DBNAME% using CHNGPGS_THRESH 30

db2 update db cfg for %DBNAME% using INDEXSORT YES

db2 update db cfg for %DBNAME% using SEQDETECT YES

db2 update db cfg for %DBNAME% using DFT_PREFETCH_SZ 128

db2 update db cfg for %DBNAME% using LOGRETAIN RECOVERY

db2 update db cfg for %DBNAME% using MAXAPPLS 40

db2 update db cfg for $DBNAME% using AVG_APPLS 20

db2 update db cfg for %DBNAME% using MAXFILOP 500

db2 update db cfg for %DBNAME% using LOGFILSIZ 8000

db2 update db cfg for %DBNAME% using LOGPRIMARY 25

db2 update db cfg for %DBNAME% using LOGSECOND 100

db2 update db cfg for %DBNAME% using SOFTMAX 80

db2 update db cfg for %DBNAME% using APPLHEAPSZ 2500

db2 update db cfg for %DBNAME% using NUM_IOCLEANERS 4

db2 update db cfg for %DBNAME% using NUM_IOSERVERS 20


rem----------Connect to the database, increase the default bufferpool----------

rem----------Create the 16K and 32 bufferpools , grant permissions----------


db2 connect to %DBNAME%

db2 create bufferpool buf16k size 500 pagesize 16k

db2 create bufferpool buf32k size 500 pagesize 32k

db2 alter bufferpool ibmdefaultbp size 2000
```

```
db2 grant dbadm on database to user %TABLEOWNER%

db2 grant connect on database to group sse_role


rem--Disconnect from the database to activate new parameters and bufferpools---


db2 terminate

db2 force application all


rem----------Create temporary tablespaces with 16K and 32K pagesizes----------

db2 connect to %DBNAME%

db2 create temporary tablespace temp16k pagesize 16 K managed by system
using('%TEMPSPACE16k%') bufferpool BUF16K

db2 create temporary tablespace temp32k pagesize 32 K managed by system
using('%TEMPSPACE32K%') bufferpool BUF32k


rem----------Create regular tablespaces with 4K, 16K and 32K pagesizes----------

rem----------Each tablespace in this example uses database managed storage------
----


db2 create tablespace tbs_4k pagesize 4 K managed by database using (file
'%TBS4KPATH1%' 10000, file '%TBS4KPATH2%' 10000, file '%TBS4KPATH3%' 10000)
bufferpool ibmdefaultbp


db2 create tablespace tbs_16k pagesize 16 K managed by database using (file
'%TBS16KPATH1%' 10000, file '%TBS16KPATH2%' 10000, file '%TBS16KPATH3%' 10000 )
bufferpool buf16k
```

```
db2 create tablespace tbs_32k pagesize 32 K managed by database using (file
'%TBS32KPATH1%' 10000, file '%TBS32KPATH2%' 10000, file '%TBS32KPATH3%' 10000)
bufferpool buf32k


db2 grant use of tablespace tbs_4K to %TABLEOWNER%

db2 grant use of tablespace tbs_16K to %TABLEOWNER%

db2 grant use of tablespace tbs_32K to %TABLEOWNER%

db2 terminate
```

MS SQL Sample Script

Edit the sample MS SQL database creation script in any way to suit your site
requirements and to automate your database instance creation. After editing, the
script can be run using the Query Analyzer, ISQL, or OSQL. To execute this script,
you must use the sa user ID for Microsoft SQL Server.

Sample Database Instance Creation Script (crdb_blank.sql)

Edit and run the script crdb_blank.sql to fit your site requirements and to create
an MS SQL database instance.

_____

```
-- File: crdb_blank.sql

-- Purpose: Sample script demonstrates how to create a MSSQL db for
Siebel applications

-- Execution: Run the script from Query Analyzer

--

-- Note:

-- 1. Replace BLANKDB with the Siebel Database Server name.

-- 2. Edit values between double brackets with the appropriate values
for your installation.
```

```
Use master;
create database BLANKDB
on primary (name = 'DATA',
              filename = '<<d:\mssql2000\data\BLANKDB_DATA>>.MDF')
log on (name = 'LOG',
         filename = '<<full path for log file>>.LDF')


alter database BLANKDB
modify file
(NAME = 'DATA',
 FILEGROWTH = 10MB);
alter database BLANKDB
modify file
(NAME = 'DATA',
 MAXSIZE = UNLIMITED);
alter database BLANKDB
modify file
(NAME = 'LOG',
 FILEGROWTH = 10MB);
alter database BLANKDB
modify file
(NAME = 'LOG',
 MAXSIZE = UNLIMITED);


--This section is similar to the grantuser.sql script. Run this
```

```
--portion of the MS SQL sample database creation script to grant

--priveleges to users. To execute either the grantuser.sql script or

--the MS SQL sample database creation script, you must use the sa

--user ID or role for MS SQL server.


--Add logins

--Update passwords as necessary. SADMIN and SIEBEL are assumed.

sp_addlogin SADMIN, <<SADMIN PASSWORD>>, BLANKDB;

sp_addlogin SIEBEL, <<SIEBEL PASSWORD>>, BLANKDB;


use BLANKDB;

sp_dropuser SADMIN;

sp_dropuser SIEBEL;


sp_addrole SSE_ROLE;

sp_adduser SADMIN, <<SADMIN PASSWORD>>, SSE_ROLE;

sp_changedbowner SIEBEL;

grant create procedure to SSE_ROLE;
```

Oracle Sample Script

Edit the sample Oracle database creation script in any way to suit your site
requirements and to automate your database instance creation.

This script can run, using SQL* plus command line tool (`sqlplus`) under both Windows and UNIX platforms by changing the `datafile` and `logfile` paths, as appropriate to your platform. Instructions are embedded within the script.

NOTE: This script is only intended for use with Oracle 8i Unicode databases.

Sample Database Instance Creation Script (sampledbcreationoracle.sql)

Edit and run the script `sampledbcreationoracle.sql`, which is located in `\sea7xx\dbsrvr\ORACLE`, to fit your site requirements and to create an Oracle database instance.

```
#-----------------------------------------------------------------
#
#Copyright (C) 2001-2002, Siebel Systems, Inc., All rights reserved.
#
# File: sampledbcfg.sql
# Date: 11/18/02
#    Purpose: Sample script demonstrates how to configure an oracle dB for Siebel
applications
#Execution: Run the script from SQL* plus- "sqlplus", e.g.

#sqlplus /nolog
#SQL>connect /as sysdba
#SQL>@sampledbcreationoracle

#
# General flow:
# 1)fire up the instance
# 2)create the redo log files and system tablespace
# 3)create a dummy rollback segment
# 4)create the other tablespaces
# 5)bring the dummy rollback segment online
# 6)create the other rollback segments
# 7)cleanup by dropping the dummy rollback segment
# 8)restart
#
# modify  the database name, parameter
# file(bdump/udump/controlfile), datafile path, logfile path,controlfile
# Edit the parameters below to reflect the default oracle installation on Windows
and Unix
# -------------------------------------------------------------------------------
```

Oracle Sample Script

```
----------

spool crdbsiebel.log;
set echo on
#define group1='d:\tmp\redodmst_01.dbf'
#define group2='d:\tmp\redodmst_02.dbf'
#define group3='d:\tmp\redodmst_03.dbf'
#define syslogfile='d:\tmp\dmstSYS_01.dbf'
#define RBS='d:\tmp\dmstRBS_01.dbf'
#define TEMP='d:\tmp\dmstTMP_01.dbf'
#define TOOLS='d:\tmp\dmstTOOL_01.dbf'
#define loader_data='d:\tmp\dmstLDR_01.dbf'
#define users_data='d:\dmstUSR_01.dbf'

#
# fire up the instance
#
connect / as sysdba;

startup nomount
startup nomount pfile=initsiebel.ora
#
# create the SYSTEM tablespace
#
create database siebel
controlfile reuse
logfile group 1 ('&group1') size 10M reuse,
group 2 ('&group2') size 10M reuse,
group 3 ('&group3') size 10M reuse
datafile '&syslogfile' size 180M reuse
archivelog
maxlogfiles 32
maxdatafiles 256
character set AL32UTF8;

#the character set for UNICODE database is "AL32UTF8", for ENU database is

#"WE8MSWIN1252"

alter tablespace SYSTEM
default storage (initial 8K
next 8K
minextents 1
pctincrease 0);
#
# create a dummy rbs
#
```

```
create rollback segment R0 storage (initial 8K next 8K) tablespace system;
alter rollback segment R0 online;

create tablespace RBS
datafile '&RBS' size 1990M reuse
default storage (initial 48K
next 80K
minextents 1
pctincrease 0);

create tablespace TEMP
datafile '&TEMP' size 1990M reuse
default storage (initial 48K
next 80K
minextents 1
pctincrease 0);

create tablespace TOOLS
datafile '&TOOLS' size 100M reuse
default storage (initial 8K
next 16K
minextents 1
pctincrease 0);

create tablespace loader_data
datafile '&loader_data' size 1980M reuse
default storage (initial 48K
next 80K
minextents 1
pctincrease 0);

create tablespace users_data
datafile '&users_data' size 100M reuse
default storage (initial 8K
next 16K
minextents 1
pctincrease 0);

create tablespace siebeldata
datafile '/datadb/siebel/donnee/siebeldata.dbf' size 2000M reuse
default storage (initial 48K
next 80K
minextents 1
pctincrease 50);

create tablespace siebelindex
datafile '/datadb/siebel/index/siebelindex.dbf' size 1000M reuse
```

```
default storage (initial 48K
next 80K
minextents 1
pctincrease 50);

#
# run the appropriate initialization script(s)
#
set stoponerror off
rem
rem catalog.sql also runs the following scripts
rem
remcataudit.sql
remcatexp.sql
remcatldr.sql
rem

@?/rdbms/admin/catalog

rem
rem catproc.sql also runs the following scripts
rem
remcatprc.sql
remcatsnap.sql
remcatrpc.sql
remstandard.sql
remdbmsstdx.sql
rempipidl.sql
rempidian.sql
remdiutil.sql
rempistub.sql
remdbmsutil.sql
remdbmssnap.sql
remdbmslock.sql
remdbmspipe.sql
remdbmsalrt.sql
remdbmsotpt.sql
remdbmsdesc.sql
rem

@?/rdbms/admin/catproc

#
# create the non-system rollback segment(s)
#

create rollback segment R01
```

```
storage (initial 80K
next 80K
optimal 5M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R01 online;

create rollback segment R02
storage (initial 80K
next 80K
optimal 5M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R02 online;

create rollback segment R03
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R03 online;

create rollback segment R04
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R04 online;

create rollback segment R05
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R05 online;

create rollback segment R06
storage (initial 48K
next 80K
```

```
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R06 online;

create rollback segment R07
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R07 online;

create rollback segment R08
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R08 online;

create rollback segment R09
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R09 online;

create rollback segment R10
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R10 online;

create rollback segment R11
storage (initial 48K
next 80K
optimal 6M
minextents 5
```

```
maxextents 2000)
tablespace RBS;
alter rollback segment R11 online;

create rollback segment R12
storage (initial 48K
next 80K
optimal 6M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment R12 online;

create rollback segment large
storage (initial 10M
next 10M
optimal 200M
minextents 5
maxextents 2000)
tablespace RBS;
alter rollback segment large online;

#
# drop the dummy rbs
#
alter rollback segment R0 offline;
drop rollback segment R0;
#
# create the ops$ user and run catdbsyn as that user
#
create user ops$oracle identified externally;
grant dba to ops$oracle with admin option;
alter user ops$oracle temporary tablespace temp;
#
# connect as system and run pupbld
#
connect system/manager;
@?/sqlplus/admin/pupbld.sql
@?/rdbms/admin/catdbsyn.sql;
#
# perform the final cleanup sequence
#
alter user system default tablespace tools temporary tablespace temp;
alter user ops$oracle default tablespace tools temporary tablespace temp;
disconnect;
exit;
```

Structure of the eapps.cfg File   D

This appendix illustrates the content of the eapps.cfg file, described in Chapter 14, "Installing the Siebel Web Server Extension."

Editing the Web Server Extension Configuration File

The eapps.cfg file is divided into sections that can be used to configure a selection of Siebel eBusiness Applications from a global standpoint or at the application level. These are explained in the following pages. A number of parameters can also be manually input to control security, the ports used for Web server communications, and other operations. For more information, see "Services You Must Restart" on page 376.

A partial sample of the eapps.cfg file follows. This file is installed in the binary subdirectory of the Web Server Extension root directory.

The file includes language-specific Siebel Object Manager connect strings for every language supported by Siebel eBusiness Applications in the current release for every supported Siebel application, for example:

```
ConnectString =
siebel.TCPIP.none.None:\\dedwards5:2320\Siebel\SalesCEObjMgr_sve
\SiebSrvr1
```

The values for your configuration file may differ, depending on how you respond to the installation prompts.

siebel.TCPIP = the networking protocol

none (first instance) = the encryption type chosen. If using Central Dispatch, set the Siebel Server parameter Encryption Type to the value chosen. See the Siebel Server Administration Guide for further information. If Central Dispatch is not used, compression is driven by the Encryption Type parameter and the ConnectString value is ignored.

None (second instance) = data compression method chosen. If using Central Dispatch, set the Siebel Server parameter Compression Type to the value chosen. See *Siebel Server Administration Guide* for further information. If Central Dispatch is not used, compression is driven by the Compression Type parameter and the ConnectString value is ignored.

dedwards5 (first instance) = Siebel Gateway Name Server alias chosen

Parameter Descriptions

These parameters appear in the eapps.cfg file, located in the \BIN subdirectory of your \SWEApp installation directory. The values you see are a combination of default settings and the values that you selected during the installation and configuration process. You can edit these parameters post-installation, as described in the following subsection.

[swe] Section

The parameters that follow can be found in this section of the eapps.cfg file. These parameters apply to all the selected Siebel eBusiness Applications.

Language

This is the language version of Siebel eBusiness Applications. For example, enu stands for U.S. English.

Log

These are the types of log entries you selected during installation. For example, an entry reading errors would mean that the log should show only fatal and non-fatal operational errors.

Log Directory

This is the location of the log directory, whose default location is

\SWEApp\LOG

ClientRootDirectory

This is the location of SWSE plug-in installation, whose default location is
SWEAPP_ROOT

SessionMonitor

Use this parameter to determine whether to gather statistics on all current sessions and report them in the SWSE `stats` page. To enable session monitoring, set SessionMonitor to TRUE. When this parameter is set to TRUE, administrators can determine who is logged into the system at any given time.

Session data includes each user's Username and unencrypted Session ID, so it is important to restrict visibility to the SWSE `stats` page when SessionMonitor is enabled. To prevent non-administrators from viewing the SWSE `stats` page, you can change the StatsPage parameter to a value known only to administrators.

If SessionMonitor is disabled (set to FALSE), sessions will remain unmonitored and will not appear on the application SWSE `stats` page.

NOTE: The collection of session information results in a slight degradation in performance.

AllowStats

This parameter enables or disables application-specific statistics reporting in the SWSE `stats` page. To enable the collection of application-specific statistics, set AllowStats to TRUE. AllowStats set to FALSE disables statistics gathering. The default is TRUE (enable statistics collection).

NOTE: If set to FALSE, only system-level statistics are displayed on the SWSE `stats` page.

LogSegmentSize

This parameter determines how large a segment of the log file is in kilobytes. If you set this parameter to 5, the log segment will be 5 KB in size. A value of 0 turns off segmentation.

LogMaxSegments

This parameter determines the number of log segments that will be kept. If you set this parameter to 1, only one segment will be kept. When this segment reaches the size specified by the Log Segment Size parameter, the segment will be overwritten. In general, you should set this parameter to a higher value, such as 20. In this case, the twenty-first segment will overwrite the first segment, and so forth.

A value of `0` turns segmentation off.

SessionTracking

SessionTracking has three values:

- **AutomaticSession (Default).** Detects whether the client is capable of supporting cookies and switches to the right mode.

- **URLSession.** Sets session to URL. For details, see "URLSession" on page 460.

- **CookieSession.** Sets session to Cookie. For details, see "CookieSession."

URLSession

This parameter is optional, requiring manual input by the user within the `[swe]` section of the file, if it is needed.

The Siebel Web Engine exchanges session information with Web browsers, using cookies. For browsers on which cookie acceptance has been disabled, session information is stored in Web page URLs.

When the `URLSession` parameter is set to `TRUE`, session information is always exchanged using URLs and cookies are disabled. This is known as "cookieless" session mode.

CAUTION: Some functionality requires cookies and will not operate correctly in cookieless mode. This includes the Remember My User ID and Password feature and the EAI Inbound HTTP receiver. For information on this receiver, see *Transports and Interfaces: Siebel eBusiness Application Integration Volume III*.

CookieSession

This parameter is optional, requiring manual input by the user within the `[swe]` section of the file, if it is needed.

If the `CookieSession` parameter is set to `TRUE`, cookies will always be used to exchange session information, as opposed to storing the information in Web page URLs.

Web browsers with cookies disabled will not be able to correctly maintain a connection to a Web site.

The CookieSession parameter takes precedence over the URLSession parameter if both are set to TRUE.

CAUTION: Siebel Systems does not recommend setting CookieSession to TRUE for sites that support anonymous browsing. Anonymous browsing by Web clients that have disabled cookies can have a negative impact on performance.

Table 37 on page 461 describes Web server behavior when either the CookieSession or URLSession parameter has been added to the eapps.cfg file by an administrator (a blank table cell below means that the parameter has not manually been added to the file) and set or when both have been added and set.

Table 37. Web Server Behavior Based on CookieSession, and URLSession Parameters

CookieSession	URLSession	Behavior
		Automatic mode[1]
	TRUE	URL session only
	FALSE	Automatic mode
TRUE		Cookie session only
TRUE	TRUE	Cookie session only[2]
TRUE	FALSE	Cookie session only
FALSE		Automatic mode
FALSE	TRUE	URL Session only
FALSE	FALSE	Automatic mode

1. If the Web browser is configured to accept cookies, the default is CookieSession mode; if it does not accept cookies, the default is URLSession mode.

2. The value for CookieSession overrides the value for URLSession.

Editing the Web Server Extension Configuration File

[defaults] Section

The parameters that follow apply to all the Siebel eBusiness Applications whose connect strings are referenced in this file. Any of the settings that can be specified under [defaults] can be also specified for individual eApplications (such as / esales) in the [xxx] section. If such a parameter is set for a particular eBusiness Application, it overrides the value listed in [defaults].

AnonUserName

This parameter specifies the user name required for anonymous browsing and initial access to the login pages. The user name selected should have access to views intended for anonymous browsing, but it should otherwise be the name of a restricted user.

AnonPassword

The password corresponding to the value entered for AnonUserName.

AnonUserPool

This parameter specifies the maximum number of anonymous user connections that can provide access to login pages. The anonymous user pool applies to the brief, initial actions taken by the user on the login pages before logging in. After users log in, they have a separate connection.

The default value is 10. If you expect to have a very busy site, you may want to increase this value. The recommended anonymous pool size is 10% to 15% of the number of concurrent users.

If you expect a Web site to experience large usage spikes, you should increase the anonymous user pool size. This increase in size can be offset by decreasing the anonymous session timeout. For example, any pool consisting of less than 25 anonymous sessions could have 1800-second (30-minute) timeouts. However, pools with more than 50 anonymous sessions may experience better overall performance with 300-second (5-minute) timeouts.

StatsPage

This is the URL (relative to the application's virtual directory) of the page that administrators can access to view statistics on how the Web server is being used. Statistics include the number of active users, the number of requests, and the average speed of request processing.

For information on the SWSE Stats Page, see *Siebel Server Administration Guide.*

HTTPPort
The HTTP port used for Web browser communications. The default setting is the standard port of the Web server in use (80).

HTTPSPort
The HTTPS port used for secure Web browser connections. The default setting is the standard port of the Web server in use (443).

EnableFQDN
This setting enables the processing of requests to Web sites even if the user does not provide the fully qualified domain name, such as http://www.ebiz.siebel.com.

Example:

```
EnableFQDN = TRUE
```

The corollary parameter is FQDN, which must also be set appropriately for the request to be processed correctly. See also FQDN.

FQDN
Stands for Fully Qualified Domain Name. An example of a fully qualified domain name would be http://ebiz.siebel.com.

If the Web server receives a request for a URL that does not contain the full domain name, the FQDN setting causes the browser to reissue the request and to add the domain name.

In the example below, the eapps.cfg file is edited so that a Web site is accessed as http://ebiz/callcenter. The FQDN setting converts the request to http://ebiz.siebel.com/callcenter.

```
EnableFQDN = TRUE

FQDN = ebiz.siebel.com
```

One possible application for this is in a Single Sign-On environment, in which cookies with FQDN must be passed to different servers in the same domain. For information about Single Sign-On, see *Security Guide for Siebel eBusiness Applications*.

See also EnableFQDN.

AnonSessionTimeout

The time, in seconds, that a connection open for anonymous browsing can remain idle before it times out. The default is 900 seconds (15 minutes).

Anonymous sessions are those in the anonymous pool. They handle inbound requests from Web clients that do not have a session established. However, their main use is to handle an initial client request, whatever that request is. This normally consists of retrieving a Login page or a Login view.

An anonymous session can also be viewed as the Siebel Web Server Extension's own internal login to the Siebel Object Manager in the Siebel Server. The extension uses these sessions to communicate with the Siebel Object Manager in cases when it is not appropriate to use a session established for a specific Siebel Web Client.

Both guest and anonymous sessions use the `AnonUserName` and `AnonPassword` parameters to log in.

GuestSessionTimeout

The time, in seconds, that a connection open for anonymous browsing can remain idle before it times out. The default is 300 seconds (5 minutes).

Guest sessions are used for anonymous browsing. They permit users to navigate portions of the site without logging in. In contrast to anonymous sessions, guest sessions are associated with an individual Siebel Web Client. These sessions are opened when an unregistered user starts navigating the site, and they remain open until the Web client logs out or times out due to inactivity.

When deciding how long guest user timeout should be, your primary consideration should be whether or not anonymous browsing is being used. If so, guest user timeouts should be greater than the average time users would need to deliberate their next action. In other words, this is the time allowed between user actions.

Both guest and anonymous sessions use the `AnonUserName` and `AnonPassword` parameters to log in.

SessionTimeout

The time, in seconds, from the user's last browser request until the user's connection times out. The default is 900 seconds (15 minutes).

Standard sessions are those where users log in using their registered user name and password. Otherwise, they share many of the same characteristics as guest sessions.

Table 38 offers guidelines for setting this parameter.

NOTE: All the session timeouts mentioned above deal with the session inactivity. In other words, if they are set to 3600 seconds, then it requires one hour of session inactivity for that session to time out. The session inactivity means there should be no request made to the server on that session. Any act pinging the server, such as message broadcasting, resets the session timeout period.

Table 38. Guidelines for Setting Session Timeouts

Session Type	Condition	Recommended Setting
Anonymous Session (recommended anonymous user pool size: 10%-15%)	■ Large numbers of users logging in within a short period of time (login spikes). ■ Frequent logins and logouts.	> 30 min.
Guest	■ Long intervals between user actions. ■ Login view is used for logins. ■ Logout occurs on a logout view.	■ > 30 min. ■ < 5 min. ■ < 5 min.
Regular	■ Employee applications. ■ Customer applications. ■ High security requirements. ■ High continuity (low interaction) with the browser. ■ Lightly loaded system.	■ > 30 min. ■ 1-15 min. ■ < 5 min. ■ > 30 min. ■ > 30 min.

Enabled

The Siebel Web Engine stops responding to user requests if this flag is set to FALSE. The default is TRUE, or enabled. A particular Siebel eBusiness Application (for example,
/marketing) stops responding to user requests if this flag is set to FALSE.

This is an optional parameter that, if required, must be manually input in either the [defaults] section of the file, or at the application [/xxx] level, depending on whether you want to disable all applications or just some.

In the example below, the first line has been manually input to disable the Marketing application. All applications are enabled by default.

```
[\marketing]

enabled = FALSE

ConnectString = siebel:\\MYSERVER:2320\siebel\SMObjMgr\MYSERVER
```

In the following example, the parameter has been set to disable all applications, because it has been entered in the [defaults] section.

```
[defaults]

Enabled = FALSE
```

[/xxx] Section

This section of the file contains connect strings for each Siebel Web Client application, as well as the parameters WebPublicRootDir and WebUpdatePassword.

Each connect string is preceded by a bracketed heading as illustrated below:

> [/*xxx*]

where:

xxx = the name of the Siebel Web Client application you want to edit.

Any parameter you set for a particular eApplication overrides any opposite value listed under [defaults].

ConnectString

A connect string exists for each Siebel Web Client application. Each connect string reflects the individual object manager for that application and contains information you entered during setup.

The sample connect string below contains descriptions within parentheses of the string components.

```
[/eevents]
AnonUserName  = User1
AnonPassword  = Password1
ConnectString =
siebel.TCPIP.none.NONE:\\siebel101:2320\Siebel\eEventsObjMgr\
siebel2
```

where:

`siebel.TCPIP` = the networking protocol.

`none` (first instance) = the encryption type chosen.

`NONE` (second instance) = data compression method chosen.

`siebel101` (first instance) = Siebel Gateway alias chosen.

`2320` = Siebel Gateway listening port number.

`Siebel` = Siebel Enterprise Server name chosen.

`eEvents` = relevant object manager (in this example, the eEvents object manager).

`siebel2` (second instance) = Siebel Server alias chosen.

NOTE: When you install Central Dispatch, the entry for the Siebel Server alias does not appear in the connect string; rather, the connect string ends with the Siebel Object Manager.

`\SWEApp`

Sample eapps.cfg File

StartCommand

This value is the assumed command if your session starts and a command (query) is not explicitly specified in the URL. For example, for eservice the StartCommand is `SWECmd=GotoView&SWEView=Home+Page+View+(eService)`. When you first bring up eservice in a new browser, it will be understood that your first query is a GotoView to your home page view. Normally you do not need to modify the StartCommand parameter specified in `eapps.cfg`.

WebPublicRootDir

This is the location for Web image caching, whose default location is

`\SWEApp\PUBLIC\`*language*

WebUpdatePassword

This is the password used by the Siebel Administrator to refresh application images from the Siebel Server on the Web server without restarting.

Sample eapps.cfg File

The application-specific section of this partial `eapps.cfg` file illustrates connection strings for Simple Chinese-specific Siebel Object Managers.

NOTE: For a complete list of languages supported by Siebel eBusiness Applications in this release, and their corresponding Siebel language codes, see *System Requirements and Supported Platforms* on the *Siebel Bookshelf*.

```
[include]

eapps_sia.cfg
eapps_fins.cfg
eapps_sis.cfg


[swe]

Language     = ENU
Log          = errors
LogDirectory = c:\sea750\SWEApp\log
ClientRootDir = c:\sea750\SWEApp
```

```
SessionMonitor  = FALSE
AllowStats      = TRUE
LogSegmentSize  = 0
LogMaxSegments  = 0


[defaults]

AnonUserName   =

AnonPassword   =

AnonUserPool   = 10

StatsPage      = _stats.swe

HTTPPort       = 80

HTTPSPort      = 443

EnableFQDN     = FALSE

FQDN           = CHANGE_ME

AnonSessionTimeout  = 900

GuestSessionTimeout = 300

SessionTimeout      = 900

DoCompression   = TRUE


[/erm_chs]

AnonUserName   =

AnonPassword   =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\ERMObjMgr_chs\Siebel 01

StartCommand   = SWECmd=GotoView&SWEView=Portal+Page+Home+View

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =
```

Sample eapps.cfg File

```
[/prmportal_chs]

AnonUserName  =

AnonPassword  =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eChannelObjMgr_chs\Siebel
01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/prmmanager_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\pManagerObjMgr_chs\Siebel
01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/wpsales_chs]

SessionTimeout = 3600

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\WirelessSalesObjMgr_chs\S
iebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/wpserv_chs]

SessionTimeout = 3600
```

```
ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\WirelessServiceObjMgr_chs
\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/wpprm_chs]

SessionTimeout = 3600

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\WirelesseChannelObjMgr_ch
s\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/wpeserv_chs]

SessionTimeout = 3600

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\WirelesseServiceObjMgr_ch
s\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/eai_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\EAIObjMgr_chs\Siebel 01

EnableExtServiceOnly  = TRUE

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =
```

Sample eapps.cfg File

```
[/ecustomer_chs]

AnonUserName  =

AnonPassword  =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eCustomerObjMgr_chs\Siebe
l 01

StartCommand  = SWECmd=GotoView&SWEView=Home+Page+View+(eCustomer)

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/emarketing_chs]

AnonUserName  =

AnonPassword  =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eMarketObjMgr_chs\Siebel
01

StartCommand  = SWECmd=GotoView&SWEView=Home+Page+View+(eMarketing)

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/esales_chs]

AnonUserName  =

AnonPassword  =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eSalesObjMgr_chs\Siebel
01

StartCommand  = SWECmd=GotoView&SWEView=Home+Page+View+(eSales)
```

```
WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =



[/eauctionswexml_chs]

AnonUserName   =

AnonPassword   =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eAuctionSWEXMLObjMgr_chs\
Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =



[/eservice_chs]

AnonUserName   =

AnonPassword   =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eServiceObjMgr_chs\Siebel
01

StartCommand   = SWECmd=GotoView&SWEView=Home+Page+View+(eService)

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =



[/etraining_chs]

AnonUserName   =

AnonPassword   =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eTrainingObjMgr_chs\Siebe
l 01
```

Sample eapps.cfg File

```
StartCommand  = SWECmd=GotoView&SWEView=Home+Page+View+(eTraining)

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/eevents_chs]

AnonUserName   =

AnonPassword   =

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\eEventsObjMgr_chs\Siebel
01

StartCommand  = SWECmd=GotoView&SWEView=Home+Page+View+(eEvents)

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/sales_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SSEObjMgr_chs\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/service_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SFSObjMgr_chs\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/callcenter_chs]
```

```
ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SCCObjMgr_chs\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/marketing_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SMObjMgr_chs\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/servicece_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\ServiceCEObjMgr_chs\Siebe
l 01

EnableExtServiceOnly  = TRUE

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/salesce_chs]

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SalesCEObjMgr_chs\Siebel
01

EnableExtServiceOnly  = TRUE

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =


[/smc_chs]
```

Sample eapps.cfg File

```
SessionTimeout = 3600

ConnectString =
siebel.TCPIP.None.None:\\domain_name\user1:2320\Siebel\SMCObjMgr_chs\Siebel 01

WebPublicRootDir = c:\sea750\SWEApp\public\chs

WebUpdatePassword =
```

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