Oracle® Collaboration Suite

Installation and Configuration Guide

Release 2 (9.0.4.1) for hp-ux PA-RISC (64-bit), Linux x86, and Solaris Operating Environment (SPARC 32-bit)

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Oracle Collaboration Suite Installation and Configuration Guide, Release 2 (9.0.4.1) for hp-ux PA-RISC (64-bit), Linux x86, and Solaris Operating Environment (SPARC 32-bit)

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Send Us Your Comments

Oracle Collaboration Suite Installation and Configuration Guide, Release 2 (9.0.4.1) for hp-ux PA-RISC (64-bit), Linux x86, and Solaris Operating Environment (SPARC 32-bit)

Part No. B10874-04

Oracle welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the title and part number of the documentation and the chapter, section, and page number (if available). You can send comments to us in the following ways:

- Electronic mail: infodev_us@oracle.com
- FAX: (650) 506-7410. Attn: Oracle Collaboration Suite Documentation Manager
- Postal service:

  Oracle Corporation
  Server Technologies Documentation Manager
  500 Oracle Parkway, Mailstop 2op5
  Redwood Shores, CA 94065
  USA

If you would like a reply, please give your name, address, telephone number, and electronic mail address (optional).

If you have problems with the software, please contact your local Oracle Support Services.

Preface

This manual is your primary source of introduction, preinstallation, installaiton, and postinstallation information for Oracle Collaboration Suite.

This preafce contains these topics:

- Audience
- Documentation Accessibility
- Structure
- Related Documents
- Conventions

Audience

Oracle Collaboration Suite Installation and Configuration Guide is intended for anyone installing or configuring Oracle Collaboration Suite

To use this document, you must be familiar with one of the following platforms:

- Solaris Operating Environment (SPARC 32-bit)
- hp-ux PA-RISC (64-bit)
- Linux Intel

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

`http://www.oracle.com/accessibility/`

Accessibility of Code Examples in Documentation

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should

appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Structure

This document contains:

Chapter 1, "Installation Overview"

This chapter discusses installation and configuration concepts for Oracle Collaboration Suite and provides information about the features and intent of each Oracle Collaboration Suite installation.

Chapter 2, "Preparing for Installation"

This chapter describes how to plan each installation of Oracle Collaboration Suite.

Chapter 3, "Upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1)"

This chapter discusses how to upgrade to Oracle Collaboration Suite Release 2 (9.0.4.1) and its components.

Chapter 4, "Oracle Collaboration Suite Deployment Methods"

This chapter explains how to upgrade and downgrade certain Oracle Collaboration Suite components and discusses possible conflicts among them. It also covers database tuning if you plan to use existing Oracle9*i* databases with Oracle Collaboration Suite components.

Chapter 5, "Getting Started with Installation"

This chapter describes how to get started with installation, including mounting your CD-ROM and starting Oracle Universal Installer.

Chapter 6, "Installing Oracle Collaboration Suite"

This chapter describes how to install Oracle9*i*AS Infrastructure, Oracle Collaboration Suite information storage, and Oracle Collaboration Suite.

Chapter 7, "Installing and Configuring Oracle Voicemail & Fax"

This chapter describes how to install and configure the Oracle Voicemail & Fax component of Oracle Collaboration Suite.

Chapter 8, "Silent and Non-Interactive Installation"

This chapter describes how to silently install Oracle Collaboration Suite.

Chapter 9, "Deinstalling Oracle Collaboration Suite Components"

This chapter describes how to deinstall Oracle Collaboration Suite components.

Chapter 10, "Configuring Oracle Calendar"

This chapter describes how to configure Oracle Calendar.

Chapter 11, "Configuring Oracle Email"
This chapter describes how to configure Oracle Email.

Chapter 12, "Configuring Oracle Files"
This chapter describes how to configure Oracle Files.

Chapter 13, "Configuring Search Features"
This chapter describes how to configure search features of Oracle Collaboration Suite.

Chapter 14, "Configuring Oracle Web Conferencing"
This chapter describes how to configure Oracle Web Conferencing.

Appendix A, "Java Access Bridge Installation"
This appendix describes the procedures required for installation of Java Access Bridge.

Appendix B, "Installation Checklists"
This appendix provides checklists for each installation of Oracle Collaboration Suite.

Appendix C, "Troubleshooting"
This appendix identifies common installation problems and solutions.

Appendix D, "Default Port Numbers and Port Ranges"
This appendix identifies the ports used by Oracle Collaboration Suite components.

Appendix E, "Windows Services"
This appendix lists the services that Oracle Collaboration Suite for Windows installation creates during installation.

Appendix F, "Installing Oracle Calendar Standalone"
This appendix describes requirements and procedures for installing the components of Oracle Calendar standalone.

Appendix G, "Oracle Collaboration Suite Client Installations"
This appendix describes the system requirements, installation instructions, and deinstallation instructions for the components on the Oracle Collaboration Suite Client CD-ROM.

Glossary

Related Documents

For more information, see these Oracle resources:

- Oracle Collaboration Suite Documentation Library, Release 2 (9.0.4.1)
- Oracle9*i* Application Server Documentation Library, Release 2
- Oracle9*i* Database Documentation Library, Release 2
- Oracle9*i*AS Portal Documentation Library, Release 2

Printed documentation is available for sale in the Oracle Store at

`http://oraclestore.oracle.com/`

To download free release notes, installation documentation, white papers, or other collateral, please visit the Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at

http://otn.oracle.com/membership/

If you already have a username and password for OTN, then you can go directly to the documentation section of the OTN Web site at

http://otn.oracle.com/documentation/

For additional information, see:

Third-Party Book by (insert first and last names of authors). (insert name of publisher), (insert publication date).

Conventions

This section describes the conventions used in the text and code examples of this documentation set. It describes:

- Conventions in Text
- Conventions in Code Examples
- Conventions for Windows Operating Systems

Conventions in Text

We use various conventions in text to help you more quickly identify special terms. The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
Bold	Bold typeface indicates terms that are defined in the text or terms that appear in a glossary, or both.	When you specify this clause, you create an **index-organized table**.
Italics	Italic typeface indicates book titles or emphasis.	*Oracle Database Concepts* Ensure that the recovery catalog and target database do *not* reside on the same disk.
`UPPERCASE monospace (fixed-width) font`	Uppercase monospace typeface indicates elements supplied by the system. Such elements include parameters, privileges, datatypes, RMAN keywords, SQL keywords, SQL*Plus or utility commands, packages and methods, as well as system-supplied column names, database objects and structures, usernames, and roles.	You can specify this clause only for a `NUMBER` column. You can back up the database by using the `BACKUP` command. Query the `TABLE_NAME` column in the `USER_TABLES` data dictionary view. Use the `DBMS_STATS.GENERATE_STATS` procedure.

Convention	Meaning	Example
lowercase monospace (fixed-width) font	Lowercase monospace typeface indicates executable programs, filenames, directory names, and sample user-supplied elements. Such elements include computer and database names, net service names and connect identifiers, user-supplied database objects and structures, column names, packages and classes, usernames and roles, program units, and parameter values. *Note:* Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.	Enter `sqlplus` to start SQL*Plus. The password is specified in the `orapwd` file. Back up the datafiles and control files in the `/disk1/oracle/dbs` directory. The `department_id`, `department_name`, and `location_id` columns are in the `hr.departments` table. Set the `QUERY_REWRITE_ENABLED` initialization parameter to `true`. Connect as `oe` user. The `JRepUtil` class implements these methods.
lowercase italic monospace (fixed-width) font	Lowercase italic monospace font represents placeholders or variables.	You can specify the *parallel_clause*. Run *old_release*`.SQL` where *old_release* refers to the release you installed prior to upgrading.

Conventions in Code Examples

Code examples illustrate SQL, PL/SQL, SQL*Plus, or other command-line statements. They are displayed in a monospace (fixed-width) font and separated from normal text as shown in this example:

```
SELECT username FROM dba_users WHERE username = 'MIGRATE';
```

The following table describes typographic conventions used in code examples and provides examples of their use.

Convention	Meaning	Example
`[ ]`	Anything enclosed in brackets is optional.	`DECIMAL (`*digits*` [ , `*precision*` ])`
`{ }`	Braces are used for grouping items.	`{ENABLE | DISABLE}`
`|`	A vertical bar represents a choice of two options.	`{ENABLE | DISABLE}` `[COMPRESS | NOCOMPRESS]`
`...`	Ellipsis points mean repetition in syntax descriptions.	`CREATE TABLE ... AS `*subquery*`;`
	In addition, ellipsis points can mean an omission in code examples or text.	`SELECT `*col1*`, `*col2*`, ... , `*coln*` FROM employees;`
Other symbols	You must use symbols other than brackets ([ ]), braces ({ }), vertical bars (|), and ellipsis points (...) exactly as shown.	`acctbal NUMBER(11,2);` `acct CONSTANT NUMBER(4) := 3;`
Italics	Italicized text indicates placeholders or variables for which you must supply particular values.	`CONNECT SYSTEM/`*system_password* `DB_NAME = `*database_name*

UPPERCASE	Uppercase typeface indicates elements supplied by the system. We show these terms in uppercase in order to distinguish them from terms you define. Unless terms appear in brackets, enter them in the order and with the spelling shown. Because these terms are not case sensitive, you can use them in either UPPERCASE or lowercase.	`SELECT last_name, employee_id FROM employees;`
		`SELECT * FROM USER_TABLES;`
		`DROP TABLE hr.employees;`

Convention	Meaning	Example

`lowercase`	Lowercase typeface indicates user-defined programmatic elements, such as names of tables, columns, or files.
	
	Note: Some programmatic elements use a mixture of UPPERCASE and lowercase. Enter these elements as shown.
		`SELECT last_name, employee_id FROM employees;`
		`sqlplus hr/hr`
		`CREATE USER mjones IDENTIFIED BY ty3MU9;`

Conventions for Windows Operating Systems

The following table describes conventions for Windows operating systems and provides examples of their use.

Convention	Meaning	Example
Choose **Start** > *menu item*	How to start a program.	To start the Database Configuration Assistant, choose **Start** > **Programs** > **Oracle** - *HOME_NAME* > **Configuration and Migration Tools** > **Database Configuration Assistant**.
File and directory names	File and directory names are not case sensitive. The following special characters are not allowed: left angle bracket (<), right angle bracket (>), colon (:), double quotation marks ("), slash (/), pipe (|), and dash (-). The special character backslash (\) is treated as an element separator, even when it appears in quotes. If the filename begins with \\, then Windows assumes it uses the Universal Naming Convention.	c:\winnt"\"system32 is the same as C:\WINNT\SYSTEM32
`C:\>`	Represents the Windows command prompt of the current hard disk drive. The escape character in a command prompt is the caret (^). Your prompt reflects the subdirectory in which you are working. Referred to as the *command prompt* in this manual.	`C:\oracle\oradata>`
Special characters	The backslash (\) special character is sometimes required as an escape character for the double quotation mark (") special character at the Windows command prompt. Parentheses and the single quotation mark (') do not require an escape character. Refer to your Windows operating system documentation for more information on escape and special characters.	`C:\>exp HR/HR TABLES=employees QUERY=\"WHERE job_id='SA_REP' and salary<8000\"`
HOME_NAME	Represents the Oracle home name. The home name can be up to 16 alphanumeric characters. The only special character allowed in the home name is the underscore.	`C:\> net start Oracle`*HOME_NAME*`TNSListener`

Convention	Meaning	Example
ORACLE_HOME and *ORACLE_BASE*	In releases prior to Oracle8*i* release 8.1.3, when you installed Oracle components, all subdirectories were located under a top level *ORACLE_HOME* directory. The default for Windows NT was `C:\orant`. This release complies with Optimal Flexible Architecture (OFA) guidelines. All subdirectories are not under a top level *ORACLE_HOME* directory. There is a top level directory called *ORACLE_BASE* that by default is `C:\oracle\product\10.1.0`. If you install the latest Oracle release on a computer with no other Oracle software installed, then the default setting for the first Oracle home directory is `C:\oracle\product\10.1.0\db_`*n*, where *n* is the latest Oracle home number. The Oracle home directory is located directly under *ORACLE_BASE*. All directory path examples in this guide follow OFA conventions. Refer to *Oracle Database Installation Guide for Windows* for additional information about OFA compliances and for information about installing Oracle products in non-OFA compliant directories.	Go to the *ORACLE_BASE*`\`*ORACLE_HOME*`\rdbms\admin` directory.

Part I

Oracle Collaboration Suite Pre-Installation Requirements

Part I contains conceptual information and pre-installation requirements that you should read before installing Oracle Collaboration Suite Release 2 (9.0.4.1).

Part 1 contains the following chapters:

- Chapter 1, "Installation Overview"
- Chapter 2, "Preparing for Installation"

1

Installation Overview

This chapter provides an overview of the Oracle Collaboration Suite CD Pack contents and explains how to deploy the three Oracle Collaboration Suite installations. Oracle Corporation recommends reading this chapter before proceeding with the installation.

This chapter contains these topics:

- What Are the Contents of the Oracle Collaboration Suite CD Pack?
- Installation Roadmap
- What's New

What Are the Contents of the Oracle Collaboration Suite CD Pack?

The Oracle Collaboration Suite CD Pack includes the following CD-ROM sets:

- Oracle9iAS Infrastructure Installation
- Oracle Collaboration Suite Information Storage Installation
- Oracle Collaboration Suite Installation
- Oracle Collaboration Suite Clients
- Oracle Cluster Manager
- Oracle Voicemail & Fax
- Oracle Collaboration Suite Documentation

These CD-ROM sets are described in the following sections.

Oracle9*i*AS Infrastructure Installation

Installation of the Oracle9*i*AS infrastructure is a prerequisite for all middle tier applications, such as Oracle Files and Oracle Calendar, that are installed with Oracle Collaboration Suite. The Oracle9*i*AS infrastructure must be installed first.

> **Note:** You can use the Oracle9*i*AS infrastructure provided in your Oracle Collaboration Suite CD Pack, or you can use an existing Oracle9*i*AS infrastructure if it is upgraded to work with Oracle Collaboration Suite. See "Upgrading Oracle9iAS Infrastructure" on page 3-4 for more information.

The Oracle9*i*AS infrastructure consists of the following components:

- Oracle9*i*AS Metadata Repository

A preseeded database containing metadata and schemas needed to run Oracle Collaboration Suite instances. This repository is installed and configured with every Oracle9*i*AS infrastructure installation.

- Oracle Internet Directory

  A directory service that enables information about dispersed users and network resources to be shared. Oracle Internet Directory implements the **Lightweight Directory Access Protocol (LDAP)**, version 3.

- Oracle9*i*AS Single Sign-On

  An enterprise-wide user authentication process that enables access to multiple accounts and Oracle Collaboration Suite applications.

- Oracle Management Server

  Processes system management tasks and administers the distribution of these tasks across the network using the Oracle Enterprise Manager Console. The Console and its three-tier architecture can be used with the Oracle Enterprise Manager Web Site to manage not only Oracle Collaboration Suite, but your entire Oracle environment.

- J2EE and Web Cache

  This installation of J2EE and Web Cache configures**Oracle HTTP Server** and **Oracle9iAS Containers for J2EE**. These components are for internal use with the Oracle9*i*AS infrastructure.

> **Note:** Oracle Corporation does not support use of the infrastructure installation of J2EE and Web Cache for customer application deployment.

Oracle Collaboration Suite Information Storage Installation

The Oracle Collaboration Suite information storage includes preconfigured Oracle9*i* Release 2 (9.2) starter databases for use with the middle tier applications listed in "Oracle Collaboration Suite Installation" on page 1-2. Install the Oracle Collaboration Suite information storage after you install the Oracle9*i*AS Infrastructure.

Oracle Collaboration Suite Installation

The Oracle Collaboration Suite installation provides an integrated enterprise-wide communication, content management, and context management solution. This enables users of desktops, laptops, personal digital assistants (PDAs), faxes, telephones, and Web clients to collaborate with one another and perform daily tasks.

Oracle Collaboration Suite must be installed after you have:

- Installed the Oracle9*i*AS infrastructure
- Configured the Oracle Internet Directory and Oracle9*i*AS Single Sign-On components of the Oracle9*i*AS infrastructure on your network, optimally on a separate computer
- Installed the Oracle Collaboration Suite information storage, which includes preconfigured databases for Oracle Email, Oracle Files, and Oracle Web Conferencing

Oracle Collaboration Suite consists of the following middle tier components:

- Oracle Calendar

  Provides calendaring, scheduling, and personal information management (PIM) capabilities through desktop clients, the Web, and any mobile device. The scalable calendar architecture allows the use of sophisticated group calendars and resource scheduling across an entire enterprise.

- Oracle Email

  A reliable, scalable, and secure messaging system that reduces administration, hardware, and software costs by providing a consolidated mail store. Oracle Email uses an Oracle9*i* database as a single message store for e-mail, taking advantage of Oracle access, storage, and management of all types of information. A preconfigured Oracle9*i* database is available on the Oracle Collaboration Suite information storage CD-ROM.

  Note: Oracle Email contains Oracle Calendar, Oracle Calendar Sync, and Oracle Connector for Outlook.

- Oracle Files

  A content management application that supports user collaboration and file sharing through a consolidated, scalable, and reliable file server. Oracle Files provides a sophisticated, Web-based user interface and industry- standard protocols that enable users to easily share files of any kind with others in a workspace or across an enterprise. Oracle Files uses an Oracle9*i* database to store content. A preconfigured Oracle9*i* database is available on the Oracle Collaboration Suite information storage CD-ROM.

- Oracle Web Conferencing

  Brings real-time online collaboration to any enterprise enabling customers, employees, teams, and partners to meet online within the context provided by the content, commerce, and comprehensive business flows of e-business.

- Oracle Ultra Search

  Provides an enterprise search engine that enables corporate users to locate valuable information within the intranet or extranet. Oracle Ultra Search provides a search facility for unified searching of data sources like Web pages and Oracle9*i* databases.

- Oracle Voicemail & Fax

  A reliable and highly scalable voice mail and fax system that provides centralized and secure message storage and retrieval for voice mail and faxes. Oracle Voicemail & Fax uses the Oracle Collaboration Suite information storage for voice mail and fax messages.

- Oracle9*i*AS Wireless

  Provides mobile employees with full access to all of their corporate information anywhere, from any device.

> **Note:** Oracle9*i*AS Wireless includes built-in applications that must be configured after installation. The underlying Oracle9*i*AS Wireless stack, then the applications must be configured before use. For information on configuring these applications and other Oracle9*i*AS Wireless components, see *Oracle9i*AS Wireless *Administrator's Guide*.

- Oracle Collaboration Suite Web Client

  Oracle Collaboration Suite provides an integrated Web client for browser-enabled computers, using the underlying Oracle9*i*AS infrastructure to provide a secure, single sign-on environment for accessing messages (e-mail, voice mail, and fax), calendar and directory information, and content stored in Oracle Files.

- Oracle9*i*AS Portal

  Enables you to install, configure, and manage the portlets that are included with Oracle Collaboration Suite.

> **Note:** Oracle9*i*AS Portal is a complete solution for building, deploying, and monitoring Web database applications and content-driven Web sites. Oracle9*i*AS Portal enables you to create and view database objects through an easy-to-use HTML-based interface. Contact your Oracle representative for information on licensing Oracle9*i*AS Portal.

All middle tier applications are installed with each Oracle Collaboration Suite installation. During the installation of Oracle Collaboration Suite, you can configure Oracle Calendar, Oracle Email, Oracle Files, Oracle Web Conferencing, and Oracle9*i*AS Portal. Optionally, you can configure these applications after installation.

Oracle Collaboration Suite Clients

Oracle Collaboration Suite Clients consist of the following components.

Oracle Calendar Desktop Clients:

- Oracle Connector for Outlook 9.0.4.1
- Oracle Calendar desktop client 9.0.4.1 for Windows
- Oracle Calendar desktop client 9.0.4 for Macintosh OS9 and OSX
- Oracle Calendar desktop client 9.0.4 for Linux x86
- Oracle Calendar desktop client 9.0.4.1 for Solaris Operating Environment (SPARC 32-bit)

Oracle Calendar Synchronization Clients:

- Oracle Calendar Sync 9.0.4.1 for Palm for Windows
- Oracle Calendar Sync 9.0.4 for Palm for Macintosh OS9 and OSX
- Oracle Calendar Sync 9.0.4.1 for Pocket PC for Windows

Developer Packages:

- Oracle Calendar SDK 9.0.4.1 (HP)

- Oracle Calendar SDK 9.0.4.1 (Linux)
- Oracle Calendar SDK 9.0.4.1 (Solaris)
- Oracle Calendar SDK 9.0.4.1 (Windows)
- Oracle Calendar SDK 9.0.4 (Macintosh)
- Oracle Calendar Web Services 9.0.4

Miscellaneous:

- Oracle Email `esmigration.zip`
- Oracle Files `FileSync.exe`

Oracle Cluster Manager

Oracle Cluster Manager version 9.2.0.3 is a component of Real Application Clusters and is included with Oracle Collaboration Suite Release 2 (9.0.4.1) for Linux. Oracle Cluster Manager provides cluster membership services, a global view of clusters, node monitoring, and cluster reconfiguration. Oracle Cluster Manager maintains a status of the nodes and instances across the cluster, provides consistent view of the Oracle instances, and enables communication between the instances.

Oracle Voicemail & Fax

This CD-ROM installs Oracle Voicemail & Fax on Windows 2000.

> **See Also:** Chapter 7, "Installing and Configuring Oracle Voicemail & Fax" for configuration instructions

Oracle Collaboration Suite Documentation

This CD-ROM includes the Oracle Collaboration Suite documentation library. You can view the documentation from the CD-ROM or copy it to your hard drive.

> **See Also:** *Oracle Collaboration Suite Documentation Roadmap*

Installation Roadmap

This section provides an overview of the required procedures for installing and configuring Oracle Collaboration Suite.

> **See Also:** Chapter 3, "Upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1)" for information on upgrading to Oracle Collaboration Suite

This section contains the following topics:

- General Installation Procedure
- Oracle Calendar Installation
- Oracle Email Installation
- Oracle Files Installation
- Oracle Web Conferencing Installation
- Oracle Ultra Search Installation
- Oracle Voicemail & Fax Installation

- Oracle9iAS Wireless Installation

> **Note:** See Appendix C, "Troubleshooting" if you encounter problems during the installation or configuration process

General Installation Procedure

The general procedure for installing Oracle Collaboration Suite is as follows:

1. Complete the installation planning requirements described in Chapter 2, "Preparing for Installation".

   If you plan to install Oracle Web Conferencing, read the *Oracle Web Conferencing Sizing Guide* for hardware and software requirements for the voice conversion and document conversion servers.

   The voice conversion server is a group of Oracle Web Conferencing components that dials into a voice conferencing system, converts the analog voice to digital format, and streams it. The document conversion server is a group of Oracle Web Conferencing components that converts Microsoft Office documents into HTML for viewing in Document Presentation mode.

   After reading the *Oracle Web Conferencing Sizing Guide*, set up the voice conversion server hardware by following the instructions in "Additional Hardware Requirements for Oracle Web Conferencing" on page 2-3. Install prerequisite software on the systems on which the voice conversion server and document conversion servers will reside.
2. Plan your deployment methodology by reading Chapter 4, "Oracle Collaboration Suite Deployment Methods".
3. Print and complete the installation checklists in Appendix B, "Installation Checklists".
4. Complete the installation procedures described in Chapter 5, "Getting Started with Installation".
5. Install the Oracle9*i*AS infrastructure as described in "Installing Oracle9iAS Infrastructure" on page 6-1.
6. Install the Oracle Collaboration Suite information storage database as described in "Installing Oracle Collaboration Suite Information Storage Database" on page 6-3.
7. Install the Oracle Collaboration Suite middle tier by following the installation procedures described in "Installing the Oracle Collaboration Suite Middle Tier" on page 6-6.
8. Configure the installed Oracle Collaboration Suite components by following the procedures described in the component configuration chapters in Part III, "Oracle Collaboration Suite Component Configuration".

During the middle tier installation process, you can choose which components of Oracle Collaboration Suite to configure. Each of the individual components of Oracle Collaboration Suite have specific installation and configuration requirements that are outlined in the following sections.

Oracle Calendar Installation

This section contains the following topics:

- Installing Oracle Calendar as Part of Oracle Collaboration Suite

- Installing Oracle Calendar Standalone

Installing Oracle Calendar as Part of Oracle Collaboration Suite

The procedure for installing Oracle Calendar as part of Oracle Collaboration Suite is as follows:

1. Read the following sections in the *Oracle Calendar Administrator's Guide*:
   - Chapter 3, "Calendar Deployment" for sizing requirements, preinstallation checklists and deployment information
   - Appendix B, "Adjusting Calendar Kernel Parameters" for kernel parameter requirements
2. Read the Oracle Calendar chapter in the *Oracle Collaboration Suite Release Notes* for installation or configuration issues.
3. If you are upgrading from a previous version, read Chapter 3, "Upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1)".
4. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
5. Follow the configuration procedures described in Chapter 10, "Configuring Oracle Calendar".
6. To install Oracle Connector for Outlook, Oracle Calendar desktop clients, or Oracle Calendar Sync clients, see Appendix G, "Oracle Collaboration Suite Client Installations".
7. See the *Oracle Calendar Administrator's Guide* for configuration and maintenance procedures for Oracle Calendar components. For detailed information concerning configuration parameters and command-line administration utilities, see the *Oracle Calendar Reference Manual*.

Installing Oracle Calendar Standalone

The procedure for upgrading from Oracle CorporateTime to Oracle Calendar 9.0.4 is as follows:

1. Read the following sections in the *Oracle Calendar Administrator's Guide*:
   - Chapter 3, "Calendar Deployment" for sizing requirements, preinstallation checklists and deployment information
   - Appendix B, "Adjusting Calendar Kernel Parameters" for kernel parameter requirements
2. Read the Oracle Calendar chapter in the *Oracle Collaboration Suite Release Notes* for installation or configuration issues.
3. To upgrade from Oracle CorporateTime to Oracle Calendar 9.0.4, follow the steps described in Appendix F, "Installing Oracle Calendar Standalone".
4. To install Oracle Connector for Outlook, Oracle Calendar desktop clients, or Oracle Calendar Sync clients, see Appendix G, "Oracle Collaboration Suite Client Installations".
5. See the *Oracle Calendar Administrator's Guide* for configuration and maintenance procedures for Oracle Calendar components. For detailed information concerning configuration parameters and command-line administration utilities, see the *Oracle Calendar Reference Manual*.

Oracle Email Installation

The procedure for installing Oracle Email is as follows

1. Read the Oracle Email chapter in the *Oracle Collaboration Suite Release Notes* for installation or configuration issues.
2. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
3. Configure Oracle Email by following the procedures in Chapter 11, "Configuring Oracle Email".
4. See the *Oracle Email Administrator's Guide* for information on managing and maintaining Oracle Email.

Oracle Files Installation

The procedure for installing Oracle Files is as follows:

1. Read the *Oracle Files Planning Guide* to determine sizing requirements and hardware information.
2. Read the Oracle Files chapter in the *Oracle Collaboration Suite Release Notes* for installation and configuration issues.
3. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
4. Configure Oracle Files by following the procedures in Chapter 12, "Configuring Oracle Files".

   See Also: "Troubleshooting Oracle Files Installation" on page C-2 to resolve Oracle Files configuration issues

5. To install Oracle FileSync, follow the procedures in "Oracle FileSync" on page G-24.
6. See the *Oracle Files Administrator's Guide* for information on managing and maintaining Oracle Files.

Oracle Web Conferencing Installation

The procedure for installing Oracle Web Conferencing is as follows:

1. Read the Oracle Web Conferencing chapter in the *Oracle Collaboration Suite Release Notes* for the latest installation and configuration issues.
2. Read Chapter 4, "Oracle Collaboration Suite Deployment Methods".
3. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
4. Follow the procedures in Chapter 14, "Configuring Oracle Web Conferencing" to configure Oracle Web Conferencing.
5. See the *Oracle Web Conferencing Administrator's Guide* for information on:
   - Deployment scenarios not covered in this guide
   - Advanced customization
   - Monitoring the system
   - Running reports
   - Creating and managing sites

Oracle Ultra Search Installation

The procedure for installing Oracle Ultra Search is as follows:

1. Read "Deploying Oracle Ultra Search" on page 4-5 to determine sizing requirements and hardware information.
2. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
3. Configure Oracle Ultra Search by following the procedures in Chapter 13, "Configuring Search Features".
4. See the *Oracle Ultra Search User's Guide* for information on managing and maintaining the Oracle Ultra Search instance.

Oracle Voicemail & Fax Installation

The section describes the procedures for installing Oracle Voicemail & Fax.

> **Note:** You must install and configure Oracle Email before you install Oracle Voicemail & Fax.

To install Oracle Voicemail & Fax:

1. Read the Oracle Voicemail & Fax chapter in the *Oracle Collaboration Suite Release Notes* for installation or configuration issues.
2. If you have not done so already, install and configure Oracle Email as described in "Oracle Email Installation" on page 1-8.
3. Install and configure Oracle Voicemail & Fax as described in Chapter 7, "Installing and Configuring Oracle Voicemail & Fax".
4. See the *Oracle Voicemail & Fax Administrator's Guide* for information on managing and maintaining Oracle Voicemail & Fax.

Oracle9*i*AS Wireless Installation

The procedure for installing Oracle9*i*AS Wireless is as follows:

1. Follow Steps 1 through 7 in "General Installation Procedure" on page 1-6.
2. See the *Oracle9i*AS Wireless Administrator's Guide for information on configuring and managing your Oracle9*i*AS Wireless instance.

What's New

Oracle Collaboration Suite Release 2 Patch Set 1 (9.0.4.2.0) is now available. This patch set contains many important bug fixes, as well as new product features. To obtain the patch, go to Oracle MetaLink at `http://metalink.oracle.com`.

For information about the new features and bugs fixed in this patch, see the *Oracle Collaboration Suite Readme Release 2 Patch Set 1 (9.0.4.2.0)*.

2

Preparing for Installation

This chapter describes how to plan each Oracle Collaboration Suite installation.This chapter describes how to plan each Oracle Collaboration Suite installation.

This chapter contains these topics:

- Hardware Requirements
- Additional Hardware Requirements for Oracle Web Conferencing
- Operating System Versions
- Operating System Patches and Packages
- Additional Software Requirements for Oracle Web Conferencing
- Multilingual Support
- Online Documentation Requirements
- Port Allocations
- Certified Software
- Release Notes
- Environment Preinstallation Tasks
- Installing Oracle Collaboration Suite on a Single Computer

Hardware Requirements

This section contains these topics:

- Determining Random Access Memory
- Determining Swap Space

Table 2–1 describes the minimum hardware requirements for each installation of Oracle Collaboration Suite.

Table 2–1 Oracle Collaboration Suite ***Hardware Requirements*** [1]

Requirement	Value
Solaris Operating Environment (SPARC 32-bit) CPU[2]	SPARC Processor
hp-ux PA-RISC (64-bit) CPU[2]	HP 9000 Series hp-ux processor for hp-ux 11.0 (64-bit) HP 9000 Series hp-ux processor for hp-ux 11.11 (64-bit)

Table 2–1 (Cont.) Oracle Collaboration Suite ***Hardware Requirements*** [1]

Requirement	Value
Linux x86 CPU[2]	Pentium II 233 MHz or better (32-bit)
Monitor	256 color viewing capability
`/var/tmp` Directory Space	Oracle Collaboration Suite: 33 MB Oracle9*i*AS Infrastructure: 7 MB Oracle Collaboration Suite Information Storage: 34 MB
Swap Space	2 GB
Memory (minimum requirement)	Oracle Collaboration Suite: 512 MB Oracle9*i*AS Infrastructure: 512 MB Oracle Collaboration Suite information storage: 512 MB **Note:** Allocate additional memory depending on the applications and the number of users on the systems. Additional memory for Oracle Collaboration Suite information storage installations on hp-ux PA-RISC (64-bit) is required. If you are installing Oracle Real Application Clusters on a cluster with Hyper Messaging Protocol (HMP), each Oracle shadow process using HMP requires an additional 0.3 MB of memory.
Disk Space for Solaris Operating Environment (SPARC 32-bit)	Oracle Collaboration Suite: 1.84 GB Oracle9*i*AS Infrastructure: 3.96 GB Oracle Collaboration Suite Information Storage: 4.25 GB **Note**: While the Install Actions log file lists required disk space for the information storage database at 2.38 GB, the file does not consider the space necessary to create the database, nor does it consider the space necessary for middle tier applications deployed against the database.
Disk Space for hp-ux PA-RISC (64-bit)	Oracle Collaboration Suite: 4.8 GB Oracle9*i*AS Infrastructure: 5.9 GB Oracle Collaboration Suite Information Storage: 4.3 GB
Disk Space for Linux x86	Oracle Collaboration Suite: 2.5 GB Oracle9*i*AS Infrastructure: 4.2 GB Oracle Collaboration Suite Information Storage: 3.8 GB

[1] For detailed information regarding Oracle Files hardware and sizing requirements, see the *Oracle Files Planning Guide*.

[2] An additional CPU is recommended on the computer where the Oracle Collaboration Suite information store is running if you want Oracle Text indexing of documents in Oracle Files or e-mail messages in Oracle Email.

Note: Regardless of the operating system, disk space must be available on a single disk. Oracle Collaboration Suite does not support spanning the installation over multiple disks.

Note: To use Hewlett Packard's Hyper Messaging Protocol (HMP) for cluster interconnection in an Oracle Real Application Clusters environment on hp-ux PA-RISC (64-bit), you must have Hewlett Packard proprietary HyperFabric Switches (product A6384a, the fiber-based HyperFabric2 switch), as well as the adapter cards A6386a and A7525a fiber cable.

Note: If you are performing an upgrade, the Oracle Collaboration Suite upgrade assistant creates four new tablespaces for Oracle Email. See Oracle Email Pre-Upgrade Tasks on page 3-10 for information about space requirements for these additional tablespaces.

Determining Random Access Memory

Use the following command to determine the amount of random access memory installed on Solaris Operating Environment (SPARC 32-bit):

```
prompt> /usr/sbin/prtconf | grep "Memory size"
```

Use the following command to determine the amount of random access memory installed on hp-ux PA-RISC (64-bit):

```
prompt> grep MemTotal /proc/meminfo
```

Use the following command to determine the amount of random access memory installed on Linux x86:

```
prompt> /usr/sbin/dmesg | grep "Physical"
```

Determining Swap Space

Table 2–2 lists the commands to determine the amount of swap space currently configured in your system. Enter one of the commands listed in Table 2–2, according to your platform.

Table 2–2 Determining Swap Space

Platform	Command
Solaris Operating Environment (SPARC 32-bit)	`prompt> /usr/sbin/swap -1`
hp-ux PA-RISC (64-bit)	`prompt> /usr/sbin/swapinfo -a`
Linux x86	`prompt> /sbin/swapon -s`

From the output of the command that you enter, divide the value shown in the BLOCKS column by 2.

Additional Hardware Requirements for Oracle Web Conferencing

There are several hardware sizing considerations for Oracle Web Conferencing. The *Oracle Web Conferencing Sizing Guide* has complete information about these considerations. This section provides information about required hardware for the

Voice Conversion Server used by Oracle Web Conferencing to support streaming voice data during conferences or playback of recorded conferences with voice data.

The Voice Conversion server must be installed on a computer with Microsoft Windows 2000 Server SP4 or above, with the following basic configuration:

- 2.4 GHz Intel Processor
- 512 MB SDRAM
- 20 GB disk

In addition, you need specialized telephony hardware. You need a T1 or E1 trunk, and a media processing board from Intel / Dialogic to support the trunk. The T1/E1 protocol supported by Oracle Web Conferencing is robbed-bit /CAS (Channel Associated Signaling). The following tables list hardware and sizing recommendations depending on the the number of concurrent voice conferences, the type of and number of trunk lines, and the number of Voice Conversion Servers.

Table 2–3 Sizing Recommendations for Voice Conversion Using T1

Concurrent Voice Conferences	T1 Lines	Voice Servers	Dialogic Hardware Needed per Voice Server
12	1	1	D/240JCT-T1
24	1	1	D/480JCT-T1
48	2	1	2 x D/480JCT-T1
96	4	2	2 x D/480JCT-T1
192	8	4	2 x D/480JCT-T1

Table 2–4 Sizing Recommendations for Voice Conversion Using E1

Concurrent Voice Conferences	T1 Lines	Voice Servers	Dialogic Hardware Needed per Voice Server
15	1	1	D/300JCT-E1
30	1	1	D/300JCT-E1
60	2	1	2 x D/600JCT-E1
120	4	2	2 x D/600JCT-E1
240	8	4	2 x D/600JCT-E1

See Also: *Oracle Web Conferencing Sizing Guide* for specific information on sizing requirements for your system

Operating System Versions

Table 2–5 lists the operating system version required by each platform, and the command to determine the current operating system version.

Table 2–5 Operating System Versions and Requirements

Platform	Operating System Requirements	Command
Solaris Operating Environment (SPARC 32-bit)	■ Solaris 8	`prompt> uname -a`
hp-ux PA-RISC (64-bit)	■ hp-ux 11.0 PA-RISC (64-bit) ■ hp-ux 11.11 PA-RISC (64-bit) ■ JDK 1.3.1[1] ■ The following executables must be present in the `/usr/ccs/bin` directory: `make`, `ar`, `ld`, `nm`, and `cc`.	`prompt> uname -a`

Linux x86	■ Red Hat Advanced Server 2.1. Requires kernel 2.4.9-e.12
	■ glibc 2.2.4-26
	■ binutils-2.11.90.0.8-13
	■ XFree86 Development 3.3.3.1 or later
	■ Open Motif 2.1.30
	■ JDK 1.3.1 (Supplied with this release)
		`prompt> uname -a`
		`prompt> rpm -q glibc`
		`prompt> rpm -q binutils`

[1] You must also install any prerequisite patches for JDK. These patches are available from the Hewlett Packard Web site.

Operating System Patches and Packages

Your operating system can require the installation of patches and packages. Several of the patches listed in the following tables have dependency patches that must also be installed. See the `readme` files included with the patches and packages for additional information. When downloading a specific patch or package, verify dependencies and download the dependency patches or packages, if required.

Note: Your operating system must include the `sendmail` program.

This section contains these topics:

- Operating System Patch and Package Download Locations
- Determining Installed Patches
- Required Solaris Operating Environment (SPARC 32-bit) Patches for Oracle9iAS Infrastructure and Oracle Collaboration Suite
- Required Solaris Operating Environment (SPARC 32-bit) Patches for Oracle Collaboration Suite Information Storage
- Required hp-ux PA-RISC (64-bit) Patches for Oracle9iAS Infrastructure and Oracle Collaboration Suite
- Required hp-ux PA-RISC (64-bit) Patches for Oracle Collaboration Suite Information Storage
- Operating System Requirements to Support Real Application Clusters
- JRE Patches
- Operating System and Fonts Packages (Solaris Only)

- Additional Operating System Requirements

Operating System Patch and Package Download Locations

Table 2–6 lists the locations from which to download the operating system patches for each platform.

Table 2–6 Operating System Patch Download Locations

Platform	Download Location
Solaris Operating Environment (SPARC 32-bit)	Download the patches at `http://sunsolve.sun.com/`

hp-ux PA-RISC (64-bit)	Download patch bundles at
	`http://www.software.hp.com/SUPPORT_PLUS`
	Download individual patches at
	`http://itresourcecenter.hp.com`

Linux x86	Contact Linux vendor for downloading patches

Determining Installed Patches

Table 2–7 lists the commands to determine if a specific patch is installed for each platform.

Table 2–7 Commands to Determine Installed Patches

Platform	Command
Solaris Operating Environment (SPARC 32-bit)	`prompt> showrev -p | grep` *`six_digit_patch_number`*
hp-ux PA-RISC (64-bit)	`prompt> /usr/sbin/swlist -l patch`
Linux x86	`prompt> rpm -qa`

Required Solaris Operating Environment (SPARC 32-bit) Patches for Oracle9*i*AS Infrastructure and Oracle Collaboration Suite

Table 2–8 lists the operating system patches you must install for Oracle9*i*AS Infrastructure installation and Oracle Collaboration Suite installation on Solaris Operating Environment (SPARC 32-bit).

Table 2–8 Oracle9iAS Infrastructure and Oracle Collaboration Suite

Operating System	Patch
Solaris 8	■ Latest recommended patch cluster ■ Xsun patch: 108652-37 or later ■ CDE `dtwm` patch: 108921-13 or later ■ Motif 2.1 patch: 108940-37 or later ■ Portal and Wireless patch: 112138-01 or later

Required Solaris Operating Environment (SPARC 32-bit) Patches for Oracle Collaboration Suite Information Storage

There are no required operating system patches you must install for Oracle Collaboration Suite information storage installation on Solaris Operating Environment (SPARC 32-bit).

Required hp-ux PA-RISC (64-bit) Patches for Oracle9*i*AS Infrastructure and Oracle Collaboration Suite

Install the following operating system patches for Oracle9*i*AS Infrastructure and Oracle Collaboration Suite installations on hp-ux PA-RISC (64-bit).

Table 2–9 Patches and Packages for Oracle9iAS Infrastructure and Oracle Collaboration Suite

Operating System	Packages and Patches
hp-ux 11.0 PA-RISC (64-bit)	▪ Sept 2002 QPK1100 ▪ PHKL_27813
hp-ux 11.11 PA-RISC (64-bit)	▪ GOLDQPK11i ▪ PHCO_24402 ▪ PHCO_24777 ▪ PHCO_25452 ▪ PHKL_23006 ▪ PHKL_23154 ▪ PHKL_23176 ▪ PHKL_24255 ▪ PHKL_24569 ▪ PHKL_24751 ▪ PHKL_25389 ▪ PHKL_25729 ▪ PHKL_25840 ▪ PHKL_25842 ▪ PHNE_22727 ▪ PHNE_24910 ▪ PHNE_25485 ▪ PHSS_23441 ▪ PHSS_24045

Required hp-ux PA-RISC (64-bit) Patches for Oracle Collaboration Suite Information Storage

Install the operating system patches listed in Table 2–9 for Oracle Collaboration Suite information storage installation on hp-ux PA-RISC (64-bit).

Operating System Requirements to Support Real Application Clusters

Table 2–10 lists the operating system packages and patches required to support Real Application Clusters.

Table 2–10 Patches and Packages for Real Application Clusters

Platform	Packages and Patches
Solaris Operating Environment (SPARC 32-bit)	`racpatch`
hp-ux PA-RISC for 11.0 (64-bit)	■ MC/ServiceGuard A.11.13 OPS Edition ■ PHNE_26177 is required if the lowfat protocol is used for interinstance communications across Oracle instances in Real Application Clusters environments. Lowfat protocol is a low-latency/high bandwidth protocol implemented over special hardware called hyperfabric interconnects. See the documentation included with PHNE_26177 for more information. ■ PHSS_25915
hp-ux PA-RISC for 11.11 (64-bit)	■ MC/ServiceGuard A.11.09 OPS Edition ■ PHSS_26338
Linux x86	Not Applicable

Note: For Sun Clusters, install `racpatch` as described in "Additional root User Information for Solaris Operating Environment (SPARC 32-bit)" on page 2-17.

JRE Patches

Table 2–11 lists required or recommended JRE patches.

Table 2–11 JRE Patches

Platform	Patch	Required or Recommended
Solaris 8	Not Applicable	Not Applicable
hp-ux PA-RISC (64-bit)	PHCO_23792	Recommended
	PHCO_24148	Recommended
	PHKL_25475	Recommended
	PHNE_23456	Recommended
	PHNE_24034	Recommended
	PHSS_24303	Recommended
Linux x86	Not Applicable	Not Applicable

Operating System and Fonts Packages (Solaris Only)

Table 2–12 lists the required operating system and font packages for Solaris Operating Environment (SPARC 32-bit).

Table 2–12 Required Operating System and Font Packages for Solaris Operating Environment (SPARC 32-bit)

Package Type	Required Packages
Operating system	`SUNWarc`, `SUNWbtool`, `SUNWhea`, `SUNWlibm`, `SUNWlibms`, `SUNWsprot`, and `SUNWtoo`

Table 2–12 (Cont.) Required Operating System and Font Packages for Solaris Operating Environment (SPARC 32-bit)

Package Type	Required Packages
Font packages for Java	`SUNWi1of` and `SUNWxwfnt` are required for all locations. You may need to obtain additional font packages to support font styles used at your location. A list of Solaris Operating Environment (SPARC 32-bit) font packages is available at: `http://java.sun.com/j2se/1.3/font-requirements.html`.

To check whether an operating systems package is installed, enter:

```
prompt> pkginfo -p package_name
```

where *`package_name`* is the name of the package that you want to check.

Additional Operating System Requirements

Table 2–13 lists additional software required for all platforms:

Table 2–13 Additional Required Operating System Requirements

Software	Requirement
X Server and Window Manager	Use any X Server and window manager supported by your UNIX operating system. For Hummingbird Exceed, use a native window manager. For WRQ Reflections, allow a remote window manager. To determine if your X Window System is working properly on your local system, enter the following command: `prompt> xclock` The X clock should appear on your monitor.
Required executables	The following executables must be present: `make`, `ar`, `ld`, and `nm`.

Additional Software Requirements for Oracle Web Conferencing

Oracle Web Conferencing uses a Document Conversion Server to convert Microsoft Office documents into HTML or other compatible formats for sharing during conferences. The server must reside on a separate computer from the middle tier, and it must have Microsoft Windows NT and Microsoft Office 2000 or Microsoft Office XP.

Oracle Web Conferencing also uses a Voice Conversion Server to support streaming voice data during conferences or playback of recorded conferences with voice data. The server requires Microsoft Windows 2000 Server SP4 or above, and Intel Dialogic System Software 5.1.1 SP1 or above.

> **See Also:** *Oracle Web Conferencing Sizing Guide* for more details about required hardware and software

> **See Also:** "Additional Hardware Requirements for Oracle Web Conferencing" on page 2-3 for voice conversion server hardware requirements

Multilingual Support

The Oracle Collaboration Suite user interface is available in the following languages: Arabic, Brazilian Portuguese, Danish, Dutch, English, Finnish, French, German, Greek, Italian, Japanese, Korean, Norwegian, Portuguese, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish.

Oracle Calendar Multilingual Support Limitations

Oracle Calendar server administration tools have an English interface but support entering data in all Oracle Collaboration Suite supported languages.

The Oracle Calendar clients are available only in English with the following exceptions:

- **Oracle Connector for Outlook**: All Oracle Collaboration Suite supported languages, except Arabic
- **Oracle Calendar Web client**: All Oracle Collaboration Suite supported languages, except Arabic
- **Oracle Calendar desktop client for Windows**: English, French, German, and Japanese
- **Oracle Calendar Sync for Palm for Windows**: English, French, German, and Japanese
- **Oracle Calendar Sync for Pocket PC for Windows**: English, French, German, and Japanese

Online Documentation Requirements

You can view Oracle Collaboration Suite documentation online using a Web browser or Portable Document Format (PDF) Viewer.

Table 2–14 lists the requirements for viewing Oracle Collaboration Suite online documentation.

Table 2–14 Online Documentation Requirements

Requirement	Items
Online Readers	Any one of the following: HTML ■ Netscape Navigator 4.7 or later ■ Microsoft Internet Explorer 5.0 or later PDF ■ Acrobat Reader 4.0 or later ■ Acrobat Reader+Search 4.0 or later ■ Acrobat Exchange 4.0 or later ■ PDFViewer Web browser plug-in 1.0 or later
Library-wide HTML search and navigation	Active Internet connection
Disk Space	37.5 MB

See Also: *Oracle Collaboration Suite Documentation Roadmap*

Port Allocations

Following installation, Oracle Universal Installer creates a file named `portlist.ini` showing the ports assigned during the installation of Oracle Collaboration Suite components. The installation process automatically detects any port conflicts and selects an alternate port in the range allocated for that component. The file is located at:

```
$ORACLE_HOME/install/portlist.ini
```

See Also: Appendix D, "Default Port Numbers and Port Ranges"

Certified Software

Many Oracle Collaboration Suite components require a Web browser. All Oracle Collaboration Suite installations require an Oracle9*i*AS Infrastructure and Oracle9*i* database. A complete list of certified software, including certified Oracle9*i*AS Infrastructure releases, database releases, and Web browsers for Oracle Collaboration Suite is located at Oracle*MetaLink*:

```
http://metalink.oracle.com
```

Release Notes

Before installing Oracle Collaboration Suite, Oracle Corporation recommends that you read *Oracle Collaboration Suite Release Notes*, available in the `doc` directory of each Oracle Collaboration Suite installation CD-ROM and on Oracle Technology Network. See *Oracle Collaboration Suite Documentation Roadmap* for more information about Oracle Collaboration Suite documentation. Although this document is accurate at the time of publication, you can access the latest information and documentation on Oracle Technology Network:

```
http://otn.oracle.com/
```

Environment Preinstallation Tasks

This section contains these topics:

- Setting Environment Variables
- Creating Required Symbolic Links on hp-ux Systems
- Hostnames File Configuration
- Creating UNIX Accounts and Groups
- Real Application Clusters for Oracle Collaboration Suite Information Storage Installation
- Real Application Clusters Installation on Linux x86
- Configuring Kernel Parameters for Oracle9iAS Infrastructure
- Configuring Kernel Parameters for Oracle Collaboration Suite
- Configuring Kernel Parameters for Oracle Collaboration Suite Information Storage

Setting Environment Variables

Table 2–15 explains how to set and unset environment variables.

Table 2–15 Setting and Unsetting Environment Variables

To...	C shell	Bourne/Korn shell
Set an environment variable	`prompt> setenv VARIABLE value`	`prompt> VARIABLE=value;export VARIABLE`
Unset an environment variable	`prompt> unsetenv VARIABLE`	`prompt> unset VARIABLE`

Note: You do not need to set the environment variables `LD_LIBRARY_PATH`, `ORACLE_HOME`, `SHLIB_PATH`, `TMP`, `TMPDIR`, and `TNS_ADMIN`.

DISPLAY

Before starting Oracle Universal Installer, set the `DISPLAY` environment variable to refer to the X Server that displays Oracle Universal Installer. The format of the `DISPLAY` environment variable is:

hostname:display_number.screen_number

Oracle Collaboration Suite requires a running X Server to properly create graphics for Oracle Universal Installer, Web applications, and management tools. The frame buffer X Server installed with your operating system requires that you remain logged in and have the frame buffer running at all times. If you do not want to do this, then you must use a virtual frame buffer, such as X Virtual Frame Buffer (XVFB) or Virtual Network Computing (VNC).

Oracle Universal Installer configures this instance to use the same X Server from the installation process for applications and management tools. This X Server must either always be running or you must reconfigure Oracle Collaboration Suite to use another X Server that is always running after the installation completes.

See Also:

- Your operating system documentation for more information about the `DISPLAY` environment variable
- Oracle Technology Network (`http://otn.oracle.com/`) for information about obtaining and installing XVFB or other virtual frame buffer solutions. Search Oracle Technology Network for "frame buffer".

Installing From a Remote Computer

Setting the `DISPLAY` environment variable enables you to run Oracle Universal Installer remotely from another workstation. On the system where you launch Oracle Universal Installer, set `DISPLAY` to the system name or IP address of your local workstation.

Note: You can use a PC X emulator to run the install if it supports a PseudoColor color model or PseudoColor visual. Set the PC X emulator to use a PseudoColor visual, and then start Oracle Universal Installer. See the X emulator documentation for instructions on how to change the color model or visual settings.

If you get an Xlib error similar to "Failed to connect to server", "Connection refused by server," or "Can't open display" when starting Oracle Universal Installer, then run the commands on your local workstations as listed in Table 2–16.

Table 2–16 DISPLAY Environment Variable Commands

Shell Types	On Server Where Oracle Universal Installer Is Running	In Session on Your Workstation
C shell	`prompt> setenv DISPLAY hostname:0.0`	`prompt> xhost + server_name`
Bourne/Korn shell	`prompt> DISPLAY=hostname:0.0;export DISPLAY`	`prompt> xhost + server_name`

Creating Required Symbolic Links on hp-ux Systems

If you are installing on hp-ux, you must manually create symbolic links before performing the installation.

To create the required links:

1. Log into the system as the root user.
2. Change directory to /usr/lib.
3. Enter the following commands to create the symbolic links:

```
# ln -s /usr/lib/libX11.3 libX11.sl
# ln -s /usr/lib/libXIE.2 libXIE.sl
# ln -s /usr/lib/libXext.3 libXext.sl
# ln -s /usr/lib/libXhp11.3 libXhp11.sl
# ln -s /usr/lib/libXi.3 libXi.sl
# ln -s /usr/lib/libXm.4 libXm.sl
# ln -s /usr/lib/libXp.2 libXp.sl
# ln -s /usr/lib/libXt.3 libXt.sl
# ln -s /usr/lib/libXtst.2 libXtst.sl
```

Hostnames File Configuration

Oracle Universal Installer requires that the fully-qualified hostname information appear in the configuration files for your computer. A fully-qualified hostname includes both the name of the system and its domain.

Failure to properly configure the hostname information in the listed files may result in runtime errors during Oracle Collaboration Suite installation.

Verify that `/etc/hosts` has the following format:

```
ip_address fully_qualified_hostname short_hostname aliases
```

The following example shows a properly configured `/etc/hosts` file:

```
148.87.9.44 oasdocs.us.oracle.com oasdocs oracleinstall
```

Verify that the `hostname` command returns this fully-qualified hostname before starting the install.

Additional Hostnames Files Configuration for Solaris Operating Environment (SPARC 32-bit)

Solaris Operating Environment (SPARC 32-bit) installations require that the following additional files be configured with the fully-qualified hostname:

- `/etc/nodename`

- /etc/inet/hosts
- /etc/hostname*
- /etc/net/ticlts/hosts
- /etc/net/ticots/hosts
- /etc/net/ticotsord/hosts
- /etc/inet/ipnodes

> **Note:** The hostname can appear in each of these files more than once. You must add the domain information to every occurrence of the hostname. The only exceptions are /etc/hosts and /etc/inet/hosts files, where the domain information only needs to be added once, immediately after the Internet Protocol (IP) address.

Creating UNIX Accounts and Groups

The installation process requires a special UNIX account and several special groups. See the following subsections for more information:

- UNIX Group Name for the Oracle Universal Installer Inventory
- UNIX Account to Own Oracle Software
- UNIX Group Names for Privileged Groups

> **Note:** You must use the same operating system user account when adding additional Oracle Collaboration Suite installations on the same host.

UNIX Group Name for the Oracle Universal Installer Inventory

Use the admintool or groupadd utility to create a group name such as oinstall. The oinstall group owns the Oracle Universal Installer oraInventory directory. The oracle user account that runs the installation must have the oinstall group as its primary group.

> **Note:** The UNIX group name must not exceed 8 characters, otherwise the Oracle Calendar configuration assistant will fail.

For more information about these utilities, see your operating system documentation.

UNIX Account to Own Oracle Software

The oracle account is the UNIX account that owns Oracle software for your system. You must run Oracle Universal Installer from this account.

Create an oracle account with the properties listed in Table 2–17.

Table 2–17 Oracle Account Properties

Variable	Property
Login Name	Select any name to access the account. This document refers to the name as the oracle account.

Table 2–17 (Cont.) Oracle Account Properties

Variable	Property
Group Identifier	The `oinstall` group is used in this document.
Home Directory	Select a home directory consistent with other user home directories.
Login Shell	The default shell can be either the C, Bourne, or Korn shell.

Note: Use the `oracle` account only for installing and maintaining Oracle software. Never use it for purposes unrelated to Oracle Universal Installer. Do not use `root` as the `oracle` account.

UNIX Group Names for Privileged Groups

Two privileged groups are required for Oracle9*i*AS Infrastructure installation and Oracle Collaboration Suite information storage installation:

- Database operator group
- Database administrator group

These privileged groups are not required for Oracle Collaboration Suite installation.

Oracle documentation refers to these groups as `OSOPER` and `OSDBA`, respectively. Databases use these groups for operating system authentication. This is necessary in situations where the database is shut down and database authentication is unavailable.

The privileges of these groups are given to either a single UNIX group or two corresponding UNIX groups. There are two ways to choose which groups get the privileges:

- If the `oracle` account is a member of the `dba` group before starting Oracle Universal Installer, then `dba` is given the privileges of both `OSOPER` and `OSDBA`.
- If the `oracle` account is not a member of the `dba` group, then Oracle Universal Installer prompts you for the group names that get these privileges.

Table 2–18 lists the privileges for the `OSOPER` and `OSDBA` groups.

Table 2–18 Privileges for the OSOPER and OSDBA Groups

Group	Privileges
`OSOPER`	Permits the user to perform `STARTUP`, `SHUTDOWN`, `ALTER DATABASE OPEN/MOUNT`, `ALTER DATABASE BACKUP`, `ARCHIVE LOG`, and `RECOVER`, and includes the `RESTRICTED SESSION` privilege.
`OSDBA`	Contains all system privileges with `ADMIN OPTION`, and the `OSOPER` role; permits `CREATE DATABASE` and time-based recover.

Real Application Clusters for Oracle Collaboration Suite Information Storage Installation

Perform the following preinstallation steps to install Real Application Clusters.

See Also: *Oracle9i Real Application Clusters Setup and Configuration* for more information about preinstallation steps for Real Application Clusters. This manual is available on Oracle Technology Network at

`http://otn.oracle.com/`

Steps to Perform as the root User for Real Application Clusters Installation

1. Log in as the `root` user.
2. Ensure that you have the `OSDBA` group defined in the `/etc/group` file on all nodes in the cluster. The `OSDBA` group name and number, and `OSOPER` group if you plan to designate one, must be identical for all nodes of a UNIX cluster accessing a single database. The default UNIX group name for the `OSDBA` group is `dba`.
3. Create the `oracle` account on each node of the cluster so that the account:
   - Has the `ORAINVENTORY` group as the primary group
   - Has the `dba` group as the secondary group
   - Is used only to install and update Oracle software
   - Has write permissions on remote directories
4. Create a mount point directory on each node to serve as the top of the Oracle software directory structure so that:
   - The name of the mount point on each node is identical to that on the initial node
   - The `oracle` account has read, write, and execute privileges
5. Set up user equivalence by adding entries for all nodes in the cluster on the node from which to run Oracle Universal Installer, including the local node, to either the `.rhosts` file of the `oracle` account or the `/etc/hosts.equiv` file.
6. Check user equivalence by executing a remote command on every node as the `oracle` user. For example, enter:
   - Solaris Operating Environment (SPARC 32-bit) and Linux x86:

     ```
     prompt> rsh another_host pwd
     ```

   - hp-ux PA-RISC (64-bit):

     ```
     prompt> remsh another_host pwd
     ```

7. Check RCP equivalence by copying a small file from every node to every node. For example, enter:

   ```
   prompt> rcp /tmp/dummy_file another_host:/tmp/dummy_file
   ```

8. This is required for Oracle Universal Installer to install Oracle software on all selected nodes of the cluster.

Additional Steps to Perform as the root User for Installing Real Application Clusters on Solaris Operating Environment (SPARC 32-bit), hp-ux PA-RISC (64-bit), or Linux x86

If you are installing Oracle Real Application Clusters on Solaris Operating Environment (SPARC 32-bit), hp-ux PA-RISC (64-bit), or Linux x86 then you must

complete additional steps as the `root` user. See the appropriate sections for your platform:

Additional root User Information for Solaris Operating Environment (SPARC 32-bit)

1. Apply the Oracle patch for Sun Cluster software that is provided on Disk 1 of the Oracle Collaboration Suite Information Storage CD-ROM set. To install the patch, follow the instructions provided in the `README.udlm` file in the `racpatch` directory on the CD-ROM. This patch provides the Cluster Membership Monitor (CMM) that is required before you install Oracle Real Application Clusters.
2. Start CMM by restarting the Cluster Management Software.
   a. For the first node, enter the following commands:

      ```
      prompt> cd /opt/SUNWcluster/bin
      prompt> scadmin startcluster cluster_name
      ```

   b. Run the following commands on each of the other nodes in the cluster:

      ```
      prompt> cd /opt/SUNWcluster/bin
      prompt> scadmin startnode cluster_name
      ```

      See Also: *Sun Cluster 3.0 documentation* for more information about the `scadmin` command

Additional root User Information for hp-ux PA-RISC (64-bit)

Start MC/ServiceGuard by entering the following command:

```
prompt> /usr/sbin/cmruncl
```

See Also:

- *Hewlett Packard's Configuring OPS Clusters with MC/ServiceGuard OPS Edition* for more information about configuring Oracle Real Application Clusters
- A97350_01, *Oracle9i Release Notes Release 2 (9.2.0.1.0) for HP 9000 Series HP-UX*, available on Oracle Technology Network for more information about memory requirements, installation, and some postinstallation issues on Oracle Real Application Clusters using Hyper Messaging Protocol (HMP)

Additional root User Information for Linux x86

1. Set the `CONFIG_WATCHDOG_NOWAYOUT` parameter to `Y`. In most kernels, `Y` is a default value. For more information, see the generic Linux x86 documentation.
2. Load the `watchdog` module with an appropriate margin.

   ```
   insmod softdog soft_margin=10
   ```

   See Also: A97297-01, *Oracle9i Administrator's Reference Release 2 (9.2.0.1.0) for UNIX Systems: AIX-Based Systems, Compaq Tru64 UNIX, HP 9000 Series HP-UX, Linux Intel, and Sun Solaris*, available on Oracle Technology Network on how to calculate the `soft_margin` value

3. Add the necessary information to the `/etc/hosts` file on each node. The following information should be presented (entry for public IP address of the local node and entry for private IP address for each node, including local):

```
public_IP_address local_hotname_with_domain local_hostname_alias
private_IP_address cluster_node_private_hostname
private_IP_address cluster_node1_private_hostname
private_IP_address cluster_node2_private_hostname
......
```

4. Create the raw partition with 4 MB on the shared storage. This partition is to be used by the Oracle Cluster Manager as a quorum partition. Bind this partition on each server on the cluster to the same device, for example, to `/dev/raw1`.

Steps to Perform as the oracle User for Real Application Clusters

1. Log in as the `oracle` account.

   If you are performing the preinstallation steps on hp-ux PA-RISC (64-bit), then verify that MC/ServiceGuard is running by entering the following command:

```
prompt> /usr/sbin/cmviewcl
```

2. Verify that the Cluster Membership Monitor is running. Table 2–19 lists the appropriate command for each platform.

Table 2–19 Command to Verify Cluster Membership Monitor is Running

Platform	Command
Solaris Operating Environment (SPARC 32-bit)	`prompt> ps -ef | grep clustd` ■ If the `clustd` program appears in the process list, `clustd` is running. ■ If the `clustd` program does not appear in the process list, restart the Cluster Membership Monitor.
hp-ux PA-RISC (64-bit)	`prompt> /usr/sbin/cmviewcl`
Linux x86	`prompt> ps -efl | egrep 'watchdogd | oracm'` ■ If all `watchdogd` and `oracm` programs appear in the process list, Oracle Cluster Management Software is running. ■ If all `watchdogd` and `oracm` programs does not appear in the process list, restart the Oracle Cluster Management Software.

3. Check for user equivalence of the `oracle` account by performing a remote login (`rlogin`) to each node in the cluster.

   If you are prompted for a password, the `oracle` account does not have user equivalence. Ensure that you gave the same attributes to the `oracle` user on all the nodes in the cluster. Oracle Universal Installer cannot use the `rcp` command to copy Oracle products to the remote directories without user equivalence.

   If you have not set up user equivalence, you must perform Step 6 in "Steps to Perform as the root User for Real Application Clusters Installation" on page 2-16.

4. Create at least one shared configuration file as an information repository for the database server configuration. If your platform supports the Cluster File System, skip this step.

Create a shared raw device of at least 100 MB for the Server Management (SRVM) configuration. Oracle Universal Installer prompts you for the name of this shared file on the Shared Configuration File Name Page. Alternatively, set the environment variable `SRVM_SHARED_CONFIG` to the absolute path name of the shared raw device from which Oracle Universal Installer can retrieve the configuration file.

> **See Also:** *Oracle9i Real Application Clusters Setup and Configuration* for more information about setting up a shared configuration file

Real Application Clusters Installation on Linux x86

Before you install Real Application Clusters, you must install Oracle Cluster Manager. Install Real Application Clusters in the same `$ORACLE_HOME` where Oracle Cluster Manager is installed.

> **See Also:** *Oracle9i Release 2 Database Server Patch Set 2 with Cluster Manager Patch for Linux-32 Patch Set Notes Patch Set version 9.2.0.3.0* for detailed installation and configuration steps for Oracle Cluster Manager on Linux x86

Perform the following steps to install Oracle Cluster Manager:

1. Navigate to the `cluster_manager` subdirectory in Disk1 of the Oracle Collaboration Suite Information Storage CD.
2. Start the Oracle Universal Installer.
3. Enter the Oracle home directory in the destination where you want to install the Oracle Real Application Clusters option.
4. Select the product **Oracle Cluster Manager** from the Available Products screen.
5. Enter the list of Private node names in the Private Node Names Information screen.
6. Enter the list of Public node names in the Public Node Names Information screen.

Oracle Cluster Manager is now installed on the nodes. At the end of installation, a screen appears asking whether to run the `cmstart.sh` script as the `root` user on all the nodes of the cluster selected in the installation. After this script is run, the Oracle Cluster Manager is started on all the nodes.

After the installation of Oracle Cluster Manager, restart Oracle Universal Installer and proceed to install other Oracle components as required.

> **See Also:** *Oracle9i Administrator's Reference Release 2 (9.2.0.1.0)* for more information about how to start and configure Oracle Cluster Manager

Configuring Kernel Parameters for Oracle9*i*AS Infrastructure

The Oracle9*i*AS Metadata Repository installation requires you to configure your system kernel parameters. Compliance with this requirement is especially important for production environments. Review your kernel parameter settings to ensure that they meet Oracle9*i*AS Metadata Repository and Oracle Internet Directory requirements. You may experience errors during installation or operational errors after installation if this is not completed.

If you change the kernel settings, you must restart your system in order for kernel changes to take effect.

See appropriate tables for the kernel parameters for your platform:

- Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)
- Kernel Parameter Settings for hp-ux PA-RISC (64-bit)
- Kernel Parameter Settings for Linux x86

Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

For Solaris Operating Environment (SPARC 32-bit), use the `ipcs` command to obtain a list of the system's current shared memory and semaphore segments, and their identification number and owner.

Use a text editor such as `vi` to change the kernel parameter settings in the `/etc/system` file after making a backup copy. If you have previously changed your kernel for another program to levels equal to or higher than the levels Oracle9*i* requires, then do not change the settings. If the levels are too low, change them to levels at least as high as those in the table. If you change the settings, save the `/etc/system` file and restart the system.

Example 2–1 Example Settings in /etc/system for Solaris Operating Environment (SPARC 32-bit)

```
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=10

set semsys:seminfo_semmni=100
set semsys:seminfo_semmns=256
set semsys:seminfo_semmsl=256
set semsys:seminfo_semmnu=4096

set rlim_fd_max=1024
set rlim_fd_cur=1024
```

Table 2–20 shows the kernel parameters and their required minimum settings.

Table 2–20 Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

Kernel	Setting	Definition
`rlim_fd_cur`	`1024`	Number of open files for each process
`rlim_fd_max`	`4117`	Maximum number of open files for each process
`semmni`	`554`	Maximum number of semaphore sets in the entire system
`semmns`	`1024`	Maximum semaphores on the system. This setting is a minimum recommended value for an initial installation only. The `semmns` parameter should be set to the sum of the `init`*`sid`*`.ora` `PROCESSES` parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.

Table 2–20 (Cont.) Kernel Parameter Settings for Solaris Operating Environment

Kernel	Setting	Definition
semmsl	256	Minimum recommended value for an initial installation only. The semmsl parameter should be set to 10 plus the largest initsid.ora PROCESSES parameter of any Oracle database on the system.
semopm	12	Maximum number of System V semaphore operations per semop call. This parameter refers to the number of sembufs in the sops array that is provided to the semop system call.
semume	42	Maximum number of System V semaphore undo structures that can be used by any one process.
semvmx	32767	Maximum value of a semaphore.
semaem	16384	Maximum value to which a semaphore's value in an undo structure can be set.
shmmax	4294967295	Maximum allowable size of one shared memory segment. (4294967295 is equal to 4 GB.)
shmmin	1	Minimum allowable size of a single shared memory segment
shmmni	117	Maximum number of shared memory segments in the entire system
shmseg	17	Maximum number of shared memory segments one process can attach
msgmni	3774	Maximum number of message queue identifiers
msgmax	4096	Maximum message size
msgmnb	360000	Maximum number of bytes in a message queue
msgtql	2500	Maxuimum number of message headers

Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

For hp-ux PA-RISC (64-bit), you can use the System Administrator's Menu (SAM) to configure the hp-ux PA-RISC (64-bit) kernel as required by your application. The parameters in Table 2–21 are those recommended for a general user running a typical Oracle Collaboration Suite instance on hp-ux PA-RISC (64-bit). You might need to change the values depending on your application needs and the type of system on which you are working. See Table 2–21 to determine if your system's shared memory and semaphore kernel parameters are set correctly for Oracle Collaboration Suite. Use the ipcs command to obtain a list of the system's current shared memory and semaphore segments, and their identification numbers and owner.

The parameters in Table 2–21 are the recommended values for running Oracle Collaboration Suite on hp-ux PA-RISC (64-bit):

Table 2–21 shows the kernel parameters and their required minimum settings.

Table 2–21 Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
ksi_alloc_max	(nproc * 8)	The system wide limit of a queued signal that can be allocated.

Table 2–21 (Cont.) Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
max_thread_proc	256	The maximum number of kernel threads allowed for each process. You may need to increase the value if required by your application. Setting it to a default or low value may lead to an out-of-memory error for certain applications.
maxdsiz	1073741824 bytes	Refers to the maximum data segment size in bytes for 32-bit systems. Setting this value too low may cause the processes to run out of memory.
maxdsiz_64	2147483648 bytes	Refers to the maximum data segment size in bytes for 64-bit systems. Setting this value too low may cause the processes to run out of memory.
maxssiz	134217728 bytes	The maximum stack segment size in bytes for 32-bit systems.
maxssiz_64BIT	1073741824	The maximum stack segment size in bytes for 64-bit systems.
maxswapchunks	16384	The maximum number of swap chunks where swchunk is the swap chunk size (1 KB blocks). swchunk is 2048 by default. It specifies the maximum amount of configurable swap space on the system.
maxuprc	3686	The maximum number of user processes.
msgmap	6598	The maximum number of message map entries.
msgmni	6846	The number of message queue identifiers.
msgseg	32767	The number of segments available for messages.
msgtql	6596	The number of message headers.
ncallout	(nproc + 16)	The maximum number of pending timeouts.
ncsize	((8 * nproc + 2048) + vx_ncsize)	The Directory Name Lookup Cache (DNLC) space needed for inodes. vx_ncsize is 1024 by default.
nfile	1634888	The maximum number of open files.
nflocks	4096	The maximum number of file locks available on the system.
ninode	(8 * nproc + 2048)	The maximum number of open inodes.
nkthread	10034	The maximum number of kernel threads supported by the system.
nproc	4195	The maximum number of processes.
semmap	4098	The maximum number of semaphore map entries.
semmni	4138	The maximum number of semaphore sets in the entire system.

Table 2–21 (Cont.) Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
semmns	8360	The maximum number of semaphores in the system. The default value of semmns is 128, which is, in most cases, too low for Oracle Collaboration Suite software.
semmnu	4092	The number of semaphore undo structures.
semvmx	32768	The maximum value of a semaphore.
shmmax	4294967295	The maximum allowable size of one shared memory segment. The shmmax setting should be large enough to hold the entire SGA in one shared memory segment. A low setting can cause creation of multiple shared memory segments, which may lead to performance degradation.
shmmni	530	The maximum number of shared memory segments in the entire system.
shmseg	32	The maximum number of shared memory segments one process can attach.
vps_ceiling	64	The maximum system-selected page size in kilobytes.
maxfiles	2048	Soft file limit per process
maxfiles_lim	3861	Hard file limit per process
msgmax	32767	Maximum message size
msgmnb	65535	Maximum number of bytes on the message queue
msgssz	159	Message segment size
semume	42	Semaphore undo entries per process

Kernel Parameter Settings for Linux x86

For Linux x86, use the ipcs command to obtain a list of the system's current shared memory and semaphore segments, and their identification numbers and owner. You can modify the kernel parameters by using the /proc file system. Perform the following steps to modify the kernel parameters by using the /proc file system.

1. Log in as the root user.
2. Change to the /proc/sys/kernel directory.
3. Review the current semaphore parameter values in the sem file by using the cat or more utility. For example, using the cat utility, enter the following command:

   ```
   prompt> cat sem
   ```

   The output lists the values for the semmsl, semmns, semopm, and semmni parameters, respectively as shown in the following example:

   ```
   250 32000 32 128
   ```

4. Modify the parameter values by using the following command syntax:

   ```
   prompt> echo semmsl_value semmns_value semopm_value semmni_value > sem
   ```

Replace the parameter variables with the values for your system in the order that they are entered in the preceding example, as follows:

```
prompt> echo 250 32000 100 142 > sem
```

5. Review the current shared memory parameters by using the `cat` or `more` utility. For example, using the `cat` utility, enter the following command:

   ```
   prompt> cat shared_memory_parameter
   ```

   In the preceding example, the variable `shared_memory_parameter` is either the `shmmax` or `shmmni` parameter. The parameter name must be entered in lowercase letters.

6. Modify the shared memory parameter by using the `echo` utility, as in the following examples:

   To modify the `shmmax` parameter:

   ```
   prompt> echo 4294967295 > shmmax
   ```

   To modify the `shmmni` parameter:

   ```
   prompt> echo 4096 > shmmni
   ```

   To modify the `shmall` parameter:

   ```
   prompt> echo 3279547 > shmall
   ```

7. Write a script to initialize these values during system startup, and include the script in your system initialization files.

   See Also: Your system vendor's documentation for more information about script files and initialization files

8. Set the File Handles by using the following command:

   ```
   prompt> echo 65536 > /proc/sys/fs/file-max
   prompt> ulimit -n 65536
   ```

9. Set the Sockets to `/proc/sys/net/ipv4/ip_local_port_range`:

   ```
   prompt> echo 10000 65000 > /proc/sys/net/ipv4/ip_local_port_range
   ```

10. Set the Process by using `ulimit -u`. This gives you the number of processes for each user. For example:

    ```
    ulimit -u 16384
    ```

Table 2–22 lists the minimum values required to run Oracle Collaboration Suite on Linux x86.

Table 2–22 Kernel Parameter Settings for Linux x86

Kernel	Parameter Setting	Definition
`semmni`	`142`	The maximum number of semaphore sets in the entire system.

Table 2–22 (Cont.) Kernel Parameter Settings for Linux x86

Kernel	Parameter Setting	Definition
semmns	32000	The maximum number of semaphores on the system. This setting is a minimum recommended value for an initial installation only. The semmns parameter should be set to the sum of the initsid.ora PROCESSES parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.
semopm	100	The maximum number of operations for each semop call.
semmsl	250	The minimum recommended number of semaphores for each id for an initial installation only. The semmsl parameter should be set to 10 plus the largest initsid.ora PROCESSES parameter of any Oracle database on the system.
shmmax	4294967295	The maximum allowable size of one shared memory segment. It is 2 GB for SMP kernel. The recommended size is half the RAM size.
shmmni	4096	The maximum number of shared memory segments in the entire system.
shmall	3279547	Total amount of shared memory available
msgmni	2878	Number of message queue identifiers
msgmax	8192	Maximum message size
msgmnb‘	65535	Maximum number of bytes on the message queue
file-max	327679	Maximum number of files

Configuring Kernel Parameters for Oracle Collaboration Suite

The Oracle Collaboration Suite installation requires you to configure your system kernel parameters. Compliance with this requirement is especially important for production environments. Review your kernel parameter settings to ensure that they meet Oracle Collaboration Suite requirements. You may experience errors during installation or operational errors after installation if this is not completed.

If you change the kernel parameter settings, you must restart your system in order for kernel changes to take effect.

See appropriate tables for the kernel parameters for your platform:

- Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)
- Kernel Parameter Settings for hp-ux PA-RISC (64-bit)
- Kernel Parameter Settings for Linux x86

Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

For Solaris Operating Environment (SPARC 32-bit), use the ipcs command to obtain a list of the system's current shared memory and semaphore segments, and their identification number and owner.

Use a text editor such as vi to change the kernel parameter settings in the /etc/system file after making a backup copy. If you have previously changed your

kernel for another program to levels equal to or higher than the levels Oracle9*i* requires, then do not change the settings. If the levels are too low, change them to levels at least as high as those in the table. If you change the settings, save the `/etc/system` file and restart the system.

Example 2–2 Example Settings in /etc/system for Solaris Operating Environment (SPARC 32-bit)

```
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=10

set semsys:seminfo_semmni=100
set semsys:seminfo_semmns=256
set semsys:seminfo_semmsl=256
set semsys:seminfo_semmnu=4096

set rlim_fd_max=1024
set rlim_fd_cur=1024
```

Table 2–23 shows the kernel parameters and their minimum recommended settings.

Table 2–23 Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

Kernel	Setting	Definition
`rlim_fd_cur`	`1024`	The number of open files for each process.
`rlim_fd_max`	`4117`	The maximum number of open files for each process.
`semmni`	`554`	The maximum number of semaphore sets in the entire system.
`semmns`	`1024`	The maximum semaphores on the system. This setting is a minimum recommended value for an initial installation only. The `semmns` parameter should be set to the sum of the `initsid.ora` `PROCESSES` parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.
`semmsl`	`256`	The minimum recommended value for an initial installation only. The `semmsl` parameter should be set to 10 plus the largest `initsid.ora` `PROCESSES` parameter of any Oracle database on the system.
`shmmax`	`4294967295`	The maximum allowable size of one shared memory segment. 4 GB = 4294967295.
`shmmin`	`1`	The minimum allowable size of a single shared memory segment.
`shmmni`	`117`	The maximum number of shared memory segments in the entire system.
`shmseg`	`17`	The maximum number of shared memory segments one process can attach.
`msgmni`	`3774`	The maximum number of message queue identifiers.
`msgmax`	`4096`	The maximum message size.
`msgmnb`	`360000`	The maximum number of bytes in a message queue.
`msgtql`	`2500`	The maximum number of message headers.

Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

For hp-ux PA-RISC (64-bit), you can use the System Administrator's Menu (SAM) to configure the hp-ux PA-RISC (64-bit) kernel as required by your application. The parameters in Table 2–24 are those recommended for a general user running a typical Oracle Collaboration Suite instance on hp-ux PA-RISC (64-bit). You might need to change the values depending on your application needs and the type of system on which you are working. See Table 2–24 to determine if your system's shared memory and semaphore kernel parameters are set correctly for Oracle Collaboration Suite. Use the `ipcs` command to obtain a list of the system's current shared memory and semaphore segments, and their identification numbers and owner.

The parameters in Table 2–24 are the recommended minimum values for running Oracle Collaboration Suite on hp-ux PA-RISC (64-bit):

Table 2–24 Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
`ksi_alloc_max`	`(nproc * 8)`	The system wide limit of a queued signal that can be allocated.
`max_thread_proc`	`256`	The maximum number of kernel threads allowed for each process. You may need to increase the value if required by your application. Setting it to a default or low value may lead to an out-of-memory error for certain applications.
`maxdsiz`	`1073741824 bytes`	Refers to the maximum data segment size in bytes for 32-bit systems. Setting this value too low may cause the processes to run out of memory.
`maxdsiz_64`	`2147483648 bytes`	Refers to the maximum data segment size in bytes for 64-bit systems. Setting this value too low may cause the processes to run out of memory.
`maxssiz`	`134217728 bytes`	The maximum stack segment size in bytes for 32-bit systems.
`maxssiz_64BIT`	`1073741824`	The maximum stack segment size in bytes for 64-bit systems.
`maxswapchunks`	`16384`	The maximum number of swap chunks where `swchunk` is the swap chunk size (1 KB blocks). `swchunk` is `2048` by default. It specifies the maximum amount of configurable swap space on the system.
`maxuprc`	`3686`	The maximum number of user processes.
`msgmap`	`6598`	The maximum number of message map entries.
`msgmni`	`6846`	The number of message queue identifiers.
`msgseg`	`32767`	The number of segments available for messages.
`msgtql`	`6596`	The number of message headers.
`ncallout`	`(nproc + 16)`	The maximum number of pending timeouts.
`ncsize`	`((8 * nproc + 2048) + vx_ncsize)`	The Directory Name Lookup Cache (DNLC) space needed for inodes. `vx_ncsize` is `1024` by default.

Table 2–24 (Cont.) Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
nfile	1634888	The maximum number of open files.
nflocks	4096	The maximum number of file locks available on the system.
ninode	(8 * nproc + 2048)	The maximum number of open inodes.
nkthread	10034	The maximum number of kernel threads supported by the system.
nproc	4195	The maximum number of processes.
semmap	4098	The maximum number of semaphore map entries.
semmni	4138	The maximum number of semaphore sets in the entire system.
semmns	8360	The maximum number of semaphores in the system. The default value of semmns is 128, which is, in most cases, too low for Oracle Collaboration Suite software.
semmnu	4092	The number of semaphore undo structures.
semvmx	32768	The maximum value of a semaphore.
shmmax	4294967295	The maximum allowable size of one shared memory segment. The shmmax setting should be large enough to hold the entire SGA in one shared memory segment. A low setting can cause creation of multiple shared memory segments, which may lead to performance degradation.
shmmni	530	The maximum number of shared memory segments in the entire system.
shmseg	32	The maximum number of shared memory segments one process can attach.
vps_ceiling	64	The maximum system-selected page size in kilobytes.
maxfiles	2048	Soft file limit per process
maxfiles_lim	3861	Hard file limit per process
msgmax	32767	Maximum message size
msgmnb	65535	Maximum number of bytes on the message queue
msgssz	159	Message segment size
semume	42	Semaphore undo entries per process

Kernel Parameter Settings for Linux x86

For Linux x86, use the ipcs command to obtain a list of the system's current shared memory and semaphore segments, and their identification numbers and owner. You can modify the kernel parameters by using the /proc file system. Perform the following steps to modify the kernel parameters by using the /proc file system.

1. Log in as the root user.

2. Change to the /proc/sys/kernel directory.
3. Review the current semaphore parameter values in the sem file by using the cat or more utility. For example, using the cat utility, enter the following command:

   ```
   prompt> cat sem
   ```

   The output lists the values for the semmsl, semmns, semopm, and semmni parameters, respectively as shown in the following example:

   ```
   250 32000 32 128
   ```

4. Modify the parameter values by using the following command syntax:

   ```
   prompt> echo semmsl_value semmns_value semopm_value semmni_value > sem
   ```

   Replace the parameter variables with the values for your system in the order that they are entered in the preceding example, as follows:

   ```
   prompt> echo 250 32000 100 142 > sem
   ```

5. Review the current shared memory parameters by using the cat or more utility. For example, using the cat utility, enter the following command:

   ```
   prompt> cat shared_memory_parameter
   ```

   In the preceding example, the variable shared_memory_parameter is either the shmmax or shmmni parameter. The parameter name must be entered in lowercase letters.

6. Modify the shared memory parameter by using the echo utility, as in the following examples:

   To modify the shmmax parameter:

   ```
   prompt> echo 4294967295 > shmmax
   ```

   To modify the shmmni parameter:

   ```
   prompt> echo 4096 > shmmni
   ```

   To modify the shmall parameter:

   ```
   prompt> echo 3279547 > shmall
   ```

7. Write a script to initialize these values during system startup, and include the script in your system initialization files.

   See Also: Your system vendor's documentation for more information about script files and initialization files

8. Set the File Handles by using the following command:

   ```
   prompt> echo 65536 > /proc/sys/fs/file-max
   prompt> ulimit -n 65536
   ```

9. Set the Sockets to /proc/sys/net/ipv4/ip_local_port_range:

   ```
   prompt> echo 10000 65000 > /proc/sys/net/ipv4/ip_local_port_range
   ```

10. Set the Process by using ulimit -u. This gives you the number of processes for each user. For example:

    ```
    ulimit -u 16384
    ```

Table 2–25 lists the minimum values required to run Oracle Collaboration Suite on Linux x86.

Table 2–25 Kernel Parameter Settings for Linux x86

Kernel	Parameter Setting	Definition
semmni	142	The maximum number of semaphore sets in the entire system.
semmns	32000	The maximum number of semaphores on the system. This setting is a minimum recommended value for an initial installation only. The semmns parameter should be set to the sum of the initsid.ora PROCESSES parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.
semopm	100	The maximum number of operations for each semop call.
semmsl	250	The minimum recommended number of semaphores for each id for an initial installation only. The semmsl parameter should be set to 10 plus the largest initsid.ora PROCESSES parameter of any Oracle database on the system.
shmmax	4294967295	The maximum allowable size of one shared memory segment. It is 2 GB for SMP kernel. The recommended size is half the RAM size.
shmmni	4096	The maximum number of shared memory segments in the entire system.
shmall	3279547	Total amount of shared memory available
msgmni	2878	Number of message queue identifiers
msgmax	8192	Maximum message size
msgmnb	65535	Maximum number of bytes on the message queue
file-max	327679	Maximum number of files

Configuring Kernel Parameters for Oracle Collaboration Suite Information Storage

Oracle Collaboration Suite information storage uses UNIX resources such as shared memory, swap memory, and semaphore extensively for interprocess communication. If your parameter settings are insufficient for Oracle Collaboration Suite information storage, then you experience problems during installation and instance startup.

The greater the amount of data you can store in memory, the faster your database operates. In addition, by maintaining data in memory, the UNIX kernel reduces disk I/O activity.

Review your kernel parameter settings to ensure that they meet Oracle Collaboration Suite information storage requirements. If you do not do this, you may experience errors during installation, or operational errors after installation. These are the recommended kernel parameter requirements for a typical Oracle Collaboration Suite information storage environment.

If you have previously tuned your kernel parameters to levels that meet your application needs, then continue to use these values. A system restart is necessary if you change the kernel settings for the kernel changes to take effect.

Refer to the appropriate tables for the kernel parameters for your platform:

- Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)
- Kernel Parameter Settings for hp-ux PA-RISC (64-bit)
- Kernel Parameter Settings for Linux x86

Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

For Solaris Operating Environment (SPARC 32-bit), use the `ipcs` command to obtain a list of the system's current shared memory and semaphore segments, and their identification number and owner.

Use a text editor such as `vi` to change the kernel parameter settings in the `/etc/system` file after making a backup copy. If you have previously changed your kernel for another program to levels equal to or higher than the levels Oracle Collaboration Suite information storage requires, then do not change the settings. If the levels are too low, change them to levels at least as high as those in the table. If you change the settings, save the `/etc/system` file and restart the system.

Example 2–3 Example Settings in /etc/system for Solaris Operating Environment (SPARC 32-bit)

```
set shmsys:shminfo_shmmax=4294967295
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=10

set semsys:seminfo_semmni=100
set semsys:seminfo_semmns=256
set semsys:seminfo_semmsl=256
set semsys:seminfo_semmnu=4096

set rlim_fd_max=1024
set rlim_fd_cur=1024
```

Table 2–26 lists the minimum values required to run Oracle Collaboration Suite information storage on Solaris Operating Environment (SPARC 32-bit).

Table 2–26 Kernel Parameter Settings for Solaris Operating Environment (SPARC 32-bit)

Kernel	Parameter Setting	Definition
`rlim_fd_cur`	`1024`	The number of open files for each process.
`rlim_fd_max`	`1024`	The maximum number of open files for each process.
`semmni`	`100`	Defines the maximum number of semaphore sets in the entire system.
`semmns`	`1024`	Defines the maximum semaphores on the system. This setting is a minimum recommended value, for initial installation only. The `semmns` parameter should be set to the sum of the `initsid.ora PROCESSES` parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.

Table 2–26 (Cont.) Kernel Parameter Settings for Solaris Operating Environment

Kernel	Parameter Setting	Definition
semmsl	256	Defines the minimum recommended value, for initial installation only. The semmsl parameter should be set to 10 plus the largest initsid.ora PROCESSES parameter of any Oracle database on the system.
shmmax	4294967295	Defines the maximum allowable size of one shared memory segment. 4 GB = 4294967295
shmmin	1	Defines the minimum allowable size of a single shared memory segment.
shmmni	100	Defines the maximum number of shared memory segments in the entire system.
shmseg	10	Defines the maximum number of shared memory segments one process can attach.

Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

For hp-ux PA-RISC (64-bit), you can use the System Administrator's Menu (SAM) to configure the hp-ux PA-RISC (64-bit) kernel as required by your application. The parameters in Table 2–27 are those recommended for a general user running a typical Oracle Collaboration Suite information storage single database instance on hp-ux PA-RISC (64-bit). You may need to change the values based on your application needs and the type of system on which you are working. Refer to the following table to determine if your system shared memory and semaphore kernel parameters are set correctly for Oracle Collaboration Suite information storage. Use the ipcs command to obtain a list of the system's current shared memory and semaphore segments, and their identification numbers and owner.

The parameter settings in Table 2–27 show the recommended values to run Oracle Collaboration Suite information storage on hp-ux PA-RISC (64-bit).

Table 2–27 Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
ksi_alloc_max	(nproc * 8)	Defines the system wide limit of queued signals that can be allocated.
max_thread_proc	256	Defines the maximum number of kernel threads allowed for each process. You may need to increase the value if required by your application. Setting it to a default or low value may lead to an out of memory error for certain applications.
maxdsiz	1073741824 bytes	Refers to the maximum data segment size in bytes for 32-bit systems. Setting this value too low may cause the processes to run out of memory.
maxdsiz_64	2147483648 bytes	Refers to the maximum data segment size in bytes for 64-bit systems. Setting this value too low may cause the processes to run out of memory.
maxssiz	134217728 bytes	Defines the maximum stack segment size in bytes for 32-bit systems.

Table 2–27 (Cont.) Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
maxssiz_64bit	1073741824 bytes	Defines the maximum stack segment size in bytes for 64-bit systems.
maxswapchunk	16384	Defines the maximum number of swap chunks where swchunk is the swap chunk size (1 KB blocks). swchunk is 2048 by default. It specifies the maximum amount of configurable swap space on the system.
maxuprc	((nproc * 9)/10)	Defines the maximum number of user processes.
msgmap	(msgtql + 2)	Defines the maximum number of message map entries.
msgmni	nproc	Defines the number of message queue identifiers.
msgseg	32767	Defines the number of segments available for messages.
msgtql	nproc	Defines the number of message headers.
ncallout	(nproc + 16)	Defines the maximum number of pending timeouts.
ncsize	((8 * nproc +2048) + vx_ncsize)	Defines the Directory Name Lookup Cache (DNLC) space needed for inodes. vx_ncsize is 1024 by default.
nfile	(15 * nproc + 2048)	Defines the maximum number of open files.
nflock	4096	Defines the maximum number of file locks available on the system.
ninode	(8 * nproc + 2048)	Defines the maximum number of open inodes.
nkthread	(((nproc * 7) / 4) + 16)	Defines the maximum number of kernel threads supported by the system.
nproc	4096	Defines the maximum number of processes.
semmap	(semmni + 2)	Defines the maximum number of semaphore map entries.
semmni	4138	Defines the maximum number of semaphore sets in the entire system.
semmns	8360	Defines the maximum number of semaphores in the system. The default value of semmns is 128, which is, in most cases, too low for Oracle Collaboration Suite information storage.
semmnu	(nproc - 4)	Defines the number of semaphore undo structures.
semvmx	32768	Defines the maximum value of a semaphore.

Table 2–27 (Cont.) Kernel Parameter Settings for hp-ux PA-RISC (64-bit)

Kernel	Parameter Setting	Definition
shmmax	4294967295	Defines the maximum allowable size of one shared memory segment. The shmmax setting should be large enough to hold the entire SGA in one shared memory segment. A low setting can cause creation of multiple shared memory segments which may lead to performance degradation.
shmmni	530	Defines the maximum number of shared memory segments in the entire system.
shmseg	32	Defines the maximum number of shared memory segments one process can attach.
vps_ceiling	64	Defines the maximum System-Selected Page Size in kilobytes.

Kernel Parameter Settings for Linux x86

For Linux x86, use the `ipcs` command to obtain a list of the system's current shared memory segments and semaphore sets, and their identification numbers and owner.

Perform the following steps to modify the kernel parameters by using the `/proc` file system.

1. Log in as the root user.
2. Change to the `/proc/sys/kernel` directory.
3. Review the current semaphore parameter values in the `sem` file by using the `cat` or `more` utility. For example, using the `cat` utility, enter the following command:

   ```
   prompt> cat sem
   ```

   The output lists the values for the `semmsl`, `semmns`, `semopm`, and `semmni` parameters, respectively, as shown in the following example:

   ```
   250 32000 32 128
   ```

4. Modify the parameter values by using the following command syntax:

   ```
   prompt> echo semmsl_value semmns_value semopm_value semmni_value > sem
   ```

   Replace the parameter variables with the values for your system in the order that they are entered in the preceding example. For example:

   ```
   prompt> echo 1000 32000 100 150 > sem
   ```

5. Review the current shared memory parameters by using the `cat` or `more` utility. For example, using the `cat` utility, enter the following command:

   ```
   prompt> cat shared_memory_parameter
   ```

   In the preceding example, the variable *`shared_memory_parameter`* is either the `shmmax` or `shmmni` parameter. The parameter name must be entered in lowercase letters.

6. Modify the shared memory parameter by using the `echo` utility. For example, to modify the `shmmax` parameter, enter the following command:

   ```
   prompt> echo 4294967295 > shmmax
   ```

7. Modify the shared memory parameter by using the `echo` utility. For example, to modify the `shmmni` parameter, enter the following command:

```
prompt> echo 4096 > shmmni
```

8. Modify the shared memory parameter by using the `echo` utility. For example, to modify the `shmall` parameter, enter the following command:

```
prompt> echo 2097152 > shmall
```

9. Write a script to initialize these values during system startup, and include the script in your system `init` files.

   See Also: Your system vendor's documentation for more information about script files and `init` files

10. Set File Handles by using `ulimit -n` and `/proc/sys/fs/file-max`.

```
prompt> echo 65536 > /proc/sys/fs/file-max
prompt> ulimit -n 65536
```

11. Set the Sockets to `/proc/sys/net/ipv4/ip_local_port_range`.

```
prompt> echo 1024 65000 > /proc/sys/net/ipv4/ip_local_port_range
```

12. Set the Process `limit` by using `ulimit -u`. This gives you the number of processes for each user.

```
ulimit -u 16384
```

Table 2–28 shows the minimum values required to run Oracle Collaboration Suite information storage on Linux x86.

Table 2–28 Kernel Parameter Settings for Linux x86

Kernel	Parameter Setting	Definition
`semmni`	`142`	Defines the maximum number of semaphore sets in the entire system.
`semmns`	`32000`	Defines the maximum semaphores on the system. This setting is a minimum recommended value, for initial installation only. The `semmns` parameter should be set to the sum of the `init`*`sid`*`.ora` `PROCESSES` parameter for each Oracle database, adding the largest one twice, and then adding an additional 10 for each database.
`semopm`	`100`	Defines the maximum number of operations for each `semop` call.
`semmsl`	`250`	Defines the minimum recommended value, for initial installation only.
`shmmax`	`4294967295`	Maximum allowable size of one shared memory segment. 2 GB for SMP kernel. The recommended size is half the RAM size.
`shmmni`	`4096`	Maximum number of shared memory segments in the entire system.
`shmall`	`3279547`	Total amount of shared memory available
`msgmni`	`2878`	Number of message queue identifiers

Table 2–28 (Cont.) Kernel Parameter Settings for Linux x86

Kernel	Parameter Setting	Definition
msgmax	8192	Maximum message size
msgmnb	65535	Maximum number of bytes on the message queue
file-max	327679	Maximum number of files

Installing Oracle Collaboration Suite on a Single Computer

Although Oracle Corporation recommends that you install the Oracle9*i*AS Infrastructure, Oracle Collaboration Suite information storage database, and Oracle Collaboration Suite middle tier on separate computers for better performance, you can install Oracle Collaboration Suite on one computer. A single-computer installation DVD is provided in the CD pack for Linux and Windows platforms. For other platforms, you can perform a single-computer installation using the CD-ROM sets in the CD pack.

See Also:

`http://otn.oracle.com/software/products/cs/files/README.html`

for information about single-computer installations on Windows and

`http://otn.oracle.com/software/products/cs/files/readme_linux.html`

for information about single-computer installations on Linux

Note: The Oracle Web Conferencing document conversion server and voice conversion server must be installed on a separate computer from the Oracle Collaboration Suite middle tier. Additionally, Oracle Corporation recommends that you install the Oracle Web Conferencing document conversion server and voice conversion server on separate computers. Both the Oracle Web Conferencing document conversion server and voice conversion server must be installed on Windows platforms.

See Also: *The Oracle Web Conferencing Administrator's Guide* for more information about the Oracle Web Conferencing document and voice conversion servers

Part II

Oracle Collaboration Suite Installation Procedures

Part II contains detailed instructions for installing Oracle Collaboration Suite Release 2 (9.0.4.1).

Part II contains the following chapters:

- Chapter 3, "Upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1)"
- Chapter 4, "Oracle Collaboration Suite Deployment Methods"
- Chapter 5, "Getting Started with Installation"
- Chapter 6, "Installing Oracle Collaboration Suite"
- Chapter 7, "Installing and Configuring Oracle Voicemail & Fax"
- Chapter 8, "Silent and Non-Interactive Installation"
- Chapter 9, "Deinstalling Oracle Collaboration Suite Components"

3

Upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1)

This chapter contains procedural information for upgrading existing Oracle Collaboration Suite Release 1 (9.0.3) installations and associated components to Oracle Collaboration Suite Release 2 (9.0.4.1).

The sequence of events for a successful upgrade is as follows:

1. Back up important information
2. Globalization requirements
3. Upgrade the infrastructure
4. Upgrade the information store
5. Install the Oracle Collaboration Suite Release 2 (9.0.4.1) middle tier
6. Perform pre-upgrade tasks
7. Upgrade the middle tier
8. Perform post-upgrade tasks

This chapter contains these topics:

- Backing Up Oracle Installations
- Enabling Multiple Language Support in Oracle Collaboration Suite Release 2 (9.0.4.1)
- Upgrading Oracle9iAS Infrastructure
- Upgrading the Oracle Collaboration Suite Information Storage Database
- Upgrading the Oracle Collaboration Suite Middle Tier
- Post-Upgrade Tasks
- Upgrading CorporateTime Server 5.4 to Oracle Collaboration Suite
- Upgrading from Oracle Calendar Standalone External to Oracle Collaboration Suite
- Upgrading from Oracle Calendar Standalone Internal to Oracle Collaboration Suite
- Non Oracle Collaboration Suite Upgrade Instructions

Backing Up Oracle Installations

Note: Oracle Corporation recommends backing up the software in the `$ORACLE_HOME`, database files, and the Oracle Inventory prior to upgrading the software.

See Also: Oracle9*i* Application Server 9.0.2 documentation is available on Oracle Technology Network at

`http://otn.oracle.com/`

Back up your Oracle installations.

1. Back up the Oracle Collaboration Suite Release 1 (9.0.3) information storage database.
2. Back up the Oracle Collaboration Suite Release 1 (9.0.3) infrastructure.
3. Back up the Oracle Collaboration Suite Release 1 (9.0.3) middle tier.
4. Back up the directory (or directories) listed for your platform in Table 8–1 on page 8-2.
5. Back up Oracle Calendar by logging in as the user `unison` and backing up the `/users/unison` directory.
6. Back up the Oracle Universal Installer inventory located in the `oraInventory` directory.
   a. Copy the `oraInventory` subdirectory and all of its contents to another directory.

Enabling Multiple Language Support in Oracle Collaboration Suite Release 2 (9.0.4.1)

Oracle Collaboration Suite Release 2 (9.0.4.1) provides translation support for 9 additional languages to that of Release 1 (9.0.3), as shown in Table 3–1.

To enable multiple language support in Oracle Collaboration Suite Release 2 (9.0.4.1), execute the `ptlasst.csh` script from the Release 1 (9.0.3) middle tier, located in the following directory, before going through the upgrade process:

Notes:

- You must run the script for each language you want to enable.
- You cannot enable a language that is already enabled or it corrupts the Oracle9*i*AS Single Sign-On and Oracle9*i*AS Portal repositories. If you have all 9 languages of Release 1 (9.0.3) enabled, ensure that you do not enable them again. Generally, in a typical Release 1 (9.0.3) installation, either English only, is enabled, or all 9 languages are.

```
$ORACLE_HOME/ora9ias/assistants/opca/
```

The usage of the `ptlasst.csh` file is as follows:

```
$ORACLE_HOME/ora9ias/assistants/opca/ptlasst.csh -mode LANGUAGE -s portal -sp
```

```
portal -o orasso -op orasso -c myhost.domain.com:1521:mySID -lang lang
-available -silent- verbose -sso_c myhost.domain.com:1521:mySID
```

`-available`: Determines whether the language is available for user translation

`-c`: Connect string to the target database. The format should be *`hostname:port:SID`*

`-o`: Oracle9*i*AS Single Sign-On schema name. The default is `orasso`.

`-op`: Oracle9*i*AS Single Sign-On password. The default is `orasso`.

`-lang`: Language code for the language to install. Table 3–1 lists the various languages and their associated codes.

`-silent`: Runs the Oracle9*i*AS Portal configuration assistant in silent mode. Default is `TRUE`.

`-sp`: Oracle9*i*AS Portal schema password. The default is `portal`.

`-sso_c`: Connect string to the target database where Oracle9*i*AS Single Sign-On is installed. The format should be *`hostname:port:SID`*.

`-verbose`: Enables detailed logging mode. Even if there are errors in the log file, Oracle9*i*AS Portal configuration assistant install will continue. If this parameter is not set, logging information is brief and Oracle9*i*AS Portal configuration assistant aborts the install if it encounters any `ORA-`, `PLS-`, or `SP2` errors. The default is `TRUE`.

You can retrieve Oracle9*i*AS Portal and Oracle9*i*AS Single Sign-On randomized passwords from Oracle Internet Directory with the following distinguished name:

```
OrclResourceName=PORTAL,orclReferenceName=sid.myhost.domain.com,cn=IAS
Infrastructure Databases,cn=IAS,cn=Products,cn=OracleContext

OrclResourceName=ORASSO,orclReferenceName=sid.myhost.domain.com,cn=IAS
Infrastructure Databases,cn=IAS,cn=Products,cn=OracleContext
```

Table 3–1 lists the 18 languages supported by Oracle Collaboration Suite Release 2 (9.0.4.1) along with their associated language codes.

Table 3–1 Languages Supported in Oracle Collaboration Suite Release 2 (9.0.4.1)

Language	Code	Supported in Release 1 (9.0.3)
Arabic	ar	no
Brazilian Portuguese	ptb	yes
Danish	dk	no
Dutch	nl	no
Finnish	sf	no
French	f	yes
German	d	yes
Greek	el	no
Italian	i	yes
Japanese	ja	yes
Korean	ko	yes
Norwegian	n	no
Portuguese	pt	no

Table 3–1 (Cont.) Languages Supported in Oracle Collaboration Suite Release 2 (9.0.4.1)

Language	Code	Supported in Release 1 (9.0.3)
Simplified Chinese	zhs	yes
Spanish	e	yes
Swedish	s	no
Traditional Chinese	zht	yes
Turkish	tr	no

See Also: *Oracle9i*AS *Globalization Support Guide*

Upgrading Oracle9*i*AS Infrastructure

In addition to upgrading the Oracle9*i*AS Infrastructure at the Oracle Collaboration Suite level, the infrastructure must also be upgraded at the component level for Oracle Email and Oracle9*i*AS Wireless.

This section contains the following topics:

- Upgrading the Oracle9iAS Infrastructure at the Suite Level
- Upgrading Oracle Email on the Oracle9iAS Infrastructure
- Upgrading Oracle9iAS Wireless on the Oracle9iAS Infrastructure

Upgrading the Oracle9*i*AS Infrastructure at the Suite Level

Perform the following procedures to upgrade Oracle9*i*AS Infrastructure 9.0.2.0.1, Oracle9*i*AS Infrastructure 9.0.2.0.0, or the Oracle Collaboration Suite Release 1 (9.0.3) Infrastructure to Oracle9*i*AS Infrastructure 9.0.2.3:

1. Apply the Oracle9*i*AS Infrastructure 9.0.2.3 patch 3038037 to the infrastucture.

> **Note:** Contained in the README for patch 3038037 are instructions for applying the Oracle9*i* 9.0.1.4 database server patch 2517300. You must apply patch 2517300 before patch 3038037. Both of these patches are available at:
>
> `http://metalink.oracle.com/`

2. Copy the files listed in the following table from the *`CDROM_ROOT/tools/upgrade`* directory on the Oracle9*i*AS Infrastructure Installation CD-ROM for Release 2 (9.0.4.1) to the specified target directory in the infrastructure Oracle home directory that you are upgrading:

File	Target Directory
`modDirectiveMS.xsd`	`$ORACLE_HOME/dcm/config/plugins/apache`
`mod_fastcgi.so`	`$ORACLE_HOME/Apache/Apache/libexec`
`mod_osso.so`	`$ORACLE_HOME/Apache/Apache/libexec`
`opca.jar`	`$ORACLE_HOME/sysman/webapps/emd/WEB-INF/lib`
`portalSMI.jar`	`$ORACLE_HOME/sysman/webapps/emd/WEB-INF/lib`

File	Target Directory
repository.jar	$ORACLE_HOME/jlib

3. Download Oracle9*i*AS Portal patch 2513540 available at:

   http://metalink.oracle.com/

   Follow the instructions below to apply this patch:

   a. Unzip the contents of the file into a temporary directory. The file contains the following files:
      - secapi.pks
      - secapi.pkb
      - secapip.pks
      - secapip.pkb
      - secoid.pks
      - secoid.pkb
      - secoidd.pkb
      - secrmoid.sql
      - recompile.sql
      - ssooidd.sql

   b. Schedule system downtime to apply the patch (shut down all the infrastructure processes except the infrastructure repository database), because no users should be accessing Oracle9*i*AS Portal while the patch is being applied.

   c. Log in as the Oracle9*i*AS Portal schema owner using SQL*Plus, as in the following example:

      sqlplus portal/*portal_schema_password*

   d. In the SQL*Plus shell, execute the following:

      set define off

   e. Compile the files in the following order:
      - @secapi.pks
      - @secapip.pks
      - @secoid.pks
      - @secapi.pkb
      - @secapip.pkb
      - @secoid.pkb
      - @secoidd.pkb

   f. Compilation of the preceding files will invalidate some dependent schema objects. Recompile those objects using the following script:

Note: This script takes several minutes to execute.

```
@recompile.sql
```

g. Restart all the infrastructure processes that were shutdown in step b.

4. Create an `orclguest` user using Oracle Delegated Administration Services.

Note: You must have sufficient privilege to create new users in the default subscriber.

a. Log in to Oracle Delegated Administration Services as a user with privilege to create users.

b. Select the **Directory** tab.

c. In the **Search Results** section, click **Create**.

d. Depending on the configuration, the Create User page prompts for different values. The **User Name** value in this case should be `orclguest`. The rest of the values should be filled in, accordingly. Ensure that all of the required fields are filled in.

e. Click **Submit**.

5. Complete the following steps to complete the provisioning of the `orclguest` user using Oracle Directory Manager.

a. Locate the DN of the default realm.

Using Oracle Directory Manager, log in as `cn=orcladmin`. In the **Entry Management** section, navigate to the `cn=common,cn=products,cn=oraclecontext` entry. The value of the `orcldefaultsubscriber` attribute is the DN of the default realm.

b. Locate the DN of the `orclguest` user entry.

Using Oracle Directory Manager, navigate to the `cn=common,cn=products,cn=oraclecontext,`*`default_realm_DN`* entry under the default realm DN. The value of the `orclcommonusersearchbase` attribute is the DN of the user search base.

Navigate to this DN. The `orclguest` user entry resides in the subtree under this DN—most likely one level under the user search base. Make note of the complete DN of this user.

c. Set the `orclguest` user's default profile group to `OCS_PORTAL_USERS`.

In the entry of the `orclguest` user, select **All** from View Properties in the DN of the `orclguest` user. Populate the `orcldefaultprofilegroup` attribute with the value `cn=ocs_portal_users,cn=groups,`*`default_realm_DN`*. Substitute *`default_realm_DN`* with the DN obtained in step a.

d. Add `orclguest` to the `OCS_PORTAL_USERS` group.

Using Oracle Directory Manager, navigate to the `cn=ocs_portal_users,cn=groups,`*`default_realm_DN`* entry. Add the `orclguest` DN obtained in step b to the `uniquemember` attribute. Do not remove any existing values of the attribute. Make note of the DN of the `ocs_portal_users` entry.

Note: When you create a new user, the Oracle Collaboration Suite Home page is not set by default.

See Also: "Troubleshooting Oracle Collaboration Suite Web Client Configuration" on page C-1 for information on how to set the Oracle Collaboration Suite Home page

Upgrading Oracle Email on the Oracle9*i*AS Infrastructure

To upgrade Oracle Email on the Oracle9*i*AS Infrastructure:

1. Make Access Control List (ACL) changes that allow e-mail administrators to modify e-mail attributes of base users.
   a. Run `oidadmin` and connect as `cn=orcladmin`.
   b. Go to the entry `cn=Common,cn=Products,cn=OracleContext`.
   c. Get the value of attribute `orclsubscribersearchbase` from the common container.
   d. Back up the `emailaci.ldif` file in the `$ORACLE_HOME/oes/bin` directory and re-create it with the following text:

Note: The line beginning with `orclaci:` and ending with `(write)` should be on one line.

```
dn: %SUBSCRIBER_SEARCHBASE%
changetype: modify
add: orclaci
orclaci: access to attr=(mail) by group="cn=EmailAdminsGroup,
cn=EMailServerContainer,cn=Products,cn=OracleContext"(write)
```

   e. Substitute `%SUBSCRIBER_SEARCHBASE%` in the script `emailaci.ldif` with the value for `orclsubscribersearchbase` retrieved in step c.
   f. Load `emailaci.ldif`:

```
ldapmodify -v -a -Dcn=orcladmin -w orcladmin_password -h ldap_host -p
ldap_port -f emailaci.ldif
```

2. Index attribute `targetdn`. This allows the attribute to be searched, which is required by Oracle Email.
   a. Log in to the computer that has the Oracle9*i*AS Infrastructure Oracle Internet Directory.
   b. Shut down the Oracle Internet Directory server.
   c. Run `catalog.sh` for the `targetdn`:

```
$ORACLE_HOME/ldap/bin/catalog.sh -connect infrastructure_connectstr -add
 -attr targetdn
```

   Where:

   infrastructure_connectstr is the connect string for the Oracle9*i* Application Server Infrastructure database

   d. Restart the Oracle Internet Directory server.

Upgrading Oracle9*i*AS Wireless on the Oracle9*i*AS Infrastructure

The Oracle9*i*AS Wireless schema in the Oracle Collaboration Suite Metadata Repository is automatically upgraded during installation of the Oracle Collaboration Suite Release 2 (9.0.4.1) middle tier against the existing metadata repository. You do not have to perform any additional upgrade steps on the Oracle Collaboration Suite Infrastructure.

> **See Also:** "Upgrading Oracle9iAS Wireless" on page 3-25 for further Oracle9*i*AS Wireless upgrade instructions

Upgrading the Oracle Collaboration Suite Information Storage Database

Both the Oracle Email and Oracle Files information stores from Oracle Collaboration Suite Release 1 (9.0.3) must be upgraded to Oracle9*i* 9.2.0.3.

To update the information storage database to Oracle9*i* 9.2.0.3, download the patch 2761332 for the Oracle9*i* database server from Oracle*MetaLink* at:

```
http://metalink.oracle.com/
```

If you are upgrading the Oracle Collaboration Suite Information Store, you need to confirm that the Catalog for the LDAP PL/SQL API has been loaded in this database.

To confirm the presence or absence of the Catalog, run the following SQL*Plus command as the `SYS` user on the database tier:

```
DESC DBMS_LDAP
```

If no such package exists, run the `catldap.sql` script that is present in `$ORACLE_HOME/rdbms/admin` as the `SYS` user on the database tier. This creates the catalog in the database.

> **Caution:** Make sure that you run `catldap.sql` in the Oracle home of the database; do not run the script from the middle tier or infrastructure Oracle homes.

Upgrading the Oracle Collaboration Suite Middle Tier

This section describes how to upgrade the Oracle Collaboration Suite middle tier from Release 1 (9.0.3) to Release 2 (9.0.4.1).

This section contains these topics:

- Installing Oracle Collaboration Suite Release 2 (9.0.4.1) Middle Tier
- Pre-Upgrade Tasks
- Oracle Collaboration Suite Upgrade Assistant

> **Important:** To enable multiple language support, you must follow the procedures in "Enabling Multiple Language Support in Oracle Collaboration Suite Release 2 (9.0.4.1)" on page 3-2 before performing the upgrade tasks in this section.

Installing Oracle Collaboration Suite Release 2 (9.0.4.1) Middle Tier

Before upgrading the middle tier, you must install the Oracle Collaboration Suite Release 2 (9.0.4.1) middle tier into a different `$ORACLE_HOME` on the same computer as the Release 1 (9.0.3) middle tier, as follows:

1. Shut down all Release 1 (9.0.3) processes.
2. Follow the middle tier installation instructions in "Installing the Oracle Collaboration Suite Middle Tier" on page 6-6, with the following exception:

   When installing Oracle Collaboration Suite Release 2 (9.0.4.1), deselect the **Oracle Files** checkbox in the Oracle Universal Installer, so that the Oracle Files configuration assistant is not launched automatically.

   If the Oracle Files configuration assistant does launch, click **Cancel** to exit.

Notes:

- During the middle tier configuration phase, the Web client installation will NOT succeed, but this step is still required as it configures what would otherwise require manual configuration.
- The upgrade assistant requires that the inventory location for Release 1 (9.0.3) and Release 2 (9.0.4.1) should be same during a Release 2 (9.0.4.1) middle tier installation.

See Also: BBB on page 5-8 to locate the `oraInst.loc` file for your platform

Pre-Upgrade Tasks

This section lists the pre-upgrade tasks that you must perform before beginning the upgrade process.

This section contains these topics:

- Oracle Calendar Pre-Upgrade Tasks
- Oracle Email Pre-Upgrade Tasks
- Oracle Ultra Search Pre-Upgrade Tasks
- Oracle Voicemail & Fax Pre-Upgrade Tasks
- Oracle9iAS Wireless Pre-Upgrade Tasks

Oracle Calendar Pre-Upgrade Tasks

Before upgrading Oracle Calendar, you must perform the following on the Oracle Collaboration Suite Release 2 (9.0.4.1) system:

1. From `$ORACLE_HOME/ocal/upgrade`, run `ocalPreUpg.sh` as `root`. This will change the ownership of your Oracle Calendar 5.x installation.
2. Log back on as the user who installed Oracle Collaboration Suite and continue with the next pre-upgrade task.

Notes:

- Before you start, it is recommended that you back up your data in case you want to restore your previous version at a later time. For details, see Chapter 15, "Node Maintenance," in the *Oracle Calendar Administrator's Guide*.
- When you install Oracle Calendar Release 2 (9.0.4.1), a default node is created. This will be removed when you upgrade data from an older installation. If you have any important data stored in the new node, you should back it up before upgrading.

Oracle Email Pre-Upgrade Tasks

Before upgrading Oracle Email, you must perform the following tasks:

- Apply patch 2868153 to the Oracle Collaboration Suite Release 1 (9.0.3) `$ORACLE_HOME` to upgrade the existing permissions on shared folders to a format that is required by Release 2 (9.0.4.1).
- If you are planning on running multiple middle tiers that include installations of both Oracle Collaboration Suite Release 1 (9.0.3) and Oracle Collaboration Suite Release 2 (9.0.4.1), then you must apply patch 2979341 to the Oracle Collaboration Suite Release 1 (9.0.3) installations. This is necessary in order for the Oracle Collaboration Suite Release 1 (9.0.3) installations to access shared folders created by Oracle Collaboration Suite Release 2 (9.0.4.1) clients.

  Note: The required patches are available on Oracle*MetaLink* at

  `http://metalink.oracle.com/`

- The Oracle Collaboration Suite upgrade assistant creates additional datafiles in the same directory as the datafile for the SYSTEM tablespace, which by default is the `$ORACLE_HOME/dbs` directory, and you therefore must ensure that there is sufficient space (85 MB) on the computer to accommodate the new datafiles.

  The names of the new tablespaces, datafiles, and their initial sizes are as follows:

  - `ESLMMR` tablespace: `eslmmr.dbf`, 50 MB
  - `ESNEWS` tablespace: `esnews.dbf`, 10 MB
  - `ESTEMP` tablespace: `estemp.dbf`, 5 MB
  - `ESORATEXT` tablespace: `esoratext.dbf`, 20 MB

Oracle Ultra Search Pre-Upgrade Tasks

Before upgrading Oracle Ultra Search, you must perform the following tasks:

- Log in to the Oracle Collaboration Suite Release 1 (9.0.3) Oracle Ultra Search administration tool to stop and disable all crawler synchronization schedules in every Oracle Ultra Search instance. You can enable all crawler synchronization schedules after upgrading to Oracle Collaboration Suite Release 2 (9.0.4.1).
- Use the Oracle Net configuration assistant to set up the network service name for the Oracle Collaboration Suite infrastructure database.

> **See Also:** *Oracle9i* Net Services Administor's Guide for details on using the Oracle Net configuration assistant

- In case of any failure during the upgrade, back up all the files in the database host `$ORACLE_HOME/ultrasearch` directory

Oracle Voicemail & Fax Pre-Upgrade Tasks

Before upgrading Oracle Voicemail & Fax, you must perform the following tasks:

- Shut down the advanced queue message waiting indicator (AQMWI) processes on the Oracle Collaboration Suite Release 1 (9.0.3) middle tier.
- In case of any failure during the upgrade, back up the following trees in Oracle Internet Directory:

  ```
  cn=midtier_hostname, cn=computers, cn=oraclecontext
  cn=telephony_server_host_name, cn=computers, cn=oraclecontext
  cn=umontainer,cn=products,cn=oraclecontext
  ```

- Back up the Oracle Collaboration Suite Release 1 (9.0.3) `targets.xml` file located in the `$ORACLE_HOME/sysman/emd/` directory.
- On the Windows 2000 system, stop all running Oracle Voicemail & Fax Release 1 (9.0.3) processes. Also, delete all existing Oracle Voicemail & Fax Release 1 (9.0.3), including `rmid`, `rmiregistry`, and all services that begin with `UM`.

  On the Windows 2000 system, remove the Oracle Voicemail & Fax container part from the `sc_vsto.cfg` file and restart the CT server.

  > **See Also:** "Adding an Additional Information Storage Database to Oracle Collaboration Suite" on page 7-5 for information about configuring the `sc_vsto.cfg` file

Oracle9*i*AS Wireless Pre-Upgrade Tasks

If you are upgrading multiple Oracle Collaboration Suite Wireless middle tiers, you must perform the following steps before starting the Oracle Collaboration Suite Upgrade Assistant:

1. Stop all Oracle Collaboration Suite Release 1 (9.0.3) Wireless middle tiers in the farm, including any Oracle9*i*AS middle tiers that are configured to run Oracle9*i*AS Wireless.

   > **Caution: Ensure that you have a backup of the Oracle Collaboration Suite Release 1 (9.0.3) Wireless schema in the infrastructure before you perform the installation of the first Oracle Collaboration Suite Release 2 (9.0.4.1) Wireless middle tier, because that schema is upgraded during the installation of the first Oracle Collaboration Suite Release 2 (9.0.4.1) Wireless middle tier.**

2. Select the first Oracle Collaboration Suite Release 1 (9.0.3) Wireless middle tier to be upgraded.
3. Install the first Oracle Collaboration Suite Release 2 (9.0.4.1) Wireless middle tier on the same computer as the Oracle Collaboration Suite Release 1 (9.0.3) Wireless identified in the previous step.

Oracle Collaboration Suite Upgrade Assistant

The Oracle Collaboration Suite upgrade assistant is a command-line tool that automates the process of upgrading Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1). During the upgrade process, you choose which Oracle Collaboration Suite components you want to upgrade. The Oracle Collaboration Suite upgrade assistant then runs separate plug-ins for each component you are upgrading to complete the upgrade process.

The Oracle Collaboration Suite upgrade assistant is located in the following directory:

```
$ORACLE_HOME/upgrade
```

The `upgrade` directory contains `log` and `lib` directories, and three primary files that are used in the upgrade process: `ocsua.xml`, `ocsua.properties`, and `ocsua.sh`. Each of these files is described later in this section.

The `log` directory contains log files generated during the upgrade process. The `lib` directory contains `.jar` files that are required by the Oracle Collaboration Suite Upgrade Assistant framework.

This section contains these topics:

- The ocsua.xml File
- The ocsua.properties File
- Running the Oracle Collaboration Suite Upgrade Assistant

The ocsua.xml File

The `ocsua.xml` file lists the component plug-ins along with variables that require user input. The Oracle Collaboration Suite Upgrade Assistant framework reads this file in order to read the plug-ins that perform the individual component ugprades. Do not modify this file.

The ocsua.properties File

The `ocsua.properties` files contains optional properties that are used by the Oracle Collaboration Suite Upgrade Assistant framework. If a property does not exist in the file, then the upgrade process uses the default values in the Java classes that are required by the Oracle Collaboration Suite Upgrade Assistant framework. The contents of the `ocsua.properties` are as follows:

```
#
# Global properties
#
# These properties apply to all components of Upgrade Assistant.
#
# Default global log level is NOTIFICATION
log.level=NOTIFICATION
#
# Utilities component
#
# Default log level for CopyFile class is NOTIFICATION
CopyFile.log.level=NOTICATION
#
# Component plug-in specific properties
#
#   For log level, the property name is plugin-name as a prefix
#   with ".log.level". Plug-ins can define any names for
#   other properties as long as they are prefixed with the
```

```
#   plug-in name
#
# Example: setting Ultra Search plug-in log level to TRACE to overide default
#          log level of NOTIFICATION
#UltraSearch.log.level=TRACE
```

Running the Oracle Collaboration Suite Upgrade Assistant

Notes:

- All Oracle Collaboration Suite components must be upgraded at the same time.
- If the Oracle Collaboration Suite Release 1 (9.0.3) directory you are upgrading is also an active Oracle Enterprise Manager directory, the Oracle Enterprise Manager directory will be changed to the new Oracle Collaboration Suite Release 2 (9.0.4.1) directory. If the active Oracle Enterprise Manager directory is not the same as the Oracle Collaboration Suite Release 1 (9.0.3) home directory, it will not be changed.
- The `ocsua.sh` script upgrades one information store at a time and must be run each time for multiple information stores.
- Upgrading a middle tier does not create outages for other middle tiers in your system.
- Coexistence of multiple Oracle Email middle tiers on one computer is not supported in this release of Oracle Collaboration Suite.
- If you are upgrading Oracle Ultra Search from an existing Oracle9*i* database, refer to "Post-Installation and Upgrade Information" in the *Oracle Ultra Search User's Guide*.
- If you are upgrading Oracle Ultra Search from an existing Oracle9*i*AS Infrastructure, refer to the *Oracle Ultra Search Release Notes*.
- You must set the TNS connect string before running the upgrade assistant. The TNS connect string should be in the same format as the `$ORACLE_HOME/network/admin/tnsnames.ora` file.
- Before invoking the Web client configuration assistant, manually ensure that the Oracle9*i*AS Portal middle tier has been installed or upgraded, and configured. See "Upgrading the Oracle Collaboration Suite Web Client" on page 3-26.

The Oracle Collaboration Suite upgrade assistant automatically performs the following steps:

- Verifies the existing and version number of the source Oracle Collaboration Suite directory that is being upgraded
- Identifies the plug-ins to executed, based on the components you select to upgrade
- Identifies the configuration files to update in the Oracle Collaboration Suite Release 1 (9.0.3) source directory for each component that is being upgraded

- Displays a prompt for the values of common and plug-in specific variables for the components that are being upgraded

  Table 3–2 lists information you will need to provide to the Oracle Collaboration Suite upgrade assistant for Oracle Files.

Table 3–2 Required Oracle Files Information for Oracle Collaboration Suite Upgrade Assistant

Information	Description
Host	The database host where the existing Oracle Collaboration Suite Release 1 (9.0.3) Oracle Files schema resides
Port	The database listener port
SID	The database service name

Table 3–3 lists information you will need to provide to the Oracle Collaboration Suite upgrade assistant for Oracle Files if your existing Oracle Collaboration Suite Release 1 (9.0.3) Oracle Files schema is integrated with Oracle Workflow.

> **Note:** The schema upgrade process should be performed only for the first middle tier, not for any additional middle tiers.

Table 3–3 Required Oracle Files Information for Oracle Collaboration Suite Upgrade Assistant if Oracle Files is Integrated with Oracle Workflow

Information	Description
Oracle Files Schema	The name of the Oracle Files schema to integrate with the Oracle Workflow schema
Oracle Files Schema Password	The password for the Oracle Files schema
Oracle Workflow Schema	The name of the Oracle Workflow schema that is integrated with Oracle Files schema
Oracle Workflow Schema Password	The password for the Oracle Workflow schema

If an error occurs while upgrading an Oracle Collaboration Suite Release 1 (9.0.3) Oracle Files schema, check the following log file for more information:

```
$ORACLE_HOME/upgrade/log/FilesUpgrade.log
```

Table 3–4 lists information you will need to provide to the Oracle Collaboration Suite upgrade assistant for Oracle Ultra Search.

Table 3–4 Required Oracle Ultra Search Information for Oracle Collaboration Suite Upgrade Assistant

Information	Description
`SYS` password	Database `SYS` password
`WKSYS` password	Database `WKSYS` password
TNS connect string	Database TNS connect string

- Displays a summary of files that need to be upgraded for each component

- Displays a list of pre-upgrade tasks that need to be performed, along with any warnings

To run the Oracle Collaboration Suite upgrade assistant, perform the following steps on the Oracle Collaboration Suite Release 2 (9.0.4.1) middle tier:

1. Change directory to `$ORACLE_HOME/upgrade`.
2. Execute the `ocsua.sh` script to start the Oracle Collaboration Suite upgrade assistant and begin the upgrade process. The usage of the `ocsua.sh` file is as follows:

```
bash-2.05$ ocsua.sh -help
ocsua -sourcehome sourcehome [-config input XML] [-all]
Upgrade configuration files to the Oracle Collaboration Suite
Release 2 (9.0.4.1)
Oracle home:
      -sourcehome       $ORACLE_HOME for Oracle Collaboration Suite
                          Release 1 (9.0.3)
      -config           Input XML file that lists all the plug-ins
      [-all]            Run all the component plug-ins without prompt
```

The first time you perform an upgrade by executing the `ocsua.sh` file, the upgrade process automatically upgrades the Oracle9*i*AS components that are required by Oracle Collaboration Suite, including Oracle9*i*AS Portal, Oracle9*i*AS Web Cache, and Oracle Enterprise Manager.

ocsua.sh Script Example

Example 3–1 shows the log transcript of a sample upgrade session. It shows both input and output.

Example 3–1 ocsua.sh Script

```
    bash-2.05$ ocsua.sh -sourcehome /home/ias903
    Validating Oracle homes
    -------------------
    These are the components that can be upgraded
    1. Oracle9iAS Portal
    2. Oracle Ultra Search
    3. Oracle9iAS Wireless
    4. Oracle Calendar Server
    5. Oracle Calendar Application System
    6. Oracle Email
    7. Oracle Email Store
    8. Oracle Voicemail & Fax
    9. Oracle Files
    Enter component numbers and/or ranges(example:1-3,5)[all]:
    ---------------------------------------------------------------
    Validating component plug-ins
-------------------
Examining "Oracle9iAS Portal"
Upgrade items found:
Oracle_Collaboration_Suite_Release_1_ORACLE_HOME/assistants/opca/ptlasst.csh
-------------------
Examining "Oracle Ultra Search"
Upgrade items found:
Oracle_Collaboration_Suite_Release_1_ORACLE_HOME/j2ee/OC4J_Portal/config
/data-sources.xml
-------------------
Examining "Oracle9iAS Wireless"
```

```
Upgrade items found:
Oracle_Collaboration_Suite_Release_1_ORACLE_HOME/wireless/server/classes/oracle
/panama/marconi/marconi.config
Oracle9iAS Wireless Repository
------------------
Examining "Oracle Calendar Server"
Upgrade items found:
Oracle Calendar Server configuration files
Oracle Calendar Server database files
Oracle Calendar Server Oracle Internet Directory entries
Oracle Calendar Server administrator administration files
------------------
Examining "Oracle Calendar Application System"
Upgrade items found:
Oracle Calendar applications configuration file
Oracle Calendar Web Client files
------------------
Examining "Oracle Email"
Upgrade items found:
Oracle Email Oracle Internet Directory entries
Webmail configuration
listener.ora
oc4j.properties
------------------
Examining "Oracle Email Store"
Upgrade items found:
Oracle Email Store
------------------
Examining "Oracle Voicemail & Fax"
Upgrade items found:
Oracle Voicemail & Fax Oracle Internet Directory product tree
Oracle Voicemail & Fax mid-tier Oracle Internet Directory entry
------------------
Examining "Oracle Files"
Upgrade items found:
Oracle Files Schema
-----------------------------------------------------------------
Validate pre-upgrade requirements:
The destination Oracle home has not been modified since it was installed.

The source and destination instances of Oracle Collaboration Suite are not
running.
The Enterprise Manager Web site is not running.
The source Oracle home is based on Oracle9iAS 9.0.2.0.1 version with interim
patches.

[Oracle Ultra Search] A tnsnames.ora file has been created in the destination
Oracle home and contains an entry for the Oracle9iAS Metadata Repository
containing the Oracle Ultra Search schema.
[Oracle Calendar Server] The ocalPreUpg.sh script has been run in the
destination Oracle home.
Have you verified all pre-upgrade requirements?[No]Y
-----------------------------------------------------------------
Specify the TNS connect string for the Oracle9iAS Metadata Repository used by
Oracle Ultra Search, as well as passwords for the following users:
TNS Connect: TNS_connect_string
SYS Password: password
WKSYS Password: password
------------------
Specify connection information (host:port:SID) and associated passwords
```

```
for the Oracle Email Store to be upgraded:
Oracle Email Store Connect: host_name:port_number:SID
SYS Password: password
ESMail Password: password
CTXSYS Password: password
-------------------
Specify connection information for the Oracle Files Store to be upgraded:
Host: database_host_name
Port: port_number
SID: service_name
-------------------
Specify the Oracle Files schema and password in the Oracle Files Store to be
upgraded:
Oracle Files Schema: IFSSYS
Oracle Files Schema Password: password
-------------------
If Oracle Workflow was integrated with Oracle Files in the source installation,
specify the Oracle Workflow schema and password. If Oracle Workflow was not
integrated with Oracle Files, leave both fields blank:
Oracle Workflow Schema: OWF_MGR
Oracle Workflow Schema Password: password
------------------------------------------------------------
Upgrading "Oracle Portal"
Executing the script
Oracle_Collaboration_Suite_Release_1_ORACLE_HOME/assistants/opca/ptlasst.csh to
upgrade Oracle Portal
Script terminated with exit value 0
Upgrade finished with status: Success.
-------------------
Upgrading "Oracle Ultra Search"
Upgrading the metadata schema (this will take approximately 5 to 10 minutes)
The schema upgrade log file is XXXXX
Finished upgrading metadata schema
Getting JDBC connection
Loading Java stored packages (this will take approximately about 3 to 5 minutes)
Finished loading Java stored packages
Creating the file materialization table
Upgrading database files (this will take approximately about 15 to 30 seconds)
Processing XXXXX
Finished upgrading database files
Dropping the file materialization table
Upgrading mid-tier configuration files...
Processing XXXXX
Finished upgrading mid-tier configuration files
Upgrade finished with status: Success.
-------------------
Upgrading "Oracle9iAS Wireless"
Copying Oracle9iAS Wireless customization files.
Upgrading Oracle9iAS Wireless repository.
Upgrade finished with status: Success.
-------------------
Upgrading "Oracle Calendar Server"
Upgrading configuration files.
Upgrading database files.....
Upgrading Oracle Internet Directory entries...
Upgrading administration files.
Upgrade finished with status: Success.
--------------------
Upgrading "Oracle Calendar application system"
Upgrading configuration files
```

```
Upgrading Web Client files
Upgrade finished with status: Success.
------------------
Upgrading "Oracle Email"
Upgrading Oracle Internet Directory entries...
Upgrading configuration files\205
Upgrading Oracle Webmail configuration files\205
Upgrading listener.ora...
Upgrading oc4j.properties...
Upgrade finished with status: Success.
------------------
Upgrading "Oracle Email Store"
Upgrading database content. (this will take approximately 20 minutes)
Upgrade finished with status: Success.
------------------
Upgrading "Oracle Voicemail & Fax"
Upgrading product tree in Oracle Internet Directory.
Upgrading process tree in Oracle Internet Directory.
Upgrade finished with status: Success.
------------------
Upgrading "Oracle Files"
Upgrading the Oracle Files schema (this will take roughly approximately 15 to
20 minutes)
Upgrade finished with status: Success.
-----------------------------------------------------------
>>>>>>>>>>>>>> The upgrade completed successfully <<<<<<<<<<<<<<<<<<
You must now complete the following post-upgrade tasks:
[Oracle Files] Run the following script manually to complete the Oracle Files
upgrade:
Oracle_Collaboration_Suite_Release_1_ORACLE_HOME/ifs/files/bin/ifsca
[Oracle9iAS Web Cache] The following files may need to be upgraded manually if
they were customized in the old Oracle home:
Oracle_Collaboration_Suite_Release_2_ORACLE_HOME/XXX
Oracle_Collaboration_Suite_Release_2_ORACLE_HOME/XXX
[Oracle Enterprise Manager] The Oracle_Collaboration_Suite_Release_2_ORACLE_
HOME/sysman/emd/targets.xml file may
contain duplicate target entries from both the old Oracle home and the new
Oracle home. If you want to remove the old targets, edit this file.
-----------------------------------------------------------
Log files containing details of the upgrade process can be found in the
following location:
Oracle_Collaboration_Suite_Release_2_ORACLE_HOME/upgrade/log
A transcript of this upgrade session can be found at:
Oracle_Collaboration_Suite_Release_2_ORACLE_HOME/log/ocsua.log
```

Post-Upgrade Tasks

This section contains these topics:

- Oracle Calendar Coexistence
- Oracle Email Post-Upgrade Tasks
- Oracle Files Post-Upgrade Tasks
- Oracle Ultra Search Post-Upgrade Tasks
- Oracle Web Agent Packages Post-Upgrade Tasks
- Upgrading Oracle Voicemail & Fax
- Upgrading Oracle9iAS Wireless

- Upgrading the Oracle Collaboration Suite Web Client
- Deleting Instances of Oracle Collaboration Suite Release 1 (9.0.3)

Oracle Calendar Coexistence

Coexistence can be useful for a large organization that is upgrading its current installation of Oracle Calendar to Release 2 (9.0.4.1). The ability to have nodes and servers of different versions connected and running at the same time can help reduce the down time required to achieve the upgrade.

> **Note:** Coexistence between Oracle Calendar server 5.5 and Oracle Calendar server 9.0.4 is viewed as a migration step towards having a uniform (same version) network of calendar servers. It is not recommended that a mix of the two versions be sustained for a long period of time or permanently.

This section contains the following topics:

- Oracle Calendar Server Parameters
- Coexistence Limitations
- Oracle Calendar Application System Upgrades

Oracle Calendar Server Parameters

Coexistence will only work after the following parameters are added to `$ORACLE_HOME/ocal/misc/unison.ini` on the 9.0.4 calendar server.

Section: **`[ENG]`**

Parameter: **`coexist_cwsbasicauth`**

Value: **`TRUE`**

Section: **`[ACE_PLUGINS_SERVER]`**

Parameter: **`cs-standard_coexistence`**

Value: **`TRUE`**

> **Important: As a security precaution, you must remove the preceding parameters from `$ORACLE_HOME/ocal/misc/unison.ini` immediately after all calendar servers are upgraded to 9.0.4.**

The following parameters will be reset to the default values listed here. If you used different values in your Oracle Calendar server 5.x installation, reset them to your desired values after completing the upgrade.

Parameter: **`resourcemailmap`**

Value: **`"O"`**

Parameter: **`usermailmap`**

Value: **`"O"`**

Parameter: **`usersmcprefmap`**

Value: **"OU3"**

Parameter: **usermobiletypemap**

Value: **"N"**

Parameter: **usermobilemap**

Value: **"R"**

Parameter: **itemuidmap**

Value: **"P"**

Coexistence Limitations

There are limitations in having two servers of different versions coexist.

- Web services 9.0.4 will only work when all connected servers are upgraded to version 9.0.4
- Event calendars are not supported in coexistence scenarios
- Passwords longer than 15 characters are not supported by the 5.5 calendar server or pre-9.0.4 Oracle Calendar clients. Consequently, users with passwords longer than 15 characters will not be able to log in to older clients.
- Do not use 9.0.4 utilities to administer a 5.x Oracle Calendar server. The only exception to this is when moving users; the `moveuser` utility must be from the latest server version (9.0.4), even if moving a user between two nodes that are both on old server nodes (5.x).
- Do not use 5.x utilities to administer a 9.0.4 Oracle Calendar server.
- If you need to create a node network, the `nodes.ini` and the use of `uninode` commands must be done on the most recent version (9.0.4) of the server within the network.
- Coexistence may cause odd error messages on an old Oracle Calendar server (5.x). This is due to the fact that the old server may not understand the features introduced by the new server.
- Mapping parameters have been added to the 9.0.4 server `unison.ini` for coexistence and upgrades. 5.x servers map `O` for `EMAIL` and `P` for `UID`. However, 9.0.4 servers do not need this mapping anymore. Parameters added to a 9.0.4 server do not affect it.

  The new parameters include:

  ```
  [ENG]
  usermailmap = O
  itemuidmap = P
  resourcemailmap = O
  usersmscprefmap = OU3
  usermobiletypemap = N
  usermobilemap = R
  ```

- `Unidbfix -c` may report "Minor inconsistencies" on an Oracle Calendar 9.0.4 server when events are created by an Oracle Calendar 9.0.4 user using Oracle Connector for Outlook 9.0.4 and accepted or declined by an Oracle Calendar 5.4 user using the Windows Native client 9.0.4. These inconsistencies do not impact the integrity of the database.
- Users of previous versions of Oracle Calendar will not generate e-mail messages when using resource scheduling

- Attachment names may change to `Mime-Encoded-attachment.txt` when using a mix of Oracle Calendar 9.0.4 and 5.4 users with Oracle Connector for Outlook. The attachments will still be readable.
- Oracle Calendar desktop clients for Macintosh (V5.2.3) users may not be able to download offline files while connecting to a 9.0.4 standalone installation
- The current versions of Oracle Calendar clients work with Oracle Calendar server 9.0.4, including:
  - Oracle Calendar desktop client for Windows 6.0.5
  - Oracle Calendar desktop client for Macintosh version 5.2.3
  - Oracle Calendar desktop client for Linux/Solaris version 5.0.2
  - Oracle Connector for Outlook version 3.3 and later

  It is best to use these client versions; if you are using an older client, please upgrade before proceeding with testing. The latest versions of the clients are available at:

  `http://metalink.oracle.com`

- The Oracle Calendar portlet of Oracle Collaboration Suite Web Client Release 1 (9.0.3) is not compatible with Oracle Calendar Release 2 (9.0.4.1). To avoid this problem, upgrade both components to Release 2 (9.0.4.1), as described in "Installing the Oracle Collaboration Suite Middle Tier" on page 6-6.

  If you have already upgraded Oracle Calendar but not the Oracle Collaboration Suite Web Client, see "Upgrading the Oracle Collaboration Suite Web Client" on page 3-26.

Oracle Calendar Application System Upgrades

The upgrade assistant only migrates the following keys. Unless otherwise mentioned, they are migrated to `ocwc.conf`. Your installation will still work, but you may need to make changes to your parameters to get the look and feel you want. For information on editing parameters, see the *Oracle Calendar Reference Manual*.

```
[system]
connection

[servers]
(All keys migrated to "connection" section of ocas.conf. If the old installation
was a masternode, 'mnode' will be the only entry.)

[ACE_PLUGINS_CLIENT]
(All keys into ocas.conf)

[admin]
sso_user_env_key

[modules]
hide_eventcal
hide_global
hide_taskview
hide_managegroups
hide_suggesttime
hide_show_unconfirmed
hide_updateall
enable_designate
hide_viewpub
```

```
[file_attachment]
download_enable
upload_enable

[taskview]
quickCreateStartTime
quickCreateEndTime
showQCCompletion

[calendar_view]
default_view
default_dayview_mode
default_weekview_mode

hide_dayview_toggle
hide_weekview_toggle
pdv_notes_top_task_bottom
default_color_mgt_by

[cookies]
domain

[sched]
showicalvcal (becomes same key in "modules" section in ocwc.conf).
```

Oracle Email Post-Upgrade Tasks

The Oracle Email information storage database is upgraded when you run the Oracle Collaboration Suite upgrade assistant, as explained in "Running the Oracle Collaboration Suite Upgrade Assistant" on page 3-13.

Additionally, perform the following steps to install required files and libraries on the Release 2 (9.0.4.1) information storage database:

1. Copy the `umbackend.tar` file from the `$ORACLE_HOME/oes` directory on the application server to the `$ORACLE_HOME` DIRECTORY on the information storage database.
2. Untar `umbackend.tar` file:

   ```
   tar xvf umbackend.tar
   ```

3. Run the following commands to start the Oracle Universal Installer:

   ```
   cd backend/Disk1
   ./runInstaller
   ```

   Follow the screen prompts to complete the Oracle Email back-end installation.

Oracle Files Post-Upgrade Tasks

Perform the following after the Oracle Collaboration Suite upgrade assistant finishes:

1. Restart the Oracle Files configuration assistant by executing `ifsca` from the following location:

   ```
   $ORACLE_HOME/ifs/files/bin
   ```

2. On the Domain Operation screen, select **Set up this computer to use an existing Oracle Files domain**.

3. On the Schema Name screen, select the upgraded Oracle Files schema.
4. Click **Next** and follow the remaining Oracle Files configuration assistant screens.

   See Also: "Setting Up a Computer to Use an Existing Domain" on page 12-21 for more information about these screens

5. On the Summary screen, click **Configure**.

   A progress window appears. If an error occurs, check the following log file for more information:

   ```
   $ORACLE_HOME/ifs/files/log/FilesConfig.log
   ```

   When the process is complete, a message informs you that the configuration was successful. Click **OK** to close the message. Oracle Files and the Oracle Enterprise Manager Web Site are integrated automatically.

   Note: You must run the `ifsca` script on all middle tiers.

Updating Oracle Workflow Parameters

If the Oracle Files schema that you are upgrading has been integrated with Oracle Workflow, follow the post-configuration instructions in the following sections:

- "Configuring Net Service Names" on page 12-30
- "Integrating Oracle Workflow with Oracle Files (Optional)" on page 12-31

Note: You do not have to follow the steps in "Configuring Net Service Names" on page 12-30 unless you want to change the existing Oracle Workflow configuration parameters.

Manually Synchronize the `IFS_TEXT` Index

After upgrading an existing Oracle Files domain, you must manually sync the existing `IFS_TEXT` index. For more information, see Appendix A, "Oracle Text Reference", in the *Oracle Files Administrator's Guide*.

Oracle Ultra Search Post-Upgrade Tasks

The following sections describe the recovery steps for common errors:

- Error upgrading middle tier configuration files
- Failed to upgrade database file: <file_name>
- Error upgrading metadata schema
- Error loading Java stored packages and upgrading database files

Error upgrading middle tier configuration files

Check that the `data-sources.xml` configuration file is available in the following Oracle Collaboration Suite Release 1 (9.0.3) directory:

```
$ORACLE_HOME/j2ee/OC4J_Portal/config
```

Re-run the Oracle Ultra Search upgrade plug-in after you confirm the availability of the `data-sources.xml` file.

Failed to upgrade database file: <file_name>

Confirm that you have write permission to the `$ORACLE_HOME/ultrasearch` directory in the database file system. Then re-run the Oracle Ultra Search upgrade plug-in.

Error upgrading metadata schema

See the schema upgrade log file for error details. Fix the problem, and then re-run the Oracle Ultra Search upgrade plug-in.

Error loading Java stored packages and upgrading database files

Check that the file `$ORACLE_HOME/ultrasearch/lib/ultrasearch_db.jar` is in place. Then re-run the Oracle Ultra Search upgrade plug-in.

Oracle Web Agent Packages Post-Upgrade Tasks

Oracle9*i*AS ships with Oracle9*i*AS Web Agent Packages (OWA packages) version 9.0.4.0.0. The PL/SQL applications accessed through OHS mod_plsql use the OWA packages, and must be manually upgraded.

You must complete this post-upgrade procedure if one of the following conditions is true:

- You have Oracle9*i*AS Portal that uses an Oracle database
- You have Oracle9*i*ASInfrastructure that uses an Oracle database
- You have an Oracle database that has custom PL/SQL procedures accessed through OHS mod_plsql

If one of the preceding conditions is true, then complete the following procedure:

1. Navigate to the directory where the `owaload.sql` file is located:

   ```
   $ORACLE_HOME/Apache/modplsql/owa
   ```
2. Use SQL*Plus to log on to the Oracle database as the SYS user.
3. Enter the following command at the SQL prompt:

   ```
   SQL> @owaload.sql log_file
   ```
   where *`log_file`* is any temporary filename that will contain the output from the command to load OWA packages.
4. Scan the log file for any errors.
5. Manually recompile any invalidated packages; typically by running the `$OH/rdbms/admin/utlrp.sql` script as the SYS user.

Installing the OWA packages invalidates all dependent objects. These packages automatically recompile on first access, but Oracle recommends that you complete the manual recompile after the re-installation.

Note: You can check the existing version of the OWA packages by running the following query:

```
select owa_util.get_version from dual
```

The `owaload.sql` script checks the existing version of the OWA packages in the database. If one of the following conditions is true, then the script installs a new OWA package version:

- No OWA packages exists
- Older OWA packages are detected

If one of the preceding conditions does not exist, then your database already has the latest OWA packages or a later version installed; in which case the script does nothing.

The outcome of the `owaload.sql` script check is reported in the log file.

Upgrading Oracle Voicemail & Fax

Upgrading Oracle Voicemail & Fax is not done through the Oracle Collaboration Suite upgrade assistant.

To upgrade Oracle Voicemail & Fax:

1. Install Oracle Voicemail & Fax Release 2 (9.0.4.1) on the Windows 2000 telephony server.

   Note: If you installed CT Media 2.1 or 2.1.1 for Oracle Voicemail & Fax Release 1 (9.0.3), you must download the latest version of Timed with `NTLMAuthentication.dll` into the `Program Files\Dialogic\CT Media\Client` directory before you install Oracle Voicemail & Fax.

2. Execute the following command to upgrade Oracle Voicemail & Fax:

   ```
   %ORACLE_HOME%\um\scripts\UpgradeTelephonyServerfromV1.bat host_name
   903_ORACLE_HOME 9041_ORACLE_HOME
   ```

Upgrading Oracle9*i*AS Wireless

Upgrading Oracle9*i*AS Wireless involves two tasks. First, runtime customization classes and configuration files must be copied into the new `$ORACLE_HOME`. Second, existing processes and their configurations must be moved to the new middle tier.

To upgrade Oracle9*i*AS Wireless:

1. Stop all Oracle9*i*AS Wireless Release 1 (9.0.3) middle tiers in the farms, including any Oracle9*i*AS middle tiers that are configured to run Oracle9*i*AS Wireless.
2. Select the first Oracle9*i*AS Wireless Release 1 (9.0.3) middle tier for upgrade.
3. Install the first Oracle9*i*AS Wireless Release 2 (9.0.4.1) middle tier on the same computer as the Oracle9*i*AS Wireless middle tier identified in step 2. During installation, the Oracle9*i*AS Wireless configuration assistant upgrades the Oracle9*i*AS Wireless schema in the Oracle9*i*AS Metadata Repository (see "Oracle9iAS Wireless Upgrade Items" on page 3-26).

   The Oracle Collaboration Suite upgrade assistant:

   a. Copies runtime customization classes (such as listener hooks and customized folder renderers) as well as suite-level configuration files from `$ORACLE_HOME_1` to `$ORACLE_HOME_2` (See "Oracle9iAS Wireless Upgrade Items" on page 3-26).

   b. Copies the process configuration information for the Oracle9*i*AS Wireless standalone processes from the Oracle9*i*AS Wireless Release 1 (9.0.3) middle tier to the Oracle9*i*AS Wireless Release 2 (9.0.4.1) middle tier, and configures the Release 2 (9.0.4.1) middle tier accordingly.

At this time, all Oracle9*i*AS Wireless Release 2 (9.0.4.1) middle tiers can be restarted to reduce downtime.

The configuration information for the Oracle9*i*AS Wireless standalone processes is stored in the Oracle9*i*AS Wireless schema in the Oracle9*i*AS Metadata Repository. During upgrade from Release 1 (9.0.3) to Release 2 (9.0.4.1), the Oracle Collaboration Suite upgrade assistant copies the process configuration information from the Release 1 (9.0.3) middle tier to the Release 2 (9.0.4.1) middle tier by creating additional entries in the Oracle9*i*AS Wireless schema.

In the Oracle9*i*AS Wireless schema upgrade during the first middle tier installation, the Oracle9*i*AS Wireless configuration assistant pre-populates default standalone processes for each process type. When the Oracle9*i*AS Wireless upgrade assistant copies Release 1 (9.0.3) process information to a Release 2 (9.0.4.1) middle tier, it deletes the redundant process (if one is found in the Release 1 (9.0.3) middle tier). In addition, the Oracle9*i*AS Wireless upgrade assistant ensures that each process has a unique process name.

Oracle9*i*AS Wireless Upgrade Items

The following files are changed in the first phase of the Oracle9*i*AS Wireless upgrade process:

- `ORACLE_HOME_2/wireless/server/classes/*.class`
- `ORACLE_HOME_2/wireless/server/classes/*.properties`
- `ORACLE_HOME_2/wireless/server/classes/marconi.config`

Upgrading the Oracle Collaboration Suite Web Client

The Web client can be selected to be installed and configured using the Oracle Universal Installer during installation of the Oracle Collaboration Suite middle tier.

> **See Also:** "Installing the Oracle Collaboration Suite Middle Tier" on page 6-6

However, the Web client configuration assistant does not function properly in an upgrade scenario. This section describes how to invoke the Web client configuration assistant from the command line.

Before invoking the Web client configuration assistant, manually ensure that the Oracle9*i*AS Portal middle tier has been installed or upgraded, and configured.

This section contains the following topics:

- Resetting the Port Numbers in the `webclient.properties` File
- Configuring the Component URL
- Running the Web Client Configuration Assistant from the Command Line

Skip Configuring the Component URL if the host name and port number for the applications were provided during the Web client installation through Oracle Universal Installer.

Resetting the Port Numbers in the `webclient.properties` File

When you upgrade from Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1), you install the new Oracle Collaboration Suite middle tier in a new Oracle home. The new installation temporarily changes the port number specifications for various applications in certain files, such as the

`httpd.conf` file, and the Web client configuration assistant then resets the specifications back to their original values.

However, the Web client configuration assistant does not reset the port number values in the `webclient.properties` file for the following components:

- Oracle Calendar
- Oracle Email
- Oracle Files
- Oracle Web Conferencing
- Oracle9*i*AS Wireless and Voice

You must therefore manually reset the port numbers in the `webclient.properties` file, located in the located in the *`version_2`*`_ORACLE_HOME/webclient/classes/oracle/collabsuite/webclient/resources` directory, by entering the correct port numbers in the URL associated with each of the following entry points:

- mail.help.url
- files.help.url
- calendar.help.url
- imeeting.help.url
- search.help.url
- wireless.help.url
- mail
- calendar
- files
- search
- wireless
- portal
- imeeting
- mail.provider
- files.provider
- search.provider
- wireless.provider
- webclient.provider
- imeeting.provider
- calendar.provider

Configuring the Component URL

This section explains how to configure a component URL, such as Oracle Email, Oracle Files, and Oracle Calendar. You configure the component URL by modifying the `webclient.properties` file.

The `webclient.properties` file contains three URL for each Oracle Collaboration Suite component:

- Help page URL
- Application entry point
- Portlet provider URL

1. Open the `webclient.properties` file located in the `$ORACLE_HOME/webclient/classes/oracle/collabsuite/webclient/resources` directory.
2. In the `webclient.properties` file, set the entry point URL for each configured component.
3. Replace the token for the host name and the port number in all three URL for each component to be configured.

   If you are not upgrading Oracle Calendar to Release 2 (9.0.4.1), perform the following steps to make Oracle Calendar Release 1 (9.0.3) available as a portlet:

   a. Open the `webclient.properties` file from the `$ORACLE_HOME/webclient/classes/oracle/collabsuite/webclient/resources` directory on the Oracle Collaboration Suite Release 2 (9.0.4.1) middle tier.

   b. Locate the following statement:

      ```
      calendar=http://%CALENDAR_HOST%:%CALENDAR_PORT%/ocas-bin/ocas.fcgi?sub=web
      ```

      Change it to:

      ```
      calendar=http://%CALENDAR_HOST%:%CALENDAR_PORT%/fcgi-bin/owc/lexacal.fcgi?go=login
      ```

   c. Locate the following statement:

      ```
      calendar.provider=http://%WEBCLIENT_HOST%:%WEBCLIENT_PORT%/webclient-calendar/servlet/soaprouter
      ```

      Change it to:

      ```
      calendar.provider= http://%WIRELESS_HOST%:%WIRELESS_PORT%/marconi/servlet/soaprouter
      ```

Running the Web Client Configuration Assistant from the Command Line

Enter the following command:

```
$ORACLE_HOME/webclient/bin/webclient_installer.sh Oradcle9iAS_Portal_user_name
Oradcle9iAS_Portal_user_password -complete
```

If you know the Oracle9*i*AS Portal schema name, password, and connect string information, you can invoke the configuration assistant, as follows:

```
$ORACLE_HOME/webclient/bin/webclient_installer.sh Oracle9iAS_Portal_user_name
Oracle9iAS_Portal_user_password -complete -s
schema -p password -c connect_string
```

Where:

- `schema`: The Oracle database account for Oracle9*i*AS Portal
- `password`: The Oracle9*i*AS Portal account password
- `connect_string`: The connect string to the database instance where the Oracle9*i*AS Portal repository is installed; specified as `host_name:port:SID`

Deleting Instances of Oracle Collaboration Suite Release 1 (9.0.3)

After you successfully upgrade to Oracle Collaboration Suite Release 2 (9.0.4.1), you can delete any instances of Release 1 (9.0.3).

Perform the following steps prior to deleting Release 1 (9.0.3) targets from the `targets.xml` file:

1. Make a copy of the `targets.xml` file before making any changes.
2. Ensure that the targets.xml file contains the following header:

```
<Targets>
<Target TYPE="host" NAME="hostname.acme.com" VERSION="1.0">
</Targets>
```

3. Remove all Release 1 (9.0.3) targets from the `targets.xml` file located in the `$ORACLE_HOME/sysman/emd` directory in the active Enterprise Manager Daemon.
4. Execute the following command from the Oracle Collaboration Suite Release 2 (9.0.4.1) `$ORACLE_HOME`:

```
cd $ORACLE_HOME/dcm/bin
dcmctl destroyInstance -i Release_1_instance_name
```

> **Note:** Use the following command to list all instances by name to help identify the instances to be removed:
>
> ```
> dcmctl listInstances
> ```

5. Deinstall the old middle tier (optional).

Upgrading CorporateTime Server 5.4 to Oracle Collaboration Suite

CorporateTime Server 5.4, internal or external, can be upgraded to Oracle Collaboration Suite Release 2 (9.0.4.1). While this is a supported upgrade path, the process involves manual steps.

To upgrade CorporateTime Server 5.4 to Oracle Collaboration Suite:

1. Upgrade CorporateTime Server 5.4 to Release 2 (9.0.4.1) of Oracle Calendar, standalone, as described in "Server Upgrade" on page F-12.
2. Install the Oracle Collaboration Suite infrastructure and middle tier as described in Chapter 6, "Installing Oracle Collaboration Suite".

> **Note:** Ensure that you do not install into the `$ORACLE_HOME` you used in step 1 on page 3-29.

3. Migrate the user information to the Oracle Internet Directory component of your new Oracle Collaboration Suite infrastructure.
4. Import your CorporateTime Calendar attributes, including the `ctCalXitem ID`, into the Oracle Internet Directory component of your new Oracle Collaboration Suite infrastructure.

5. Copy the Oracle Calendar database files, upgraded in step 1 on page 3-29, over to the Oracle Calendar component of your new Oracle Collaboration Suite installation.

Upgrading from Oracle Calendar Standalone External to Oracle Collaboration Suite

This section provides a high level outline on how to upgrade from an Oracle Calendar standalone installation with iPlanet Directory Server, to Oracle Collaboration Suite which uses Oracle Internet Directory. There are two possible upgrade scenarios.

- Upgrading with Coexistence—Use this procedure if Oracle Calendar is not the only application that uses iPlanet Directory Server. In this case you keep iPlanet Directory Server and synchronize the data in both directories.
- Upgrading Without Coexistence—Use this procedure if Oracle Calendar is the only application that uses iPlanet Directory Server. In this case you do not keep the iPlanet Directory Server.

Upgrading with Coexistence

This scenario assumes that you need to keep and manage iPlanet Directory Server along with the Oracle Internet Directory server. The Oracle Directory Integration Platform (DIP), a feature of Oracle Internet Directory, is used to keep the user data in both directories synchronized. A detailed procedure is available on Oracle Metalink

`http://metalink.oracle.com/`

The Document ID is 268947.1.

Some General Notes and Assumptions

Before you begin this procedure take note of the following assumptions and limitations regarding this procedure.

- You currently have Oracle Calendar standalone release 2 (9.0.4.2) and iPlanet Directory Server version 5.x installed and running.
- The synchronization will be one-way only (from iPlanet Directory Server to Oracle Internet Directory).
- Once the migration is completed, you can only add new users through iPlanet Directory Server.

Step 1 Install Oracle Collaboration Suite

Install Oracle Collaboration Suite release 2(9.0.4.2) and ensure that it is running.

Step 2 Migrate the Directory Entries from iPlanet Directory Server to Oracle Internet Directory

The directory entries must be exported from iPlanet Directory Server to an LDAP Data Interchange Format (LDIF) file, modified, then imported to Oracle Internet Directory. The modifications include removing proprietary data and operational attributes, and adding Oracle Internet Directory object classes.

Also, if you have made any modifications to the base schema of iPlanet Directory Server, you may also need to make the same modifications to Oracle Internet Directory. This depends on whether the attributes added to the base schema are also being imported into Oracle Internet Directory.

Step 3 Configure the Synchronization Service Between Oracle Internet Directory and iPlanet Directory Server

The Oracle Directory Integration Platform (DIP) provides the synchronization service between Oracle Internet Directory and iPlanet Directory Server. The synchronization is done through a user account and configuring the synchronization service involves, among other things, setting the mapping rules and creating an integration profile.

Step 4 Migrate the Calendar Database

Migrating the calendar database involves moving calendar nodes from the Oracle Calendar standalone installation to the Oracle Collaboration Suite installation then reconfiguring the node network to recognize this change.

Upgrading Without Coexistence

This scenario assumes that once the upgrade is complete the user accounts will be managed through Oracle Internet Directory. A detailed procedure is available on Oracle Metalink

http://metalink.oracle.com/

The Document ID is 268948.1.

Note: This procedure assumes that you have already upgraded the current Oracle Calendar standalone installation to Oracle Calendar standalone release 2 (9.0.4.2).

Step 1 Install Oracle Collaboration Suite

When you install Oracle Collaboration Suite, use the same node network configuration (nodes and node IDs) as your current Oracle Calendar standalone installation.

Step 2 Migrate the Directory Entries from iPlanet Directory Server to Oracle Internet Directory

The directory entries must be exported from iPlanet Directory Server to an LDIF file, modified, then imported to Oracle Internet Directory. The modifications include removing proprietary data and operational attributes, and adding Oracle Internet Directory object classes.

Also, if you have made any modifications to the base schema of iPlanet Directory Server, you may also need to make the same modifications to Oracle Internet Directory. This depends on whether the attributes added to the base schema are also being imported into Oracle Internet Directory.

Step 3 Migrate the Calendar Database

Migrating the calendar database involves moving calendar nodes from the Oracle Calendar standalone installation to the Oracle Collaboration Suite installation then reconfiguring the node network to recognize this change.

Upgrading from Oracle Calendar Standalone Internal to Oracle Collaboration Suite

This section outlines how to upgrade from Oracle Calendar standalone internal to Oracle Collaboration Suite. A detailed procedure is available on Oracle Metalink

http://metalink.oracle.com/

The Document ID is 268949.1.

Step 1 Install Oracle Collaboration Suite

When you install Oracle Collaboration Suite, use the same node network configuration (nodes and node IDs) as your current Oracle Calendar standalone installation.

Step 2 Migrate the User and Resource Entries to Oracle Internet Directory

The user and resource entries must be exported to an LDAP Data Interchange Format (LDIF) file, modified, then imported to Oracle Internet Directory. The modifications include adding Oracle Internet Directory object classes to the entries.

Step 3 Reconfigure the .ini Files

Update the `.ini` files on the Oracle Collaboration Suite installation so that they match the settings in the Oracle Calendar standalone installation.

Step 4 Migrate the Calendar Database

Migrating the calendar database involves moving calendar nodes from the Oracle Calendar standalone installation to the Oracle Collaboration Suite installation then reconfiguring the node network to recognize this change.

Non Oracle Collaboration Suite Upgrade Instructions

Perform the following if you are installing the Oracle Collaboration Suite, Release 2 middle tier against a non Oracle Collaboration Suite infrastructure, such as Oracle 9iAS infrastructure 9.0.2.0.1, or Oracle9iAS infrastructure 9.0.2.0.0 upgraded to Oracle9iAS infrastructure 9.0.2.3.0.

1. Upgrade Oracle9iAS infrastructure 9.0.2.0.1 or Oracle9iAS infrastructure 9.0.2.0.0 to Oracle9iAS infrastructure 9.0.2.3.0.
2. Apply the Oracle9iAS infrastructure 9.0.2.3 patch 3038037 to the infrastructure.

> **Note:** The patch 3038037 README contains instructions for applying the Oracle9*i* 9.0.1.4 database server patch 2517300. You must apply patch 2517300 before patch 3038037. Both of these patches are available at:
>
> `http://metalink.oracle.com`

3. Copy the files listed in the following table from the CDROM_ROOT/tools /upgrade directory on the Oracle9iAS infrastructure installation CD-ROM for Release 2 (9.0.4.1) to the specified target directory in the infrastructure Oracle home directory that you are upgrading:

Table 3–5 Upgrade Files and Target Directories

File	Target Directory
`modDirectiveMS.xsd`	`$ORACLE_HOME/dcm/config/plugins/apache`
`mod_fastcgi.so`	`$ORACLE_HOME/Apache/Apache/libexec`
`mod_osso.so`	`$ORACLE_HOME/Apache/Apache/libexec`

Table 3–5 (Cont.) Upgrade Files and Target Directories

File	Target Directory
opca.jar	$ORACLE_HOME/sysman/webapps/emd/WEB-INF/lib
portalSMI.jar	$ORACLE_HOME/sysman/webapps/emd/WEB-INF/lib
repository.jar	$ORACLE_HOME/jlib

4. Create an orclguest user using Oracle Delegated Administration Services.

   Note: You must have sufficient privilege to create new users in the default subscriber.

   a. Log in to Oracle Delegated Administration Services as a user with privilege to create users.
   b. Select the **Directory** tab.
   c. In the **Search Results** section, click **Create**.
   d. Depending on the configuration, the Create User page prompts for different values. The **User Name** value in this case should be orclguest. The rest of the values should be filled in, accordingly. Ensure that all of the required fields are filled in.
   e. Click **Submit**.

   Note: Ensure that there is no middle tier installed against this infrastructure.

5. Install the Oracle Collaboration Suite information storage database.

   Note: While registering the information storage database, point to the Oracle Internet Directory of the infrastructure upgraded to 9.0.2.3 in Step 1.

6. Install the Oracle Collaboration Suite, Release 2 middle tier.

   When installing the Oracle Collaboration Suite Release 2 middle tier against the upgraded Oracle9*i*AS infrastructure, the Oracle9*i*AS Wireless configuration assistant will fail during the configuration phase.

   Perform the following steps to avoid this failure:

   a. Complete the installation without configuring Oracle9*i*AS Wireless
   b. Download patch 3133419 and run the Oracle9iAS Wireless configuration assistant tool as instructed in the patch.

7. Apply the Oracle9*i*AS Portal patch 2758529 on the middle tier machine. The patch can be downloaded from: `http://metalink.oracle.com/`
8. Recompile all of the invalid objects.
9. Re-run the Web Client installer from the command line:

   ```
   $ORACLE_HOME/webclient/bin/webclient_installer.sh OID_Administrator password
   ```

```
-complete
```

10. Complete the Oracle Collaboration Suite, Release 2 middle tier configuration steps.

4

Oracle Collaboration Suite Deployment Methods

This section describes different methods for deploying the three Oracle Collaboration Suite installations and lists deployment recommendations. It also covers database tuning if you plan to use existing Oracle9*i* databases with Oracle Collaboration Suite components.

This chapter contains this topic:

- Oracle9iAS Infrastructure Deployments
- Oracle Collaboration Suite Information Storage Deployment
- Oracle Collaboration Suite Middle Tier Deployment
- Deployment Recommendations and Considerations
- Removing Oracle Collaboration Suite Release 1 (9.0.3)

Oracle9*i*AS Infrastructure Deployments

Oracle9*i*AS Infrastructure deployment typically includes one Oracle9*i*AS Single Sign-On instance and one Oracle Internet Directory instance in a network, with one or more installations of Oracle Management Server.

To configure Oracle Internet Directory and Oracle9*i*AS Single Sign-On on separate hosts, perform the following procedures when prompted at the Select Configuration Options screen during installation:

1. Select the configuration of Oracle Internet Directory and deselect the configuration of Oracle9*i*AS Single Sign-On on the first host, Host 1, during installation.
2. Select configuration of Oracle9*i*AS Single Sign-On and deselect configuration of Oracle Internet Directory on the second host, Host 2, during installation.
3. Point the Oracle9*i*AS Single Sign-On configuration on Host 2 to the Oracle Internet Directory configuration on Host 1 during installation.

   If you plan to install Oracle Internet Directory on more than one host to form a directory replication network, configure Oracle9*i*AS Single Sign-On with only one of the Oracle Internet Directory instances. The remaining instances of Oracle Internet Directory must not associate with any Oracle9*i*AS Single Sign-On configuration.

See Also: *Oracle Internet Directory Administrator's Guide* available on Oracle Technology Network at

`http://otn.oracle.com/`

Oracle Collaboration Suite Information Storage Deployment

Some Oracle Collaboration Suite components that interact with customer data use the information storage database for metadata schema storage. Multiple Oracle Collaboration Suite component installations of the same type can use the same, or different, information storage databases. A single database instance can hold metadata schemas and data for different Oracle Collaboration Suite components.

Oracle Collaboration Suite Middle Tier Deployment

All Oracle Collaboration Suite middle tier installations require Oracle9*i*AS Infrastructure. You can use the Oracle9*i*AS Infrastructure included in the Oracle Collaboration Suite CD pack, or you can upgrade an existing Oracle9*i*AS Infrastructure 9.0.2.0.0 or 9.0.2.0.1 version to use with Oracle Collaboration Suite.

You must have Oracle Internet Directory and Oracle9*i*AS Single Sign-On installed and configured on your network. Oracle Corporation also recommends a separate Oracle9*i*AS Metadata Repository for all your middle tier applications. If you have an existing Oracle9*i*AS Infrastructure, see "Upgrading Oracle9iAS Infrastructure" on page 3-4.

All Oracle Collaboration Suite middle tier applications can share the same Oracle9*i*AS Metadata Repository, and typically do not share the same Oracle9*i*AS Metadata Repository as Oracle Internet Directory.

You can install only one middle tier per host but you can configure multiple instances of the Oracle Collaboration Suite from a single host. Note that Oracle Email should only be configured once on a single host. However, you cannot install the Oracle Collaboration Suite middle tier into an Oracle9*i*AS Infrastructure Oracle home or an existing Oracle9*i*AS middle tier Oracle home.

The Oracle Collaboration Suite consists of several middle tier applications, including Oracle9*i*AS Portal and Oracle Ultra Search. Oracle9*i*AS Portal and Oracle Ultra Search can connect to either an:

- Oracle9*i* database
- Oracle9*i*AS Metadata Repository typically not shared with Oracle Internet Directory

Oracle Ultra Search indexing is automatically stored in an Oracle9*i*AS Metadata Repository or it can be stored in an Oracle9*i* database. Store Oracle Ultra Search indexing in an Oracle9*i*AS Metadata Repository other than the repository used by Oracle Internet Directory.

Oracle Email components must connect to an Oracle9*i* release 2 (9.2) database in order to store voice mail and faxes in an Oracle Email inbox.

All Oracle Collaboration Suite middle tier applications except Oracle Email, Oracle Files, and Oracle Calendar automatically store their information in an Oracle9*i*AS Metadata Repository.

Notes:

- The Oracle Collaboration Suite middle tier can be installed as a single instance or as multiple instances on one or many hosts. If you install more than one instance of Oracle Collaboration Suite middle tier on a single host, do not configure Oracle Email or Oracle Calendar more than once.
- Upgrade of an Oracle9*i*AS middle tier to this version of Oracle Collaboration Suite is not supported.

This section contains these topics:

- Deploying Oracle Calendar
- Deploying Oracle Email
- Deploying Oracle Files
- Deploying Oracle Ultra Search
- Deploying Oracle Voicemail & Fax
- Deploying Oracle Web Conferencing
- Deploying Oracle9iAS Wireless

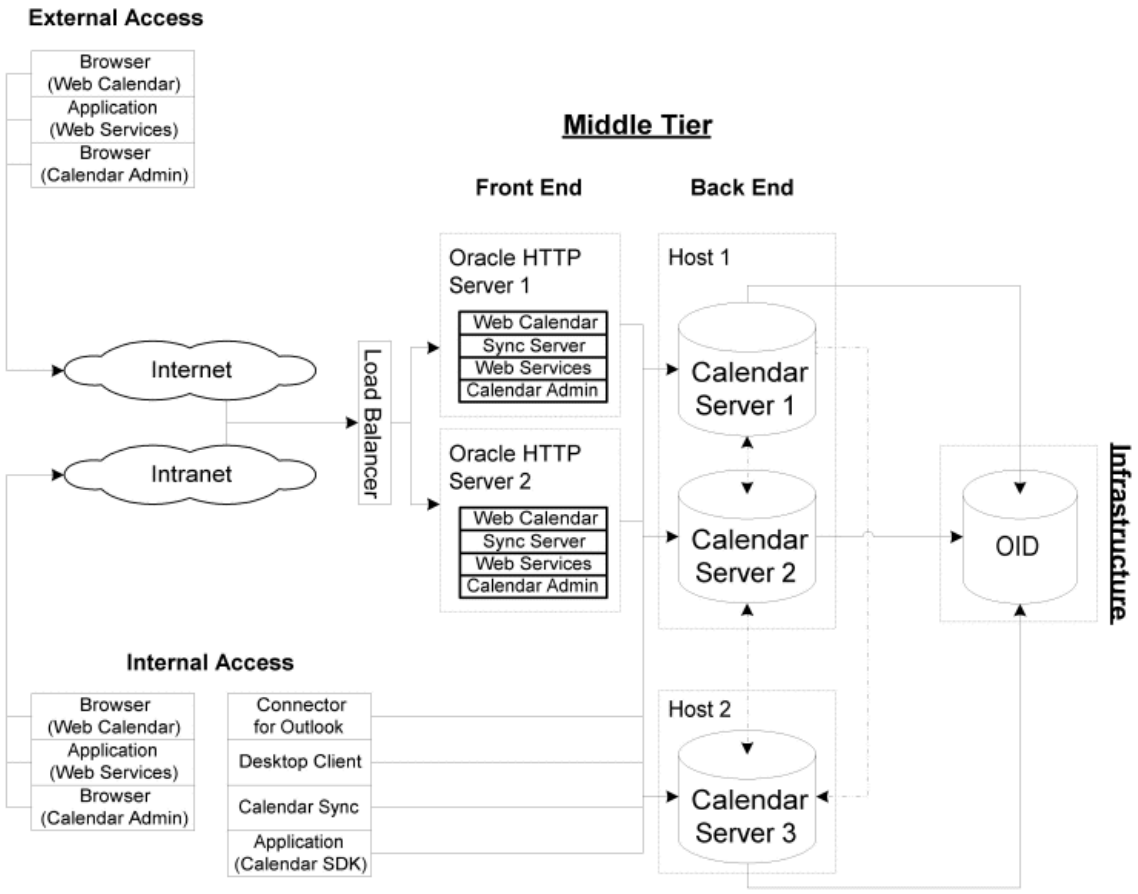
Deploying Oracle Calendar

When Oracle Calendar is installed, many components are installed on the computer. These include Oracle Calendar server components such as engine, daemons, and utilities, and Web components, such as Oracle Calendar Web client, Oracle Calendar Administrator, Oracle Calendar Sync Server, and Oracle Calendar Web services. If more than one instance of Oracle Calendar server is installed on the same computer, redundant copies of some components will exist.

In order to avoid redundancy, it is recommended that the software be distributed on two computers: a front-end server and a back-end server, with the Web applications on the front-end server and the Oracle Calendar server components on the back-end server. This helps eliminate the multiple copies of Web applications and Oracle HTTP Server instances and a load balancing approach can be taken for the Web server by increasing the number of front-end servers, as shown in Figure 4–1.

This configuration also allows you to isolate the back-end server behind a firewall and to set up a DMZ.

Figure 4–1 Oracle Calendar Deployment



Deploying Oracle Email

Review the following considerations before installing the Oracle Collaboration Suite middle tier and configuring Oracle Email:

- Configure only one Oracle Email instance on a single computer.
- Use an Oracle Collaboration Suite information storage database or tune an existing Oracle9*i* database.

Deploying Oracle Files

Review the following considerations before installing the Oracle Collaboration Suite middle tier and configuring Oracle Files:

- Review "Verify Requirements and Choose a Deployment Type" on page 4-5.
- Use an Oracle Collaboration Suite information storage database or tune an existing Oracle9*i* database.

> **See Also:** *Oracle Files Planning Guide* and "Oracle Files Concepts" in *Oracle Files Administrator's Guide* for information on planning your Oracle Files deployment

Verify Requirements and Choose a Deployment Type

Evaluate your hardware resources, using the detailed information regarding Oracle Files hardware and sizing requirements described in the *Oracle Files Planning Guide*, and choose an appropriate deployment path:

- Multiple Computer Deployment for Production Environments for Oracle Files
- Single Computer Deployment for Oracle Files

> **See Also:** Chapter 2, "Preparing for Installation", and the *Oracle Files Planning Guide*

Multiple Computer Deployment for Production Environments for Oracle Files

Oracle Files is designed to run as middle tier, application server software supported by Oracle Collaboration Suite. For optimal performance, run the database on one computer, Oracle Files on another computer, and the Oracle9*i*AS Infrastructure on a third computer.

A component of Oracle9*i*AS Infrastructure, Oracle Internet Directory, is required for managing Oracle Files user credentials.

Single Computer Deployment for Oracle Files

Oracle Files and all of its required components can be installed on a single computer if the computer meets all hardware and software requirements listed in the *Oracle Files Planning Guide*. To install and deploy Oracle Files:

1. Install and configure Oracle Internet Directory, a part of Oracle9*i*AS Infrastructure, into one Oracle home.
2. Install and configure Oracle Collaboration Suite Information Storage into a different Oracle home.
3. Install the Oracle Collaboration Suite middle tier and configure Oracle Files into a third Oracle home.
4. Use the Oracle Files configuration assistant to configure Oracle Files by following the instructions in Chapter 12, "Configuring Oracle Files".

Deploying Oracle Ultra Search

Oracle Ultra Search requires Oracle Text. Oracle Text is installed with the Oracle9*i*AS Infrastructure and Oracle Collaboration Suite information storage installations. If you are using an existing Oracle9*i* database, ensure that Oracle Text is installed and configured.

Oracle Corporation recommends installing and configuring a separate Oracle9*i*AS Metadata Repository if you plan to use the Oracle Ultra Search indexing feature. Oracle Ultra Search indexing is automatically stored in the Oracle9*i*AS Metadata Repository. Store Oracle Ultra Search indexing in an Oracle9*i*AS Metadata Repository other than the repository used by Oracle Internet Directory.

Review the following considerations before installing the Oracle Collaboration Suite middle tier and configuring Oracle Ultra Search:

- Sufficient RAM
- Sufficient Disk Space
- Software Requirements

- Performance Factors and Sizing Guidelines

Sufficient RAM

The Ultra Search indexing engine runs within Oracle. Therefore, it is important that the system have enough memory to accommodate a large Oracle installation. The Oracle instance system global area must be a minimum of 50 MB.

See Also: *Oracle9i Database Performance Tuning Guide and Reference*

The Ultra Search Web crawler runs as a separate Java process on the same host. Allocate 50 MB of memory for the Web crawler alone.

The Ultra Search administration tool is a J2EE 1.2 standard Web application. It can be installed and run on a separate host from the Ultra Search server component. However, running this component on the same host as the Ultra Search server component may limit scalability. Regardless of your choice, allocate enough memory for the J2EE engine. Oracle Corporation recommends using the Oracle HTTP server with the Oracle9*i*AS Containers for J2EE. Allocate enough memory for the Oracle HTTP server and the JDK that runs the J2EE engine.

Sufficient Disk Space

Because customer requirements vary widely, Oracle cannot recommend a specific amount of disk space. The following minimal requirements are meant as general guidelines:

- Allocate the same amount of disk space as needed to install the Ultra Search server component for each remote crawler host.
- Create a temporary tablespace as large as available, depending on the RAM on your host.
- Create the tablespace for the Ultra Search instance user as large as the total amount of data that you want to index. For example, if you estimate that the total amount of data to be crawled and indexed is 10 GB, then create a tablespace that is at least 10 GB for the Ultra Search instance user. Make sure to assign that tablespace as the default tablespace of the Ultra Search instance user.

Note: The Ultra Search instance user is a database user that you must explicitly create. All data that is collected and processed as part of the crawling and indexing process is stored in this user's schema.

Software Requirements

The Ultra Search middle tier components are Web applications. Therefore, they require a Web server to run. Oracle Corporation recommends the Oracle HTTP Server and Jserv or Oracle HTTP Server and the Oracle9*i*AS Containers for J2EE.

Performance Factors and Sizing Guidelines

This section describes the hardware required for Oracle Ultra Search to provide uniform search capabilities across the repositories of typical small, medium, and large organizations.

Crawling and indexing performance depends on the number of documents to search, average size of documents, the kinds of documents (whether or not these documents require conversion from a native format through INSO), and other factors.

Note: The actual data collected due to crawling and indexing is not stored in the user's schema. However, tokens from the data are stored.

Query performance depends on the number of users querying in consecutive, simultaneous fashion within a given, small time period, say 15 minutes. Query performance also depends on the data set size and computer resources (CPUs/memory).

Small, medium, and large corporations are defined in Table 4–1:

Table 4–1 Performance Factors for Small, Medium, and Large Corporations

Performance Factors	Small	Medium	Large
Number of Documents on Corporate Intranet	50000	500000	2500000
Average Size of Document (KB)	50	50	50
Concurrent Search Users	<10	<10	<10

Sample hardware configurations for small, medium, and large corporations are given in Table 4–2:

Table 4–2 Sizing Guidelines for Small, Medium, and Large Corporations

Tier	Small	Medium	Large
Database (Oracle9*i*AS Metadata Repository or Oracle9*i* database release 1 (9.0.1) or later)	One SUN Ultra 60 with 2 GB RAM	SUN Enterprise 450 (or equivalent) with 4 CPUs 2 GB RAM 10-15 GB free disk space	HP-UX PA-RISC (64-bit) Superdome with 16 CPU 48 GB RAM 500 GB free disk
Oracle Collaboration Suite Middle Tier	10 GB free disk space	Windows 2000 Server with 2 GB RAM each	Windows 2000 Server with 2 GB RAM each

Note: For small configurations, both the database tier and Oracle Collaboration Suite middle tier are installed on the same computer. The hard disk space requirements mentioned do not include the space required to install the software. See "Hardware Requirements" on page 2-1 for hard disk space requirements.

Deploying Oracle Voicemail & Fax

Oracle Voicemail & Fax requires a Windows 2000 Computer Telephony (CT) Server for telephony services.

See Also: *Oracle Voicemail & Fax Administrator's Guide* for hardware and software requirements and installation instructions

Deploying Oracle Web Conferencing

Oracle Web Conferencing delivers its end-user functionality as a middle tier application within Oracle Collaboration Suite. Oracle Web Conferencing is the current offering from the Oracle Real-Time Collaboration group of products.

To plan Oracle Web Conferencing deployment:

- Review the Oracle Web Conferencing related sections of this guide
- Review the *Oracle Web Conferencing Administrator's Guide*
- For the latest information, workaround, and tips, go to

  `http://otn.oracle.com/`

Oracle Collaboration Suite requires the use of a compatible version of Oracle9*i*AS Single Sign-On server, and must be associated with Oracle Internet Directory. These are available from the Oracle9*i*AS Infrastructure.

Oracle Web Conferencing requires the use of a Oracle9*i* database release 9.2, or later. You can choose to use the Oracle Collaboration Suite information storage database you may already have installed for other Oracle Collaboration Suite components, such as Oracle Files, or you can provide connection information to an appropriate separate database during installation of the middle tier. If you plan to use a database different from the Oracle Collaboration Suite information storage database, ensure you have verified the tablespace-related requirements for Oracle Web Conferencing from this guide.

Oracle Web Conferencing has higher processing power consumption in order to deliver real-time collaboration. Depending on the deployment configurations you are using, you might have to reconfigure the Oracle HTTP Server and `mod_osso` configurations for the `$ORACLE_HOME` in which Oracle Web Conferencing is to be installed. Therefore, Oracle Corporation recommends that Oracle Web Conferencing is installed in its own `$ORACLE_HOME`, apart from any other Oracle Collaboration Suite component products.

If you have multiple middle tier hosts for your Oracle Collaboration Suite implementation, set up Oracle Web Conferencing on the host which can provide the highest possible memory and CPU resources to Oracle Web Conferencing alone, and which has the largest bandwidth network connection to end-users.

Oracle Web Conferencing can be deployed on as many middle tiers as you choose. Each instance of Oracle Web Conferencing is configured by default to cooperate with all Oracle Web Conferencing middle tiers using the same database.

Oracle Web Conferencing can be installed and configured with other Oracle Collaboration Suite components in the same `$ORACLE_HOME`.

Oracle Web Conferencing core components can also be configured where the entire Oracle Collaboration Suite, including the infrastructure, information store, and all the middle tier Oracle homes, exist on the same host, as long as the host satisfies all the requirements listed in this guide and relevant documentation for Oracle Collaboration Suite components.

Note: An instance of Oracle Web Conferencing with a document conversion server and a voice conversion server requires a computer with Microsoft Windows 2000 installed. The functionality provided by this type of Oracle Web Conferencing instance might not be available if your deployment does not include a document conversion server or voice conversion server, but the core functionality of Oracle Web Conferencing is still available.

Deploying Oracle9*i*AS Wireless

If you are installing the Oracle9*i*AS Wireless component of Oracle Collaboration Suite against an existing Oracle9*i*AS Infrastructure 9.0.2.0.0 or 9.0.2.0.1, the Oracle9*i*AS Wireless schema in the Oracle9*i*AS Metadata Repository is automatically upgraded. If you have existing Oracle9*i*AS Wireless middle tiers, versions 9.0.2.6.0 or lower, pointing to the same Oracle9*i*AS Infrastructure, you must apply the Oracle9*i*AS Wireless 9.0.2.8.0 patch to each of the Oracle9*i*AS Wireless middle tiers. This patch is available on Oracle*MetaLink* at

```
http://metalink.oracle.com/
```

If you are installing the Oracle9*i*AS Wireless middle tier from the Oracle Collaboration Suite CD Pack, no upgrade is required.

High Availability for Oracle9*i*AS Wireless

In Oracle9*i*AS Wireless, applications cannot be clustered using the Oracle9*i*AS clustering mechanism. However, it is still possible to configure Oracle9*i*AS to achieve a high availability deployment.

Complete the following steps for high availability deployment:

Note: Back up all files before modifying them.

1. Install the Oracle9*i*AS infrastructure on a computer, and install multiple middle tiers on separate computers. Ensure that each of these middle-tier installations points to the infrastructure.
2. Shut down the Distributed Confinguration Manager and all process using the following command:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl stop
   ```

3. Shut down Oracle Enterprise Manager using following the command:

   ```
   $ORACLE_HOME/bin/emctl stop
   ```

4. Verify that the `$ORACLE_HOME/opmn/conf/ons.conf` file on each of the middle tiers and on the infrastructure contains IP address entries for all the other tiers. If not, file and add missing IP address entries.
5. On each middle tier, increase the number of processes that need to participate in the default island for the `OC4J_Wireless OC4J` instance to the desired number. This can be done from the Oracle Enterprise Manager console or by modifying the `$ORACLE_HOME/opmn/conf/opmn.xml` file.

   See Also: Oracle9*i*AS Containers for J2EE documentation for details and concepts of OC4J instance and islands

For instance, if you modify `opmn.xml`, a typical entry to start four OC4J processes in the default island would be of the form:

```
<oc4j maxRetry="3" instanceName="OC4J_Wireless" gid="OC4J_Wireless"
numProcs="4">
```

6. In the `mod_oc4j` configuration file for each middle tier (specifically, `$ORACLE_HOME/Apache/Apache/conf/mod_oc4j.conf`), modify the mount point entries for the Oracle9*i*AS Wireless runtime. If two middle tiers (m1 and m2, in the following examples) are used, modify the entries, as follows:

   ```
   Oc4jMount /ptg
   instance://m1.c1.mysite.com:OC4J_Wireless,m2.c2.se4637-u-sr006.us.oracle.com
   :OC4J_Wireless
   ```

   and

   ```
   Oc4jMount /ptg/*
   instance://m1.c1.mysite.com:OC4J_Wireless,m2.c2.se4637-u-sr006.us.oracle.com
   :OC 4J_Wireless
   ```

   where c1 and c2 are the respective Oracle9*i*AS instance names and can be determined by running the command:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl whichInstance
   ```

   These entries should be exactly the same for all middle-tier computers.

7. Run `$ORACLE_HOME/dcm/bin/dcmctl updateConfig` to update the Distributed Configuration Manager repository with the configuration file changes.

   On slower systems, it is likely that a Distributed Configuration Manager error (timeout) of the form ADMN-906005 is displayed. If this occurs, run the `$ORACLE_HOME/dcm/bin/dcmctl getReturnStatus` command and wait until the command exits. This confirms that the changes have been propagated to the Distributed Configuration Manager repository.

8. Add a `<cluster-config/>` tag under the `<orion-web-app>` tag in the following file:

   ```
   $ORACLE_HOME/j2ee/OC4J_wireless/application-deployments/ptg/ptg-web
   /orion-web.xml
   ```

9. Start the Distributed Configuration Manager and all processes by running the following command:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl start
   ```

10. Start Oracle Enterprise Manager by running the following command:

    ```
    ORACLE_HOME/bin/emctl start
    ```

11. Configure a hardware load-balancer to point to the middle tiers.

    Currently, high availability support is only available for the core server runtime (by default mapped to the `URI /ptg/rm`).

    See Also: Oracle9*i*AS Containers for J2EE documentation for more information

Deployment Recommendations and Considerations

Oracle Corporation recommends:

- Installing the three Oracle Collaboration Suite installations in different Oracle homes in the following order:
  - Oracle9*i*AS Infrastructure
  - Oracle Collaboration Suite information storage
  - Oracle Collaboration Suite
- Installing Oracle Collaboration Suite and Oracle9*i*AS Infrastructure on separate hosts for optimal performance
- Installing Oracle Collaboration Suite and Oracle Collaboration Suite information storage on separate hosts
- Using the same operating system user account when installing and configuring additional Oracle Collaboration Suite applications on the same host

You can achieve optimal performance for extensively-used components by connecting to an Oracle9*i*AS Metadata Repository located on a separate host. The following procedure describes how to assign a component to its own repository.

1. Install Oracle9*i*AS Infrastructure for Oracle Internet Directory and Oracle9*i*AS Single Sign-On support (and optionally for Oracle Management Server support).
2. Install the Oracle Collaboration Suite, which includes the middle tier applications.
3. Install a second Oracle9*i*AS Infrastructure without configuring Oracle Internet Directory or Oracle9*i*AS Single Sign-On.
4. Browse to the Oracle Enterprise Manager Web Site for this instance of Oracle Collaboration Suite and go to the Oracle9*i*AS Instance Home Page.
5. Select **Configure Schema**.

   From the Configure Schema page, you can change the database and schema for the selected application.

   > **See Also:** The online help topic "Configuring the Schema for an Oracle9*i*AS Component" in the Enterprise Manager Web Site online help for additional information about performing this task

Removing Oracle Collaboration Suite Release 1 (9.0.3)

If you install Oracle Collaboration Suite Release 2 (9.0.4.1) on a machine that contains an existing installation of Oracle Collaboration Suite Release 1 (9.0.3), without performing an upgrade, then the Oracle Collaboration Suite Release 1 (9.0.3) directory will continue to be the active Oracle Enterprise Manager directory. If you later decide to remove the Oracle Collaboration Suite Release 1 (9.0.3) installation, you must first run the `emctl` command from the Oracle Collaboration Suite Release 1 (9.0.3) directory to change the Oracle Enterprise Manager directory to the Oracle Collaboration Suite Release 2 (9.0.4.1) directory or another location.

See Also:

- *Oracle Enterprise Manager Administrator's Guide* for information on working with the `emctl` command
- "Upgrading the Oracle Collaboration Suite Middle Tier" on page 3-8, for information on upgrading Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1)

5

Getting Started with Installation

This chapter describes how to get started with the three Oracle Collaboration Suite installations. You must follow the procedures in this chapter to ensure that the installation process is successful.

This chapter contains these topics:

- Installing Oracle Components from the CD-ROMs
- Installing Oracle Components from a Hard Drive
- Oracle Universal Installer Overview
- Starting Oracle Universal Installer

Installing Oracle Components from the CD-ROMs

Oracle Collaboration Suite includes CD-ROMs for installing the following products:

- Oracle9*i*AS Infrastructure
- Oracle Collaboration Suite information storage
- Oracle Collaboration Suite
- Oracle Collaboration Suite Clients
- Oracle Cluster Manager version 9.2.0.3

The Oracle CD-ROMs are in ISO 9660 format with Rockridge extensions. You can either choose to install directly from the CD-ROMs, or copy the CD-ROM contents and then install from your system hard drive. You must complete the procedures required for the installation method you choose before starting Oracle Universal Installer.

For operating systems that do not support automatic mounting of CD-ROMs, the CD-ROMs must be mounted manually. You must have `root` privileges to mount or unmount a CD-ROM. Be sure to unmount a CD-ROM before removing it from the drive.

Refer to these mounting procedures during installation as necessary:

- Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit)
- Mounting CD-ROMs for hp-ux PA-RISC (64-bit)
- Mounting CD-ROMs for Linux x86

Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit)

Mount the first CD-ROM to begin the installation. Mount the subsequent disk or disks when prompted. Use the following procedures to mount CD-ROMs.

This section contains these topics:

- Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit) with Volume Management Software
- Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit) Manually

Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit) with Volume Management Software

If you are using Volume Management software (available by default on Solaris), the CD-ROM is mounted automatically to the `/cdrom/`*`volume_name`* directory when inserted into the CD-ROM drive. Proceed to "Starting Oracle Universal Installer" on page 5-9.

To check if you have Volume Management software, use the following command:

```
$ ps -e | grep vold
```

If you have Volume Management software, the output must be similar to the following:

```
404 ? 16:03 vold
```

- If the Volume Management software is running, the CD-ROM is mounted automatically. Use the following commands to unmount subsequent CD-ROMs:

  ```
  $ cd /
  $ eject
  ```

  After entering these commands, proceed to "Starting Oracle Universal Installer" on page 5-9.

- If no lines are returned, then Volume Management software is not running, and you must mount the CD-ROM manually. Proceed to "Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit) Manually" on page 5-2.

Follow these steps to mount subsequent CD-ROMs:

1. Remove the CD-ROM from the CD-ROM drive by using the following commands:

   ```
   $ cd /
   $ eject
   ```

2. Insert the next CD-ROM into the CD-ROM drive and enter the correct mount point in the Installation screen of Oracle Universal Installer.
3. Click **OK** to continue.

Mounting CD-ROMs for Solaris Operating Environment (SPARC 32-bit) Manually

Follow these steps to mount the CD-ROM manually:

1. Place the first CD-ROM of the appropriate installation in the CD-ROM drive.
2. Log in as the `root` user and, if necessary, create a CD-ROM mount point directory by using the following commands:

   ```
   $ su root
   # mkdir cdrom_mount_point_directory
   ```

3. Mount the CD-ROM drive on the mount point directory, and then exit the `root` account by using the following commands:

```
# mount options device_name cdrom_mount_point_directory
# exit
```

If you are unsure of the correct *device_name*, consult your system administrator. Typically, the *device_name* is `/dev/dsk/c0t6d0s0`. For example:

```
$ su root
# mkdir /cdrom
# mount -r -F hsfs /dev/dsk/c0t6d0s0 /cdrom
# exit
```

If you run Oracle Universal Installer while the current working directory is on the CD-ROM, follow these steps to mount the next CD-ROM:

1. Change directories to the root directory of your system and log in as the `root` user by using the following commands:

```
$ cd /
$ su root
```

2. Unmount the CD-ROM by using the following command:

```
# umount cdrom_mount_point_directory
```

3. Remove the CD-ROM from the CD-ROM drive.
4. Insert and mount the next CD-ROM in the CD-ROM drive by using the following command:

```
# mount options device_name cdrom_mount_point_directory
```

5. Enter the correct mount point in the Installation screen of Oracle Universal Installer.
6. Click **OK** to continue.

Mounting CD-ROMs for hp-ux PA-RISC (64-bit)

Mount the first CD-ROM of the appropriate installation to begin. Mount the subsequent disk or disks when prompted. Follow these steps to mount the Oracle CD-ROM manually:

1. Place the CD-ROM in the CD-ROM drive.
2. Log in as the `root` user and create a CD-ROM mount point directory, if one does not already exist, by using the following commands:

```
$ su root
# mkdir cdrom_mount_point_directory
```

3. Use the following command to determine the device name:

```
$ ioscan -fun -C disk
```

The output is similar to the following:

```
disk     10  10/12/5.2.0   sdisk       CLAIMED   DEVICE    TOSHIBA CD-ROM
XM-5701TA /dev/dsk/c4t2d0   /dev/rdsk/c4t2d0
```

4. If there is no entry in the `/etc/pfs_fstab` file for your CD-ROM device, you must add one. As the `root` user, use a system editor to add a line to the `/etc/pfs_fstab` file following this format:

   ```
   device_file mount_point filesystem_type translation_method
   ```

   In the preceding format, the first entry is the CD-ROM device, the second entry is the mount point, and the third entry indicates that the CD-ROM to be mounted is in ISO 9660 format with Rockridge extensions.

   The *`device_file`* in this example is `/etc/pfs_fstab`. For a CD-ROM device with the path `/etc/pfs_fstab`, enter the following:

   ```
   /dev/dsk/c4t2d0 /SD_CDROM pfs-rrip xlat=unix 1 0
   ```

5. Log in as the `root` user with the following command:

   ```
   $ su root
   ```

6. Enter the following commands:

   ```
   # nohup /usr/sbin/pfs_mountd &
   # nohup /usr/sbin/pfsd &
   ```

7. Mount the CD-ROM by entering the following command:

   ```
   # /usr/sbin/pfs_mount /SD_CDROM
   ```

8. Log out of the `root` account.

   ```
   # exit
   ```

If you run Oracle Universal Installer while the current working directory is on the CD-ROM, follow these steps to mount the next CD-ROM:

1. Change to the system root directory and log in as the `root` user:

   ```
   $ cd /
   $ su root
   ```

2. To unmount the CD-ROM, use the following command:

   ```
   # /usr/sbin/pfs_umount /SD_CDROM
   ```

3. Remove the CD-ROM from the CD-ROM drive.
4. Insert the required CD-ROM into the CD-ROM drive and mount it with the following command:

   ```
   # /usr/sbin/pfs_mount /SD_CDROM
   ```

5. Enter the correct mount point in the Installation screen.
6. Click OK to continue.

Mounting CD-ROMs for Linux x86

Mount the first CD-ROM of the appropriate installation to begin. Mount the subsequent disk or disks when prompted. Use the following procedures to mount the CD-ROMs:

- Mounting CD-ROMs for Linux x86 with Auto Mounting Software
- Mounting CD-ROMs for Linux x86 Manually

Mounting CD-ROMs for Linux x86 with Auto Mounting Software

If you are using auto mounting software, the CD-ROM is mounted automatically to the directory specified in your auto mount configuration when you insert it into the CD-ROM drive. Proceed to "Starting Oracle Universal Installer" on page 5-9.

To check if you have auto mounting software, use the following command:

```
$ ps -aux | grep automount
```

If you have auto mounting software, the output must be similar to the following:

```
root 628 0.0 0.2 1148 588 ? S 17:32 0:00 /usr/sbin/automount /misc file
/etc/auto.misc
```

In the preceding output, the `/etc/auto.misc` entry defines the directory under the `/misc` file where the CD-ROM is to be mounted.

- If the auto mounting software is running and configured properly, the CD-ROM is mounted automatically. Proceed to "Starting Oracle Universal Installer" on page 5-9.
- If no lines are returned, the auto mounting software is not running, you must mount the CD-ROM manually. Proceed to "Mounting CD-ROMs for Linux x86 Manually".

Follow these steps to mount subsequent CD-ROMs:

1. Remove the CD-ROM from the CD-ROM drive by using the following commands:

   ```
   $ cd /
   $ eject
   ```

2. Insert the next CD-ROM into the CD-ROM drive and enter the correct mount point in the Installation dialog box of Oracle Universal Installer.
3. Click **OK** to continue.

Mounting CD-ROMs for Linux x86 Manually

To mount the Oracle CD-ROM manually, use the following steps:

1. Place the first CD in the CD-ROM drive.
2. Log in as the `root` user and, if necessary, create a CD-ROM mount point directory by using the following commands:

   ```
   $ su root
   # mkdir cdrom_mount_point_directory
   ```

3. Mount the CD-ROM drive on the mount point directory by using the following commands:

   ```
   # mount options device_name cdrom_mount_point_directory
   ```

4. Exit the `root` account:

   ```
   # exit
   ```

If you are unsure of the correct *`device_name`*, consult your system administrator. Typically, the *`device_name`* is `/dev/cdrom`. For example:

```
$ su root
# mkdir /cdrom
# mount -t iso9660 /dev/cdrom /cdrom
```

```
# exit
```

If you run Oracle Universal Installer while the current working directory is in the CD-ROM, follow these steps to mount the next CD-ROM:

1. Change directories to the root directory of your system and log in as the `root` user by using the following commands:

   ```
   $ cd /
   $ su root
   ```

2. Unmount the CD-ROM by using the following command:

   ```
   # umount cdrom_mount_point_directory
   ```

3. Remove the CD-ROM from the CD-ROM drive.
4. Insert the next CD-ROM into the CD-ROM drive and then use the following command to mount it:

   ```
   # mount cdrom_mount_point_directory
   ```

5. Enter the correct mount point in the Installation screen of Oracle Universal Installer.
6. Click **OK** to continue.

Installing Oracle Components from a Hard Drive

You can avoid the need to mount and unmount CD-ROMs during installation by copying the contents of each CD-ROM to your system hard drive. You must have a file system that is not in use by other applications and enough disk space available.

1. Copy each CD-ROM to your system hard drive under a directory named `Disk1` for the first CD-ROM, a directory named `Disk2` for the second CD-ROM, and so on (depending upon the number of the CD-ROM in the sequence of disks that comprises the set).
2. Start Oracle Universal Installer. Oracle Universal Installer automatically finds the contents of each CD-ROM and does not prompt for the location of any CD-ROM during the course of the installation.

See Also:

- "Hardware Requirements" on page 2-1 for hard disk requirements for your platform
- "Installing Oracle Components from the CD-ROMs" on page 5-1 for instructions on mounting and unmounting CD-ROMs

Oracle Universal Installer Overview

Oracle Collaboration Suite uses Oracle Universal Installer to guide you through each step of the installation process. Oracle Universal Installer provides the following features:

- Describes installation options for Oracle Collaboration Suite
- Detects preset environment variables and configuration settings
- Sets environment variables and configuration during installation

- Deinstalls Oracle Collaboration Suite products

This section describes the following Oracle Universal Installer features:

- Oracle Universal Installer Prerequisite Checks
- oraInventory Directory and Installation Session Log Files
- Additional Component Installations with Oracle Universal Installer

Oracle Universal Installer Prerequisite Checks

Oracle Universal Installer automatically checks your computer prior to installation to verify that your system meets operational requirements. Table 5–1 lists the prerequisite checks that are performed.

Table 5–1 Oracle Universal Installer ***Automatic Prerequisite Checks***

Prerequisite Checks	See Also
Check for enough disk space for Oracle home installation	"Hardware Requirements" on page 2-1
Check for sufficient `/var/tmp` space and sufficient swap space	"Hardware Requirements" on page 2-1
Check that the install host has enough RAM	"Hardware Requirements" on page 2-1
For middle tier and information storage installs, verify existence of one Oracle9*i*AS Infrastructure installation	Chapter 1, "Installation Overview"
Check the `/etc/hosts` file	"Hostnames File Configuration" on page 2-13
Prohibit installation of Oracle9*i*AS Infrastructure if an unpatched 9.0.2.0.0 version of Oracle9*i*AS Infrastructure is detected	"Upgrading Oracle9iAS Infrastructure" on page 3-4
Check for Solaris Operating Environment (SPARC 32-bit) 2.8, hp-ux PA-RISC (64 bit), and Linux x86	"Operating System Versions" on page 2-4
Verify the monitor has 256 color viewing capability	"Hardware Requirements" on page 2-1
Verify installation of correct Solaris Operating Environment (SPARC 32-bit), hp-ux PA-RISC (64 bit), and Linux x86 kernel patches	"Determining Random Access Memory" on page 2-3
Verify operational requirements of the CPU	"Hardware Requirements" on page 2-1

See Also: Appendix B, "Installation Checklists" for the installation checklists for each installation of Oracle Collaboration Suite

oraInventory Directory and Installation Session Log Files

Oracle Universal Installer creates the `oraInventory` directory the first time it is run on a computer. The `oraInventory` directory keeps an inventory of products that Oracle Universal Installer installs on your computer, as well as other installation information. If you have previously installed Oracle products, then you may already have an `oraInventory` directory.

The UNIX group that owns Oracle Universal Installer must have permission to write to the `oraInventory` directory. Attempts to run Oracle Universal Installer without this permission fails. For more information, see "UNIX Group Name for the Oracle Universal Installer Inventory" on page 2-14.

The location of `oraInventory` is defined in a file named `oraInst.loc`, the location for which depends upon your operating system, as shown in Table 5–2:

Table 5–2 Location of oraInst.loc

Platform	oraInst.loc location
Solaris Operating Environment (SPARC 32-bit)	`/var/opt/oracle/oraInst.loc`
hp-ux PA-RISC (64-bit)	`/var/opt/oracle/oraInst.loc`
Linux x86 Intel	`/etc/oraInst.loc`

The log file of the most recent installation is:

`/`*`your_base_directory`*`/oraInventory/logs/installActions`*`todays_date_time`*`.log`

where *`your_base_directory`* identifier is the location for your installation files and *`todays_date_time`* is the date and time of installation.

Do not delete or manually alter the `oraInventory` directory or its contents. Doing so can prevent Oracle Universal Installer from locating products that you have installed on your system.

Note: The `make.log` file in the `$ORACLE_HOME/install` directory contains a log of every make file action executed during the installation process. The `make.log` file also records any link errors during installation. Do not delete or alter the `make.log` file.

Additional Component Installations with Oracle Universal Installer

When you are planning to install a subsequent Oracle Collaboration Suite or Oracle9*i*AS Infrastructure installation on the same host, Oracle Corporation recommends the following steps:

- Review Chapter 2, "Preparing for Installation" for preinstallation tasks.
- Do not delete or modify the directories listed in Table 5–2 for subsequent Oracle Collaboration Suite installations.
- Stop the Oracle Enterprise Manager Web site. For more information, see the *Oracle9i Application Server Administrator's Guide*.
- Ensure that all other previously installed Oracle Collaboration Suite instances are running when you begin installation.
- Specify a different Oracle home than the first Oracle Collaboration Suite installation.
- Use the same `oraInventory` directory for subsequent Oracle Collaboration Suite installations.
- Review Chapter 4, "Oracle Collaboration Suite Deployment Methods" in this guide to ensure successful coexistence of Oracle Collaboration Suite components.

See Also: "oraInventory Directory and Installation Session Log Files" on page 5-7

Starting Oracle Universal Installer

Caution: Oracle Universal Installer automatically installs the Oracle-supplied version of the Java Runtime Environment (JRE). This version is required to run Oracle Universal Installer and several Oracle assistants. Do *not* modify the JRE except by using a patch provided by Oracle Support Services.

Oracle Universal Installer also installs JDK 1.3.1 on Linux x86 and Solaris Operating Environment (SPARC 32-bit).

On hp-ux PA-RISC (64-bit), Oracle Universal Installer prompts for the downloaded/installed location of JDK 1.3.1.

See Also: The Oracle Universal Installer online help if you have questions about the type of information to enter during the installation procedures described in this section

Follow these steps to start Oracle Universal Installer and each Oracle Collaboration Suite installation:

1. Ensure that you have completed all the requirements described in Chapter 2, "Preparing for Installation".
2. Print and complete the installation checklists in Appendix B, "Installation Checklists" for each installation. Many of the values are needed to complete the other installations and configurations.
3. Log in as the `oracle` user.

Notes:

- Ensure that you are not logged in as the `root` user when you start Oracle Universal Installer. If you are, then only the `root` user has permissions to manage Oracle Collaboration Suite.
- Do not use *`cd_mount_point`* as your working directory when you start Oracle Universal Installer. If you do, then you cannot eject the first CD-ROM during the installation step to insert the second CD-ROM.
- Oracle Corporation recommends using the same operating system user account when installing and configuring additional Oracle Collaboration Suite applications on the same host.

4. Insert the first CD-ROM of the appropriate installation into the CD-ROM drive.
5. Mount the installation CD-ROM as described in "Installing Oracle Components from the CD-ROMs" on page 5-1 for your operating system.

6. Run one of the `runInstaller` commands listed in the following table, depending on the product you are installing. Be sure to run the command from a directory other than `$cd_mount_point_directory`.

To install this product...	Enter this command...
Oracle9*i*AS Infrastructure	`$cd_mount_point_directory/ocs_infr_cd1/runInstaller`
Oracle Collaboration Suite	`$cd_mount_point_directory/ocs_mt_cd1/runInstaller`
Oracle Collaboration Suite information storage	`$cd_mount_point_directory/ocs_stor_cd1/runInstaller`
Oracle Collaboration Suite Client	`$cd_mount_point_directory/ocs_clients/runInstaller`

7. The Welcome screen displays. Click **Next** to display the Specify Inventory Location screen.

Note: If you install Oracle Collaboration Suite information storage on a cluster, the Cluster Node Selection screen appears. Select the nodes on which you want to install the Oracle software. Real Application Clusters software is installed on the node from which Oracle Universal Installer is run and copied to the other selected nodes in the cluster. The local node is always selected by default.

Do not install Oracle9*i*AS Infrastructure or Oracle Collaboration Suite on a cluster. Only Oracle Collaboration Suite Information Storage can be installed on a cluster.

See Also: *Oracle9i Real Application Clusters Setup and Configuration* for more information about installing Real Application Clusters (available on the Oracle Technology Network)

Note: If an `oraInst.loc` file exists, steps 8 through 11 will not display.

---

8. Confirm the inventory directory path for your installation or click **Browse** to reset. Click **OK** to display the UNIX Group Name screen.
9. Enter `DBA` or use the `oinstall` group name and click **Next**. Review "UNIX Group Name for the Oracle Universal Installer Inventory" on page 2-14 if you are not sure what group to specify as owner of `oraInventory` files.

   See Also: Environment Preinstallation Tasks in Chapter 2, "Preparing for Installation", for more information about creating group names

10. If this is your first Oracle installation, you will be prompted to open a new terminal window as `root` and run `orainstRoot.sh` from the directory specified in the dialog box.
11. When `orainstRoot.sh` completes, return to the Oracle Universal Installer and click **Continue** to display the Specify File Locations screen.
12. On the Specify File Locations screen:

- In the **Source** section, accept the default path
- In the **Destinations** section, enter the **Name** and the full **Path** of the Oracle home

13. Click **Next** to display the Language Selection screen.
14. Select from the list languages supported by Oracle Collaboration Suite any languages you want supported by your installation of Oracle Collaboration Suite. Click **Next**.

Notes:

- Languages selected here enable users to access your installation of Oracle Collaboration Suite in their native language, provided that language is supported by Oracle Collaboration Suite.
- Supported languages cannot be added after the installation is complete. In order to add other languages, you must completely reinstall Oracle Collaboration Suite.

---

15. Proceed to Chapter 6, "Installing Oracle Collaboration Suite".

6

Installing Oracle Collaboration Suite

This chapter guides you through the installation steps for Oracle Collaboration Suite Release 2 (9.0.4.1).

> **See Also:** "Installation Roadmap" on page 1-5 for details about the installation sequence

This chapter contains the following topics:

- Installing Oracle9iAS Infrastructure
- Installing Oracle Collaboration Suite Information Storage Database
- Installing the Oracle Collaboration Suite Middle Tier
- Installing the Oracle Web Conferencing Document and Voice Conversion Servers
- Installing Oracle Collaboration Suite Integrated Web Client
- Manually Setting Up HTTPS with mod_osso on the Middle Tier
- Additional Documentation

Installing Oracle9*i*AS Infrastructure

This section describes how to install Oracle9*i*AS Infrastructure.

> **Note:** The industry standard LDAP ports are `389` for non-SSL and `636` for SSL. If these ports are not listed in your `/etc/services` file, then the Oracle Universal Installer uses them as the Oracle Internet Directory ports. If these ports are listed in your `/etc/services` file, then the Oracle Universal Installer consecutively tries ports `4031` through `4039` as the Oracle Internet Directory ports.
>
> To use the standard ports `389` or `636`, you must delete the lines with these port number from your `/etc/services` file before you start configuration. It is not sufficient to comment out these lines: they must be deleted.
>
> If you currently have an LDAP server running on ports `389` or `636`, shut down the server before configuring.

The Confirm Pre-Installation Requirements screen appears after you click **Next** on the Language Selection screen at step 14 on page 5-11:

1. Click **Next** to display the Select Configuration Options screen.
2. Select **accept default selection** and click **Next** to display the Create Instance Name and ias_admin Password screen.
3. Choose an **Instance Name** and choose and confirm an **ias_admin Password**.

   Notes:

   - The **Instance Name** is not a database instance name but a name for the Oracle9*i*AS infrastructure instance.
   - The **ias_admin password** chosen here will also be the Oracle Internet Directory administrator's password for the infrastructure.

   Click **Next** to display the Guest Account Password screen.
4. Enter and confirm a guest account password.
5. Click **Next**. If you are a member of the DBA group, the Summary screen displays. Proceed to step 8.

   If you are not a member of the DBA group, the Privileged Operating System Groups screen displays.
6. Enter **Database Administratror (OSDBA) Group** and **Database Operator (OSOPER) Group** names.
7. Click **Next** to display the Summary screen.
8. Review the information and click **Install**. The location of the log files for the installation displays.

   After you click **Install**, files are copied and linked. This process can run for more than an hour.
9. As prompted, run `root.sh`. You must do this as `root` from another terminal window. When `root.sh` completes, return to the Oracle Universal Installer and click **OK** to display the Configuration Assistants screen.

   Review the status of the Oracle9*i*AS Infrastructure configuration tools.

   The Oracle Universal Installer executes a configuration assistant for each component selected previously in the Select Configuration Options screen.
10. The End Of Installation screen displays the port numbers for installation and confirms success.
11. Check the installation log files for any installation errors. The installation log files are located in the `oraInventory` directory, as explained in "oraInventory Directory and Installation Session Log Files" on page 5-7. The default installation log file directory is *`orInventory_directory`*`/logs`.

    Each installation log takes the form `InstallActions`*`YYYY-MM-DD_HH-MM-SSAM`*`.log`.

Notes:

- In the `/tmp` directory, the format of the directory is as follows: `OraInstall`*`YYYY-MM-DD_HH-MM-SSAM`*`.log`. The `installCluster.log` file shows which installation module is currently running.
- The list of ports can be found in the `portlist.ini` file located in the `$ORACLE_HOME/install` directory.

Oracle9*i*AS Infrastructure Additional Documentation

For further information about postinstallation and configuration tasks, refer to the *Oracle9i Application Server Administrator's Guide* and component-specific documentation.

Although it is not necessary for a new installation of Oracle Collaboration Suite, you can create a test user to test the installation.

See Also: "Upgrading Oracle9iAS Infrastructure" on page 3-4 for instructions on creating a test user

Installing Oracle Collaboration Suite Information Storage Database

This section describes how to install Oracle Collaboration Suite information storage database.

This section contains these topics:

- Installing a Database into an Existing Oracle Home
- Registering Oracle Collaboration Suite Information Storage with Oracle Internet Directory

Ensure that you have already installed the infrastructure.

The Database Creation screen appears after you click **Next** on the File Locations screen in step 14 on page 5-11. Follow these procedures to install an information storage database.

1. Select **Yes** to create a new Oracle9*i* database and click **Next** to display the Information Storage Registration screen.
2. Enter the fully-qualified **Host** name, **Port**, **Username** (by default, the Oracle Universal Installer displays `cn=orcladmin`), and **Password**. Click **Next** to display the Database Identification screen.
3. Enter the **Global Database Name** and **SID**. If required, change the default SID.
4. Click **Next** to display the Database File Location screen.
5. Accept the default and click **Next** to display the Summary screen.
6. Review and change any entries, if necessary. Click **Install** to accept the entries and begin the installation.

Note: After you click **Install**, files are copied and linked. This process can run for more than an hour.

7. When prompted, run `root.sh` from the `root` account in another terminal window. Progress screens display while `root.sh` is running, charting the installation progress.
8. When `root.sh` completes, return to the Oracle Universal Installer and click **Next** to display the Configuration Assistants screen.
9. When the database configuration assistant prompts you, choose and confirm the `SYS` and `SYSTEM` account passwords. Click **OK**.
10. When the End of Installation screen displays, click **Exit**.

Installing a Database into an Existing Oracle Home

You can install more than one database in the same Oracle home.

Install a starter database or select the **Software Only** database configuration option when prompted from one of the following software CD-ROMs:

- Oracle Collaboration Suite information storage
- Oracle9*i* Database

> **Important:** Oracle Corporation does not recommend installing more than one database in an Oracle home in a production environment. This configuration is recommended for evaluation purposes only.

1. Run the database configuration assistant after the software is installed.

   ```
   $ORACLE_HOME/bin/dbca
   ```

2. Select **Create a new database**.
3. Click **Next**.
4. Select the database configuration type that you want to create when prompted.
5. Answer questions such as Oracle home name and instance name.

   The database is created by the database configuration assistant in the same manner that it is created by Oracle Universal Installer.

Registering Oracle Collaboration Suite Information Storage with Oracle Internet Directory

The following sections describe how to register the information storage database with Oracle Internet Directory:

- Running the Oracle Net Configuration Assistant
- Running Database Configuration Assistant
- Verifying Oracle Internet Directory Configuration

Notes:

- This section applies only if you selected **No** in the Information Storage Registration screen.
- If your information storage is on a cluster database, then register one database instance with Oracle Internet Directory.
- You must run both Oracle Net Configuration Assistant and Database Configuration Assistant with the same Oracle user account used to install the Oracle software.

Running the Oracle Net Configuration Assistant

1. Start the Oracle Net configuration assistant:

   ```
   $ORACLE_HOME/bin/netca
   ```

2. The Welcome screen appears.
3. Select **Directory Usage Configuration** and click **Next**.
4. Select the directory server you want to use. The directory server must already be configured for Oracle usage.
5. Click **Next**.
6. Select **Oracle Internet Directory** as the directory server type you want to use.
7. Click **Next**.
8. Enter the Oracle Internet Directory **host name**, **port**, and SSL port.
9. Click **Next**.
10. Select **cn=OracleContext** as the default Oracle Context in the directory server.

Note: Do not choose **cn=OracleContext,*subscriber_specific_DN***.

11. Click **Next**.
12. Proceed to the end of the Oracle Net configuration assistant configuration.

    This creates an `ldap.ora` file that specifies the Oracle Internet Directory server and port number in the `$ORACLE_HOME/network/admin` directory.

13. Exit the Oracle Net configuration assistant.

Additional Configuration Steps for Real Application Clusters

Use Oracle Net Manager to either:

- Add network addresses to the database entry for the nodes in the cluster for which there is no address listed.
- Create a separate net service name specifying the network address for one of the nodes in the cluster and the Real Application Clusters global database name as the service name of the database. Then add network address to the net service name for the other nodes in the cluster.

See Also: *Oracle9i Real Application Clusters Setup and Configuration* and the for more information about connect string options

Running Database Configuration Assistant

1. Start Database Configuration Assistant:

   ```
   $ORACLE_HOME/bin/dbca
   ```

2. Click **Next**.
3. Select **Configure database options in a database**.
4. Click **Next**.
5. Select the SID of the Oracle Email database to configure.
6. Click **Next**.

   Note: If the SID does not appear, check the `oratab` file in the `/var/opt/oracle` directory on Solaris, and the `/etc/oratab` directory on HP and Linux.

7. Select the **Yes, register the database** option.
   a. Enter **cn=orcladmin** in the **User DN** field.
   b. Enter the password for the name entered in the **User DN** field.
8. Click **Finish**.

   The Restart Database screen appears.
9. Click **Yes**.

   The Summary screen appears.
10. Click **OK**.

    The progress of database configuration displays in the Database Configuration Assistant screen.
11. Exit Database Configuration Assistant when configuration completes.

Verifying Oracle Internet Directory Configuration

1. Run `oidadmin`.
2. Log in to Oracle Internet Directory and check under `cn=oraclecontext` for the information storage SID selected in step 4 on page 6-5.

Installing the Oracle Collaboration Suite Middle Tier

This section follows the sequence of steps performed by the Oracle Universal Installer to install the middle tier and assumes that all Oracle Collaboration Suite components are being installed.

This section contains the following topics:

- Before You Begin
- Beginning Oracle Collaboration Suite Middle Tier Installation
- Installing Oracle Web Conferencing
- Installing the Oracle Calendar Server and the Oracle Calendar Application System
- Configuring Oracle Files

- Completing the Middle Tier Installation

Before You Begin

- Ensure that you have installed and configured Oracle Internet Directory and Oracle9*i*AS Single Sign-On somewhere in your network before installing an instance of the Oracle Collaboration Suite middle tier.
- Ensure that you have installed and configured an Oracle9*i* database or the Oracle Collaboration Suite information storage database somewhere in your network if you are configuring Oracle Email or Oracle Files in this application middle tier instance.

> **Note:** If you installed the Oracle Collaboration Suite information storage database, it is automatically registered with Oracle Internet Directory. If you installed an Oracle9*i* database, you must manually register it with Oracle Internet Directory.

- Have the database host name, database listener port, and the SID for the database instance in which you will have the Oracle Real-Time Collaboration repository. Verify that you can connect to the database using the above information from the host on which you are installing this instance of Oracle Web Conferencing.
- Have the username and password for a user with system privileges, such as privileges for creation of users and tablespaces. The installer defaults to user `SYSTEM`, and if you plan to use the default, you must have the `SYSTEM` password.
- The Oracle Universal Installer detects whether the database you are using already contains the Oracle Real-Time Collaboration repository. If the installer does not find one, then a new one is created in the given database. If this happens, you must enter the full path to the directory on the above database host where the data files for the Oracle Real-Time Collaboration tablespaces will be created during the installation. This location must have at least 500 MB of free space and be writable by the database.

> **Caution:** If the information entered here is incorrect, you will not be able to recover from installation failure, and you will have to restart the entire installation process for this Oracle home.

The tablespace picks up the default value in step 3.

- If the database already contains the Oracle Real-Time Collaboration repository and if the installer detects the schemas to be locked, you are prompted for new passwords for the `RTC` and `RTC_APP` schemas. If the schemas are not locked, the installer prompts you for the existing `RTC_APP` schema password.
- The installer tries to find free ports for use by the Oracle Real-Time Collaboration components in the range of 2400-2700. If it does not find any free ports in this range, the installer extends its search to range 2400-49152 and picks up the first available ports it can find. The installer warns you when this happens.

> **Note:** The Oracle Calendar server will not work if it is installed by a user whose UNIX user ID is greater than eight characters.

Beginning Oracle Collaboration Suite Middle Tier Installation

To start the Oracle Universal Installer, see "Starting Oracle Universal Installer" on page 5-9.

The Confirm Pre-Install Requirements screen appears after you click **Next** on the File Locations screen at step 14 on page 5-11. Follow these procedures to install an application middle tier.

1. Confirm the pre-install requirements and click **Next** to display the Component Configuration screen.
2. Select the components you want to install and click **Next**. Note that Oracle Calendar Web client, Sync Server and Web services cannot be installed unless you select **Oracle Calendar Application System**. Oracle Calendar will be installed in the following locations:

Notes:

To install only the Oracle Calendar server:

1. Select **Oracle Calendar Server** instead of **Oracle Calendar Application System**.
2. Consequently, you will be prompted for the client's **Host** and **Port**. If you do not know these values, you can enter temporary values and later, edit the server's `unison.ini` file, as follows:

```
[RESOURCE_APPROVAL]
url=http://host_name:port_number/ocas-bin/ocas.fcgi
```

To install only the Oracle Calendar application system:

1. Select **Oracle Calendar Application System** instead of **Oracle Calendar Server**.
2. Consequently, you will only be prompted to enter the **Host**, **Port** and **Node-ID** for the Oracle Calendar server. If you do not know these values, you can enter temporary values and, later, edit the application system's `ocas.conf` file with the correct values, as follows:

```
[CONNECTION]
mnode=host_name:engine_port,node
```

Component	Location
Server	`$ORACLE_HOME>/ocal/`
Administrator	`$ORACLE_HOME>/ocad/`
Application System	`$ORACLE_HOME>/ocas/`

3. Click **Next** to display the Existing Oracle9*i*AS Single Sign-On screen.
4. Enter the host name and port number for your existing instance of Oracle9*i*AS Single Sign-On and click **Next** to display the Oracle Internet Directory screen.
5. Enter the administrator's user name and password of the existing Oracle Internet Directory instance and click **Next** to display the Specify Administrative Password and Instance Name screen.
6. Choose an **Instance Name** and choose and confirm an **Administrative Password**.

Notes:

- The **Instance Name** is not a database instance name but a name for the middle tier instance installation.
- The **Administrative Password** chosen here will also be the Oracle Internet Directory administrator's password for the middle tier.

Installing Oracle Web Conferencing

7. Click **Next** to display the Oracle Real-Time Collaboration Repository Location screen. Enter the required information in all the fields.
8. Click **Next** to display the Oracle Real-Time Collaboration Repository Details screen. The information for which you are prompted depends on the database you are using.

   If you are using the Oracle Collaboration Suite information storage database, reset the passwords for the schema.
9. After entering the information, click **Next** to display the Oracle Calendar Default Time Zone screen.

Installing the Oracle Calendar Server and the Oracle Calendar Application System

Note: If the kernel parameters on your computer are not sufficient to run the Oracle Calendar server, an information dialog box opens explaining which parameters you might have to change. Make whatever changes are necessary, restart the computer, and restart the installation. For details on calculating required kernel parameters, see Appendix B, "Adjusting Calendar Kernel Parameters," of the *Oracle Calendar Administrator's Guide*.

10. Select the default time zone for new Oracle Calendar users. Click **Next** to display the Oracle Calendar Node-ID screen.
11. Specify a unique numerical ID for the Oracle Calendar node between 1 and 49999. Click **Next** to display the Oracle Calendar Master Node screen.
12. If this is your first installation of the Oracle Calendar server, select **Yes** in the Oracle Calendar Master Node screen to make the current installation the master node. You must have one master node on your network in order for Web services and Sync Server to work. Click **Next** to display the Summary screen.
13. Review the settings for your installation. If you need to make any changes, click **Back**. Click **Next** to display the Install screen.

    The progress of the installation displays in a progress bar on this screen.
14. As prompted, run `root.sh`. You must do this as `root` from another terminal window. When `root.sh` completes, log off as root and click **OK** to display the Configuration Assistants screen.

    Each component configuration assistant will launch automatically. If a configuration assistant fails, the cause of the failure displays in a window on the screen. Correct the cause of the failure and click **Retry**.

15. When the Oracle Net Configuration Assistant Welcome screen displays, select **Perform typical installation**. Click **Next** to display the Configuration Assistants screen.

Configuring Oracle Files

16. When the Files Configuration Assistant screen displays, go to "Configure Oracle Files" on page 12-7 and complete the procedures listed there.

Completing the Middle Tier Installation

17. When the Oracle Files configuration assistant completes, the Configuration Assistants screen displays. Click **Next** to display the End of Installation screen.
18. Take note of the information displayed in the End of Installation screen.
19. Click **Exit** to finish the installation.
20. Use the following commands to restart Oracle Enterprise Manager:

```
$ORACLE_HOME/bin/emctl stop
$ORACLE_HOME/bin/emctl start
```

Installing the Oracle Web Conferencing Document and Voice Conversion Servers

The document conversion server and voice conversion server must be installed on a separate computer from the middle tier. Both servers can be installed on the same computer, or on separate ones. Before installing the document conversion server and voice conversion server, you must install the Oracle9*i* Application Server on each computer on which these components will reside. Follow the same steps for installing the middle-tier, with the following exceptions:

- In the Component Configuration screen, it is not necessary to select Oracle Web Cache
- In the Oracle9*i*AS Infrastructure Use screen, select **No**
- In the Create Instance Name and ias_admin Password screen, create a new instance name. It is not necessary to associate this component with an existing instance.

When you finish installing the middle tier, install the document and voice conversion servers.

1. Install the document conversion server or voice conversion server by selecting the appropriate radio buttons. This selection makes it possible to install one or both of these components. Click **Next**.
2. Select the components you want to install, and click **Next**.
3. Enter the host, port number, and SID of the database that contains the Oracle Real-Time Collaboration repository. Also, enter a password for the Oracle Real-Time Collaboration repository schema `RTC_APP`. Click **Next**.
4. This screen shows the status of the component installation.

Installing Oracle Collaboration Suite Integrated Web Client

Oracle Collaboration Suite provides an integrated Web client for browser-enabled computers. It uses the underlying Oracle9*i* Application Server to provide a secure,

single sign-on environment. The integrated Web client can be used to access messages (e-mail, voice mail, and fax), calendar and directory information, Oracle Web Conferencing features, and content stored in Oracle Files.

By default, the Web client is automatically integrated during the component configuration when installing Oracle Collaboration Suite. If you deselect the Web client during installation, you must run the Web client installer.

The Web client installer performs the following tasks:

- Installs the Oracle Collaboration Suite home page
- Adds Web providers and portlets for installed Oracle Collaboration Suite components
- Sets the Oracle Collaboration Suite home page as the default Web page for Oracle Collaboration Suite users
- Grants customized privileges to users of the Oracle Collaboration Suite home page

You can run the Web client installer whenever a new Oracle Collaboration Suite component is installed in order for the component to be available on the Oracle Collaboration Suite home page. The Web client installer is only available for the following Oracle Collaboration Suite components:

- Oracle Calendar
- Oracle Email
- Oracle Files
- Oracle Web Conferencing
- Oracle9*i*AS Wireless
- Oracle Ultra Search

You can invoke the Web client installer using one of the following methods:

- Through the Oracle Universal Installer
- Using the command line

Invoking the Web Client Installer using the Command Line

When you install Oracle Collaboration Suite, you can choose to install selected components instead of the entire suite. If you install an additional component later, then in order for the component to be available on the Oracle Collaboration Suite home page, you must configure the component's URL and run the Web client command line installer.

Configuring the Component's URL

Configure the component's URL by modifying the `webclient.properties` file located in the following directory:

```
$ORACLE_HOME/webclient/classes/oracle/collabsuite/webclient/resources
```

The `webclient.properties` contains three URL listings for each Oracle Collaboration Suite component: the help page URL, the application URL, and the provider URL. Replace the token for the host name and the port number in all three URL listings for the component you are installing.

Running the Web Client Command Line Installer

To run the Web client command line installer, enter the following command:

```
$ORACLE_HOME/webclient/bin/webclient_installer.sh
```

The preceding command will install the provider and portlets for the new component on the Oracle Collaboration Suite home page.

If you know the Oracle9*i*AS Portal schema name, password, and connect string details, you can also invoke the configuration assistant as follows:

```
$ORACLE_HOME/webclient/bin/webclient_installer.sh -s schema -p password -c
connect_string
```

Where:

- ***schema***: The Oracle database account for Oracle9*i*AS Portal
- ***password***: The Oracle9*i*AS Portal account password
- ***connect_string***: The connect string to the database instance where the Oracle9*i*AS Portal repository is installed; specified as *host_name*:*port*:*SID*

Manually Setting Up HTTPS with mod_osso on the Middle Tier

The Oracle Collaboration Suite installation program automatically configures your system to use `https` with `mod_osso` on a default Oracle Collaboration Suite middle tier. At times, however, it may be necessary to configure this manually.

The instructions in this section describe how to do this, which is necessary for using the Oracle Calendar Administrator with `https`, but will also work for any other Oracle9*i*AS Single Sign-On-protected application requiring `https` on the middle tier.

After completing the procedure in this section:

- There will be an additional partner application for the preferred `https` port on the middle tier. This partner application will use that `https` port for each of the Oracle9*i*AS Single Sign-On URLs (the Oracle9*i*AS Single Sign-On port must match that of the middle tier's requested URL, which is why these steps are required for `https`).
- There will be two new Oracle HTTP Server configuration files on the middle tier to support this setup: `mod_osso_https.conf` and `MIDTIER_HOST.https-osso.conf`

Before you begin:

- `SSO_HOST` is the fully qualified host name of the Oracle9*i*AS Single Sign-On server
- `MIDTIER_HOST` is the fully qualified host name or IP address of the middle tier
- `MIDTIER_HTTPS_PORT` is the `https` port on the middle tier, usually 4443

This section contains the following topics:

- Verifying the Setup
- Setting up https with mod_osso

Verifying the Setup

1. Using a Web browser, go to the Oracle9*i*AS Single Sign-On server home page (assuming `http` is on port 7777):

```
http://SSO_HOST:7777/pls/orasso
```

2. Click **Login** and log in with administration privileges.
3. Click **SSO Server Administration**.
4. Click **Administer Partner Applications** and verify the following:
   - The Oracle9*i*AS Single Sign-On server must be listening (and functional) on the `https` port that is to be configured on the middle tier
   - There must be only *one* partner application listed for the `https` port on the middle tier (click **Edit** to view the settings: usually 7777 when using Oracle Web Cache)
   - The partner application for the https port on the middle tier must have the same port number for the all of the following Oracle9*i*AS Single Sign-On URLs:

     Home URL

     Success URL

     Logout URL
   - There must not be any partner applications listed for the `http` port on the middle tier (usually 4443 when using Oracle Web Cache)

   If either of these requirements are not met, please refer to Oracle9*i*AS Single Sign-On and Oracle HTTP Server documentation to correct the configuration.
5. Ensure that you can restart the Oracle HTTP Server on the middle tier with no errors:

```
>dcmctl restart -ct ohs
```

Setting up https with mod_osso

Proceed with the following steps from the middle tier console.

> **Note:** Ensure that the `ORACLE_HOME` environment variable is correct and that you have permissions to all files. In addition, set the `LD_LIBRARY_PATH` to `$ORACLE_HOME/lib` (on HP, set `SHLIB_PATH` to `$ORACLE_HOME/lib32`).

1. Create a text file named **`ssl_osso.sh`**, as shown in Example 6–1.

Example 6–1 Content of ssl_osso.sh script

```
#!/bin/sh
# This script creates a osso\osso-conf file ($AS_HOST.AS_PROTOCOL-osso.conf)
# AS = Application server or midtier
# Modify following variables before running
AS_PROTOCOL=https
AS_HOST=MIDTIER_HOST
AS_PORT=MIDTIER_HTTPS_PORT
SSO_HOST=SSO_HOST
MODOSSO_FILE=${ORACLE_HOME}/Apache/Apache/conf/mod_osso.conf
MODOSSO_HTTPSFILE=${ORACLE_HOME}/Apache/Apache/conf/mod_osso_https.conf
echo 'Registering mod_osso, please wait...'
cp $MODOSSO_FILE $MODOSSO_HTTPSFILE
# Note: make sure that your Oracle9iAS Single Sign-On server runs on port
```

```
# 1521. If not, replace '-port 1521' with correct port number.
$ORACLE_HOME/jdk/bin/java \
  -jar $ORACLE_HOME/sso/lib/ossoreg.jar \
  -host $SSO_HOST \
  -port 1521 \
  -sid iasdb \
  -site_name $AS_HOST.$AS_PROTOCOL:$AS_PORT \
  -oracle_home_path $ORACLE_HOME \
  -success_url $AS_PROTOCOL://$AS_HOST:$AS_PORT/osso_login_success \
  -logout_url $AS_PROTOCOL://$AS_HOST:$AS_PORT/osso_logout_success \
  -cancel_url $AS_PROTOCOL://$AS_HOST:$AS_PORT/ \
  -home_url $AS_PROTOCOL://$AS_HOST:$AS_PORT/ \
  -config_mod_osso TRUE  -u root -sso_server_version v1.2 \
  -config_file $ORACLE_HOME/Apache/Apache/conf/osso/$AS_HOST.$
   {AS_PROTOCOL}-osso.conf
cp $MODOSSO_HTTPSFILE $MODOSSO_FILE
```

2. Run the `ssl_osso.sh` script:

   ```
   sh ssl_osso.sh
   ```

3. Comment out the line with `LoadModule osso_module libexec/mod_osso.so` within the `mod_osso.conf` and `mod_osso_https.conf` files, both located in the `$ORACLE_HOME/Apache/Apache/conf/` directory.

4. In `mod_osso_https.conf`, replace the `OssoConfigFile` directive with the following (if it is missing, add it to the `<IfModule mod_osso.c>` section):

   ```
   OssoConfigFile conf/osso/MIDTIER_HOST.https-osso.conf
   ```

5. In `httpd.conf`, add the following directive directly after all of the `LoadModule` directives (right after `fastcgi_module` with a default setup):

   ```
   LoadModule osso_module libexec/mod_osso.so
   ```

6. Within the *`VirtualHost _default_:4444`* directive (or your `https` VirtualHost if the port is different) of `httpd.conf`, add the following line:

   ```
   include conf/mod_osso_https.conf
   ```

7. Restart Oracle HTTP Server on the middle tier (you may also use `opmnctl`):

   ```
   dcmctl stop -ct ohs
   dcmctl start -ct ohs
   ```

Additional Documentation

The Oracle Collaboration Suite Documentation Library CD-ROM is included in your Oracle Collaboration Suite CD Pack. For information about accessing the documentation from the CD-ROM, refer to *Oracle Collaboration Suite Documentation Roadmap*.

7

Installing and Configuring Oracle Voicemail & Fax

This chapter discusses and explains how to install the Oracle Voicemail & Fax system.

This chapter contains the following topics:

- Preinstallation Checklist
- Installation Requirements
- Installing Oracle Voicemail & Fax Telephony Server
- Running the Oracle Voicemail & Fax Configuration Assistant on the Middle Tier
- Adding an Oracle Voicemail & Fax Telephony Server
- Adding an Additional Information Storage Database to Oracle Collaboration Suite

Preinstallation Checklist

This section describes preinstallation tasks that must be performed prior to installing Oracle Voicemail & Fax.

Perform the following tasks prior to installing Oracle Voicemail & Fax:

1. Modify the Windows Service named CT Media or Intel NetMerge CC Server so that it runs under the context of the user performing the installation. The user performing the installation should be in the `CTMUsers` group.
2. Restart the CT Media or NetMerge server and bring it up to level 5 before installation.

Installation Requirements

Installation of Oracle Voicemail & Fax consists of two tasks:

- Installing the Oracle Voicemail & Fax Telephony Server on a Windows 2000 system
- Running the Oracle Voicemail & Fax Configuration Assistant on each middle tier

Prior to installing Oracle Voicemail & Fax you must have the following:

- **Oracle Collaboration Suite with Oracle Email**: Installed, configured, and running on a system other than that where Oracle Voicemail & Fax is installed
- **Windows 2000 Resource Kit**
- **Intel NetMerge Converged Communication Server** or **CT Media Server**
- **S.410 SDK V1.0 for CT Media**

Installing Oracle Voicemail & Fax Telephony Server

Installing the Oracle Voicemail & Fax Telephony Server is a two-part process. The first part of the process installs the Oracle9*i*AS core and the second part installs the Oracle Voicemail & Fax code.

Notes:

- Both parts of the telephony server installation must be performed by a user who belongs to the `CTMUser` User Group and Administrators Group.
- The running user name of the CT Media or NetMerge servers must be the same as the user name running the installation.

  To change the running user name, select **Start** > **Settings** > **Control Panel** > **Adminstrative Tools** > **Services**. Right click the service. Choose **Properties**. Click the **Log On** tab and change the **Log on as** option.

This section contains these topics:

- Installing the Oracle9iAS Core
- Installing the Oracle Voicemail & Fax Code

Installing the Oracle9*i*AS Core

You may do a manual install of the Oracle 9*i*AS Core which is described below or you have the option of doing a silent installation of the Oracle 9*i*AS Core. For more information, see "Silent Installation of Oracle9iAS Core" on page 7-5.

To install the Oracle9*i*AS core:

1. Insert the Oracle Voicemail & Fax CD into the CD-ROM drive.
2. Run `install.bat` located in the `\install\win32` directory to display the Welcome screen of the Oracle Universal Installer.
3. Click Next to display the File Locations screen. In the **Destination** section, enter the name of an Oracle home or select an existing Oracle home from the **Name** field.
4. Enter the path to the Oracle home in the **Path** field.

   You can also click **Browse** to locate the Oracle home path.
5. Click **Next** to display the Oracle Internet Directory screen.
6. Enter a user name and a password. The default user name is `cn=orcladmin`.
7. Click **Next** to display the Create Instance Name screen.
8. Enter a name for the Oracle9*i*AS instance in the **Instance Name** field.
9. Enter the ias_admin password for the current host in the **ias_admin Password** field.
10. Click **Next** to display the Summary screen.
11. Click **Install** to display the End of Installation screen.
12. Click **Exit** to display the Exit screen.
13. Select **Yes, restart the system now** and click **OK** to restart the system.

After the system restarts, the second part of the installation automatically begins.

Installing the Oracle Voicemail & Fax Code

This part of the installation does the following:

- All of the Oracle Voicemail & Fax files are copied to the telephony server
- Prompts are added to the CTMedia Container
- The `sc_vsto.cfg` file is created to configure Oracle Voicemail & Fax Container
- The `rmid`, `rmiregistry`, and `UMProcessMgrService` processes are installed
- The Oracle Voicemail & Fax Media Services Profile is loaded into the CT Media Server. Changes are made to `SCR_AppProfile`, `SCR_ASIMap`, and `SCR_RoutingRules`.

To install the Oracle Voicemail & Fax code:

1. Upon completion of the system restart, the Mailstore Selection screen displays.
2. Select an information store from the **Mailstore Selection** list.
3. If you select an information store other than **<none>** from the **Mailstore Selection** list, you will be asked to provide a UM password. The default is `welcome`.

   Otherwise the **Password for DB User 'um'** field is inactive.
4. Click **Next** to display the Summary screen.
5. Click **Install** to display the End of Installation screen.
6. Click **Exit**.

   Proceed to "Oracle Voicemail & Fax Information Store Database Accounts" to complete a recommended step.

Oracle Voicemail & Fax Information Store Database Accounts

When you install Oracle Voicemail & Fax, the UM user account is automatically created. Voice mail processes use the UM account to access the information store, and the account contains the schema objects used in the delivery of message-waiting-indicator (MWI) requests. The following roles and privileges are granted to the account: `CONNECT, RESOURCE, DBA, EXECUTE ON DBMS_AQ, EXECUTE ON DBMS_AQADM,` and `JAVAUSERPRIV`. The default password provided during installation is `welcome`.

The `JAVAUSERPRIV` privilege is not required for the processes to run. Therefore, Oracle recommends removing this privilege after installation to make your system more secure.

> **Note:** You will need to perform the following procedure for each information store.

To revoke the `JAVAUSERPRIV` privilege:

1. Log in as `SYSTEM`.
2. Execute the commands:

```
REVOKE  JAVAUSERPRIV FROM UM;

CALL DBMS_JAVA.revoke_permission('PUBLIC',
'java.net.SocketPermission', '*', 'read,write');
```

Proceed to "Running the Oracle Voicemail & Fax Configuration Assistant on the Middle Tier" to continue the installation.

Running the Oracle Voicemail & Fax Configuration Assistant on the Middle Tier

---

Note: If you are only adding an additional telephony server to an existing installation of Oracle Collaboration Suite, proceed to "Adding an Oracle Voicemail & Fax Telephony Server" on page 7-5.

The Oracle Voicemail & Fax configuration assistant performs the following tasks:

- Loads Oracle Voicemail & Fax middle tier process entries into Oracle Internet Directory
- Configures Enterprise Manager to administer Oracle Voicemail & Fax processes
- Loads the `UM` schema into the information storage database

1. Run `uminfra_install.sh` on each middle tier system, located in the `$ORACLE_HOME/um/uminfra` directory to display the Mailstore Selection screen of the configuration assistant.
2. Select an information store from the **Mailstore Selection** list.

   If you select an information store other than **<none>** from the **Mailstore Selection** list, you will be asked to provide `SYSTEM`, `ES_MAIL`, and `UM` passwords. The default values are as follows:

   - **`SYSTEM`**: manager
   - **`ES_MAIL`**: es
   - **`UM`**: welcome

   Note: If you created a new `SYSTEM` password during the creation of the information storage database, and new `ES_MAIL` and `UM` passwords during the Oracle Email installation, you must use these new passwords.

   ---

3. Click **Next** and select the Oracle Voicemail & Fax Telephony Server that you want to be managed by this middle tier.
4. Click **Next** to display the End of Installation screen.
5. Click **Exit**.
6. Restart the Oracle Voicemail & Fax Windows 2000 telephony server upon completion of the configuration assistant.

   See Also: *Oracle Voicemail & Fax Administrator's Guide* for further configuration information

This concludes the installation of Oracle Voicemail & Fax.

Silent Installation of Oracle9*i*AS Core

You can do a silent installation of the Oracle9*i*AS core.

To do a silent installation:

1. Edit the `%CD_HOME%\Disk1\install\win32\ias_core_top.rsp` file. Comments in the file provide instructions on the required values.
2. Run the following command:

   full_path`\setup.exe -silent -response` *full_path*`\ias_core_top.rsp`
3. Go to the *ORACLE_HOME*`\um\scripts` directory and run the `findmailstores.bat` file.
4. Reboot the system. The second part of the installation automatically begins. See "Installing the Oracle Voicemail & Fax Code" on page 7-3.

Adding an Oracle Voicemail & Fax Telephony Server

To add additional telephony servers:

1. Follow the procedures outlined in "Installing Oracle Voicemail & Fax Telephony Server" on page 7-2.
2. Execute `$ORACLE_HOME/um/uminfra/uminfra_install.sh` on each middle tier.
3. Select **None** for the information store.
4. Select the voice mail server you want to be managed by this Oracle Enterprise Manager Daemon server.

Adding an Additional Information Storage Database to Oracle Collaboration Suite

Any time an additional information storage database is added to the Oracle Collaboration Suite system, you must rerun the Oracle Voicemail & Fax configuration assistant and update the `sc_vsto.cfg` file.

Rerunning the Oracle Voicemail & Fax configuration assistant does the following:

- Creates the `UM` schema on the information storage database
- Creates the Advanced Queue Message Waiting Indicator process

To set up the new information storage database for Oracle Voicemail & Fax:

1. Execute `$ORACLE_HOME/um/uminfra/uminfra_install.sh` on each middle tier.
2. Select the new information storage database and supply the necessary passwords.
3. Select **None** for the voice mail server.
4. On each telephony server the `sc_vsto.cfg` file must be updated with the new information storage information.

   Example 7–1 shows the `sc_vsto.cfg` file before it is updated.

Example 7–1 sc_vsto.cfg File

```
{
 Container_ORCL_VPIM: {
    Container_DLGC_DLLName: "orclcont.dll"
    Container_DLGC_Initialize: "StorageInitialize"
    Container_DLGC_Shutdown: "StorageShutdown"
    Container_DLGC_Parameters: {
      Container_ORCL_ESNode:"v2store.v2store"
      Container_ORCL_DBSet: (
          {
              Container_ORCL_DBName: "v2store.v2store"
              Container_ORCL_PoolMax: 10
              Container_ORCL_PoolMin: 1
              Container_ORCL_DBUserid: "um"
              Container_ORCL_DBPassword:
"0495022e8cbe976b4e9156aeff710fdbe6dfeac30dff5ddd81"
              Container_ORCL_DBConnect:
"(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=thintest.us.oracle.com)
(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=v2store.v2store)))"
          }
      )
      }
 }

   Container_DLGC_FileStrategy: {
      Container_DLGC_DLLName: "std_sto.dll"
      Container_DLGC_Initialize: "StorageInitialize"
      Container_DLGC_Shutdown: "StorageShutdown"
      Container_DLGC_Parameters: {      }
   }
}
```

Example 7–2 shows an updated `sc_vsto.cfg` file.

Example 7–2 Updated sc_vsto.cfg File

```
{
 Container_ORCL_VPIM: {
    Container_DLGC_DLLName: "orclcont.dll"
    Container_DLGC_Initialize: "StorageInitialize"
    Container_DLGC_Shutdown: "StorageShutdown"
    Container_DLGC_Parameters: {
      Container_ORCL_ESNode:"v2store.v2store"
      Container_ORCL_DBSet: (
          {
              Container_ORCL_DBName: "v2store.v2store"
              Container_ORCL_PoolMax: 10
              Container_ORCL_PoolMin: 1
              Container_ORCL_DBUserid: "um"
              Container_ORCL_DBPassword:
"0495022e8cbe976b4e9156aeff710fdbe6dfeac30dff5ddd81"
              Container_ORCL_DBConnect:
"(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=database_host_name)
(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=v2store.v2store)))"
          }
          {
              Container_ORCL_DBName: "2nd_information_storage_database_name"
              Container_ORCL_PoolMax: 10
              Container_ORCL_PoolMin: 1
              Container_ORCL_DBUserid: "um"
```

```
              Container_ORCL_DBPassword:
"xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
              Container_ORCL_DBConnect:
"(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=2nd_database_host_name)
(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=2nd_information_storage_database_
name)))"
          }
      )
      }
 }

   Container_DLGC_FileStrategy: {
      Container_DLGC_DLLName: "std_sto.dll"
      Container_DLGC_Initialize: "StorageInitialize"
      Container_DLGC_Shutdown: "StorageShutdown"
      Container_DLGC_Parameters: {      }
   }
}
```

In the preceding example, the parameters are defined as follows:

- **ORCL_DBName**: The global database name, which can be retrieved from Oracle Internet Directory
- **PoolMax**, **PoolMin**: The values depend on the system. The default values are 10 and 1
- **DBUserid**: Always `um`
- **DBPassword**: An encrypted string of the `um` user password. Obtain this password by executing the following program:

  ```
  %ORACLE_HOME%\um\scripts\encrypt.exe um_password
  ```

  The program will output an encrypted string, which the user can copy and paste into the file.
- **DBConnect**: The connect string of the new database, which can be retrieved from LDAP

8

Silent and Non-Interactive Installation

This chapter guides you through silent and non-interactive installation of Oracle Collaboration Suite.

This chapter contains these topics:

- Introduction to Non-Interactive Installations
- Installation Requirements
- Creating Files for Silent and Non-Interactive Installation
- Selecting a Response File
- Editing the Response File
- Specifying a Response File
- Running the root.sh Script
- Error Handling
- Deinstallation
- Using Configuration Assistants in Non-Interactive Mode

Introduction to Non-Interactive Installations

Oracle Collaboration Suite features two non-interacting methods of installation:

- Silent Installation
- Non-Interactive Installation

Silent Installation

Silent installation of Oracle Collaboration Suite is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag. Oracle Universal Installer uses variables and values contained in a text file, called a response file, to provide answers to all of its user prompts. You include responses for all of the prompts in the response file. Silent installation displays no graphical output.

If this is a first time installation of Oracle Collaboration Suite, you must manually create three files before starting installation. These files are used by Oracle Universal Installer during the installation.

- `oraInst.loc`
- `emtab`
- `oratab`

Following any silent Oracle Collaboration Suite installation, run the `root.sh` script. The `root.sh` script detects settings of environmental variables and enables you to enter the full path of the local `bin` directory.

Use silent installation of Oracle Collaboration Suite when you want similar installations on more than one computer. Additionally, use silent installation when performing the Oracle Collaboration Suite installation from a remote location using the command line. Silent installation eliminates the need to monitor the Oracle Collaboration Suite installation because there is no graphical output and no input by the user.

See Also:

- "Creating Files for Silent and Non-Interactive Installation" on page 8-2
- "DISPLAY" on page 2-12 for more information about remote installation

Non-Interactive Installation

Non-interactive installation of Oracle Collaboration Suite is accomplished by supplying Oracle Universal Installer with a response file, but without specifying the `-silent` flag. Oracle Universal Installer uses variables and values contained in a text file, called a response file, to provide answers to some or all of its user prompts. Oracle Universal Installer provides graphical output. If you have not provided responses to all of its prompts, then you may need to enter information during the installation.

You must run the `root.sh` script during the installation process. The `root.sh` script detects settings of environmental variables and enables you to enter the full path of the local `bin` directory.

See Also: "Specifying a Response File" on page 8-4 for information about executing a response file

Installation Requirements

For a complete list of installation requirements, refer to Chapter 2, "Preparing for Installation".

Creating Files for Silent and Non-Interactive Installation

If the `oraInst.loc`, `emtab`, and `oratab` files do not exist on your computer, you must create them before starting silent installation of Oracle Collaboration Suite. They are used by the Oracle Universal Installer during silent installation. Table 8–1 lists the appropriate directory location for each platform.

Table 8–1 oratab, emtab, and oraInst.loc File Locations

Platform	oratab and emtab	oraInst.loc
Solaris Operating Environment (SPARC 32-bit)	`/var/opt/oracle/`	`/var/opt/oracle`
hp-ux PA-RISC (64-bit)	`/etc`	`/var/opt/oracle`
Linux x86	`/etc`	`/etc`

oraInst.loc File Creation

As the `root` user, create the `oraInst.loc` file in the appropriate directory as listed in Table 8–1. Ensure the file has read and write permissions set for the `oracle` user group. The `oracle` user group is the group performing the installation. The `oraInst.loc` file should have the following text input:

```
inst_group=oracle_user_group
inventory_loc=$ORACLE_HOME
```

where `inventory_loc` is the location for inventory files and `$ORACLE_HOME` is the absolute directory path. For example, if your `$ORACLE_HOME` is `/private2/oracle/ocs`, then the content of the file is:

```
inst_group=oracle_user_group
inventory_loc=/private2/oracle/ocs
```

> **Note:** If `inventory_loc` is not located in your Oracle home, then ensure that the directory where it is located has read and write permissions set for *`oracle_user_group`*.

emtab File Creation

Create the `emtab` file in the appropriate directory as listed in Table 8–1. Ensure that the file has read and write permissions set for the `oracle` user group. The `emtab` file should have the following text input:

```
DEFAULT=$ORACLE_HOME
```

where `$ORACLE_HOME` is the absolute directory path. For example, if your `$ORACLE_HOME` is `/private2/oracle/ocs`, then the content of the file is:

```
DEFAULT=/private2/oracle/ocs
```

oratab File Creation

Create the `oratab` file in the appropriate directory as listed in Table 8–1. Ensure that the file is empty and has read and write permissions for the `oracle` user group.

Selecting a Response File

The Oracle Collaboration Suite CD Pack provides the Oracle Universal Installer response files for the three installations shown in Table 8–2.

Table 8–2 Response Files

For This Installation...	The Filename Is...
Oracle9*i*AS Infrastructure	`infrastructure.rsp`
Oracle Collaboration Suite information storage This installation also includes response files for Oracle Network Configuration Assistant (`netca.rsp`) and Database Configuration Assistant (`dbca.rsp`).	`storage.rsp`
Oracle Collaboration Suite This installation also includes a response file for Oracle Files configuration assistant (`silentconfig.properties`).	`midtier.rsp`

Response files are located in the `/response` directory located at the root of the first CD-ROM in the CD-ROM set of each of the three installations. You must edit the response file to satisfy your silent or non-interactive installation requirements. To use a response file, first copy it from the CD-ROM to your system.

For example:

1. Go to the `/response` directory (for example, on the first CD-ROM of the Oracle9*i*AS Infrastructure installation CD-ROM set).
2. Copy the `infrastructure.rsp` file to your system hard drive:

   ```
   prompt> cp infrastructure.rsp private/ocs_infr_cd1/response/infrastructure.rsp
   ```

Editing the Response File

Use any text editor to edit the response file to include information specific for your system. The response file text identifies information that you must provide.

You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment. The comment identifies the variable type. For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

The values that are given as `<Value Required>` must be specified for silent installation.

Remove the comment from the variable values in the response file before starting the Oracle Collaboration Suite installation.

Specifying a Response File

Before you specify a response file, ensure that you have properly configured the file. Refer to the previous section for more information.

See Also:

- "Editing the Response File" on page 8-4
- "Non-Interactive Configuration of Oracle Files" on page 12-24
- "Starting Oracle Universal Installer" on page 5-9
- "oraInventory Directory and Installation Session Log Files" on page 5-7

To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer:

```
prompt> ./runInstaller -responseFile absolute_path_and_filename
```

In non-interactive mode, the `DISPLAY` environment variable must be set as described in "DISPLAY" on page 2-12. To perform a completely silent installation session, use the `-silent` parameter:

```
prompt> ./runInstaller -silent -responseFile absolute_path_and_filename
```

The success or failure of the non-interactive installation is logged in `installActions.log`. The success or failure of the silent installation is logged in `silentInstall.log`. The log files are created in the `oraInventory` directory during installation.

Important: During installation, these response files may be copied to subdirectories under $ORACLE_HOME in order to install some Collaboration Suite components. When the installation completes successfully, these copies are removed. If the installation fails, however, these copies may not be removed. If you have provided passwords or other sensitive information in your response files, it is recommended that you delete any copies of the response files that remain in your file system.

Running the root.sh Script

When performing a silent or non-interactive installation, you must run the `root.sh` script after any silent installation of Oracle Collaboration Suite.

root.sh and Silent Installation

During any silent Oracle Collaboration Suite installation, you are not prompted to run the `root.sh` script. You must run the `root.sh` script after silent installation.

Use the following steps to run the `root.sh` script.

1. Log in as the `root` user.
2. Run the `root.sh` script in the Oracle home directory.

   ```
   prompt> $ORACLE_HOME/root.sh
   ```

   where `$ORACLE_HOME` is the absolute directory path.
3. Exit the `root` user.

Oracle HTTP Server

During silent installation, Oracle Universal Installer attempts to start Oracle HTTP Server. However, Oracle HTTP Server does not start until the `root.sh` script is run. Ignore any error messages generated due to the inability to start Oracle HTTP Server.

After running the `root.sh` script, restart Oracle HTTP Server as follows:

```
$ORACLE_HOME/opmn/bin opmnctl stopall
$ORACLE_HOME/opmn/bin opmnctl startall
```

Using Oracle HTTP Server On a Different Port

If you want to use Oracle HTTP Server on a port number that is less than 1024, do not run the `root.sh` script. Instead, run the following script as the `root` user:

```
$ORACLE_HOME/Apache/Apache/bin/root_sh_append.sh
```

where `$ORACLE_HOME` is the absolute directory path.

The `root_sh_append.sh` script sets the necessary permissions for the Oracle HTTP Server to be run on a port less than 1024.

root.sh and Non-Interactive Installation

During non-interactive installation of Oracle Collaboration Suite, Oracle Universal Installer prompts you to run the `root.sh` script.

Perform the following steps to run the `root.sh` script:

1. Log on as the `root` user.
2. Run the `root.sh` script in the Oracle home directory.

   ```
   prompt> $ORACLE_HOME/root.sh
   ```

   where `$ORACLE_HOME` is the absolute directory path.
3. Exit `root` user.

For non-interactive installation, after you see "Finished running generic part of the root.sh script" and "Now product-specific root actions will be performed," exit root user and return to the Install screen.

The `root.sh` script detects:

- Settings of the `ORACLE_OWNER`, `ORACLE_HOME`, and `ORACLE_SID` environment variables
- Full path of the local `bin` directory. You can accept the default or change to a different local `bin` directory.

Error Handling

The success or failure of a silent or non-interactive installation is logged in the `silentInstall.log` file. This file is created in the `oraInventory` directory.

Values for variables that are of the wrong context, format, or type are treated as if no value were specified. Variables that are outside any section are ignored.

If you attempt a silent or non-interactive installation with an incorrect or incomplete response file, or Oracle Universal Installer encounters an error, such as insufficient disk space, the installation fails.

If you attempt a non-interactive installation without specifying a response file, the installation fails.

Deinstallation

If your silent or non-interactive installation fails, you must completely deinstall any files remaining from your Oracle Collaboration Suite installation attempt.

> **See Also:** Chapter 9, "Deinstalling Oracle Collaboration Suite Components"

Using Configuration Assistants in Non-Interactive Mode

To use a configuration assistant in non-interactive mode, do one of the following:

- Configure an Oracle Universal Installer response file to start the non-interactive configuration assistant.
- Run the configuration assistant in standalone mode using the following command format:

  ```
  prompt> assistant_name [-silent] -responseFile filename
  ```

where *assistant_name* is the configuration assistant that you want to run and *filename* is the response file for that assistant.

If you perform an Oracle Collaboration Suite information storage installation in non-interactive mode, then Oracle Net Configuration Assistant does not configure your system at the end of the installation. After the installation, run the Oracle Net configuration with the Oracle Net Configuration Assistant by executing the `netca` command from the Oracle home directory or use the `netca.rsp` response file.

Note: Oracle Universal Installer or a configuration assistant fails if you attempt a non-interactive session without configuring a response file. See "Response File Error Handling" on page 8-7 for more information about troubleshooting a failed non-interactive installation.

See Also:

- "Non-Interactive Configuration of Oracle Files" on page 12-24
- *Oracle Universal Installer Concepts Guide* for more information about preparing and using non-interactive installation and configuration assistant response file scripts. This manual is available on Oracle Technology Network at

  `http://otn.oracle.com`

- Oracle*MetaLink* if you are an Oracle Support customer. You can find new bulletins and responses to questions about non-interactive installation and configuration at the following Web site:

  `http://metalink.oracle.com`

Response File Error Handling

Oracle Universal Installer or the configuration assistant validates the response file at runtime. If the validation fails, the non-interactive installation or configuration process ends. Oracle Universal Installer treats values for parameters that are of the wrong context, format, or type as if no value was specified in the file. Variables that are outside any section are also ignored.

Information about a failure is recorded in the installation session's log file.

See Also: "oraInventory Directory and Installation Session Log Files" on page 5-7 for more information about the `oraInventory` directory and installation log files

9

Deinstalling Oracle Collaboration Suite Components

This chapter describes how to deinstall Oracle Collaboration Suite components.

This chapter contains these topics:

- Deinstallation Overview
- Preparing to Deinstall Oracle Components
- Deinstalling Oracle Components

Notes:

- Stop all Oracle services and processes before starting the deinstallation process.
- Oracle Universal Installer does not permit custom deinstallation of select components or Oracle Collaboration Suite instances. Confirm deinstallation objectives before starting deinstallation.

Deinstallation Overview

Oracle Universal Installer does not allow reinstallation of Oracle Collaboration Suite over an installed version. To reinstall Oracle Collaboration Suite over the same version, deinstall and then install the product.

To successfully deinstall Oracle Collaboration Suite from your host, Oracle Corporation recommends deinstalling all secondary (or subsequent) Oracle Collaboration Suite installations before you deinstall the primary (or first) installation.

Oracle Email must be deinstalled before deinstalling Oracle Collaboration Suite.

Preparing to Deinstall Oracle Components

1. Run the following script from each middle tier Oracle home before deinstalling the middle tier:

   ```
   $ORACLE_HOME/oes/bin/removemidtierfromoid.sh
   ```

   This script removes all e-mail process targets, process instances, and their references from Oracle Internet Directory.

2. Run SQL*Plus on the middle tier if the information storage needs to be deinstalled. Connect to the information storage database as `SYSTEM`, and run the following script:

   ```
   $ORACLE_HOME/oes/install/sql/dropschema.sql;
   ```

3. Execute the following command from any Oracle home to delete mail store entries from Oracle Internet Directory:

   ```
   $ORACLE_HOME/bin/ldapdelete -v -h <oidhost> -p <oidport>
   -Dcn=umadmin,cn=EMailServerContainer,cn=Products,cn=OracleContext -w
   @ <password> "cn=<global_dbname>,cn=mailstores,cn=um_
   system,cn=EMailServerContainer,cn=Products,cn=OracleContext"

   where,
   <oidhost> - Infrastructure OID host name
   <oidport> - Infrastructure OID port number
   <password> - umadmin user password
   <global_dbname> - Global database name of the mail store database
   ```

4. Deinstall the Oracle Collaboration Suite middle tier software using Oracle Universal Installer.

   See Also: "Starting Oracle Universal Installer" on page 5-9

Deinstalling Oracle Components

1. Start the Oracle Universal Installer. See "Starting Oracle Universal Installer" on page 5-9.

   The Welcome window appears.

2. Click **Deinstall Products**.

   The Inventory window appears. This window displays all the components installed in Oracle home.

3. Review the installations and select the Oracle home you are deinstalling.

4. Click **Remove**.

   The Confirmation window appears. This window lists all the components you just selected for deinstallation.

5. Scroll down the Confirmation window to verify the components selected for deinstallation.

6. Click **Yes**.

7. If you have multiple installations of Oracle9*i*AS Infrastructure, and select a secondary installation of Oracle9*i*AS Infrastructure, Oracle Universal Installer removes it. If you select the primary installation of Oracle9*i*AS Infrastructure, the Oracle9*i*AS Administration Service window appears. Your next action depends on how many Oracle9*i*AS Infrastructure installations you currently have on the host.

8. If you currently have only one installation of Oracle9*i*AS Infrastructure on the host, then the Oracle9*i*AS Administration Service window displays the following:

   ```
   "The active Oracle9iAS Administration Service is in $ORACLE_HOME. There are no
   other Administration Services available."
   "The active Oracle9iAS Administration Service is in ORACLE_HOME. There are no
   other Administration Services available."
   ```

9. Click **OK** to continue.
10. If you currently have multiple installations of Oracle9*i*AS Infrastructure on the host, then the Oracle9*i*AS Administration Service window displays the following:

    ```
    "The active Oracle9iAS Administration Service is in $ORACLE_HOME. You may
    select one of the Administration Services to become the active one."
    "The active Oracle9iAS Administration Service is in ORACLE_HOME. You may select
    one of the Administration Services to become the active one."
    ```

    Select one of the remaining Oracle9*i*AS Infrastructure installations. It becomes the primary installation and the new location for the Oracle9*i*AS Administration Service.
11. Click **OK** to continue.

Notes:

- If you deinstall a component, then all of its dependent components and files are also deinstalled.
- Oracle Universal Installer does not deinstall all the files and directories during deinstallation. Remaining files and directories must be removed manually.

Part III

Oracle Collaboration Suite Component Configuration

Part III contains detailed post-installation instructions that you must perform in order to finish configuring the components of Oracle Collaboration Suite.

Part III contains the following chapters:

- Chapter 10, "Configuring Oracle Calendar"
- Chapter 11, "Configuring Oracle Email"
- Chapter 12, "Configuring Oracle Files"
- Chapter 13, "Configuring Search Features"
- Chapter 14, "Configuring Oracle Web Conferencing"

Note: Oracle9*i*AS Wireless includes built-in applications that must be configured after installation. The underlying Oracle9*i*AS Wireless stack, then the applications must be configured before use. For information on configuring these applications and other Oracle9*i*AS Wireless components, see the *Oracle9i*AS Wireless Administrator's Guide.

10

Configuring Oracle Calendar

This chapter discusses how to configure Oracle Calendar.

This chapter contains the following topics:

- Manually Running the Oracle Calendar Configuration Assistants
- Configuring the Oracle Calendar Server
- Starting and Configuring the Oracle Calendar Application System
- Installing the Oracle Calendar Resource Kit
- Provisioning the orclguest Account with Multiple Instances of Oracle Calendar
- Configuring Oracle Calendar E-Mail Delivery

Manually Running the Oracle Calendar Configuration Assistants

The Oracle Collaboration Suite installation program runs two Oracle Calendar configuration assistants, tools that configure Oracle Calendar to work with your system. If you encounter an error during installation due to a problem with your setup (for example, if a host URL you specified could not be read) you should manually run one or both of the configuration assistants once you have fixed the problem.

The two types of Oracle Calendar configuration assistants are:

- **Server** - Configures the Oracle Calendar server.
- **Group** - Enables the Oracle Calendar application system to connect to the Oracle Calendar server.

Check the information message at the end of the Oracle Collaboration Suite installation process to see which, if any, configuration assistant failed. You can also find this information in the log files under `$ORACLE_HOME/cfgtools`.

To manually run a configuration assistant:

1. Set your `ORACLE_HOME` environment variable to the directory where Oracle Calendar is installed.
2. Set your library path as follows.

   On Linux, set LD_LIBRARY_PATH to

   ```
   $ORACLE_HOME/lib:$ORACLE_HOME/ocal/sbin
   ```

   On HP, set SHLIB_PATH to

   ```
   $ORACLE_HOME/lib32:$ORACLE_HOME/ocal/sbin
   ```

3. Open the following log file:

```
$ORACLE_HOME/cfgtoollogs/configtoolsDATE_TIME.log
```

4. Locate the appropriate configuration assistant header; for example, the Group configuration assistant header looks like this:

```
-----------------------------------------------
Launched configuration assistant 'Calendar Group Configuration Assistant'
-----------------------------------------------
```

5. Underneath the header, copy the command that was created during installation. The command will start with something similar to:

```
/home/myuser/oracle_home/jre...
```

And end with something similar to:

```
... -epw  -DSDS OID -portDAS 5736 -DSmgrdn cn=orcladmin -emgrp  -mnme  -ePIM
-eimt  -eclient  -tzkey MEZ-1MESZ -silent
```

6. Run the command line you copied, making sure to replace the following parameters:

Parameter	Replace With
`-epw`	`-nodepw <ias_admin_password>`
`-emgrp`	`-DSmgrp <DSMgrdn_user_password>` (The `DSMgrdn` user is specified in the command line; for example, `-DSmgrdn cn=orcladmin`.)
`-ecsm`	`-csmid <password_for_new_csm>`

Configuring the Oracle Calendar Server

This section describes configuration changes you might need to make to the Oracle Calendar server after installing and, as the case may be, after upgrading.

This section contains the following topics:

- Checking Port Values
- Opening the Oracle Calendar Administrator
- Setting up Resource Approval
- Enabling Wireless Capability
- Working with LD_LIBRARY_PATH and SHLIB_PATH

Checking Port Values

The default ports used by the Oracle Calendar server are:

Port	Function
5730	Calendar Engine
5731	Synchronous network connector
5732	Directory access server
5734	Calendar server manager

If these ports are already in use, the installation will use the next available port. Please verify `unison.ini` for the values used by the Oracle Calendar server.

Opening the Oracle Calendar Administrator

Use the Oracle Calendar Administrator to manage users, events, resources, and public agendas, as well as perform administrative tasks. By default, you can open it at the following URL:

`https://`*`Web_server_host`*`:`*`https_port`*`/ocad-bin/ocad.cgi?object=nodeadm`

To log on to the Oracle Calendar Administrator, enter the Oracle Calendar administrative password you chose during installation. Do not enter a user name with this password.

> **See Also:** *Oracle Calendar Administrator's Guide* for information on how to use the Oracle Calendar Administrator

Setting up Resource Approval

If you intend to use resource approval, you need to set it up as follows:

1. Create or modify a resource with `NOTIFY-APPROVER` set to `TRUE` and `APPROVER-EMAIL` set to e-mail of the approver. For example, in `ocal/bin`:

   ```
   uniuser -resource -add R=Resource_Approval/NOTIFY-APPROVER=TRUE/APPROVER-EMAIL=
   approver.email@oracle.com/psw=password -n 4313 -p test1
   ```

2. Assign Resource designate rights; for example, in `ocal/bin`

   ```
   uniaccessrights -mod -designate ALL=TRUE -grantee S=Designate/NODE-ID=4313
   -grantor R=Resource_Approval -n 4313 -p test1
   ```

3. Also make sure that the `RESOURCE_APPROVAL` section exists in `unison.ini` (located in `ocal/misc`) with the `url` parameter; for example:

   ```
   [RESOURCE_APPROVAL]
   url=http://server:port/ocas-bin/ocas.fcgi
   ```

4. If you changed the resource approval URL, restart the Oracle Calendar server.

Enabling Wireless Capability

To make sure your Oracle Calendar server is wireless-enabled and pointing to a valid wireless server that is up and running, open `$ORACLE_HOME/ocal/misc /unison.ini` and set the following parameters:

```
[CWS]
smtpmail = TRUE
smsnotifyprogramparam = " -host WIRELESS_HOST -port Calendar_listener_port"
smsnotifyprogram = $ORACLE_HOME/ocal/sbin/sendalert
.
.
.
[NOTIFY]
sms = TRUE
alert_server = "IASW"
```

Save your file and restart your Oracle Calendar server.

Make sure the wireless server is properly configured. For more information, see the documentation included with the wireless server.

Working with LD_LIBRARY_PATH and SHLIB_PATH

Any values added to the `LD_LIBRARY_PATH` and SHLIB_PATH environment variables, such as to configure security mechanisms, are cleared by the Oracle Calendar server. Instead, add the values to `OCAL_ADDITIONAL_LIBPATH`.

Starting and Configuring the Oracle Calendar Application System

Generally, the Oracle Calendar application system should successfully start when you start the Web server, using the default installation settings. The following sections explain how to check the application system's status and make configuration changes to it if necessary.

This section contains the following topics:

- Checking the Status of the Oracle Calendar Application System
- Configuring the Oracle Calendar Application System

Checking the Status of the Oracle Calendar Application System

To see if the application system and its components are running, open the system page at `http://`*`server_name`*`:`*`port`*`/ocas-bin/ocas.fcgi?sub=sys`. If a component is not running, it will not appear in the system page.

To connect to a component with an appropriate application system, use the following URLs:

Component	URL
Sync Server	`http://`*`host`*`:`*`port`*`/ocst-bin/ocas.fcgi`
Web services	`http://`*`host`*`:`*`port`*`/ocws-bin/ocas.fcgi`
Oracle Calendar Web client	`http://`*`host`*`:`*`port`*`/ocas-bin/ocas.fcgi?sub=web`

Configuring the Oracle Calendar Application System

The Oracle Calendar application system and its components are controlled with the following configuration files under `$ORACLE_HOME/ocas/conf`:

`ocas.conf`: client

`ocws.conf`: web services

`ocst.conf`: Sync Server

`ocwc.conf`: Oracle Calendar Web client

`ocal.conf`: Web server FastCGI directives, included from `httpd.conf`

Consider the following configuration options, depending on your environment:

- Run several instances of `ocas.fcgi` (the number of instances depends on setup and load). You can configure this in `ocal.conf`.
- You need to run one instance of `ochecklet.fcgi` for each installation and host. This is also configured in `ocal.conf`.

- To redirect the Web client from a custom URL, add the following statement to `ocal.conf`:

```
<Location /calendar>
   Redirect permanent /calendar \
           http://<host>:<port>/ocas-bin/ocas.fcgi?sub=web
</Location>
```

- In order to use the Sync Server, set the `KeepAlive` parameter in `httpd.conf` or `apache.conf` to 300 seconds, or turn it off. This is done to correspond to the idle-timeout value of 300 seconds in `ocal.conf`.
- Ensure that the `linkdb` and `sessiondb` variables in all hosts' `ocas` files refer to the same path; for example, the same NFS mount.
- Set Authentication, Compression and Encryption (ACE) values in each component's `conf` file. `AUTH` Web settings for all products must be configured in the `[ACE_PLUGINS_CLIENT]` section of `ocas.conf`.
- If you experience any problems, check for error messages in:

```
$ORACLE_HOME/ocas/logs/ocas_log
```

Ensure that you restart your Web server after any changes to the `conf` files.

Installing the Oracle Calendar Resource Kit

The Oracle Calendar Resource Kit is a tool that administrators can use to provide their end users with information on the Oracle Calendar application system. This information includes product overviews, system requirements, installation instructions, frequently asked questions and troubleshooting for the following clients.

- Oracle Connector for Outlook
- Oracle Calendar Web client
- Oracle Calendar desktop client
- Oracle Calendar Sync
- Oracle Sync Server

The Oracle Calendar Resource Kit can be made available to end users by including it in the Oracle9*i*AS Portal. Currently, the kit is located in `ROOT_OF_CD_DISK1/doc/admin/resource_kits` directory.

Provisioning the orclguest Account with Multiple Instances of Oracle Calendar

If you install two instances of Oracle Calendar on the same infrastructure, the `orclguest` account may not be provisioned for the second instance. Follow these steps to create another test user account for the second calendar instance.

Note: These steps should also be followed if `orclguest` was never created.

---

1. Create a user in Oracle Internet Directory using Oracle Delegated Administration Services at the following URL:

```
http://Oracle_Internet_Directory_host_name:port_number/oiddas
```

2. Provision calendar service to this user using the Oracle Calendar Administrator from the following URL:

```
http://Oracle_Calendar_host_name:port_number/ocad-bin
/ocad.cgi?object=nodeadm
```

See Also: *Oracle Calendar Administrator's Guide*, Chapter 8, "Calendar Users"

Configuring Oracle Calendar E-Mail Delivery

This section describes configuration changes for enabling or optimizing delivery of Oracle Calendar e-mail.

This section contains the following topics:

- Configuring Event Notifications when Oracle Calendar and Oracle Email are on the Same Host
- Configuring Event Notifications when Oracle Calendar and Oracle Email are on Separate Hosts
- Setting the Mail Domain Name

Configuring Event Notifications when Oracle Calendar and Oracle Email are on the Same Host

If Oracle Calendar and Oracle Email (also known as Unified Messaging) are installed on the same host, you must make some changes to the `sendmail.cf` file and reinitialize the inbound SMTP service to enable delivery of Oracle Calendar event notification e-mail messages.

This section contains the following topics:

- Editing the sendmail.cf File
- Reinitializing the Unified Messaging Inbound SMTP Service

Editing the sendmail.cf File

The following steps describe how to edit the `sendmail.cf` file when Oracle Calendar and Oracle Email are installed on the same host. The `sendmail.cf` file is located in the `/etc/mail` directory on Solaris systems, or the `/etc` directory on Linux systems. You must be logged in as `root` to do this.

1. Open the `sendmail.cf` file as `root` and locate the line that contains **DH**.
2. Add the middle tier host name to the end of the line, as follows:

```
DHmiddletier_host
```

3. Comment out the following lines in the `# short circuit local delivery so forwarded email works` section:

```
R$=L < @ $=w . > $#local $: @ $1 special local names
R$+ < @ $=w . > $#local $: $1 regular local name
```

4. In the `sendmail.cf` file, add the `k` flag to the `F=` parameter of `Msmtp` or `Mesmtp`, depending on which is being used:

Keyword	Parameters
Msmtp,	P=[IPC], F=mDFMuXk, S=EnvFromSMTP/HdrFromSMTP, R=EnvToSMTP, E=\r\n, L=990, T=DNS/RFC822/SMTP, A=TCP $h
Mesmtp,	P=[IPC], F=mDFMuXak, S=EnvFromSMTP/HdrFromSMTP, R=EnvToSMTP, E=\r\n, L=990, T=DNS/RFC822/SMTP, A=TCP $h

5. Save and close the `sendmail.cf` file.

Reinitializing the Unified Messaging Inbound SMTP Service

The following steps describe how to edit and reinitialize the Unified Messaging Inbound SMTP service target when Oracle Calendar and Oracle Email are installed on the same host.

1. Log in to the Oracle Enterprise Manager on the middle tier at the following URL:

   `http://middletier_host:1810/`

2. Click the middle tier host to display the target page.
3. Click **Unified Messaging**.
4. Click **Unified Messaging Inbound SMTP** to display the Process Instance page.
5. Click the SMTP instance in the **Select Instanc**e list.
6. In the **Rules and Spam Management** section, locate the **Recipient Rewriting Rules** field and enter the following:

   `$*@middletier_host.fully_qualified_domain, $1@domain`

   Note: If you have multiple domains, you must enter a rule for each.

7. Click **Apply**.
8. In the navigation path at the top of the page, click **Unified Messaging Inbound SMTP.**
9. Click **Reinitialize**.
10. Click **OK**.

In most cases, the previous steps are sufficient, and e-mail notification should work. However, if event notifications are still not being delivered, the following additional steps may be necessary:

1. Update the local host file (`/etc/hosts`) and add an alias for the host name.
2. In the `sendmail.cf` file, disable `mxlookup` by adding `0` to the `F=` parameter of `Msmtp` or `Mesmtp`, depending on which is being used:

Keyword	Parameters
Msmtp,	P=[IPC], F=mDFMuXk0, S=EnvFromSMTP/HdrFromSMTP, R=EnvToSMTP, E=\r\n, L=990, T=DNS/RFC822/SMTP, A=TCP $h
Mesmtp,	P=[IPC], F=mDFMuXk0, S=EnvFromSMTP/HdrFromSMTP, R=EnvToSMTP, E=\r\n, L=990, T=DNS/RFC822/SMTP, A=TCP $h

3. Save and close the `sendmail.cf` file.

Configuring Event Notifications when Oracle Calendar and Oracle Email are on Separate Hosts

The following procedure optimizes delivery of Oracle Calendar Web client event notifications sent to users who are not using Oracle Email. This modification should be made when Oracle Calendar and Oracle E-Mail are installed on separate hosts. You must be logged on as `root`, so that you can edit the `sendmail.cf` file, located in the `/etc/mail` directory on Solaris systems, or the `/etc` directory on Linux systems.

1. Open the `sendmail.cf` file as `root`.
2. Make the following change:

```
# who gets all local email traffic ($R has precedence for unqualified names)
# DH
DHsmtpmidtierhost
```

   Where `smtpmidtierhost` is the fully qualified name of the middle tier's SMTP server.

3. Save and close `sendmail.cf`.

Setting the Mail Domain Name

If e-mail sent by the Oracle Calendar server appears to come from the server's name rather than the desired domain name, make the following change to `sendmail.cf` in the `/etc/mail` directory on Solaris systems, or the `/etc` directory on Linux systems.

1. Open the `sendmail.cf` file as `root`.
2. Make the following change:

```
# who I masquerade as (null for no masquerading) (see also $=M)
DMdomainname
```

   Where `domainname` is the mail domain name from which e-mail should appear to be sent.

3. Save and close `sendmail.cf`.

11

Configuring Oracle Email

This chapter discusses the administration tools and explains how to configure, start up, shut down, and reinitialize the Oracle Email system.

This chapter contains the following topics:

- Pre-Configuration Checklist
- Configuring Oracle Email
- Using the Administration Tools
- Starting Up, Shutting Down, and Reinitializing Oracle Email
- Manually Configuring Oracle Email

Pre-Configuration Checklist

This section describes pre-configuration procedures that must be done prior to configuring Oracle Email.

This section contains the following topics:

- Verifying the Java and Oracle Text Options on the Information Store Database
- Verifying and Starting the Oracle9iAS Infrastructure and Application Servers
- Registering the Database with Oracle Internet Directory
- Setting the Database init.ora Parameters on the Information Storage Database
- Creating Information Storage Tablespaces and Schema

Verifying the Java and Oracle Text Options on the Information Store Database

The Java and Oracle Text options are installed by default when Oracle Email is installed. The installation fails, however, if the database user `CTXSYS` is not present at the time of installation.

To verify that the Java and Oracle Text Options were installed and configured on the information storage database, run the following SQL query as `sysdba`:

```
SQL> select comp_id, status from dba_registry;
```

If the Java and Oracle Text options were installed correctly, an output similar to the following displays:

```
COMP_ID                        STATUS
------------------------------ -----------
...
```

```
JAVAVM                         VALID
...
CATJAVA                        VALID
...
CONTEXT                        VALID
```

If the options are not installed and configured on the information storage database, they must be installed and configured manually.

Verifying and Starting the Oracle9*i*AS Infrastructure and Application Servers

Verify that the infrastructure and application servers are running:

```
% ps -ef | grep http
```

To start the infrastructure and application servers:

```
% $ORACLE_HOME/opmn/bin/opmnctl startall
```

Registering the Database with Oracle Internet Directory

> **Note:** This section only applies if you are not using the information storage database supplied with the Oracle Collaboration Suite installation. If you installed the information storage database from the Oracle Collaboration Suite Information Storage CD, you do not need to register the database with Oracle Internet Directory.

An Oracle9*i* Database is required to install the information store. Before a database can be configured as an information store, it must be registered with the Oracle Internet Directory infrastructure. If the database is not already registered with Oracle Internet Directory, it can be registered using the Oracle database configuration assistant. Once the database is registered with Oracle Internet Directory, any changes to the connect identifier can be made using Oracle Net Manager.

To register the information store database with the Oracle Internet Directory infrastructure, the following procedures must be performed using the Oracle Net configuration assistant and the database configuration assistant:

- Running the Oracle Net Configuration Assistant
- Running the Database Configuration Assistant

Running the Oracle Net Configuration Assistant

To run the Oracle Net configuration assistant:

1. Start the Oracle Net configuration assistant:

   ```
   $ORACLE_HOME/bin/netca
   ```

2. Select **Directory Service Usage Configuration**.
3. Click **Next**.
4. Select **Select the directory server you want to use**. The directory server must already be configured for Oracle usage.
5. Click **Next**.

6. Select Oracle Internet Directory as the directory server you want to use.
7. Click **Next**.
8. Enter connect information for the Oracle Internet Directory infrastructure.
9. Click **Next**.
10. Select the root OracleContext (`cn=OracleContext`) as the default Oracle Context in the directory and finish the Oracle Net configuration assistant configuration.

Running the Database Configuration Assistant

To run the database configuration assistant:

1. Start the database configuration assistant to register the information storage database with Oracle Internet Directory infrastructure.

   ```
   $ORACLE_HOME/bin/dbca
   ```

2. Select **Configure database** option in the database.
3. Click **Next**.
4. Select the information store database instances.
5. Click **Next**.
6. In the Directory Services screen, Select the **Yes, register the database**.
7. Enter a user DN and password to connect to the Oracle Internet Directory infrastructure. For example, `acmeadmin`.
8. Complete the database configuration assistant configuration.

Setting the Database init.ora Parameters on the Information Storage Database

Set the database `init.ora` parameters on the information storage database to the following values:

```
processes=150 or higher
open_cursors=300 or higher
dml_locks=200 or higher
shared_pool_size=32000000 or higher
java_pool_size=40000000 or higher
```

Creating Information Storage Tablespaces and Schema

The Oracle Email configuration wizard creates tablespaces and schema for the information store. If you want to customize tablespace storage parameters or data files, you can create them before running configuration wizard.

For the names of information store tablespaces and their default storage parameters refer to the `$ORACLE_HOME/oes/install/sql/tblspc.sql` script.

There is a tablespace named `ESTERSTORE` that is reserved for tertiary storage of old messages. To enable tertiary storage, pre-create the `ESTERSTORE` tablespace on a different disk prior to installation. After which, create an instance of the housekeeping server with the `Tertiary Store` parameter enabled, and set the `Tertiary Storage Age Threshold` parameter to the desired age value in terms of number of days (the default is 30). The housekeeping server instance automatically moves messages periodically.

Note: If you pre-create tablespaces, the Oracle Email configuration wizard log shows some errors indicating tablespace creation failed. These errors can be ignored.

See Also: *Oracle Email Administrator's Guide* for more information on tertiary storage and how to configure server processes

Configuring Oracle Email

This section describes how to configure the Oracle Email information store and middle tier servers using the graphical interface provided by the `umconfig.sh` script.

This section contains the following topics:

- Configuring the Oracle Email Information Storage Database
- Configuring the Oracle Email Middle Tier

Note: The information store and middle tier must both be installed before you start the configuration. Also, you must configure the information storage database before you configure the middle tier.

Configuring the Oracle Email Information Storage Database

Configuring the information storage database does the following:

- Creates tablespaces for the mail schema
- Creates mail tables and indexes
- Loads mail related PL/SQL packages
- Loads mail related stored Java procedures
- Configures the information storage database with Oracle Internet Directory

To configure the Oracle Email information storage database, perform the following steps on the middle tier server:

1. Run the `umconfig.sh` script located on the Oracle Collaboration Suite middle tier.

   ```
   $ORACLE_HOME/oes/bin/umconfig.sh
   ```

   The Unified Messaging Configuration screen displays.
2. Select **Mail Store Database Configuration**.
3. Click **Next**. The Mail Store Database Configuration screen displays.
4. Enter the following information in the corresponding fields:

Field	Description
Database Hostname	The name of the system on which the database is located.
SID	The system identifier of the information store.
Port Number	The port number on which the listener is listening.
system_password	The system password for the host database.

5. Click **Next**. The CTXSYS Password screen displays. If the CTXSYS password is locked and needs to be reset, it will prompt you for password confirmation. Enter the CTXSYS password. The default password is `CTXSYS`.
6. Click **Next**. The ES_Mail Password screen displays.
7. Enter the `ES_MAIL` password and confirm it. If an `ES_MAIL` password is not entered, the default is `es`.

   Note: The information store schema is owned by the `ES_MAIL` database user.

8. Click **Next**. The UMADMIN Password screen displays.

   Note: `UMADMIN` is an administrator account created on the Oracle Internet Directory server during the application server installation of Oracle Email. The account owns specific Oracle Email entries in the directory. After installation, administrators should log in to the administration tool using the `UMADMIN` account and create an initial Oracle Email user. Thereafter, they can delegate system and domain administration responsibilities to other users.

9. Enter the `UMADMIN` password and confirm it. If a password is not entered, the default value `welcome` is stored in Oracle Internet Directory and the database as the `UMADMIN` password.
10. Click **Next**. The Create Unified Messaging Domain screen displays.
11. Enter a domain name to be used for users' e-mail addresses.

    Caution: If you mistype the domain name and therefore create a bad domain, run the following command to correct the domain name:

    ```
    $ORACLE_HOME/oes/bin/install_createdomain.sh UM_SYSTEM
    domain_name
    ```

12. Click **Next**. The Configuration Tools screen displays and the information store configuration begins.

    Once the information store configuration is complete, the End of Installation screen displays.

13. Inspect the log files created by `umconfig.sh` for errors. The log files are located in the following directory:

    ```
    $ORACLE_HOME/oes/log/
    ```

14. Inspect the installation logs in the following directory:

    ```
    /var/opt/oracle/oraInst.loc/logs
    ```

15. If you are not using the information storage database that is provided on the Oracle Collaboration Suite information Storage CD-ROM, perform the procedures described in the following topics:

    - Installing the umbackend Component

- Loading the SQL Scripts for umbackend

Installing the umbackend Component

> **Note:** If the information storage database was not installed from the Oracle Collaboration Suite Information Storage CD and the Oracle Collaboration Suite middle tier and information store are installed on different operating systems, then the `umbackend.tar` file must be downloaded from the Oracle Technology Network Web site.

To install the `umbackend` component:

1. If the Oracle Collaboration Suite middle tier and information store are installed on the same operating system (or platform), copy the `umbackend.tar` file from the `$ORACLE_HOME/oes` directory on the middle tier to the `$ORACLE_HOME` on the information storage database.

   If the Oracle Collaboration Suite middle tier and information store are installed on different operating systems, then you must download `umbackend.tar` for the same operating system as the information store from the Oracle Technology Network (OTN).

2. Untar the `umbackend.tar` file:

   ```
   tar xvf umbackend.tar
   ```

3. Start the Oracle Universal Installer:

   ```
   cd backend/Disk1
   ./runInstaller
   ```

4. Follow the screen prompts to complete the Oracle Email back-end installation.

Loading the SQL Scripts for umbackend

To load the SQL scripts for `umbackend`:

1. Change to the `$ORACLE_HOME/oes/install/sql` directory on the information storage database.
2. Run SQL*Plus and log in to the database as `sys`.
3. Load the `install_backend_sys.sql` script.
4. Run SQL*Plus and log in to the database as the `es_mail` user.
5. Load the `install_backend_es_mail.sql` script.

> **Note:** These scripts must be run only if the information store was not installed from the Oracle Collaboration Suite Information Storage CD.

Configuring the Oracle Email Middle Tier

Configuring the middle tier does the following:

- Configures the middle tier with Oracle Internet Directory
- Configures the middle tier with the information storage database

- Creates Oracle Email server instances

To configure the Oracle Email middle tier servers:

1. Shut down any applications that use port 25.
2. Run the `umconfig.sh` script located on the application server:

   ```
   $ORACLE_HOME/oes/bin/umconfig.sh
   ```

   The Unified Messaging Configuration screen displays.
3. Select **Middle Tier Configuration**.
4. Click **Next**. The Mail Store Database screen displays.
5. Select the global name of the database to be used by this middle from the drop-down list.

   Note: If the `UMADMIN` password and the domain name were specified during the information store configuration, the next screen that displays is the Start Processes screen. Otherwise, you must specify the `UMADMIN` password and the domain name.

6. Click **Next**. The Create Unified Messaging Domain screen displays.
7. Enter the name of the domain that is to be used as the local domain for SMTP and the List Server. This domain is used for users' e-mail addresses.
8. Click **Next**. The Start Processes screen displays.
9. Select **Yes** to automatically start the Oracle Email server processes after the configuration is complete. Otherwise, select **No**.
10. Click **Next**. The Configuration Tools screen displays and the middle tier configuration begins.

    Once the middle tier configuration is complete, the End of Installation screen displays.
11. Inspect the log files for errors. The log file for `umconfig.sh` is located in the following directory:

    ```
    $ORACLE_HOME/oes/log/
    ```
12. Inspect the installation logs in the following directory:

    ```
    /var/opt/oracle/oraInst.loc/logs
    ```

Using the Administration Tools

This section describes the different administration tools used to administer the Oracle Email system.

This section contains the following topics:

- Oracle Enterprise Manager
- Oracle Email Webmail Client

Oracle Enterprise Manager

> **See Also:** *Oracle9i* Application Server Administrator's Guide for more information about Oracle Enterprise Manager

Oracle Enterprise Manager is a Web-based tool that enables administrators to perform some of the management tasks for the Oracle9*i* Database and Oracle9*i* Application Server. The Oracle Enterprise Manager can be used to administer Oracle Email service processes.

Through Oracle Enterprise Manager, administrators can perform the following tasks on an Oracle Email system:

- Startup
- Shutdown
- Reinitialize
- Modify default parameters

To perform administration tasks for Oracle Email through Oracle Enterprise Manager, navigate to the following URL:

`http://host_name:1810`

Oracle Email Webmail Client

> **See Also:** *Oracle Email Administrator's Guide* for more information on domain and user provisioning

Using the Oracle Email Webmail client, administrators can perform domain and user provisioning tasks. Through the Oracle Email Webmail client, administrators can do the following:

- Create and modify domain settings for users and distribution lists
- Create, delete, modify, and view e-mail, fax users, voice mail users, and distribution lists
- Add and delete members to and from distribution lists
- View all the distribution lists of which a specific user is a member
- Create, delete, modify, and view server-side filters
- Create, delete, and modify lists

To perform administration tasks for Oracle Email using the Webmail client, navigate to the following URL:

`http://host_name:port_number/um/traffic_cop`

Where:

- *host_name* is the name of the host on which the Middle Tier is installed
- *port* is the Oracle Web Cache port number

Starting Up, Shutting Down, and Reinitializing Oracle Email

This section explains how to start, stop, and reinitialize the Oracle Email system.

This section contains the following topics:

- Verifying and Starting the Oracle Net Listener for the Information Store
- Verifying and Starting the Listener for the Middle Tier
- Starting the Oracle Email System
- Stopping the Oracle Email System
- Reinitializing the Oracle Email System
- Creating a Public User

> **See Also:** *Oracle Email Administrator's Guide* for more information on how to start up, shut down, and reinitialize individual processes

Verifying and Starting the Oracle Net Listener for the Information Store

Oracle Net Listener must be running on the information store database so that the system can establish database connections from the Oracle Email system and clients.

To verify that the listener is running:

```
% $ORACLE_HOME/bin/lsnrctl status
```

If the computer returns a message that contains the line `no listener`, the listener must be started.

To start the listener:

```
% $ORACLE_HOME/bin/lsnrctl start
```

> **See Also:** *Oracle10i* Net Services Administrator's Guide for additional information on starting the listener

Verifying and Starting the Listener for the Middle Tier

To verify that the listener is running:

```
% lsnrctl status
```

If the computer returns a message that contains the line `no listener`, the listener must be started.

To start the listener:

1. Configure the listener with protocol addresses and other configuration parameters, using the Oracle Net configuration assistant or Oracle Net Manager.

   > **See Also:** *Oracle10i* Net Services Administrator's Guide, for listener configuration information

2. Log in as superuser (root) and set file ownership and access permissions for the listener executable (`tnslsnr`) and its dependent shared libraries so that these files can be modified only by the superuser. The `tnslsnr` is located in the `$ORACLE_HOME/bin` directory.
3. Verify that the permissions of the individual directories found in the path names to these files, starting with the root directory, are modified in the same way.
4. Start the listener as `root`. Ensure that the `ORACLE_HOME` environment variable is set to the `$ORACLE_HOME` directory. At the operating system prompt, enter the following command with optional command line arguments.

   ```
   tnslsnr [listener_es] [-user user] [-group group]
   ```

Argument	Description
`-user` *user*	The numerical identification of the UNIX account that owns the Oracle software.
`-group` *group*	Specifies the numerical identification of the UNIX group to which the Oracle owner belongs.

Starting the Oracle Email System

Starting an Oracle Email service starts all the processes comprising that service type, such as IMAP4 and SMTP.

Using Oracle Enterprise Manager, perform the following procedure to start an Oracle Email system:

1. Navigate to the Oracle9*i* Application Server home page
2. Select **Unified Messaging**.
3. Click **Start**.

Stopping the Oracle Email System

Stopping an Oracle Email system sends a request to the operating system to shut down all of the Oracle Email processes. One reason an administrator would want to stop the Oracle Email system is to perform maintenance on the system, such as upgrading the server hardware or software. It is not possible for the processes to be running while certain kinds of upgrades are performed.

Using Oracle Enterprise Manager, perform the following procedure to stop an Oracle Email system:

1. Navigate to the Oracle9*i* Application Server home page.
2. Select **Unified Messaging**.
3. Click **Stop**.

Reinitializing the Oracle Email System

Reinitializing an Oracle Email process informs the operating system to reload its operational settings from the Oracle Internet Directory server. The process does not stop running, which means that users continue to receive uninterrupted service. Whenever an Oracle Email process parameter is modified, it must be reinitialized for the changes take effect.

Using Oracle Enterprise Manager, perform the following procedure to reinitialize an Oracle Email process:

1. Navigate to the Oracle9*i* Application Server home page.
2. Select **Unified Messaging**.
3. Click **Restart**.

Creating a Public User

After configuring Oracle Email, administrators must create a public user account on Oracle Internet Directory using Oracle Delegated Administration Services. To do this, navigate to `http://`*`infrastructure_host`*`:`*`port_number`*`/oiddas`.

This public user corresponds with the initial user that will be created using the Webmail client administration tool.

> **See Also:** *Oracle Internet Directory Application Developer's Guide* for more information on using Oracle Delegated Administration Services

Once the public user has been created, navigate to `http://host_name:port_number/um/admin/UMAdminLogin.uix`, to create the initial domain and user.

> **See Also:** *Oracle Email Administrator's Guide* for more information on creating the initial domain and user

Manually Configuring Oracle Email

This section decribes how to manually configfure Oracle Email without running the umconfig.sh. The procudures are particular useful when you need to add additional computing resources for the information storage database or middle tier server.

This section contains these topics:

- Manually Configuring the Webmail Client
- Manually Configuring the Oracle Email Information Storage Database
- Manually Configuring the Oracle Email Middle Tier

Manually Configuring the Webmail Client

The Webmail client is automatically configured the first time you run `umconfig.sh`. However, if you are performing the entire Oracle Email configuration manually, without using the graphical interface provided by `umconfig.sh`, enter the following to configure the Webmail client:

```
if [ -f $ORACLE_HOME/j2ee/OC4J_UM/config/application.xml ] && [ ! -f $ORACLE_
HOME/j2ee/OC4J_UM/config/application.xml.pre_libmod ]
then
  $ORACLE_HOME/um/scripts/webmail_library_mods.sh $ORACLE_HOME
  $ORACLE_HOME/opmn/bin/opmnctl restartproc type=oc4j gid=OC4J_UM
fi
```

Manually Configuring the Oracle Email Information Storage Database

Enter the following to configure the Oracle Email information storage database using the command line instead of the graphical interface provided by `umconfig.sh`:

```
%cd $ORACLE_HOME/oes/bin
%install_mailstore.sh connect_str \
%sys_password \
%system_passwd \
%CTXSYS_passwd \
%mail_store_SID \
%host_name \
%port_number \
%installation_name \
%ORACLE_HOME \
%es_mail_passwd \
%umadmin_passwd \
```

```
%oid_flag \
%domain_name
```

The following table lists the variables and a description of their expected values:

Variable	Description
connect_str	Information store database connect string
sys_password	SYS password for the host database
system_passwd	SYSTEM password for the host database
CTXSYS_passwd	Password for the Oracle Text account
mail_store_SID	Information storage database SID
host_name	Information storage database host name
port_number	Information storage database port number. The default value is 1521.
installation_name	Name of the installation. The default value is UM_SYSTEM
ORACLE_HOME	Oracle home specification
es_mail_passwd	Password for the ES_MAIL database user. If an ES_MAIL password is not entered, the default is es.
umadmin_passwd	UMADMIN is an administrator account created on the Oracle Internet Directory server during the application server installation of Oracle Email. It account owns specific Oracle Email entries in the directory. After installation, administrators should log in to the administration tool using the UMADMIN account and create an initial Oracle Email user. Thereafter, they can delegate system and domain administration responsibilities to other users. If a password is not entered, the default value welcome is stored in Oracle Internet Directory and the database as the UMADMIN password.

Variable	Description

oid_flag	If Oracle Email entries have been created in Oracle Internet Directory, then the value is 1; otherwise it is 0.
	To determine if the Oracle Internet Directory infrastructure is configured for Oracle Email, run the following commands from the middle tier ORACLE_HOME.
	On UNIX:
	`rm $ORACLE_HOME/oes/log/exists.txt`
	`java -classpath`
	`$ORACLE_HOME/jlib/esinstall.jar:$ORACLE_HOME/jlib`
	`/repository.jar:$ORACLE_HOME/jlib/esldap.jar:`
	`$ORACLE_HOME/jlib/jndi.jar:$ORACLE_HOME/jlib/ldap.jar:`
	`$ORACLE_HOME/jlib/providerutil.jar oracle.mail.install.`
	`ESDSInstallQuery $ORACLE_HOME um_system.`
	After running this query, check if the `$ORACLE_HOME/oes/log/exists.txt` file exists. If it exists, then the value of *oid_flag* should be 1; otherwise, the value is 0.
	On Windows:
	`del %ORACLE_HOME%\oes\log\exists.txt`
	`java -classpath`
	`%ORACLE_HOME%\jlib\esinstall.jar;%ORACLE_HOME%\jlib`
	`\repository.jar;%ORACLE_HOME%\jlib\esldap.jar;`
	`%ORACLE_HOME%\jlib\jndi.jar;%ORACLE_HOME%\jlib`
	`\ldap.jar;%ORACLE_HOME%\jlib\providerutil.jar`
	`oracle.mail.install.ESDSInstallQuery %ORACLE_HOME%`
	`um_system.`
	After running this query, check if the `%ORACLE_HOME%\oes\log\exists.txt` file exists. If the file exists, then the *oid_flag* value should be 1; otherwise it is 0.

domain_name	The name of the default domain to be created when the first information store is added, such as `acme.com`. If this is not the first information store, the domain name is ignored. **Note**: This domain must exist.

Note: The default `INSTALLATION_NAME` is `UM_SYSTEM`.

Manually Configuring the Oracle Email Middle Tier

Enter the following to configure the Oracle Email middle tier using the command line instead of the graphiocal interface provided by `umconfig.sh`:

```
%cd $ORACLE_HOME/oes/bin
%install_middletier.sh  connect_string \
%mail_store_SYSTEM_password
%installation_name \
%ORACLE_HOME \
%umadmin_passwd \
%OID_flag \
%global_db_name \
%domain_name \
%start_proc
```

The following table lists the variables and a description of their expected values:

Variable	Description
connect_string	The information storage database connect
mail_store_SYSTEM_password	The SYSTEM password for the information storage database
installation_name	Name of the installation. The default value is UM_SYSTEM
ORACLE_HOME	The Oracle home specification
umadmin_passwd	UMADMIN is an administrator account created on the Oracle Internet Directory server during the application server installation of Oracle Email. This account owns specific Oracle Email entries in the directory. After installation, administrators should log in to the administration tool using the UMADMIN account and create an initial Oracle Email user. Thereafter, they can delegate system and domain administration responsibilities to other users. If a password is not entered, the default value welcome is stored in Oracle Internet Directory and the database as the UMADMIN password.

oid_flag	If Oracle Email entries have been created in Oracle Internet Directory, the value is 1. Otherwise, it is 0.
	To determine if the Oracle Internet Directory infrastructure is configured for Oracle Email, run the following commands from the middle tier ORACLE_HOME.
	`rm $ORACLE_HOME/oes/log/exists.txt`
	`java -classpath`
	`$ORACLE_HOME/jlib/esinstall.jar:$ORACLE_HOME/jlib`
	`/repository.jar:$ORACLE_HOME/jlib/esldap.jar:`
	`$ORACLE_HOME/jlib/jndi.jar:$ORACLE_HOME/jlib/ldap.jar:`
	`$ORACLE_HOME/jlib/providerutil.jar oracle.mail.install.`
	`ESDSInstallQuery $ORACLE_HOME um_system.`
	After running this query, check if the $ORACLE_HOME/oes/log/exists.txt file exists. If it exists, the value of *oid_flag* should be 1, otherwise, the value is 0.

global_db_name	The database global name. For example, acmedb.foo.acme.com.
domain_name	The local domain name. For example, acme.com.
start_proc	Specifies whether or not to start the procedure. Acceptable values are 0 and 1.

12

Configuring Oracle Files

This chapter guides you through the process of configuring Oracle Files.

This chapter contains these topics:

- Overview of the Oracle Files Configuration Process
- Recommended Protocol Configurations
- Preconfiguration Tasks for Oracle Files
- Configure Oracle Files
- Non-Interactive Configuration of Oracle Files
- Setting Up Oracle Files Runtime
- Additional Post-Configuration Tasks

Overview of the Oracle Files Configuration Process

The following steps are required to configure and run Oracle Files:

1. Run the Oracle Files configuration assistant.

   See "Configure Oracle Files" on page 12-7.

2. Start the Oracle Files processes.

   See "Starting All Necessary Processes" on page 12-25.

3. Create the Oracle Files subscriber.

   See "Creating the Oracle Files Subscriber" on page 12-26.

4. Log in to Oracle Files as `orclguest` (or as an existing Oracle Internet Directory user).

   See "Validating Basic Operations" on page 12-29.

See "Setting Up Oracle Files Runtime" on page 12-25 for more information about post-configuration tasks. See "Additional Post-Configuration Tasks" on page 12-30 for additional post-configuration tasks.

Recommended Protocol Configurations

The following describes security considerations for the protocols used to access Oracle Files.

1. FTP and AFP protocols send unencrypted user passwords across the network.

This is the defined behavior of these industry-standard protocols. Oracle has no control over this behavior, and it does not represent a defect in Oracle software. Sites unwilling to accept this behavior should either a) disable these protocols; or b) configure Oracle Files to use Oracle Files-specific user passwords for these protocols, so that users' Oracle9*i*AS Single Sign-On passwords are not compromised if FTP or AFP passwords are compromised.

To set Oracle Files-specific passwords, use the Protocol Access page in Oracle Files. See the Oracle Files online help for details.

2. The HTTP/DAV protocol allows both "basic" (unencrypted) and "digest" (encrypted) authentication.

   "Basic" authentication sends unencrypted user passwords across the network unless HTTP/DAV uses SSL (Secure Sockets Layer). Apache configuration (performed separately from Oracle Files configuration) determines whether or not HTTP/DAV uses SSL. Sites concerned about HTTP/DAV "basic" authentication should configure Apache to use SSL.

3. The HTTP/DAV, FTP, SMB, AFP, NTFS, and NFS protocols do not encrypt the network channel by default.

   Files transferred using these protocols are susceptible to interception. This is the defined behavior of these protocols. Oracle has no control over this behavior and it does not represent a defect in Oracle software. Sites unwilling to accept this behavior should disable these protocols and configure Apache to use SSL (HTTP/DAV only).

4. If authentication is performed using the Oracle Files Web User Interface HTML form, instead of Oracle9*i*AS Single Sign-On, unencrypted passwords are transmitted over the network unless Apache is configured to use SSL.

5. To administer Oracle Files using Oracle Enterprise Manager, a user authenticates using an HTML form. Unless Oracle Enterprise Manager is configured for SSL, unencrypted passwords are transmitted over the network.

6. By default, JDBC does not encrypt network connections between Oracle Files processes and the Oracle9*i* Database Server. This means that passwords and files being transferred are susceptible to interception. Either a) secure the network connection between the middle tier machines running Oracle Files (if any), or b) use Oracle Advanced Security to encrypt these connections.

7. When configuring Oracle Files to use Oracle Internet Directory for user authentication, the administrator must choose whether or not to use SSL for connections between Oracle Files and Oracle Internet Directory. If SSL is not used, unencrypted passwords can be sent over network connections between Oracle Files processes and Oracle Internet Directory. Either a) secure the network connection between Oracle Files and Oracle Internet Directory or b) use SSL.

Preconfiguration Tasks for Oracle Files

The Oracle Files configuration assistant starts automatically if you chose to configure Oracle Files as part of the installation process and guides you through the process of identifying the Oracle database to use for the Oracle Files schema and various other configuration tasks.

Before you configure Oracle Files, there are a number of preconfiguration tasks you might want to complete, depending on your planned deployment. To perform any of these tasks, either deselect the Oracle Files check box in the Oracle Universal Installer,

which stops the Oracle Files configuration assistant from starting, or cancel the Oracle Files configuration assistant when it starts.

After performing the desired preconfiguration task(s), you can then run the Oracle Files configuration assistant and configure Oracle Files. To run the Oracle Files configuration assistant, execute `ifsca` from the following location:

```
$ORACLE_HOME/ifs/files/bin
```

This section contains the following topics:

- Using Oracle Database 10g with Oracle Files
- Create Custom Tablespaces (Recommended)
- Set Up Oracle Files to Use Real Applications Clusters Database (Optional)

Table 12–1 lists recommended and optional preconfiguration tasks and provides information to help you determine whether or not a task is necessary to your deployment of Oracle Files.

Table 12–1 Optional Preconfiguration Tasks for Oracle Files

Optional Preconfiguration Task	Purpose
"Using Oracle Database 10g with Oracle Files" Steps for this task begin on page 12-4.	If you want to use Oracle Database 10*g*, you must perform this preconfiguration task. To use Oracle Database 10*g* with an existing Oracle Files installation, you must apply Oracle Collaboration Suite patch set Release 9.0.4.2.0. See the patch set documentation for more information.
"Create Custom Tablespaces (Recommended)" Steps for this task begin on page 12-5.	For a production environment, Oracle recommends creating custom tablespaces for the various tables and indexes that comprise the system. If you choose to create custom tablespaces, you must do so before configuring Oracle Files. You cannot use custom tablespaces that you create after configuring Oracle Files.
"Set Up Oracle Files to Use Real Applications Clusters Database (Optional)" Steps for this task begin on page 12-6.	If you know that you want to use a Real Application Clusters database with your initial deployment of Oracle Files, it is recommended that you perform this task prior to configuring Oracle Files.

Table 12–2 lists additional configuration and usage information for Oracle Files.

Table 12–2 Important Information for Configuring and Running Oracle Files

Topic	Location
Creating users in Oracle Internet Directory	"Creating Users in Oracle Internet Directory" on page 12-28
Provisioning users in Oracle Files	"Creating Users in Oracle Internet Directory" on page 12-28, and *Oracle Files Administrator's Guide*
Integrating Oracle Workflow with Oracle Files	"Integrating Oracle Workflow with Oracle Files (Optional)" on page 12-31

Table 12–2 (Cont.) Important Information for Configuring and Running Oracle Files

Topic	Location
Oracle Files configuration tasks involving Oracle Enterprise Manager	*Oracle Files Administrator's Guide*
Oracle Files Site Administrator and Subscriber Administrator information	"Creating the Oracle Files Subscriber" on page 12-26; *Oracle Files Administrator's Guide* and Oracle Files online help
Configuring the NFS server	*Oracle Files Administrator's Guide*
Installing the Oracle FileSync client	*Oracle Files Administrator's Guide*
Other client access paths and software	*Oracle Files Administrator's Guide*
Creating a Return to Portal link	"Adding the Return to Portal Link in the Oracle Files Web UI (Required)" on page 12-38

Using Oracle Database 10*g* with Oracle Files

Follow these steps if you have a new Oracle Files installation and you want to use Oracle Database 10*g* for your information storage database:

> **Note:** To use Oracle Database 10*g* with an existing Oracle Files installation, you must apply Oracle Collaboration Suite patch set Release 9.0.4.2.0. See the patch set documentation for more information.

1. Install Oracle Database 10*g* from the Oracle Database 10*g* CD pack.
2. Set the following environment variables on the computer on which the Oracle Database 10*g* server is installed:
   - Set the `LD_LIBRARY_PATH` to include the following:

     ```
     $ORACLE_HOME/lib
     ```

   - Set the `PATH` to include the following:

     ```
     $ORACLE_HOME/ctx/bin
     ```

   - Set the `SHLIB_PATH` to the following for the HP-UX PA-RISC platform

     ```
     $ORACLE_HOME/lib32:$ORACLE_HOME/ctx/lib32
     ```

3. Ensure that the following database parameters are set on the computer on which the Oracle Database 10*g* server is installed:

Table 12–3 Required Database Parameters

Parameter Name	Minimum Value
`aq_tm_processes`	1
`java_pool_size`	30 MB
`job_queue_processes`	4
`open_cursors`	300
`processes`	100
`session_max_open_files`	50

Table 12–3 (Cont.) Required Database Parameters

Parameter Name	Minimum Value
shared_pool_size	50 MB (52428800 bytes)

The values listed in Table 12–3 are minimum values for these parameters. You may want to increase these values as appropriate for your deployment.

4. On the computer on which the Oracle Database 10*g* server is installed, restart the database and the database listener.
5. Install the Oracle Collaboration Suite Release 9.0.4.1.0 middle tier.
6. Do not select the Oracle Files components for configuration during installation of the middle tier.

   If the Oracle Files configuration assistant appears, click **Cancel**.
7. Apply Oracle Collaboration Suite patch set Release 9.0.4.2.0.

   See the patch set documentation for more information.
8. Configure Oracle Files by executing `ifsca` from the following location:

   ```
   $ORACLE_HOME/ifs/files/bin
   ```

   For configuration instructions, see "Configure Oracle Files" on page 12-7.

Create Custom Tablespaces (Recommended)

During Oracle Files configuration, you must select whether to store all schema objects in the USERS tablespace, or in custom tablespaces. For a production environment, the USERS tablespace is not optimal. Oracle recommends creating custom tablespaces for the various tables and indexes that comprise the system (see Table 12–4) before attempting to configure Oracle Files.

To create custom tablespaces for Oracle Files, Oracle recommends that you create tablespaces as **locally managed tablespaces**.

Locally managed tablespaces track all extent information in the tablespace itself, using bitmaps, resulting in simplified space allocation, ease of management, and performance benefits.

Locally managed tablespaces have been available since Oracle8*i*, and beginning with the Oracle9*i* Database Server, locally managed is the default for all non-`SYSTEM` permanent tablespaces whenever the type of extent management is not explicitly specified.

An example of the SQL syntax is:

```
CREATE TABLESPACE "tbspname"
    LOGGING
    DATAFILE '/data1/oradata/sidname/tbspname_01.dbf' SIZE 50M EXTENT
    MANAGEMENT LOCAL
```

In this example, the `EXTENT MANAGEMENT LOCAL` clause is extraneous, since this is the default, but the full syntax is shown to highlight the fact that you need not provide segment, extent, and other sizing parameters.

- If you create locally managed custom tablespaces, the default options are recommended. Specifically, be aware that you should not specify automatic segment-space management for the tablespaces, because most Oracle Files data is

stored as LOBs, and `AUTO SEGMENT SPACE MANAGEMENT` does not support LOBs.

- Create custom tablespaces on disk storage appropriate for your implementation. See the *Oracle Database Performance Tuning Guide and Reference* for more information.

Table 12–4 contains additional information about custom tablespaces. This table can be used to note the names and specifics of any custom tablespaces you create.

For more information about creating tablespaces and about locally managed tablespaces, see the *Oracle9i Database Administrator's Guide*.

Table 12–4 Custom Tablespace Definitions for Oracle Files

Tablespace	Description (default size)	Your Custom Tablespace Name
Primary	Stores metadata for documents, information about users and groups, and other Oracle Files object data. (50 MB)	
Non-Indexed Media	Stores LOB data for documents that are not indexed by Oracle Text, such as zip files. (50 MB)	
Indexed Media	Stores LOB data for documents indexed by Oracle Text, such as text and word processing files. (50 MB)	
interMedia Media	Stores LOB data for documents indexed by Oracle interMedia, such as image, audio, and video files. (50 MB)	
Oracle Text Index	Stores the Oracle Text tokens table. (50 MB)	
Oracle Text Keymap	Stores the index on the Oracle Text tokens table. (50 MB)	
Oracle Text Data	Stores other Oracle Text tables. (150 MB)	

Set Up Oracle Files to Use Real Applications Clusters Database (Optional)

You can choose to run Oracle Files against a Real Application Clusters database at any time, either preconfiguration or post-configuration.

However, if you know that you want to point to a Real Application Clusters database for your initial Oracle Files deployment, performing the following preconfiguration steps enables you to specify a Real Application Clusters database during the Oracle Files configuration process. Note that there are additional post-configuration tasks that must also be completed.

Important: In order to use Real Application Clusters, configuration of Oracle Files must be performed against a specific node in the target Real Application Clusters configuration, and this node must have load balancing disabled during the Oracle Files configuration process.

---

1. Set the following system parameter in the Real Application Clusters database:

   `MAX_COMMIT_PROPAGATION_DELAY=1`

2. Ensure that the `JOB_QUEUE_PROCESSES` parameter is set to a value of 10 or higher.

3. Make a TNS entry in the `tnsnames.ora` file for load balancing and connection failover options in each Oracle home used by Oracle Files. Please see *Oracle9i* Real Application Clusters Administration for more information on making a TNS entry for these options.

4. Configure Oracle Files, specifying the name of the Real Application Clusters database on the Database Selection screen of the Oracle Files configuration assistant.
5. Perform required post-configuration steps.

   See "Post-Configuration Steps for Using Oracle Files with a Real Application Clusters Database (Optional)" on page 12-37 for details.

Configure Oracle Files

The Oracle Files configuration assistant is started automatically by the Oracle Universal Installer, and guides you through the configuration options listed in Table 12–5. The Oracle Files configuration assistant always begins with the Oracle Files CA - Welcome screen.

Using the Oracle Files configuration assistant, make your choices on each screen and click **Next** to continue. To configure Oracle Files at a later time, click **Cancel** to stop the assistant, and then run the configuration assistant by executing the `ifsca` script from the following location:

```
$ORACLE_HOME/ifs/files/bin
```

Table 12–5 describes the types of configurations you can perform:

Table 12–5 Configuration Assistant Options

Configuration Type	Description	See Also...
Creating a New Oracle Files Domain	Creates a new Oracle Files schema in the database. Optionally configures the software required to include the computer as a middle tier in the **domain**.	"Creating a New Oracle Files Domain" on page 12-7
Setting Up a Computer to Use an Existing Domain	Configures Oracle Files software on the system for integration with an existing domain. Select this option if: ▪ You are adding additional middle tiers ▪ You are you upgrading your Oracle Files schema from Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1)	"Setting Up a Computer to Use an Existing Domain" on page 12-21

To monitor the Oracle Files configuration assistant as it progresses, you can view the log as it is being written to the following file:

```
$ORACLE_HOME/ifs/files/log/FilesConfig.log
```

Creating a New Oracle Files Domain

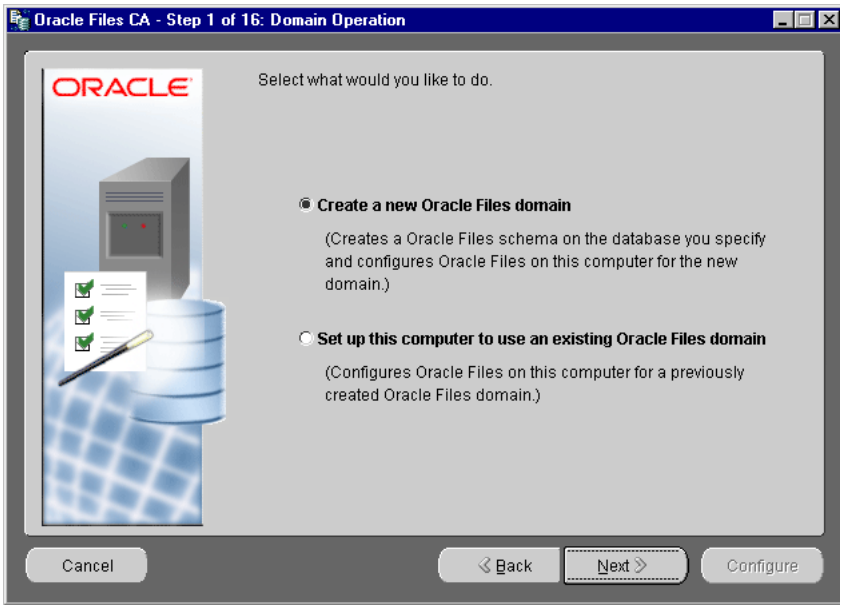
These instructions guide you through the process of configuring the Oracle Files domain controller computer, which is typically the first computer in the domain that you are configuring.

The instructions begin from the Oracle Files configuration assistant Welcome screen.

1. Click **Next**.

   The Domain Operation screen displays.

Figure 12–1 Domain Operation Screen



2. Select the **Create a new Oracle Files domain** option.

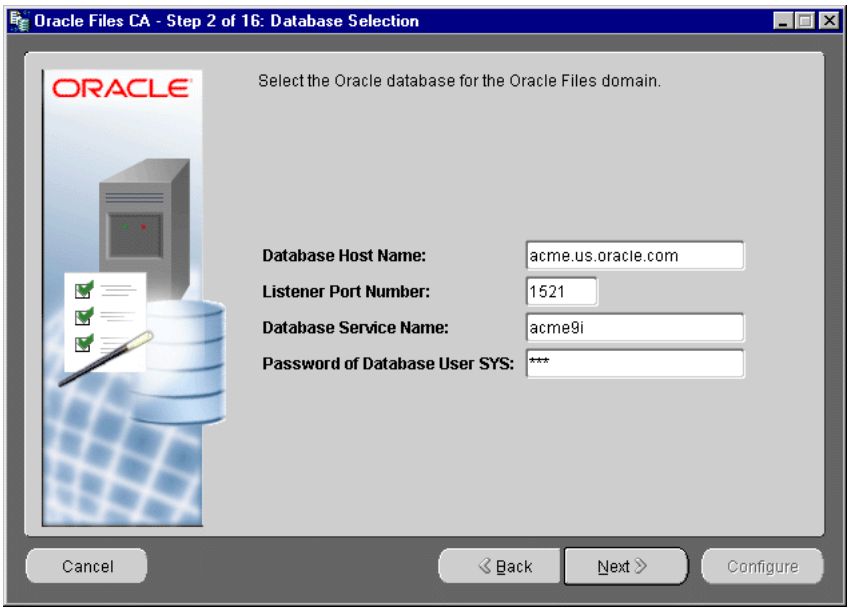
Important: If you upgraded your Oracle Files schema from Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1), you must choose **Set up this computer to use an existing Oracle Files domain** on the Domain Operation screen, and reference the instructions for "Setting Up a Computer to Use an Existing Domain" on page 12-21.

---

3. Click **Next**.

   The Database Selection screen displays.

Figure 12–2 Database Selection Screen



4. Enter the name of the host on which the database is running, the listener port number, the database service name, and the password for the database `SYS` user account.

> **Note:** The database service name must be registered on the listener computer. To determine which services are registered, use the command `lsnrctl status` on the database server.

5. Click **Next**.

   The Database Login Verifications message box displays while the `CLASSPATH`, database connection to the Oracle9*i* database, initialization parameters, Oracle JServer installation, and other important requirements are verified.

   If an error occurs (for example, if JServer is not installed in the database, you see an error message related to the `DBMS_JAVA` package), you must cancel the Oracle Files configuration process, fix the error, then restart the Oracle Files configuration assistant by executing `ifsca` from the following location:

   ```
   $ORACLE_HOME/ifs/files/bin
   ```

   The Oracle Files configuration assistant attempts to make a connection as `SYS AS SYSDBA` using a database string, and therefore needs the database to be configured with a password file. If the following error message displays, then it is likely due to a missing password file on the database server:

   ```
   Invalid password for Oracle user SYS
   ```

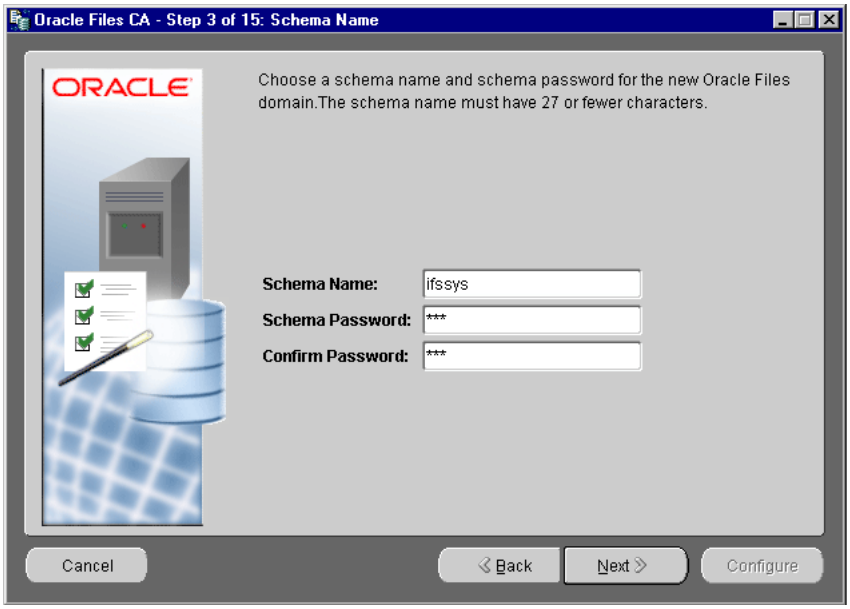
   > **See Also:** *Oracle9i Database Administrator's Guide* for more information about password file administration.

   If additional errors occur, more information on why verification failed can be found in the `FilesConfig.log` file at the following location:

   ```
   $ORACLE_HOME/ifs/files/log/FilesConfig.log
   ```

The Schema Name screen displays when the verification process completes.

Figure 12–3 Schema Name Screen



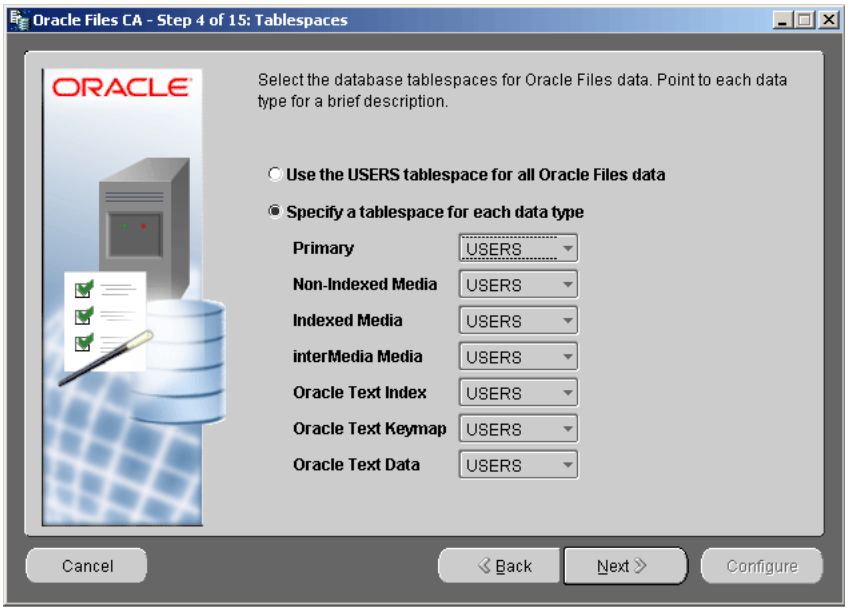
6. Enter a name to use for the Oracle Files schema. You must also provide a password for the schema. Enter the password in both fields to confirm.
7. Click **Next**.

   The Oracle Files configuration assistant checks to see if the schema name exists in the database. If it does exist, or if related schema names based on this schema name exist, a message box displays requesting further clarification.
8. In this message box:
   - Clicking **No** returns you to the Schema Name screen, where you can enter a new name for the schema.
   - Clicking **Yes** drops this schema and all related objects from the database, such as tables and views, and create a new schema.

   Caution: Do not click **Yes** unless you are sure you want to drop this schema and all related objects from the database, and create a new schema. If you are upgrading Oracle Files, exit from the configuration assistant and run `ocsua`. Follow the instructions in "Setting Up a Computer to Use an Existing Domain" on page 12-21.

   The Tablespaces screen displays after you close the message box.

Figure 12–4 Tablespaces Screen



9. Select one of the following options:

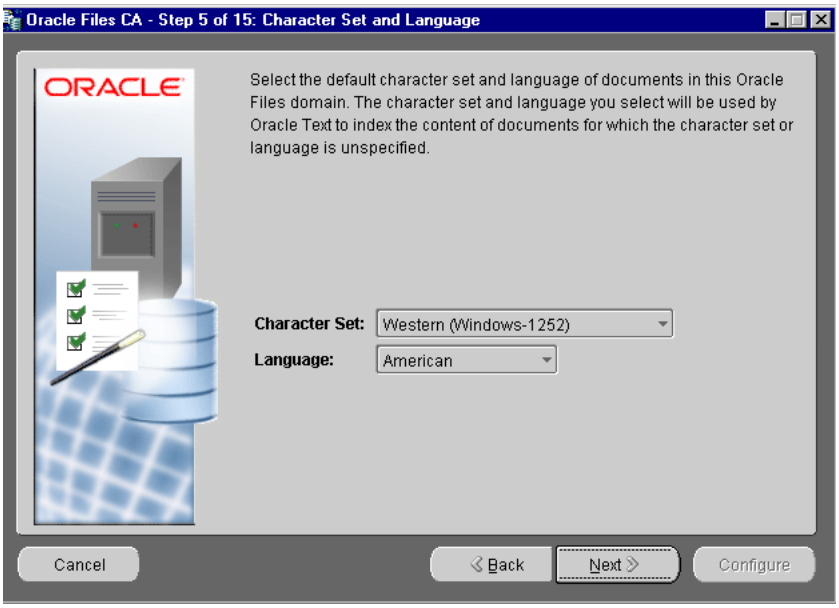
   - Select **Use the USERS tablespace for all Oracle Files data** if you have *not* created custom tablespaces for Oracle Files content.

     Important: Oracle corporation recommends that you create custom tablespaces for Oracle Files if you are configuring a production system. Create custom tablespaces as a preconfiguration step. See "Create Custom Tablespaces (Recommended)" on page 12-5 for more information.

   - Select **Specify a tablespace for each data type** and choose the tablespaces you want to use for each type of content from the drop-down lists if you have created tablespaces specifically for Oracle Files content. The tablespaces must exist in order to select them for each data type; the Oracle Files configuration assistant does not create them.

10. Click **Next**. The Character Set and Language screen displays.

Figure 12–5 Character Set and Language Screen



11. Select the default character set and indexing language to use when storing documents in Oracle Files. The document character set defaults are used by client applications that do not specify a language or character set for documents being transferred to Oracle Files. The default character set is also used by non-Unicode enabled protocols, such as FTP and WebDAV, to determine the character set for these protocol servers to use.

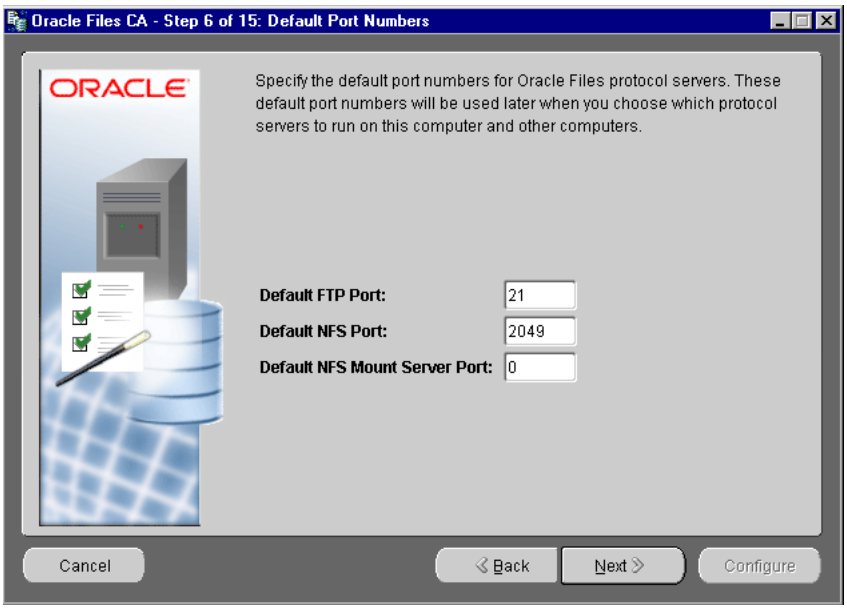
    Oracle Corporation recommends setting the character set to the character set used by the majority of users in your Oracle Files domain.

    See Also: "Multi_Lexer" in *Oracle Text Reference* for more information

12. Click **Next**.

    The Default Port Numbers screen displays. The default port number settings are stored as an object for use by all middle tier computers that use the Oracle Files schema. After configuration of Oracle Files is complete, to change the configuration on any single middle tier computer, you must use the Enterprise Manager Web Site.

Figure 12–6 Default Port Numbers Screen



13. Change any of the port numbers as needed.

- To run both the native UNIX and the Oracle Files versions of specific protocol servers on this computer, you must change the port numbers to avoid conflicts. If you change the port numbers, the new port numbers are used for all middle tiers in the domain.
- If you change the main port for the NFS protocol server, you must also change the mount server port to a number other than 0. A value of 0 indicates that the mount server port number should be dynamically allocated by the port mapper, and should only be used when the NFS protocol server is on the standard NFS port number 2049.

  See Also: *Oracle Files Administrator's Guide* for detailed information about setting up the NFS protocol server

- If you do not want to run the native UNIX implementations of the services, you can accept the default port numbers. However, if you accept the default port numbers you must stop the native UNIX services in order to avoid port conflicts.

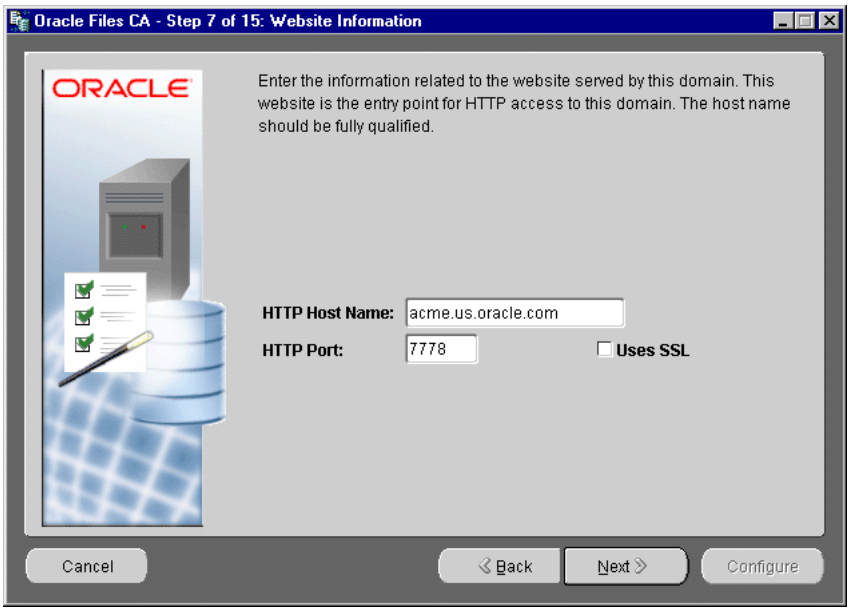
  Note: To provide Oracle Files NFS support to NFS clients running on AIX, HP-UX PA-RISC (64-bit), and Compaq Tru64 platforms, you must use port 2049 (the default) for Oracle Files and disable the native UNIX NFS protocol server. Linux x86 and Solaris Operating Environment (SPARC 32-bit) NFS clients do not have this limitation, so you can use both UNIX NFS and Oracle Files NFS protocol servers on the same computer for these clients.

  ---

14. Click **Next**.

The Website Information screen displays.

Figure 12–7 Website Information Screen



15. Enter the following information:

- **HTTP Host Name**: Enter the fully-qualified host name and port number of the computer through which you want the domain to provide HTTP listener services. This information should match the values you entered during Oracle Collaboration Suite middle-tier installation.
- **HTTP Port**: Enter a value for the HTTP port. If you are unsure of what port number to use, navigate to the Application Server Home page in the Application Server Control and click the **Ports** tab.

  For example:

  - `4443`: Enter this value if you have configured SSL and are not using Oracle9*i*AS Web Cache.
  - `4444`: Enter this value if you have configured SSL and are using Oracle9*i*AS Web Cache.
  - `7777`: Enter this value if you have not configured SSL and are not using Oracle9*i*AS Web Cache.
  - `7778`: Enter this value if you have not configured SSL and are using Oracle9*i*AS Web Cache.
- **Uses SSL**: Select this only if you have configured SSL on that computer.

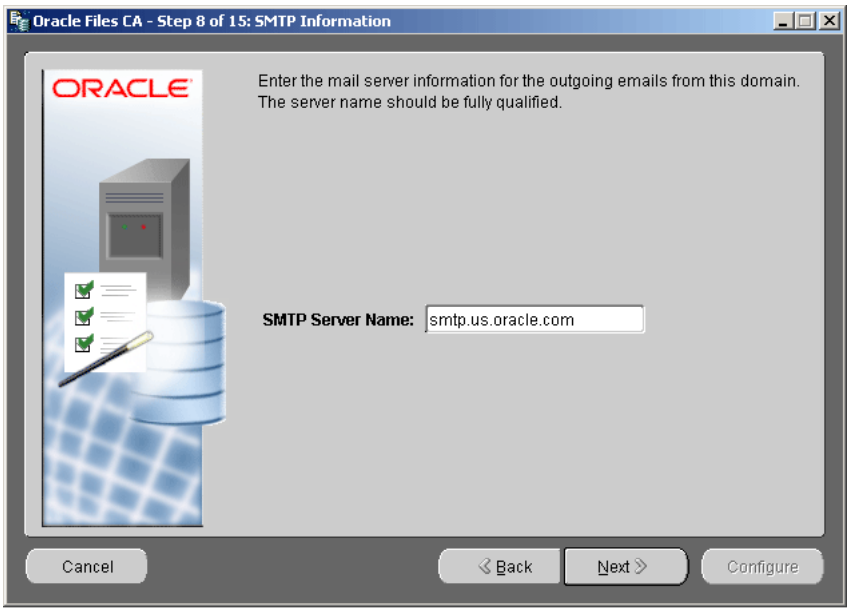
Note: If you have a load balancer in front of your middle-tiers, then the hostname and port number should match that of the load balancer.

See Also: *Oracle Files Administrator's Guide* and *Oracle9i Application Server Security Guide* for detailed information about using SSL.

16. Click **Next**.

The SMTP Information screen displays.

Figure 12–8 SMTP Information Screen



17. Enter the e-mail server information. This can be any valid SMTP server name. Enter the full host name of the SMTP server, in the form *hostname.domain*. Alternatively, you can enter the IP address of the SMTP server.

    This information is used to send e-mail to the Subscriber Administrator regarding their respective passwords and to users regarding Oracle Files account provisioning.

    Important: This information must be correct in order for the Subscriber Administrator to receive a password and for users to be notified when their accounts are provisioned. If the information is not correct, the Subscriber Administrator cannot log in to Oracle Files and users will not know when their accounts are provisioned.

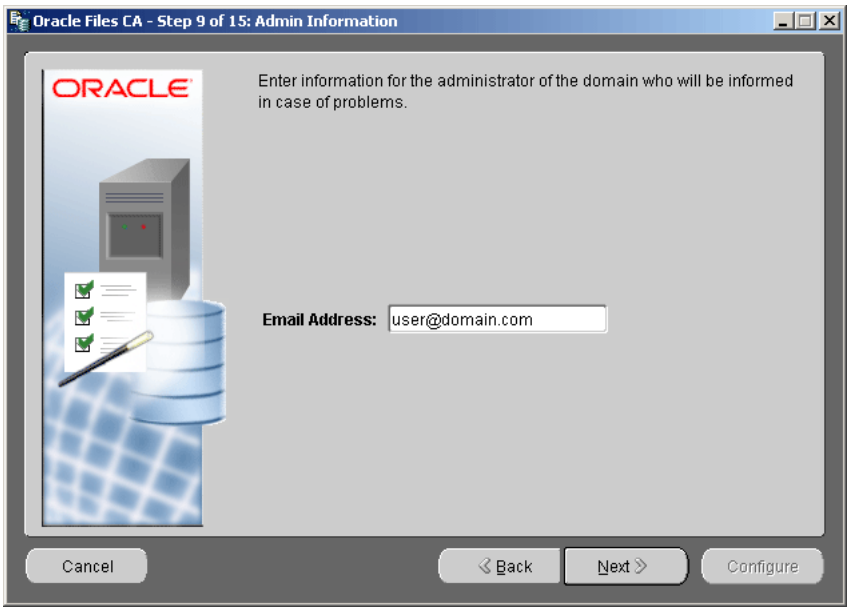
    Note: If you need to change this information after configuring Oracle Files, you must:

    - Edit the `IFS.SERVER.APPLICATION.UIX.SmtpHost` property of the `FilesBaseServerConfiguration` server configuration object through Oracle Enterprise Manager. You must restart the `OC4J_iFS_files` instance.
    - Reset the password on the Subscriber Name page (see "Creating the Oracle Files Subscriber" on page 12-26 for more information).

18. Click **Next**.

    The Administrator Information screen displays.

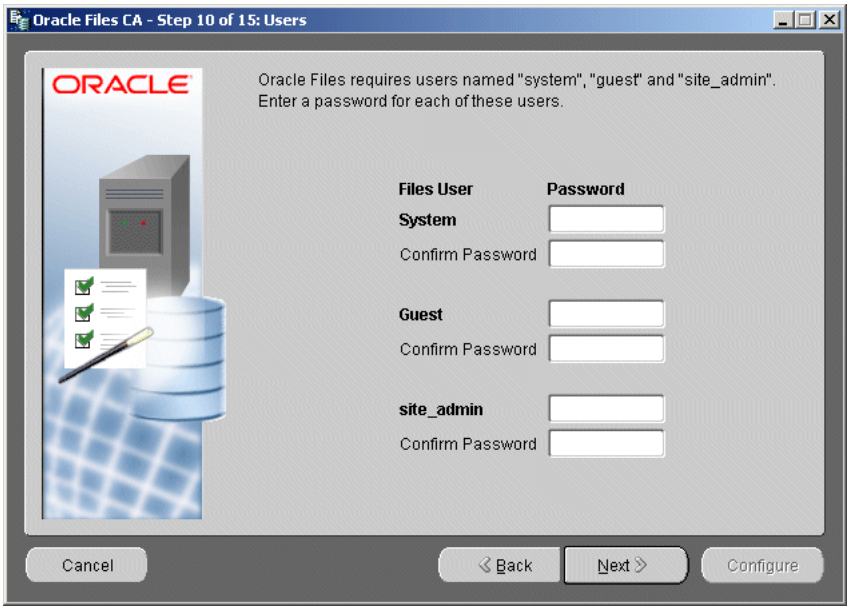
Figure 12–9 Administrator Information Screen



19. Enter the fully-qualified e-mail address to use for sending notifications and other messages to the Oracle Files `site_admin` user.
20. Click **Next**.

    The Users screen displays. The Oracle Files configuration assistant creates three new users: `system`, `guest`, and `site_admin`. The Site Administrator is used to create the **Subscriber** in Oracle Files.

Figure 12–10 Users Screen



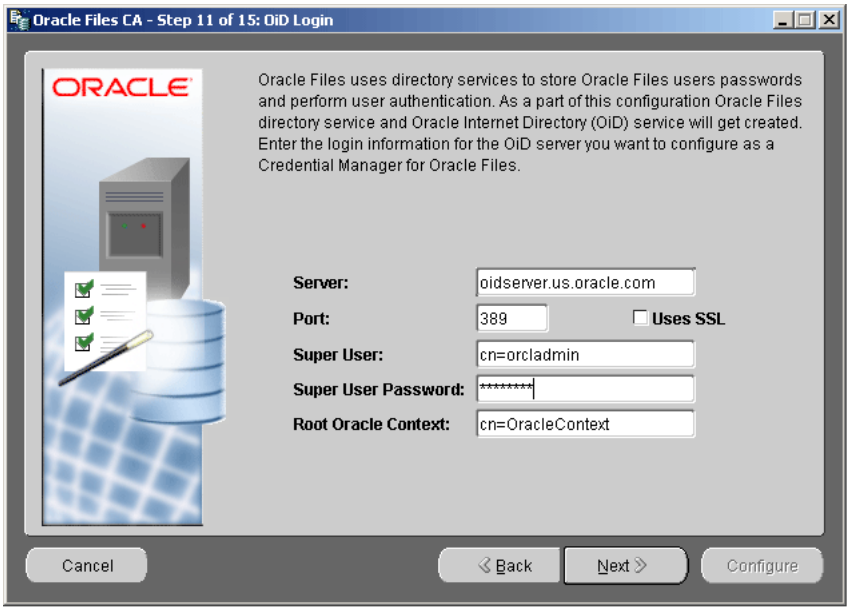
21. Assign passwords to each of the default users.

    The `site_admin` user is necessary for creating the Oracle Files subscriber post-configuration.

22. Click **Next**.

    The Oracle Internet Directory Login screen displays.

Figure 12–11 Oracle Internet Directory Login Screen



23. Enter the login information for the Oracle Internet Directory instance that you want to use for credential management. Enter the following information:

    - **Server**: Enter the fully-qualified **host name** for the computer running Oracle Internet Directory.
    - **Port**: Enter the port number where the Oracle Internet Directory server is listening.
      - Typically, the port number is 389. If port 389 is unavailable during the installation, port 4032 is used.
      - If you have SSL-enabled Oracle Internet Directory, select **Uses SSL** and change the port number. Typically, the port number for SSL-enabled Oracle Internet Directory is 636 or 4031.

      See Also: *Oracle Files Administrator's Guide* and *Oracle Internet Directory Administrator's Guide* for detailed information about setting up Oracle Internet Directory for use with SSL

    - **Super User**: Enter the Oracle Internet Directory super user name.

      The default Oracle Internet Directory super user name is `cn=orcladmin`.
    - **Super User Password**: Enter the Oracle Internet Directory super user password.

      The password was created during the installation of Oracle Internet Directory.
    - **Root Oracle Context**: Enter the root **Oracle Context**.

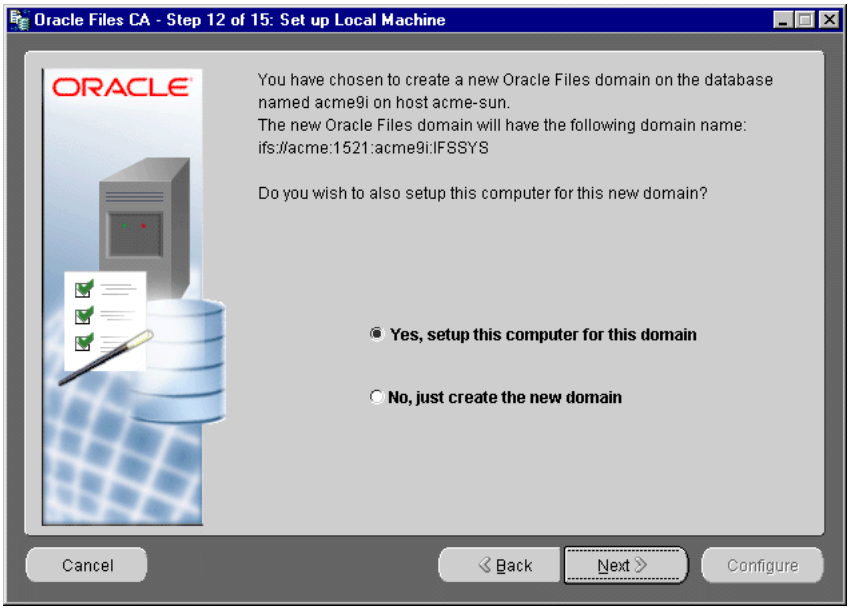
      The default Oracle Internet Directory root Oracle Context is set to `cn=OracleContext`. Typically, you can leave this unchanged. If the Oracle Internet Directory administrator changed the root context, you must enter the

correct value. The concept of a root context is specific to LDAP directory services.

24. Click **Next**.

    The Set Up Local Machine screen displays.

Figure 12–12 Set Up Local Machine



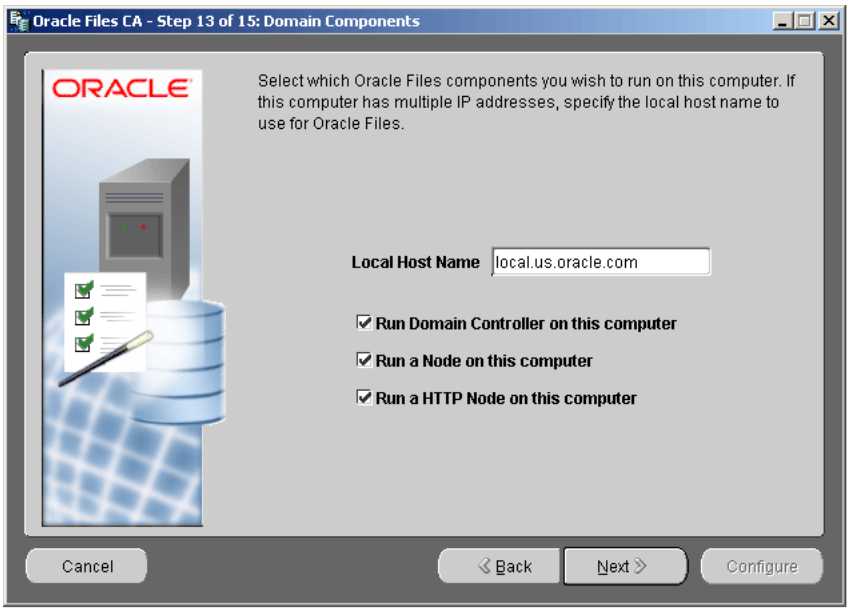
25. Select one of the following options:

    - Select **Yes** to create the Oracle Files schema and configure this host to run a domain controller, node, or HTTP node.
    - Select **No** to create the new schema without configuring this host.

26. Click **Next**.

    The Domain Components screen displays.

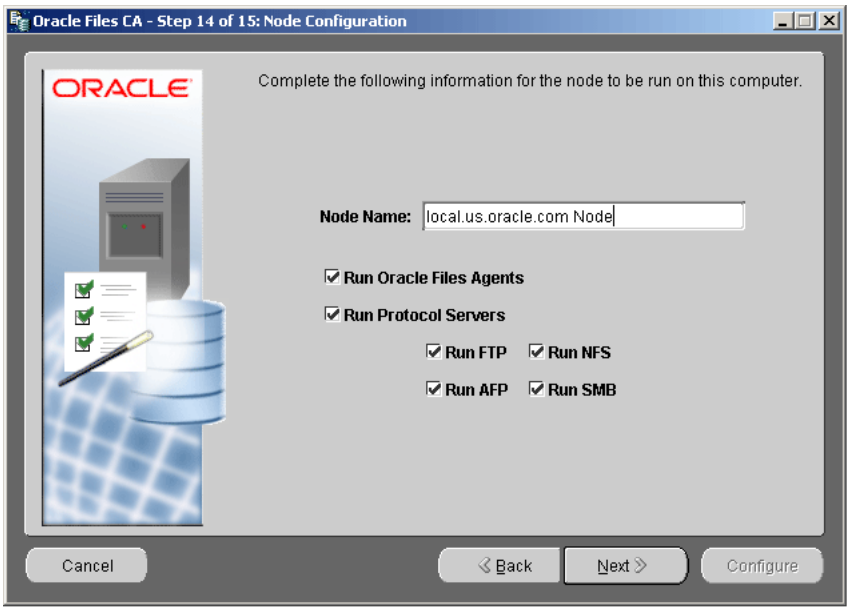
Figure 12–13 Domain Components Screen



27. Enter the fully qualified host name that you want to use for Oracle Files. If the computer contains multiple network interface cards (NICs), enter the IP address of the host computer.
28. Select **Run Domain Controller on this computer** and all other processes that you want to configure for the domain. By default, the following processes are selected on this screen:
    - **Run Domain Controller on this computer** configures the Oracle Files Domain Controller process. Only one computer should run this process.
    - **Run a Node on this computer** configures an Oracle Files node to run on this computer. Protocol servers and agents run on this node.
    - **Run an HTTP Node on this computer** configures an HTTP node to run the Oracle Files DAV server for HTTP and WebDAV access on this computer.
29. Click **Next**.

    The Node Configuration screen displays.

Figure 12–14 Node Configuration Screen



This screen lists all the protocol servers and agents that you can choose to run in the domain:

- **Node Name** is the name by which you want the node to be known. For example, it can include the name of the computer (host name). The name must be unique across all of the nodes on this domain.
- **Run Oracle Files Agents** configures all the Oracle Files system agents to run on this computer. Note that agents run on only one node in the domain. If agents are already configured to run on another node, this box must be unchecked.
- **Run Protocol Servers** configures the Oracle Files protocol servers to run on this computer. Protocol Servers include FTP, AFP, NFS, and SMB.

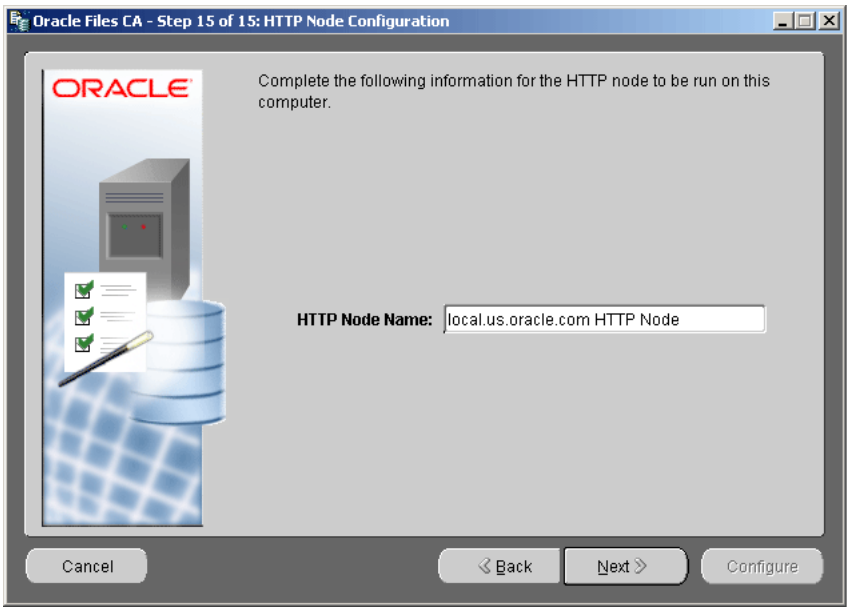
  See Also: Chapter 1, "Oracle Files Concepts" in *Oracle Files Administrator's Guide*

30. Enter a node name and configure protocol servers and agents as needed.
31. Click **Next**.

    The HTTP Node Configuration screen displays, if you selected **Run an HTTP Node on this computer** on the Domain Components screen. This screen enables you to provide a name for the HTTP Node. Continue to step 32.

    Otherwise, the Summary screen displays. Continue to step 34.

Figure 12–15 HTTP Node Configuration Screen



32. Enter the name for the HTTP Node.

    - **HTTP Node Name** is the name by which you want the HTTP node to be known. It can include the name of the computer (host name), but this is not a requirement. The name must be unique across all of the nodes on this domain.

33. Click **Next**.

    The Summary screen displays. The Oracle Files configuration assistant now has all the information needed to create a new Oracle Files schema and configure the node and other processes. Note the name and location of the log file and any other important information on this screen.

34. Click **Configure** to execute the configuration process.

    A progress window displays. If an error occurs, check the following log file for more information:

    ```
    $ORACLE_HOME/ifs/files/log/FilesConfig.log
    ```

    When the process is complete, a message informs you that the configuration was successful. Click **OK** to close the message. Oracle Files and the Oracle Enterprise Manager Web Site are integrated automatically.

    If the Oracle Files configuration assistant was started by Oracle Universal Installer, then any remaining configuration tools are run.

Setting Up a Computer to Use an Existing Domain

These instructions guide you through the process of setting up a computer to use an existing domain. Perform these steps if you upgrade your Oracle Files schema from Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1), or if you want to add additional Oracle Collaboration Suite middle tiers for your existing Oracle Files domain.

The instructions begin from the Oracle Files configuration assistant Welcome screen.

1. Click **Next** to begin the configuration process.

The Domain Operation screen displays

2. Select the **Set up this computer to use an existing Oracle Files domain** option and click **Next**.

   The Database Selection screen displays.

3. Enter the name of the host on which the database is running (database host name), the listener port number, the database service name, and the password for the database `SYS` user account.

   > **Note:** The database service name must be registered on the listener computer. To determine which services are registered, use the command `lsnrctl status` on the database server.

4. Click **Next**.

   The Database Login Verifications message box displays as the `CLASSPATH`, database connection to the Oracle database, initialization parameters, Oracle JServer installation, and other important requirements are verified.

   If an error occurs, you must correct the problem before configuration can continue. For example, if JServer is not installed in the database, you see an error message related to the `DBMS_JAVA` package.

   If additional errors occur, more information on why verification failed can be found in the `FilesConfig.log` file at the following location:

   ```
   $ORACLE_HOME/ifs/files/log/FilesConfig.log
   ```

   The Schema Name screen displays when the verification process completes.

5. Select the schema name of the existing Oracle Files domain from the list and enter the schema password.

   > **Important:** If you select the name of an existing Oracle Files schema from Oracle Collaboration Suite Release 1 (9.0.3), and you have not previously upgraded this schema to Oracle Collaboration Suite Release 2 (9.0.4.1), a dialog box displays with the following text:
   >
   > "You have selected an Oracle Collaboration Suite Release 1 (9.0.3) Files schema which must first be upgraded to Oracle Collaboration Suite Release 2 (9.0.4.1) Files schema before configuring Oracle Files against it. To perform this upgrade, cancel the configuration process and run the Oracle Collaboration Suite Upgrade Assistant. You can also choose another schema by entering new schema information in the Oracle Files configuration assistant."
   >
   > For step-by-step information about upgrading your Oracle Files schema from Oracle Collaboration Suite Release 1 (9.0.3) to Oracle Collaboration Suite Release 2 (9.0.4.1), see "Oracle Files Post-Upgrade Tasks" on page 3-22.

6. Click **Next**.

   The Domain Components screen displays after the database connection and schema are verified.

7. Enter the host name that you want to use for Oracle Files. If the computer contains multiple network interface cards (NICs), enter the IP address of the host computer.
8. Select the processes that you want to configure to run on this computer. By default, the following processes are selected:
   - **Run Domain Controller on this computer** configures the Oracle Files Domain Controller process. Only one computer should run this process. To reuse an existing schema, uncheck this box. If a Domain Controller is already running on a different node, leave this box checked only if you want to move the Domain Controller to this middle tier.
   - **Run a Node on this computer** configures an Oracle Files node to run on this computer. Select this option if you want to run protocol servers or agents on this middle tier.
   - **Run an HTTP Node on this computer** configures an HTTP node to run the Oracle Files DAV server for HTTP and WebDAV access on this computer.
9. Click **Next**.

   The Node Configuration screen displays.

   The Node Configuration screen lists all the protocol servers and agents that you can choose to run in the domain:
   - **Node Name** is the name by which you want the node to be known. It can include the name of the computer (host name), but it need not. Use any string that makes sense to you.
   - **Run Oracle Files Agents** configures all the Oracle Files system agents to run on this computer. Note that agents run on only one node in the domain. If agents are already configured to run on another node, this box must be unchecked. If this box is checked, it inactivates agents running on other nodes and enables them on this node. If you are upgrading an existing Oracle Files schema, this box must be unchecked.
   - **Run Protocol Servers** configures the Oracle Files protocol servers to run on this computer. Protocol Servers include FTP, AFP, NFS, and SMB.

     See Also: "Oracle Files Concepts" in Chapter 1 of *Oracle Files Administrator's Guide*
10. Enter a node name and configure protocol servers and agents as needed.
11. Click **Next**.

    The HTTP Node Configuration screen displays if you selected **Run an HTTP Node on this computer** on the Domain Components screen. This screen enables you to provide a name for the HTTP Node. Continue to step 12.

    Otherwise, the Summary screen displays. Continue to step 14.
12. Enter the name for the HTTP Node.

    HTTP Node Name is the name by which you want the HTTP node to be known. It can include the name of the computer (host name), but it need not. Use any string that makes sense to you.
13. Click **Next**.

    The Summary screen displays. The Oracle Files configuration assistant now has all the information needed to configure the computer. Note the name and location of the log file and any other important information on this screen.

14. Click **Configure** to execute the configuration process.

    A progress window displays. If an error occurs, check the following log file for more information:

    ```
    $ORACLE_HOME/ifs/files/log/FilesConfig.log
    ```

15. When the process completes, a message informs you that the initial configuration was successful. Click **OK** to close the message.

    If the Oracle Files configuration assistant was started by the Oracle Universal Installer, then the remaining configuration tools are started.

Note: After configuring Oracle Files to reuse a previously created schema, if you do not select **Run Domain Controller on this computer**, you must edit the following Oracle Files Base Server Configuration properties so that they point to the appropriate computer that is running the Domain Controller process:

```
IFS.SERVER.APPLICATION.UIX.ApplicationHost
IFS.SERVER.APPLICATION.UIX.ApplicationPort
```

Alternatively, you can override these properties in the server-specific configurations.

Non-Interactive Configuration of Oracle Files

You can configure the Oracle Files domain non-interactively by passing a response file containing all the configuration settings to the Oracle Files configuration assistant as a parameter at the command line. The location of the response file is:

```
$ORACLE_HOME/ifs/files/settings/silentconfig.properties
```

The file contains instructions about how to modify and use it. Modify the response file to meet your specific needs.

1. Open the `silentconfig.properties` file in a text editor.
2. Make any required changes to the settings in the file, and close the file when you are finished.

   The file itself contains instructions about how to modify and use it. Modify the response file to meet your specific needs. For example, you can specify a name for the schema, or disable the Run Domain Controller option, if you are installing and configuring an additional middle-tier machine to work with an existing instance.

3. Run the Oracle Files configuration assistant using your modified response file by entering the following two commands:

   ```
   cd $ORACLE_HOME/ifs/files/bin

   ./ifsca -file $ORACLE_HOME/ifs/files/settings/silentconfig.properties -silent
   ```

   Oracle Files is configured on the computer according to the specifications defined in the response file. If an error occurs, check the following log file for more information:

   ```
   $ORACLE_HOME/ifs/files/log/FilesConfig.log
   ```

Note: The response file contains sensitive information, such as passwords. After you have used the response file to configure Oracle Files, you should delete password information from file.

Setting Up Oracle Files Runtime

You must perform the following tasks to set up Oracle Files for runtime, and to ensure that your system is operational and secure:

- Starting All Necessary Processes
- Creating the Oracle Files Subscriber
- Creating Users in Oracle Internet Directory
- Accessing the Protocol Servers
- Validating Basic Operations

Starting All Necessary Processes

These instructions assume that Oracle Files has been installed and configured, and that the database and listener are running.

Oracle Files uses the Oracle9*i*AS Containers for J2EE (OC4J) component of the Oracle Collaboration Suite Infrastructure to support the DAV Servlet, which is deployed to OC4J automatically during the configuration process.

1. Verify that Oracle Enterprise Manager Web Site is running by using the following command:

   ```
   $ORACLE_HOME/bin/emctl status
   ```

2. From a Web browser on the server computer or from another computer on the network, access the URL to connect to the Oracle Enterprise Manager Web Site on the computer where the Oracle Files domain controller is configured:

   ```
   http://hostname:port
   ```

   The *hostname* should be a fully qualified domain name. The *port* is typically 1810.

   A User name and Password Required or Enter Network Password prompt displays.

3. Enter `ias_admin` as the user name with the appropriate password for the Oracle Collaboration Suite middle-tier.

   The Web page displays a list of all Oracle Collaboration Suite Infrastructure components, or Targets, running on the specified host, as well as any Oracle Collaboration Suite-associated middle tiers.

4. Click the name of the Oracle Collaboration Suite instance that is hosting the Oracle Files software. If you are prompted for the Oracle Collaboration Suite instance user name and password again, enter `ias_admin` and the appropriate password to continue.

   The Application Server page displays all of the system components running on the instance. The list should include the Oracle Files domain, which appears as a concatenation of `iFS_` and the database instance's host name, port number, service name, and the name of the schema for Oracle Files. For example:

```
iFS_myMachineHostname.mycompany.com:1521:myDBServiceName:myFILESSchemaName
```

> **Note:** The **Start** and **Stop** buttons on this page are not active, and do not allow you to control Oracle Files.

5. Click the Oracle Files domain name link. On the subsequent page, click **Start Local Components**. A page prompting you for the host credential to start the Oracle Files node displays.
6. Enter the operating system account name and password for the computer. This is typically the `root` user name and password.
7. Click **OK**.

   If your Oracle Files domain comprises multiple nodes across multiple computers, repeat steps 1 through 7 of this section for each computer. You must enter the operating system account name and password on each computer running a node that you want to start.

> **Note:** In place of steps 1 through 7, you can run the `ifsctl start` command from the `$ORACLE_HOME/ifs/files/bin` location. However, following steps 1 through 7 enables you to use a browser to manage Oracle Files from any location.

8. Click the link that takes you back to the Application Server page.

   Select `OC4J_iFS_files` and click **Start** or **Restart**.
9. Start the OC4J instance.

   To start the OC4J instance from the command line, navigate to the `$ORACLE_HOME/opmn/bin` directory and use the following command:

   ```
   opmnctl startproc gid=OC4J_iFS_files
   ```

   The Oracle Files domain starts. You must start the OC4J instance on every middle tier computer that is running the HTTP Node.
10. Check the status of the Oracle Files domain. To do this, run the `ifsctl status -n` command from the following location:

    ```
    $ORACLE_HOME/ifs/files/bin/
    ```

11. Check the log files to make sure the node and the HTTP node appear. The log files are located in the following directories:

    ```
    $ORACLE_HOME/ifs/files/log/
    $ORACLE_HOME/j2ee/OC4J_iFS_files/application-deployments/files
    /OC4J_iFS_files_default_island_1/
    ```

Creating the Oracle Files Subscriber

> **Note:** Ensure that the SMTP server is running before creating a subscriber. The SMTP server must be running in order for the Subscriber administrator and users to receive e-mail regarding their respective passwords.

In the following steps, you must log in to Oracle Files as the Site Administrator and create the **Subscriber**. You must create the Oracle Files subscriber in order for Oracle Internet Directory users to be able to log in to Oracle Files.

1. Go to:

   `http://http_host:port/files/app/AdminLogin`

   The *http_host* should be a fully qualified domain name. For example:

   `http://acme.us.oracle.com:7778/files/app/AdminLogin`

   The Administrator Login page displays.

2. Log in as `site_admin` and use the same `site_admin` password you used during configuration.

3. Click **New Subscriber**.

   The Subscriber Name page displays. Note that the Subscriber Name is the default subscriber for the Oracle Internet Directory server. The Oracle Internet Directory server is the value entered in step 23 in the "Creating a New Oracle Files Domain" section on page 12-17 during Oracle Files configuration.

4. Accept the default values.

   Important: Multiple subscribers are not currently supported due to Oracle9*i*AS Single Sign-On limitations.

5. Click **Next**.

   The Subscriber Information page displays.

6. Set the quota and maximum number of users. For example, 1 GB total quota, 10 MB quota for each user, and 10 MB quota for each Workspace.

7. Click **Next**.

   The Create Subscriber Administrator Account page displays.

8. Enter the Subscriber Administrator user login ID. The e-mail address is where the subscriber's password is sent. Specify the Default User Account Settings and Default Workspace Settings.

9. Click **Next**.

   The New Subscriber Confirmation page displays.

10. Review your information, then click **Submit**.

    The Browse Subscribers page displays. You can see that the Subscriber has been created and the Subscriber's password has been automatically e-mailed.

11. To log in as the Subscriber Administrator, navigate to the following URL:

    `http://http_host:port/files/app/AdminLogin`

    The Administrator Login page displays.

12. Log in as *subscriberadmin_user_login_ID*/*password* using the subscriber user login ID that you entered when creating the subscriber in step 8 of this section, and the subscriber password that you received by e-mail.

13. Click the Users tab to view the Users page. Search for the wildcard value * to see an updated list of all Oracle Files users.

Creating Users in Oracle Internet Directory

In order for users to access Oracle Files, they must first be created as users in Oracle Internet Directory, Oracle's LDAP server.

To create users in Oracle Internet Directory:

1. Make sure that the OC4J_DAS instance has been started on the Infrastructure host.
2. Connect to your infrastructure host, typically:

   `http://`*`oidserver.us.oracle.com`*`:7777/oiddas`

   The *`hostname`* should be a fully qualified domain name.
3. Log in as the Oracle Internet Directory Administrator (typically `orcladmin`).
4. Click the **Directory** tab.
5. Click **Create**.

   The Create User page displays.
6. Fill in the fields. You must specify an e-mail address.
7. Select **Oracle Collaboration Suite Users** to add this user to the group.
8. Click **Submit**.

Caution: If you use spaces at the end of user names, or any of the following characters, the user is not provisioned from Oracle Internet Directory into Oracle Files: **& ' % ? \ / + = ( ) * ^ , ; | ~**

Once users are created in Oracle Internet Directory, and the Oracle Files Site Administrator has created the Oracle Files Subscriber Administrator, they are automatically provisioned in Oracle Files every 15 minutes (the default setting) by the `FilesOidUserSynchronizationAgent`.

Additionally, once a user has been created in Oracle Internet Directory, logging on to Oracle Files as that user immediately provisions the user in Oracle Files, irrespective of the time interval specified for the Agent (this feature is new in this release).

You can reset the default interval for auto-provisioning by the `FilesOidUserSynchronizationAgent` from 15 minutes to any interval of your choosing.

> **See Also:** *Oracle Files Administrator's Guide* for information about how to change this default interval

Note: Although Oracle Files supports multibyte character sets, some protocols, such as WebDAV, do not support multibyte user names. For this reason, when you create users for Oracle Files in Oracle Internet Directory, you should create the names using single-byte characters only. Users whose names are created with multibyte characters are unable to access content through Oracle Files protocol servers. Similarly, you should create user passwords in ASCII since the protocols only accept ASCII passwords.

Users whose passwords are created with non-ASCII characters are unable to access content through the Oracle Files protocol servers.

Accessing the Protocol Servers

To access the protocol servers running on your Oracle Files Domain, each end user must perform the following steps:

1. Connect to the Protocol Access page:

   `http://`*`ocs_midtier_hostmachine`*`:`*`port`*`/files/app/ProtocolAccess`

   The value supplied for *`ocs_midtier_hostmachine`* should be a fully qualified domain name. The value supplied for *`port`* should be the port number of the middle tier computer.

   The Single Sign-On page displays.

2. Log in using the Oracle Internet Directory user and password.

   The Protocol Access page displays.

3. Enter the Oracle9*i*AS Single Sign-On password and the Oracle Files-specific password and password confirmation to create these passwords for the user.

4. Click **Continue** to save.

   Now that you have configured the Oracle Internet Directory user using the Protocol Access page, you can access the protocol servers that are running on your Oracle Files Domain.

Note: To access FTP and AFP, use the Oracle Files-specific password. To access SMB, Oracle FileSync, Web Folders, or the Oracle Files Web interface, use the Oracle Internet Directory password.

See Also: *Oracle Files Administrator's Guide* for more information about creating users and accessing protocol servers running on your Oracle Files Domain

Validating Basic Operations

To validate that the domain and node started and the core Oracle Files components are working, perform the following steps:

1. Check the status of the Oracle Files domain. Run the `ifsctl status -n` command from the following location:

   `$ORACLE_HOME/ifs/files/bin/`

2. Check the HTTP log at the following location:

```
$ORACLE_HOME/j2ee/OC4J_iFS_files/application-deployments/files
/OC4J_iFS_files_default_island_1/application.log
```

3. If the HTTP log contains a "503 Service Temporarily Unavailable" message, attempt to connect to the system from another computer on the network.

Table 12–6 Expected Basic Functionality

Protocol or Server	Access Address or Method	Expected Result
HTTP	`http://`*`ocs_middle_tier_host_name`*`:`*`port_number`*`/files/app`	Log in as a user created in the Oracle Internet Directory server.
SMB	Map a network drive from Windows Explorer. `\\`*`middle_tier_host_name`*`\myhome`	A Windows file share appears.

If you attempt to connect to the HTTP Web server and receive a 503 Service Temporarily Unavailable message, the HTTP node has not fully started. You must start the HTTP node (the OC4J instance).

In addition, when the Oracle Files domain is stopped and restarted, you must also restart the HTTP node (the OC4J instance) in order to reinitialize the HTTP Node servlet.

To start the OC4J instance from the command line, navigate to the `$ORACLE_HOME/opmn/bin` directory and use the following command:

```
opmnctl restartproc gid=OC4J_iFS_files
```

Additional Post-Configuration Tasks

Depending on your planned deployment, some or all of the following tasks are required after configuring Oracle Files.

- Configuring Net Service Names
- Integrating Oracle Workflow with Oracle Files (Optional)
- Post-Configuration Steps for Using Oracle Files with a Real Application Clusters Database (Optional)
- Adding the Return to Portal Link in the Oracle Files Web UI (Required)
- Editing the Oracle Internet Directory Return Query Limit (Optional)
- Registering the Oracle Files and Search Portlets (Required)

Configuring Net Service Names

This task is recommended for ease of administration. You must perform this task if you are integrating Oracle Workflow with Oracle Files. Configure net service names using Oracle Net configuration assistant as follows:

1. Run the Oracle Net configuration assistant by executing the following script:

```
$ORACLE_HOME/bin/netca
```

The Welcome screen displays.

2. Select **Net Service Name configuration**, and click **Next**.

   The Net Service Name Configuration screen displays.

3. Click **Add**, and then click **Next**.

   The Net Service Name Configuration, Database Version screen displays.

4. Select **Oracle8*i* or later database or service**.

5. Click **Next**.

   The Service Name screen displays. Enter a **Service Name** for the database instance, such as `db1.us.acme.com`.

6. Click **Next**.

   The Select Protocols screen displays.

7. Select **TCP (default)**.

8. Click **Next**.

   The TCP/IP Protocol screen displays. Enter values for the **DB Hostname** and **DB Port**. The default value for the database port is `1521`.

9. Click **Next**.

   The Test screen displays.

10. Click **Yes** to perform a test.

    The Connecting screen displays with the result of the test connection. The test attempts to connect using the default user `scott`. Because the user `scott` is locked during database creation, the test connection might fail. If the test connection fails, the Oracle Net configuration assistant returns to the Service Name screen. Change the user to `system`, enter the values for your database and perform the test connection again.

11. If the Connection screen returns the result `OK`, click **Next**.

    The Net Service Name screen displays. Enter a service name for this database connection in the **TNS Alias Name** field, such as `db1`.

12. Click **Next**.

    The Net Service Name screen displays. Accept the default value of **No.**

13. Click **Next**.

    The NetCA Done screen displays.

14. Click **Next**.

    The Summary screen displays.

15. Click **Finish**.

Integrating Oracle Workflow with Oracle Files (Optional)

To integrate Oracle Workflow with Oracle Files, perform the following tasks:

1. Configuring Oracle Workflow
2. Integrating Oracle Workflow with the Oracle Files Schema
3. Enabling Additional Languages in the Oracle Workflow Schema (Optional)

Configuring Oracle Workflow

The steps detailed in this section must be performed to properly configure Oracle Workflow for use with Oracle Files.

Configuring Oracle Workflow primarily involves setting up the Oracle Workflow schema, and only needs to be done for the first middle tier, not for any additional middle tiers that are added.

> **Note:** The Oracle Workflow scripts automatically set the Oracle Workflow administrator as the `orcladmin` user.

1. Run Oracle Workflow configuration assistant in the first middle tier computer by executing the following script:

   ```
   $ORACLE_HOME/ifs/files/bin/ifswfinstall
   ```

   The Oracle Workflow configuration assistant displays.

2. Enter the user information listed in Table 12–7:

Table 12–7 Oracle Workflow Configuration Assistant Values

Field	Value
Workflow Account	The user name of your Oracle Workflow database account. The default Workflow account is `OWF_MGR`. If you are creating more than one Oracle Workflow instance on the same information storage database, enter a descriptive name for this account.
Workflow Password	The password for your Oracle Workflow database account.
`SYS` Password	Enter the `SYS` password for the database in which you are creating the Oracle Workflow account. See your Oracle DBA if you need more information.
`SYSTEM` Password	Enter your `SYSTEM` password for the database in which you are creating the Oracle Workflow account. See your Oracle DBA if you need more information.
Install Option	Select **Install** to perform a fresh installation of Oracle Workflow.
Language Selection	If you selected the **Add language** install option, select the language abbreviation for the language you want to add. Otherwise, accept the default. **See Also**: Table 12–9, " Language Codes" for a list of standard language abbreviations
Connect Method	Select **Local** to connect to a local database using the Oracle SID, or **Remote** to connect to a remote database through Oracle Net. Select **Remote** if you performed the steps listed in "Configuring Net Service Names" on page 12-30.
Connect String	If you select the **Remote** connect method, enter the service name that you specified in step 11 of "Configuring Net Service Names" on page 12-30 for the remote database. **Important**: To ensure that the Oracle Workflow schema is created on the same database where the Oracle Files schema is to be created, use the Oracle Collaboration Suite information store `CONNECT_STRING`.

3. Click **Submit** to begin Oracle Workflow configuration.

   When Oracle Workflow configuration is complete, a confirmation window displays.

4. Click **OK**.

   Oracle Workflow configuration is now complete. You can check the status of the Oracle Workflow configuration by reviewing the `workflow.log` log file located in the following directory:

   ```
   $ORACLE_HOME/wf/install/
   ```

> **Important:** The `workflow.log` file produced during installation and configuration of Oracle Workflow can contain sensitive information. To protect this sensitive information, delete this file after the installation is complete or change the permissions for the file so that only authorized administrators can access it.

Integrating Oracle Workflow with the Oracle Files Schema

Before integrating Oracle Workflow with the Oracle Files schema, you must apply ARU patch 5778073.

Download the patch from `http://metalink.oracle.com`.

To integrate Oracle Workflow with the Oracle Files schema, perform the following steps. These steps assume you have already configured Oracle Workflow per the instructions on page 12-32:

> **Notes:** If you are using an external 9.2.0.3 database instead of the information storage database included with Oracle Collaboration Suite Release 2 (9.0.4.1), or if you are updating an existing information storage database, you must run the `catldap.sql` configuration script as the database `SYS` user on the database host system from `/rdbms/admin`. Then, run the `ifswfsetup` script to integrate Oracle Files with Oracle Workflow.

1. If you are integrating Oracle Files with Oracle Workflow in a locale other than English, you must change the LANG environment variable to the English locale before running the `ifswfsetup` script. Type the following at a command prompt:

> **Note:** Before changing the value of LANG, enter the command `set LANG` at a command prompt and record the current value of the environment variable.

   ```
   set LANG = american_america.we8iso8859p1
   ```

2. Once you have successfully configured Oracle Workflow, edit the `ifswfsetup.properties` file using the values provided in Table 12–8. This table describes the parameters that are used by the `ifswfsetup` script. Edit these parameters based on your requirements. **These edits are mandatory if you want to integrate Oracle Workflow with Oracle Files.** The `ifswfsetup.properties` file is located at:

   ```
   $ORACLE_HOME/ifs/files/settings
   ```

Important: Back up the `ifswfsetup.properties` file before modifying it. Do not edit any parameters other than the ones listed in Table 12–8.

If you have applied Oracle Collaboration Suite patch set Release 9.0.4.2.0, the patch installation process backs up the file automatically.

Table 12–8 Values for ifswfsetup.properties File

Field # and Name	Structure	Example[1]
(1) Oracle home	`ORACLE_HOME=`*`ORACLE_HOME`*	`ORACLE_HOME=u01/app/oracle/ocsmid`
(2) Database Host	`DB_HOST_NAME=`*`dbhost.us.oracle.com`*	`DB_HOST_NAME=acme.us.oracle.com`
(3) Database Port	`DB_LISTENER_PORT=`*`port_number`*	`DB_LISTENER_PORT=1521`
(4) Database Service Name	`DB_SERVICE_NAME=`*`db_service_name`*	`DB_SERVICE_NAME=acme9i`
(5) Database TNS Alias Name	`DB_TNS_ALIAS=`*`db_tns_aliasname`*	`DB_TNS_ALIAS=my_files_instance` This is the database service that you are using for Oracle Files, created with the Oracle Net configuration assistant. See "Configuring Net Service Names" on page 12-30 for more information.
(6) Database SID	`DB_SID=`*`db_sid`*	`DB_SID=my_files_sid`
(7) Oracle Files Schema Name	`IFS_SCHEMA_NAME=`*`ifssys`*	`IFS_SCHEMA_NAME=ifssys`
(8) Oracle Workflow Schema Name	`IFS_WORKFLOW_SCHEMA_NAME=`*`workflow_schema_name`*	`IFS_WORKFLOW_SCHEMA_NAME=owf_mgr`
(9) Oracle Workflow URL	`WF_URL=http://midtier:port_number`	`WF_URL=http://mycomp.us.oracle.com:7777`
(10) Oracle LDAP Host	`OID_HOST_NAME=`*`ldaphost.us.oracle.com`*	`OID_HOST_NAME=oidserver.us.oracle.com`
(11) Oracle LDAP Port	`OID_PORT=`*`port_number`*	`OID_PORT=4032`
(12) Oracle LDAP Admin User Name	`OID_SUPER_USER_NAME=cn=orcladmin`	Enter the exact value specified in the Structure column.
(13) Oracle LDAP Changelog	`LDAP_CHANGELOG=cn=changelog`	Enter the exact value specified in the Structure column.
(14) Oracle LDAP Baselog	`LDAP_BASELOG=cn=Users,dc=us,dc=oracle,dc=com`	Values should match those specified for LDAP searchbase during Oracle Internet Directory configuration.

Table 12–8 (Cont.) Values for ifswfsetup.properties File

Field # and Name	Structure	Example[1]
(15) Language Upload Script	`LANGONLY=false`	Set the value to `false` when integrating Oracle Files and Oracle Workflow. Set the value to `true` when enabling additional languages in the Oracle Workflow schema.

(16) Language Files to Upload
See Table 12–9, " Language Codes" for a complete list of language codes. Multiple codes can be entered, separated by a comma.
	`LANG=language_code`	`LANG=`
		When `LANGONLY=false` (see Field 15), this value should be left empty.
		`LANG=es`
		When `LANGONLY=true` (see Field 15), enter a language code.

(17) OID Sync Interval	`INTERVAL=interval_duration`	`INTERVAL=10` Specifies, in minutes, how often an Oracle Internet Directory user is provisioned in Oracle Files.

[1] Values for fields 2-7 and should be identical with information entered during Oracle Files configuration.
Values for fields 8-9 should be identical with information entered during Oracle Workflow configuration.
Values for fields 10-14 should be identical with LDAP information entered during Oracle Files configuration.

3. Save and exit from the `ifswfsetup.properties` file.
4. Execute the `ifswfsetup` script by entering the following two commands:

```
cd $ORACLE_HOME/ifs/files/bin
./ifswfsetup
```

This executes the script and creates the `ifswfsetup.log` log file in the following directory:

```
$ORACLE_HOME/ifs/files/log/
```

Important: The `ifswsetup.properties` file and the `ifswfsetup.log` file contain sensitive information. To protect this sensitive information, delete these files after the installation is complete or change the permissions for the files so that only authorized administrators can access them.

Note: If you changed the value of LANG, you must use the `set LANG` command at a command prompt to set the value of the environment variable to its previous value.

5. Enable additional languages in the Oracle Workflow schema, if necessary.

Enabling Additional Languages in the Oracle Workflow Schema (Optional)

To enable additional languages in the Oracle Workflow schema, perform the following steps:

> **Note:** Czech, Greek, Hungarian, Romanian, and Russian language support is only available if you have applied Oracle Collaboration Suite patch set Release 9.0.4.2.0.

1. Edit the `ifswfsetup.properties` file (located at `$ORACLE_HOME/ifs/files/settings`), as follows:

   - **Field 15**: Language Upload Script

     `LANGONLY=true`

   - **Field 16**: Language Files to Upload

     `LANG=`[Enter language codes from column 2 of Table 12–9 that match the languages that you want to upload to Oracle Workflow. Separate multiple language codes with a comma.]

     If you want to enable all languages, use the following syntax:

     `LANG=all`

2. When you have completed edits to the `ifswfsetup.properties` file, execute the `ifswfsetup` script by entering the following two commands:

   ```
   cd $ORACLE_HOME/ifs/files/bin
   ./ifswfsetup
   ```

   This executes the script and creates the `ifswfenablelang.log` log file in the following directory:

   `$ORACLE_HOME/ifs/files/log/`

> **Important:** The `ifswfenablelang.log` file contains sensitive information. To protect this sensitive information, delete this file after the installation is complete or change the permissions for the file so that only authorized administrators can access it.

Table 12–9 Language Codes

Language	Code[1]
Czech	cs
Danish	da
German	de
Greek	el
Spanish	es
Finnish	fi
French	fr
Hungarian	hu
Italian	it
Japanese	ja
Korean	ko
Dutch	nl

Table 12–9 (Cont.) Language Codes

Language	Code[1]
Norwegian	no
Portuguese	pt
Brazilian Portuguese	pt_BR
Romanian	ro
Russian	ru
Swedish	sv
Turkish	tr
Simplified Chinese	zh_CN
Traditional Chinese	zh_TW

[1] These codes can also be found in the `ifswfsetup.properties` file.

Note: Czech, Greek, Hungarian, Romanian, and Russian language support is only available if you have applied Oracle Collaboration Suite patch set Release 9.0.4.2.0.

Post-Configuration Steps for Using Oracle Files with a Real Application Clusters Database (Optional)

The following tasks are required after configuring Oracle Files if you are using Oracle Files with a Real Application Clusters database.

In addition to the required preconfiguration tasks for setting up Oracle Files to use a Real Application Clusters database (see "Set Up Oracle Files to Use Real Applications Clusters Database (Optional)" on page 12-6), you must perform the following post-configuration steps:

1. On each middle tier, back up the `registry.xml` file (located in the `$ORACLE_HOME/ifs/common/` directory).
2. Edit the `registry.xml` file and add a `DatabaseUrl` entry.

   You can add the `DatabaseUrl` entry anywhere under the `<Instance>` tag. In the following example, the entry is added directly under the tag. Note that the value for *`tnsentry`* should be the same as that specified in the Real Application Clusters pre-configuration steps.

   For example:

```
<Instance>
  <DatabaseUrl>jdbc:oracle:oci8:@tnsentry</DatabaseUrl>
  <Domain>ifs://DBHOME:1521:dbservice:ifssys</Domain>
  <DomainType>files</DomainType>
  <Registered>1018925008096</Registered>
  <LastStarted>1028329087966</LastStarte>d
  <LastModified>1028330926700</LastModified>
  <Ports>
</Instance>
```

Adding the Return to Portal Link in the Oracle Files Web UI (Required)

If you have configured Oracle9*i*AS Portal, you can add a Return to Portal link that displays in the Oracle Files Web UI, so that you can navigate from Oracle Files to the Oracle Collaboration Suite Home page.

To add the Return to Portal link to the Oracle Files Web UI, perform the following steps:

1. Access the Oracle Enterprise Manager Web site by entering the following URL in a Web browser:

   `http://hostname:1810/`

2. Log in as `ias_admin`, using the password you specified during installation, and click **OK**.
3. From the Oracle9*i*AS Home page, navigate to the Oracle Files top-level page by clicking on the Oracle Files domain link. For example:

   `iFS_dbhost.us.oracle.com:1521:ifsdbservice.us.oracle.com:FilesSchema`

4. In the Configuration section, click **Server Configurations**
5. From the Server Configuration page, click **FilesBaseServerConfiguration**. The Edit page displays.
6. In the Properties section, select `IFS.SERVER.APPLICATION.FILES.PortalUrl` and click **Edit**.
7. Change the value to specify the Oracle Collaboration Suite Home page URL. For example:

   `http://hostname.us.foo.com:7777/pls/portal`

8. Click **OK** on the Edit Properties page.
9. Click **OK** on the Edit Server page.
10. Return to the Oracle9*i*AS Home page.
11. Select `OC4J_iFS_files` and click **Restart**.

    The Return to Portal link now displays in the Oracle Files Web UI. It also displays in the Federated Search pages.

Editing the Oracle Internet Directory Return Query Limit (Optional)

If your Oracle Internet Directory server has more than 1000 Oracle Internet Directory user accounts, the following error message can occur in your node log when the Oracle Files `OidUserSynchronizationAgent` attempts to synchronize users from the Oracle Internet Directory server:

```
8/13/02 7:39 PM Files: [oidsync-2107123 OidUserSynchronizationAgent] Exception
oracle.ifs.common.IfsException: IFS-12988: Count limit exceededUIDs
```

To avoid this error, complete the following steps before starting the Oracle Files `OidUserSynchronizationAgent`:

1. Run Oracle Directory Manager.
2. Log in to the infrastructure Oracle Internet Directory server using the Oracle Internet Directory administrator's user name and password.

3. Select the Oracle Internet Directory server into which you just logged in from the tree. The server is represented in the tree with the account name, Oracle Internet Directory host, and Oracle Internet Directory port. Oracle Directory Manager displays the properties of the Oracle Internet Directory server in the right part of the window.
4. Locate and change the value in the **Query Entry Return Limit** field so that it is greater than the number of Oracle Collaboration Suite users.
5. Click **OK** to save.

Registering the Oracle Files and Search Portlets (Required)

After configuring Oracle Files and starting the domain, you must run the Web client installer in order to configure the Oracle Files and Search portlets. After registering the portlets, they become available from the Oracle Collaboration Suite Web client page.

> **See Also:** Chapter 6, "Installing Oracle Collaboration Suite" for information about running the Web client installer

13

Configuring Search Features

This chapter guides you through the process of configuring search for Oracle Collaboration Suite.

This chapter contains the following topics:

- Default Oracle Ultra Search Instance
- Creating an Oracle Ultra Search Database User
- Default Oracle Ultra Search Instance
- Configuring the Oracle Ultra Search Crawler
- Creating a Web Source
- Creating a Schedule
- Scheduling the Oracle Ultra Search Crawler
- Setting Oracle Ultra Search Properties
- Making E-mail Searchable
- Restarting OC4J_iFS_files
- Testing Oracle Ultra Search

Default Oracle Ultra Search Instance

The Oracle Ultra Search installer creates a default out of the box Oracle Ultra Search instance based on the default Ultra Search test user, so users can test Oracle Ultra Search functionality based on the default instance after installation.

The default instance name is `WK_INST`. It is created based on the database user `WK_TEST`. In other words, `WK_TEST` is the instance administrator for `WK_INST`. The default user password is `WK_TEST`.

For security purposes, `WK_TEST` is locked after the installation. The Oracle Collaboration Suite administrator should login to the database as DBA role, unlock the `WK_TEST` user account, and set the password to be `WK_TEST`. (The password expires after the installation.) If the password is changed to anything other than `WK_TEST`, then you must also update the cached schema password using the administration tool Edit Instance page after you change the password in the database.

The default instance is also used by the Oracle Ultra Search sample query application. You must update the `data-sources.xml` file, as described in the "Configuring the Middle Tier Component" section of the *Oracle Ultra Search User's Guide*.

Creating an Oracle Ultra Search Database User

Oracle Corporation recommends that Oracle Ultra Search use its own tablespace to store its own data, as follows:

```
SQL> create tablespace ultra datafile 'file_location' size x_MB
```

Log in to the infrastructure host and create an Oracle Ultra Search schema with the following commands:

```
$ sqlplus system/password@iasdb
SQL> CREATE USER ocs_us IDENTIFIED BY password DEFAULT TABLESPACE ultra
TEMPORARY TABLESPACE temp QUOTA UNLIMITED ON ultra;
User created.
SQL> GRANT resource, connect, wkuser TO ocs_us;
Grant succeeded.
SQL> exit
```

The `WKUSER` role gives the user access to Oracle Ultra Search.

Configuring the Oracle Ultra Search Crawler

This section explains how to configure the Oracle Ultra Search crawler.

> **Note:** Follow these steps when a new instance is created. In step 10, the paths for **Temporary Directory Location** and **Crawler Logging** must be applied to the default instance `WK_TEST`.

To configure the Oracle Ultra Search crawler:

1. Create directories on the infrastructure machine where Oracle Ultra Search is installed to hold the temporary and log files.
2. Go to the Oracle Ultra Search administration tool at the following URL:

   `http://middletier_host:middletier_port/ultrasearch/admin_sso/index.jsp`

3. When the Single Sign-On page displays, enter the Oracle Internet Directory administrator's username and password and click **Login** to display the Welcome page.
4. Click the **Create** subtab to display the Create Instance page.
5. Click **Create instance**.
6. Enter a **New Instance Name** and enter the name of the database schema created in "Creating an Oracle Ultra Search Database User" on page 13-2 in the **Ultra Search Schema Name** field.
7. Click **Apply** and wait for the page to refresh. A confirmation message displays to confirm the creating of the new instance and the Welcome page displays.
8. Select the instance you just created from the **Select Instance to Manage** drop-down list and click **Apply** to select this instance as your current instance. You receive a confirmation message.
9. Click the **Crawler** tab.
10. Enter the following information:

- **Crawling Depth**: The maximum number of nested links the crawler will follow. You can limit the depth by selecting the **Limit** radio button and entering a number in associated field.
- **Default Character Set**: Choose Standard UTF8 as the default for HTML documents
- **Temporary Directory Location**: Enter the path to the temporary directory you created in Step 1 of this task
- **Crawler Logging**: Enter the path to the log directory you created in Step 1 of this task
- Note the value in the **Database Connect String** field. This value is required when you configure Oracle Files for Oracle Ultra Search in "Setting Oracle Ultra Search Properties" on page 13-4.

11. Click **Apply**.

Creating a Web Source

To create a Web source:

1. Click the **Sources** tab to display the Create Web Source: Step 1 page.
2. Click **Create Web Source**.
3. Choose a small Web site to index as a test site for Oracle Ultra Search and enter it in the **Source Name** field.
4. Click **Proceed to Step 2** to display the Create Web Source: Step 2 page.
5. Click **Proceed to Step 3** to accept the defaults and display the Create Web Source: Step 3 page.
6. In the **Starting Address** section, enter a URL for a starting address for indexing.
7. Click **Add** to add the new address to the Starting Address List.
8. Click **Proceed to Step 4** to display the Create Web Source: Step 4 page.
9. Click **Proceed to Step 5** to accept the defaults and display the Create Web Source: Step 5 page.
10. Click **Proceed to Step 6** to accept the defaults and display the Create Web Source: Step 6 page.
11. Click **Finish** to accept the defaults.

The new Web source appears in the **Web Source List**.

Creating a Schedule

To create a schedule:

1. Click the **Schedules** tab to display the Synchronization Schedules page.
2. Click **Create New Schedule** to display the Create Schedule: Step 1 of 3 page.
3. Enter a schedule name in the **Name** field.
4. Click **Proceed to Step 2** to display the Create Schedule: Step 2 of 3 page.
5. Click **Proceed to Step 3** to accept the default schedule. This schedules the crawl to execute once a month.

6. Choose a data source for the schedule to crawl, by doing the following:
   a. Select `Web` from the **Get Available Sources for Type** drop-down list and click **Get Sources**.
   b. The source that you created in "Creating a Web Source" on page 13-3 appears in the **Available Sources** list.
   c. Select the source and click **>>** to move the source to the **Assigned Sources** list.
   d. Click **Finish** to return to the Synchronization Schedules page.

The new schedule displays in the **Schedules** column.

Scheduling the Oracle Ultra Search Crawler

To schedule the Oracle Ultra Search Crawler:

1. Click **Scheduled** in the **Status** column to display the Synchronization Schedule Status page.
2. Click **Execute Immediately** to start the crawler.
3. In the **Crawler Progress Summary and Log Files by Data Source** section, click the pencil icon in the **Statistics** column to display the status and summary for the crawl.

   Click the **Refresh Status** link if you do not see the pencil icon.
4. To determine if the crawl was successful, verify that **Documents Indexed** in the **Name** column has a value other than zero.

Setting Oracle Ultra Search Properties

After you index documents, you must set the Oracle Ultra Search properties in Oracle Collaboration Suite.

To set the Oracle Ultra Search properties:

1. Start Oracle Enterprise Manager and navigate to the Oracle Files domain page.
2. Click **Federated Search Configuration** to display the Federated Search Configuration page.
3. Select the **Yes** radio button for **Ultra Search Configured**.
4. Select the **Yes** radio button for **Mail Configured**.
5. Set the Webmail Base URL to

   `http://`*`middletier_host`*`:`*`middletier_port`*`/um/traffic_cop`
6. Enter the name of the database schema that you created in "Configuring the Oracle Ultra Search Crawler" on page 13-2 in the **Ultra Search Schema Name** field.
7. Enter and confirm the password that you chose for the database schema in "Configuring the Oracle Ultra Search Crawler" on page 13-2 in the **Ultra Search Schema Password** and **Confirm Password** fields.
8. Enter the value that was displayed in step 10 "Configuring the Oracle Ultra Search Crawler" on page 13-2 in the **Ultra Search Connect String** field, prepended with `jdbc:oracle:thin:@`. For example, `jdbc:oracle:thin:@`*`infrastructure_host`*`:1521:iasdb`.

9. Click **Apply** to receive a confirmation message that the Federated Search configuration has been successfully updated.
10. After modifying the Federated Search Configuration, you must restart the `OC4J_iFS_files` instance. You can either restart it from Oracle Enterprise Manager, or execute the following command from the command line:

```
opmnctl restartproc gid=OC4J_iFS_files
```

Making E-mail Searchable

In order to enable Oracle Ultra Search to search e-mail, you must index e-mail and configure the `HouseKeeping` process to regularly synchronize the e-mail text index.

This section contains the following topics:

- Indexing E-mail
- Configuring the HouseKeeping Process

Indexing E-mail

To index e-mail for users as they are created, do so at the domain level, as follows:

1. Log in to the Webmail client as a user with administrator privileges.
2. Click the **Administration** tab.
3. Click the **Domain** tab.
4. Ensure that **Domain Settings for Users** is selected.
5. Choose the appropriate **Installation** and **Domain** from their respective drop-down lists and click **Submit**.
6. Set **Mail User Index Type** to **Indexed for Text** and click **Submit**.

To index e-mail for users that have been created prior to making the above change at the domain level, you must do it on an individual basis, as follows:

> **Note:** Only new e-mail is indexed. E-mail sent prior to enabling Text Synchronization is not indexed.

1. Log in to the Webmail client as an e-mail administrator with administrator privileges.
2. Click the **Administration** tab.
3. Click the **User** tab.
4. Click **Default New User**.
5. Enter the search criteria for the existing user(s) and specify the appropriate e-mail domain from the drop-down list and click **Go**.
6. Click the user ID.
7. Set **Mail User Index Type** to **Indexed for Text** and click **Modify**.

Configuring the HouseKeeping Process

To configure the `HouseKeeping` process:

1. Using Oracle Enterprise Manager, navigate to the HouseKeeping page.
2. Clicking **Create or Create Like** to create a new Oracle Email housekeeping instance.
3. Click the new housekeeping instance to bring up the parameters screen and set **Text Synchronization** to **Enabled**.
4. Disable the **Pruning** and **Collection** options.
5. In the **Process Sleep Duration** field, enter how often the housekeeper should queue messages for indexing, in minutes. For example, if you want the housekeeper to queue messages for indexing every three minutes, enter `3` in the field.

   Note: Set the HouseKeeper to index messages as frequently as clients check for new mail, such as five minutes.

6. Set **Execution Mode** to **Daemon**.
7. Click **Apply**.
8. Return to the HouseKeeping page.
9. Click **Start**.

   As an ongoing process, housekeeping periodically collects newly arrived messages to Oracle Text for indexing.

Restarting OC4J_iFS_files

The new Federated Search settings are not used until the `OC4J_iFS_files` system component is restarted.

To restart the `OC4J_iFS_files` system component:

1. On the Federated Search Configuration page in Oracle Enterprise Manager, click the first link in the navigation path under the subtab bar.
2. Select the radio button next to the **`OC4J_iFS_files`** system component.
3. Click **Restart**.
4. Click **Yes** to confirm that you want to restart.
5. Click **OK** to confirm the restart message.

Testing Oracle Ultra Search

To test Oracle Ultra Search:

1. Go to the following URL to display the Oracle Files Search window:

   `http://`*`middletier_host`*`:`*`middletier_port`*`/files/app/FederatedSearch`

2. Log in as the test user to display the General Search page.
3. In the **Item Name** field, enter a name for which to search.
4. In the **Content** field, enter content for which to search.
5. In the **User Name** field, enter the name of the owner of the content to search.

6. Choose a comparison operator from the **Date** drop-down list and enter a date string in the associated field against which to search.
7. Choose **Files**, **Web**, or both in the **Look In** field to indicate which source or sources to search.
8. After entering the search criteria, click **Search**.

To search Oracle Files content or Oracle Email, configure them as sources in Oracle Ultra Search.

14

Configuring Oracle Web Conferencing

This chapter provides an overview of post-installation configuration tasks for Oracle Web Conferencing. For complete details about deploying and configuring Oracle Web Conferencing, see the *Oracle Web Conferencing Administrator's Guide*.

This chapter contains the following sections:

- Overview of Oracle Web Conferencing Deployment
- Manually Starting and Stopping Web Conferencing Processes
- Oracle Real-Time Collaboration Core Components Configuration

Overview of Oracle Web Conferencing Deployment

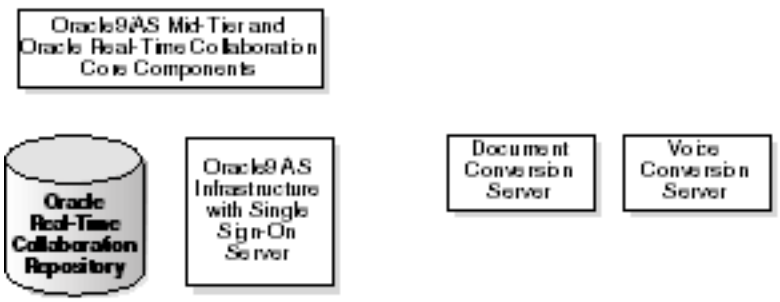
The Oracle Web Conferencing system includes the following components:

- Oracle Real-Time Collaboration Core components that provide the core functionality of Web Conferencing
- The Document Conversion Server for converting Microsoft Office documents that need to be shared during a conference
- The Voice Conversion Server for streaming voice data during a conference
- The set of Oracle Real-Time Collaboration database schemas residing in an Oracle9*i*AS database

In addition, the Oracle Web Conferencing system interacts with an Oracle9*i*AS Infrastructure system to manage user sign-on and to synchronize user information with the Oracle Internet Directory.

Figure 14–1, "Oracle Real-Time Collaboration Basic Components" shows the components needed for Web Conferencing.

Figure 14–1 Oracle Real-Time Collaboration Basic Components

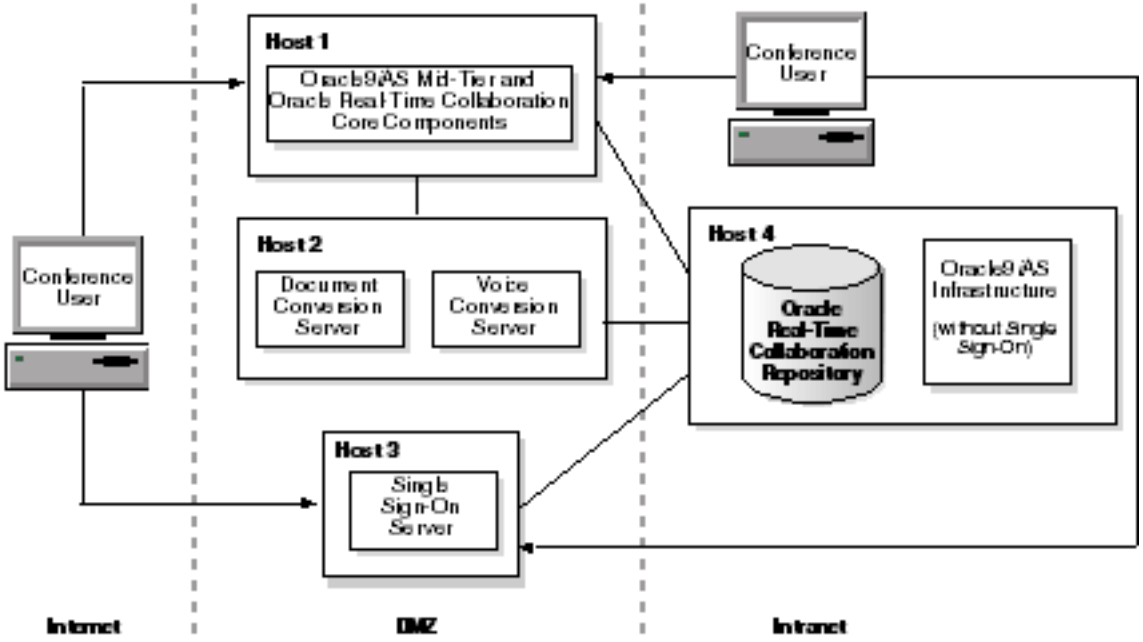


The Oracle Real-Time Collaboration Core components and Document and Voice Conversion servers are installed on Oracle9*i*AS mid-tier systems. Document and Voice Conversion servers must be installed on a computer running Microsoft Windows and Microsoft Office, while the core components and supporting database and infrastructure systems can be installed on Solaris, hp-ux, AIX, Linux, or Windows systems. The Voice Conversion server has additional hardware requirements discussed in Chapter 2, "Preparing for Installation". The supporting database and infrastructure systems are often installed on a separate database host, although they can also be installed together with the core components.

Some considerations need to be made, however, to support conference services on a corporate intranet that generally includes a secure intranet area behind a firewall, a DMZ ("demilitarized zone") between the firewall and the public Internet, and web conferencing users both within the intranet and outside the firewall in the Internet.

Figure 14–2, "Oracle Real-Time Collaboration Example Deployment" shows an example of a deployment where the components required by users for a conference, including the Single Sign-On Server used to verify users entering a conference, are located on mid-tier systems in the DMZ, to allow access to users outside the firewall. Users within the intranet or within the DMZ can also access all required conference components.

Figure 14–2 Oracle Real-Time Collaboration Example Deployment



The Single Sign-On Server and Oracle Real-Time Collaboration Core components can be located on the same mid-tier system, if desired. The Single Sign-On server can remain with the Oracle9*i*AS infrastructure if both are placed in the DMZ to serve Internet users. The repository and Oracle9*i*AS infrastructure can be on separate machines or combined, or can even be combined on a machine with the Oracle Real-Time Collaboration core components.

The following mandatory associations must be made for the various parts of Oracle Web Conferencing to work. All of these associations are created during installation:

- **Oracle Real-Time Collaboration Core Components to Oracle Real-Time Collaboration Repository**: This association is made during installation
- **Oracle Real-Time Collaboration Core Components to Oracle9*i*AS** Infrastructure: This association is made during installation
- **Document and Voice Conversion Servers to Oracle Real-Time Collaboration Repository**: This association is made during installation

Manually Starting and Stopping Web Conferencing Processes

The Real-Time Collaboration components and the additional Oracle components used by Oracle Web Conferencing are started during installation. If for some reason you need to start or stop these processes, this section describes how to do so. It covers the following topics:

- Starting and Stopping Oracle9iAS Components for Web Conferencing
- Starting or Stopping an Oracle Real-Time Collaboration Instance

This section discusses how to use the `dcmctl` and `imtctl` utilities . For more details about these commands, see the following books:

> **See Also:** *Oracle9i* Application Server Administrator's Guide for details about `dcmctl`

> **See Also:** *Oracle Web Conferencing Administrator's Guide* for details about `imtctl`

Starting and Stopping Oracle9*i*AS Components for Web Conferencing

The Oracle Web Conferencing system uses several Oracle9*i*AS components such as the Oracle Web Conferencing J2EE Application (OC4J_imeeting), Oracle HTTP Server, and Oracle Process Management and Notification. This section shows you how to start or stop these processes, if necessary.

1. To determine the status of the processes, use the `dcmctl getState` command on all servers where the Real-Time Collaboration Core Components are installed:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl getState -v
   ```

2. To start `OC4J_imeeting`, enter the following command:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_imeeting -t -v 120
   ```

3. To start the Oracle HTTP server, enter:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl start -ct ohs -v -t120
   ```

4. To start the Oracle Process Monitor and Notification system, enter:

   ```
   $ORACLE_HOME/dcm/bin/dcmctl start -ct opmn
   ```

5. To stop any of the above processes, enter the same commands as above but substitute `stop` for `start`.

Starting or Stopping an Oracle Real-Time Collaboration Instance

At installation time, all the Real-Time Collaboration processes are automatically started by the installer. At any other time, all Web Conferencing components can be

started or stopped by using the `imtctl` utility on each instance where Web Conferencing components have been installed.

1. To check the status of Oracle Real-Time Collaboration components, use the `imtctl getState` command:

   ```
   $ORACLE_HOME/imeeting/bin/imtctl getState
   ```

2. To start any Real-Time Collaboration instance, enter the following `start` command on each machine on which an instance has been installed:

   ```
   $ORACLE_HOME/imeeting/bin/imtctl start
   ```

   The Document or Voice Conversion Servers, used to support conversion of documents for document sharing and streaming voice during conferences, are installed on Windows machines. The command to start these servers is:

   ```
   %ORACLE_HOME%\imeeting\bin\imtctl start
   ```

3. You can stop any Web Conferencing component by using the `stop` command:

   ```
   $ORACLE_HOME/imeeting/bin/imtctl stop
   ```

Oracle Real-Time Collaboration Core Components Configuration

When you install the Oracle Web Conferencing system, including instances of the Oracle Web Conferencing Core components and the Document and Voice Conversion servers, you perform the following two types of configuration tasks:

- **System tasks**: These tasks must be done once for the entire Oracle Web Conferencing system. In most cases, there is no need to repeat these steps when a new instance is added to the system. However, you can use the global settings or override them for specific instances.
- **Instance tasks**: These must be done for every instance. The set of specific tasks that must be completed is determined by how you are deploying the system (for example, allowing Internet or enabling SSL security).

Table 14–1 lists the various tasks you must perform.

Table 14–1 Task Checklist

Task	Why Required	Nature of Task
Integrate with Oracle HTTP Server	Each Oracle Web Conferencing instance must be integrated with the Oracle HTTP Server associated with that instance. This allows access to intranet users behind remote firewalls.	Instance task
Set up for periodic monitoring	Each Oracle Web Conferencing instance can be monitored periodically and the results plugged into an alert management system.	Instance task
Integrate with existing proxy server	Oracle Web Conferencing must be integrated with the existing proxy settings for use by the Oracle Web Conferencing Console. This includes cobrowsing functionality, and cross-instance HTTP-based diagnostics.	System task
Integrate with existing e-mail	Oracle Web Conferencing must be integrated with the e-mail infrastructure in order to send e-mail invitations for conferences.	System task

Table 14–1 (Cont.) Task Checklist

Task	Why Required	Nature of Task
Configure Oracle Web Conferencing for reports	Oracle Web Conferencing provides automatic generation and transmission of reports by e-mail.	System task
Assign `businessadmin` role to an administrator	An administrative account must be assigned to let an administrator view the administration pages in the Oracle Web Conferencing Application.	System task

All of these tasks are discussed in detail the *Oracle Web Conferencing Administrator's Guide*.

Part IV

Appendixes

Part IV contains the following appendixes:

- Appendix A, "Java Access Bridge Installation"
- Appendix B, "Installation Checklists"
- Appendix C, "Troubleshooting"
- Appendix D, "Default Port Numbers and Port Ranges"
- Appendix E, "Windows Services"
- Appendix F, "Installing Oracle Calendar Standalone"
- Appendix G, "Oracle Collaboration Suite Client Installations"

A

Java Access Bridge Installation

This appendix describes the procedures required for installation of Java Access Bridge.

This appendix contains these topics:

- Setting Up Java Access Bridge
- Setup for JRE 1.3.1
- Setup for JRE 1.1.8

Setup for JRE 1.3.1

To set up Java Access Bridge with JRE 1.3.1, run the batch file on the first Oracle Collaboration Suite CD-ROM. The batch file is located at:

first_install_CD-ROM\install\win32\access_setup.bat

Setup for JRE 1.1.8

The following sections describe how to use Java Access Bridge with JRE 1.1.8:

- Setup for Oracle Universal Installer
- Setup for Oracle Installed Components

Setup for Oracle Universal Installer

Install and configure Java Access Bridge before installing Oracle components to enable assistive technologies to read Oracle Universal Installer screens.

To install Java Access Bridge:

1. Exit any assistive technology software that is running before you begin Java Access Bridge installation.
2. Insert the first Oracle Collaboration Suite component CD-ROM.
3. Copy `\AccessBridge\accessbridge1_0_2.zip` to a location on your hard drive.
4. Extract the files onto your computer hard drive. For example:

   ```
   c:\
   ```

5. Add `access-bridge.jar` and `jaccess-1_1.jar` information to the `CLASSPATH` user environment variable.

a. Open the Windows System Control Panel. For Windows NT or Windows 2000, choose **Start > Settings > Control Panel > System**.
   - On Windows NT, click the **Environment** tab.
   - On Windows 2000, click the **Advance** tab. Then, click **Environment Variables**.

b. Add the following to the `CLASSPATH` user environment variable:

```
c:\AccessBridge-1_0_2fcs\installer\installerFiles\access-bridge.jar
c:\AccessBridge-1_0_2fcs\installer\installerFiles\jaccess-1_1.jar
```

   where `c:\AccessBridge-1_0_2fcs` is the full path to the Java Access Bridge location on your computer hard drive.

6. Copy `JavaAccessBridge.dll` and `WindowsAccessBridge.dll` from:

```
c:\AccessBridge-1_0_2fcs\installer\installerFiles\
```

   to

```
%SystemRoot%\system32\
```

   Following successful installation, Java Access Bridge documentation is located at:

```
\AccessBridge-1_0_2fcs\doc
```

Setup for Oracle Installed Components

Install and configure Java Access Bridge for Windows after installing Oracle components to enable assistive technologies to read Oracle component screens.

To install Java Access Bridge:

1. Insert the first Oracle Collaboration Suite component CD-ROM.
2. Copy `\AccessBridge\accessbridge1_0_2.zip` to a location on your hard drive.
3. Extract the files onto your computer hard drive. For example:

```
c:\
```

4. Install Java Access Bridge into the subdirectory of JRE 1.1.8 used by Oracle components. By default, the JRE 1.1.8 used by Oracle is installed in:

```
SYSTEM_DRIVE:\Program Files\Oracle\jre\1.1.8
```

Table A–1 lists the files to copy from the Java Access Bridge location on your computer hard drive to the appropriate subdirectory of the JRE used by Oracle components.

Table A–1 Copy Files To Subdirectory

Copy...	To...
`\AccessBridge-1_0_2fcs\installer\installerFiles\jaccess-1_1.jar`	`\lib\`
`\AccessBridge-1_0_2fcs\access-bridge.jar`	`\lib\`
`\AccessBridge-1_0_2fcs\JavaAccessBridge.dll`	`\bin\`
`\AccessBridge-1_0_2fcs\WindowsAccessBridge.dll`	`\bin\`

1. Rename `jaccess-1_1.jar` to `jaccess.jar` in the destination folder.

2. Use a text editor to open the `\lib\awt.properties` file located in the subdirectory of JRE 1.1.8 used by Oracle components.
3. Add the following lines to the `awt.properties` file:

```
AWT.EventQueueClass=com.cun.java.accessibility.util.EventQueueMonitor
AWT.assistive_technologies=com.sun.java.accessibility.AccessBridge
```

   Following successful installation, Java Access Bridge documentation is located at:

```
\AccessBridge-1_0_2fcs\doc
```

To configure Oracle components to use Java Access Bridge:

Set the system environment variable *ORACLE_OEM_CLASSPATH* to point to the installed Java Access Bridge files.

1. Open System Properties. For Windows NT or Windows 2000, choose **Start > Settings > Control Panel > System**.

   On Windows NT:

   a. Click the **Environment** tab.
   b. Select a variable in the **System Variables** list.
   c. Enter *ORACLE_OEM_CLASSPATH* in the **Variable** field.
   d. Enter the full path of `jaccess.jar` and `access-bridge.jar` in the **Value** field. For example, if JRE 1.1.8 is installed in the default location, then the paths are:

```
SYSTEM_DRIVE:\Program Files\Oracle\jre\1.1.8\lib\jaccess.jar;
SYSTEM_DRIVE:\Program Files\Oralce\jre\1.1.8\lib\access-bridge.jar
```

   e. Click **Set**.
   f. Click **OK**.

   On Windows 2000:

   a. Click the **Advanced** tab.
   b. Click **Environment Variables**.

      The Environment Variables dialog appears.

   c. Click the **New** button under the **System Variable** list.

      The New System Variable dialog appears.

   d. Enter the *ORACLE_OEM_CLASSPATH* in the **Variable Name** field.
   e. Enter the full path of `jaccess.jar` and `access-bridge.jar` in the **Variable Value** field. For example, if JRE 1.1.8 is installed in the default location, then the paths are:

```
SYSTEM_DRIVE:\Program Files\Oracle\jre\1.1.8\lib\jaccess.jar;
SYSTEM_DRIVE:\Program Files\Oralce\jre\1.1.8\lib\access-bridge.jar
```

   f. Click **OK** until you exit System Properties.

Setting Up Java Access Bridge

This section contains setup information for enabling Oracle components to use a screen reader.

Java Access Bridge enables assistive technologies, such as the JAWS screen reader, to read Java applications running on the Windows platform. Assistive technologies can read Java-based interfaces, such as Oracle Universal Installer and Oracle Enterprise Manager.

Your Oracle Collaboration Suite installation CD-ROMs contain two different versions of Java Runtime Environment (JRE) that are used by Oracle Universal Installer during installation. The CD-ROMs contain JRE 1.3.1 and JRE 1.1.8. The JREs enable use of Java Access Bridge during installation.

Complete the following procedures to install and configure Java Access Bridge for each of the JREs.

Note: Java Access Bridge is available on the first CD-ROM of the following installation CDs:

- Oracle9*i*AS Infrastructure
- Oracle Collaboration Suite information storage
- Oracle Collaboration Suite

B

Installation Checklists

This appendix provides checklists for the three installations of Oracle Collaboration Suite and the Oracle Files Configuration Assistant. These checklists identify the types of information you are prompted to enter for each installation and configuration.

This appendix contains these topics:

- Oracle9iAS Infrastructure Installation Checklist
- Oracle Collaboration Suite information storage Installation Checklist
- Oracle Collaboration Suite Installation Checklist
- Oracle Files Configuration Checklist

Oracle9*i*AS Infrastructure Installation Checklist

Table B–1 lists required information for Oracle9*i*AS Infrastructure installation. Enter your values for the listed installation information in the Your Information column before beginning.

Table B–1 Oracle9*i* ***AS Infrastructure Installation Information***

Information	Example Values	Your Information
Oracle Base Directory[1]	`/private/oraInventory`	
Oracle Home Location	`/private/orainf`	
`OSDBA` Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	`svrtech`	
`OSOPER` Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	`svrtech`	
Instance Name	`instance1`	
`ias_admin` Password	`oracle1`	
Oracle9*i*AS Single Sign-On Server Host Name[2]	`ocs.us.oracle.com`	

Table B–1 (Cont.) Oracle9*i*AS Infrastructure Installation Information (Cont.)

Information	Example Values	Your Information
Oracle9*i*AS Single Sign-On Port Number[2] (See Appendix D, "Default Port Numbers and Port Ranges")	7777	
Oracle Internet Directory Host Name	ocs.us.oracle.com	
Oracle Internet Directory Port Number (See Appendix D, "Default Port Numbers and Port Ranges")	4032	
Oracle Internet Directory Username	cn=orcladmin	
Oracle Internet Directory Password	oracleadmin	
Database Character Set	UTF8	

[1] Required for first time installation of Oracle software on a computer.
[2] Required for Oracle Collaboration Suite installations.

Oracle Collaboration Suite information storage Installation Checklist

Table B–2 lists required information for Oracle Collaboration Suite information storage installation. Enter your values for the listed installation information in the Your Information column before beginning.

Table B–2 information storage ***Installation Information***

Information	Example Values	Your Information
Oracle Base Directory[1]	/private/oraInventory	
Oracle Home Location	/private/orastore	
OSDBA Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	svrtech	
OSOPER Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	svrtech	
Global database name and SID name	instance1	
Database Character Set	UTF8	UTF8[2]

[1] Required for first time installation of Oracle software on a computer.
[2] For this release of Oracle Collaboration Suite, the default character set for the Oracle Email and Oracle Files information store is UTF8.

Oracle Collaboration Suite Installation Checklist

Table B–3 lists required information for Oracle Collaboration Suite installation. Enter your values for the listed installation information in the Your Information column before beginning.

Table B–3 Oracle Collaboration Suite ***Installation Information***

Information	Example Values	Your Information
Oracle Base Directory[1]	`/private/oraInventory`	
Oracle Home Location	`/private/oraocs`	
`OSDBA` Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	`svrtech`	
`OSOPER` Group[1] (See "UNIX Group Names for Privileged Groups" on page 2-15)	`svrtech`	
Multilingual Support (See "Starting Oracle Universal Installer" on page 5-9)	`runInstaller`	
Instance Name		
`ias_admin` Password	`oracle1`	
Oracle9*i*AS Single Sign-On Server Host Name[2]	`ocs.us.oracle.com`	
Oracle9*i*AS Single Sign-On Port Number[2] (See Appendix D, "Default Port Numbers and Port Ranges")	`7777`	
Oracle Internet Directory Host Name	`ocs.us.oracle.com`	
Oracle Internet Directory Port Number (See Appendix D, "Default Port Numbers and Port Ranges")	`4032`	
Oracle Internet Directory Username	`cn=orcladmin`	
Oracle Internet Directory Password	`oracleadmin`	

[1] Required for first time installation of Oracle software on a computer.
[2] Required for Oracle Collaboration Suite installations.

Oracle Files Configuration Checklist

Table B–4 lists required information for Oracle Files configuration. Enter your values for the listed configuration information in the Your Information column before beginning.

Table B–4 Oracle Files Configuration Information

Information	Example Values	Your Information
Schema Name	`IFSSYS`	
Schema Password		
Oracle Files `system` User Password		
Oracle Files `site_admin` User Password		
Database Host Name	`deploy.mycompany.com`	
Database Listener Port	`1521`	
Database Service Name	`storage.deploy.mycompany.com`	
Database SYS User Password		
HTTP Host Name	`files.mycompany.com`	
SMTP Server Name	`smtp.mycompany.com`	
Site Administrator E-mail Address	`admin@mycompany.com`	
Oracle Internet Directory Root Oracle Context	`cn=OracleContext`	
Local Host Name	`local.mycompany.com`	
Node Name	`local.mycompany.com Node`	
HTTP Node Name	`local.mycompany.com HTTP Node`	
Oracle Files Protocol Servers		❑ FTP ❑ NFS ❑ AFP ❑ SMB

C

Troubleshooting

This appendix describes common installation problems and solutions.

This appendix contains these topics:

- Troubleshooting Oracle Collaboration Suite Web Client Configuration
- Troubleshooting Oracle Files Installation
- Troubleshooting Real Application Clusters

Troubleshooting Oracle Collaboration Suite Web Client Configuration

If a user logs into Oracle Collaboration Suite and sees a generic Oracle9*i*AS Portal page instead of the Oracle Collaboration Suite Home page, do the following:

1. Ensure that the user is a member of the Oracle Collaboration Suite Users group, as follows:
   a. Log into Oracle Delegated Administration Services as `orcladmin` at the following URL:

      `http://host_name:port_number/oiddas/`

      Note: In a typical installation, Oracle Delegated Administration Services is located where the infrastructure is installed.

   b. Click the **Directory** tab.
   c. Search for the user by user ID (`orclguest`, for example).
   d. Select the user from the search results, and click **Edit**.
   e. Scroll down to the **Public Groups Assignment** section, and ensure that the user is a member of the Oracle Collaboration Suite Users group.

      If the user is not a member, select the **Oracle Collaboration Suite Users** box, and click **Apply**.

   f. Log out of Oracle Delegated Administration Services.
2. Ensure that the Oracle Collaboration Suite Users group is the user's default group, as follows:
   a. Log into Oracle9*i*AS Portal as the user in question. For example, go to `http://host_name:port_number/`, click **End User Login**, and log in as `orclguest`.

b. If the Oracle Collaboration Suite Home page displays, the user is now correctly provisioned and the rest of this procedure is unnecessary.

c. If the Oracle9*i*AS Portal Welcome page displays, click **Account Info**.

d. On the Account Info page, ensure that the user's default group is set to `OCS_PORTAL_USERS`.

   If it is not, manually enter `OCS_PORTAL_USERS` for the user's default group, and click **Apply**.

e. Ensure the user's **Default Home Page** is blank.

f. Click the **Home** global button. You should see the Oracle Collaboration Suite Home page. If not, proceed to step 3.

3. If the Oracle Collaboration Suite Home page still does not display, do the following:

   a. Log into Oracle9*i*AS Portal as the user in question. For example, go to `http://`*`host_name`*`:`*`port_number`*`/`, click **End User Login**, and log in as `orclguest`.

   b. When the Oracle9*i*AS Portal Welcome page displays, click **Account Info**.

   c. On the Account Info page, ensure that the user's default group is set to `OCS_PORTAL_USERS`.

      If it is not, manually enter `OCS_PORTAL_USERS` for the user's default group, and click **Apply**.

   d. Click the **Browse Pages** icon next to the **Default Home Page** field.

   e. Locate the **`OCS_V2_PAGE_GROUP`** page group, and click to expand it.

   f. Locate the Oracle Collaboration Suite Home page, and click **Return Object**.

   g. Click **Apply**.

   h. Click the **Home** global button and the correct home page should display.

Troubleshooting Oracle Files Installation

Most configuration errors involve failure to carefully follow preinstallation instructions. The following section describes some common installation problems, their possible causes, and how to correct the problem. Installation and configuration actions are captured in the following log files:

- `$ORACLE_HOME/oraInventory/logs/installActions.log` file records any errors encountered during installation.
- `$ORACLE_HOME/ifs/files/log/FilesConfig.log` file records errors encountered during Oracle Files configuration.
- `$ORACLE_HOME/ifs/files/log/`*`DBHost_port_ServiceName_SchemaName/midtierhostName`*`_Node.log` is the Files Node log file. Review this file to diagnose protocol servers and agents that are currently running. It is also useful for diagnosing issues with starting and stopping the protocol servers and agents.

  For example:

  `/data/mtier/ifs/files/log/`*`ifsqa1_us_oracle_com`*`_1521_`*`ifsqa1service_myschema/test2-pc`*`_Node.log`

- *ORACLE_HOME*/j2ee/OC4J_iFS_files/application-deployments/files/OC4J_iFS_files_default_island_1/application.log is the Files HTTP Node log file. Review this log to diagnose the Oracle Files application and OC4J_iFS_files. This log is also useful for diagnosing issues when using Oracle Files with the Web browser or DAV clients (Web Folders, and Oracle FileSync).

  For example:

  /data/mtier/j2ee/OC4J_iFS_files/application-deployments/files/OC4J_iFS_files_default_island_1/application.log

- $ORACLE_HOME/wf/install/workflow.log file records errors encountered during Oracle Workflow configuration.
- $ORACLE_HOME/ifs/files/log/ifswfsetup.log file records errors encountered while integrating Oracle Workflow with the Oracle Files schema.
- $ORACLE_HOME/ifs/files/log/ifswenablelang.log file records errors encountered while enabling additional languages in the Oracle Workflow schema.

This section describes the following problems:

- Error Creating Database Objects
- Database-Related Installation Error Messages
- Oracle Files Servers Fail Due to Insufficient Database Resources
- Determining if Oracle Text is Operating Properly
- "Out of database cursors" Message Written to $ORACLE_HOME/ifs/files/log/domain_name/node_name.log
- Server is Slow
- Cannot Connect to Protocol Servers
- "503 Service Unavailable" Message
- Oracle Files Configuration Assistant Cannot Establish a Connection to a RAC Database With the Thin Driver
- Oracle Files Configuration Assistant "session_max_open_files must be set to 50" Error Message
- Broken Images on UNIX

Error Creating Database Objects

The database is not running or is not available, or the listener is not running. Start the database and listener prior to configuration.

Database-Related Installation Error Messages

The database is not running or Oracle Text is not correctly configured. Start the database prior to installation and check the tnsnames.ora and listener.ora files.

Oracle Files Servers Fail Due to Insufficient Database Resources

The values in init*sid*.ora are too low. Check the $ORACLE_HOME/ifs/files/log directory for the log file of the failed server. Edit the init*sid*.ora file (or change the SPFILE), but provide larger values.

Determining if Oracle Text is Operating Properly

The Oracle Files configuration assistant performs a series of operations to determine if Oracle Text is operating correctly. These steps involve the following:

- Creating and logging in as an `IFSCTXTEST0` user
- Creating an Oracle Text preference
- Creating a table with a blob column
- Creating an Oracle Text index based on this blob column
- Loading a Word document into the table
- Synching the Oracle Text index

If any of these steps fail, the Oracle Files configuration assistant notifies you that Oracle Text is not operating properly. The cause of the problem can be related to a number of issues. To find out in which step the test fails, use the following procedure.

Note: Oracle Files configuration against Windows 64-bit Oracle9*i* Database Server 9.2 database fails because the database is missing the `ctxhx` executable that is required to enable Oracle Text on the schema.

There are two possible solutions to this problem:

- If you receive an error message during Oracle Files configuration that states "Oracle Text Verification Failed," click **OK** to create a schema without Oracle Text enabled.
- Build your own `ctxhx` executable. For more information, read the *Building a Filter Server for Oracle Text* document on OTN at

  `http://otn.oracle.com/products/text/htdocs/FilterServer.htm`

Perform the following to do a manual step-by-step check of Oracle Text:

1. Log in as a DBA user and create a test user called `ifsctxtest0`, as follows:

```
SQL> CREATE USER IFSCTXTEST0 IDENTIFIED BY IFSCTXTEST0 DEFAULT TABLESPACE
USERS TEMPORARY TABLESPACE TEMP;

SQL> GRANT CONNECT,RESOURCE,CTXAPP TO IFSCTXTEST0;
```

2. Create the directory to load the `ifsctxtest.doc` file from:

```
SQL> create or replace directory DIR_TESTCASE as '$ORACLE_
HOME/9ifs/admin/binaries';
```

3. Allow the `IFSCTXTEST0` user to read from this directory:

```
SQL> grant read on directory DIR_TESTCASE to IFSCTXTEST0;
```

4. Connect as `IFSCTXTEST0` and create a `lexer` preference:

```
SQL> exec ctx_ddl.create_preference('mylexer', 'basic_lexer');
```

5. Disable theme indexing for this preference:

```
SQL> exec ctx_ddl.set_attribute('mylexer', 'index_themes', 'NO');
```

6. Create a temporary table to store the Word document:

```
SQL> create table ifs_basic_lob_table( id NUMBER PRIMARY KEY, name
VARCHAR2(64),content BLOB );
```

7. Create an Oracle Text index on the BLOB column:

```
SQL> create index content_i on ifs_basic_lob_table(content) indextype is
ctxsys.context parameters ('lexer mylexer');
```

8. Insert a row into the temporary table containing the lob locator and load the document using the following PL/SQL block:

```
SQL> DECLARE
       Dest_loc BLOB;
       Src_loc  BFILE := BFILENAME('DIR_TESTCASE', 'ifsctxtest.doc');
     BEGIN
       INSERT INTO ifs_basic_lob_table (id,name,content)
        VALUES (1,'ifsctxtest.doc',EMPTY_BLOB())
        RETURN content INTO dest_loc;
       DBMS_LOB.FILEOPEN(Src_loc, DBMS_LOB.LOB_READONLY);
       DBMS_LOB.LOADFROMFILE(Dest_loc, Src_loc, DBMS_LOB.GETLENGTH(Src_
loc));
       DBMS_LOB.FILECLOSE(Src_loc);
       COMMIT;
     END;
     /
```

9. Synchronize the index:

```
SQL> alter index content_i rebuild parameters('sync');
```

10. Perform a content-based query on the table containing the Word document:

```
SQL> SELECT id, name FROM ifs_basic_lob_table WHERE CONTAINS
(content,'Protocol') > 0;
```

    If Oracle Text is operating properly, this should return the following row:

```
    ID NAME
------ ----------------------------------------------------------------
     1 ifsctxtest.doc
```

Any error messages that are returned should give you an indication of what could be causing the problem. If synchronizing the index or searching on the content fails, ensure you check the `CTX_USER_INDEX_ERRORS` for supplemental information, as `ifsctxtest0`:

```
SQL> select * from ctx_user_index_errors;
```

This information can be used to search Oracle*MetaLink* for possible solutions or supply support analysts with better diagnostic information.

Remember to review the Oracle Text documentation and the troubleshooting sections in the *Oracle Files Administrator's Guide* for information on configuring Oracle Text.

Tips:

- Ensure that you have the following locations in your LD_LIBRARY_PATH on the database server:

  $ORACLE_HOME/lib (for 64 bit distributions)

  $ORACLE_HOME/lib

  $ORACLE_HOME/ctx/lib

  $ORACLE_HOME/ctx/bin

- Stop and start the database listener to apply any changes

Note: Remember to drop the IFSCTXTEST0 user after these tests have been performed.

"Out of database cursors" Message Written to $ORACLE_HOME/ifs/files/log/domain_name/node_name.log

The OPEN_CURSORS value in the init*sid*.ora is too low. Modify the init*sid*.ora file (or change the SPFILE) using a larger value for OPEN_CURSORS.

Server is Slow

Tuning is required.

See Also: The Oracle Files troubleshooting and performance chapter in *Oracle Files Administrator's Guide*

Cannot Connect to Protocol Servers

If you can log in to the Oracle Files Web Interface but cannot connect to some of the Oracle Files protocol servers, you must set the Oracle Files-specific password. Protocols with which to associate an Oracle Files-specific password were selected during Oracle Files configuration. By default, FTP and AFP require users to log in with an Oracle Files-specific password rather than a Single Sign-On password.

Connect to http://*host_name:port*/files/app/ProtocolAccess and set the Oracle Files-specific password for users.

See Also: *Oracle Files Administrator's Guide* for more information about configuring protocol servers

"503 Service Unavailable" Message

There are two possible causes for this:

- The OC4J_iFS_files instance is not running. You must restart the OC4J_ifs_files process after starting the Oracle Files domain (use the command ifstl start to start the Oracle Files domain).

  Check the HTTP log for errors and start the OC4J_iFS_files instance. Then connect to http://*hostname:port*/files/app.

  To start the OC4J_ifs_files process, run the following command in the $ORACLE_HOME/opmn/bin directory:

  ```
  opmnctl startproc gid=OC4J_iFS_files
  ```

If you had previously started the OC4J_iFS_files process, use the following command to restart the process:

```
opmnctl restartproc gid=OC4J_iFS_files
```

- The OC4J_iFS_files instance is running, but the interface is still loading. Wait approximately one minute after starting OC4J_iFS_files before connecting.

Oracle Files Configuration Assistant Cannot Establish a Connection to a RAC Database With the Thin Driver

This occurs when the Oracle Files Configuration Assistant attempts to make a connection to a RAC database as SYS 'AS SYSDBA' using the thin JDBC driver, which fails.

To resolve this issue, you must create a new SYS user password:

1. On the database computer, run the following at the command line:

   ```
   orapwd file=$ORACLE_HOME/dba/orapw password=password entries=5
   ```

   Where *password* is the new value for the SYS user password.

2. Run the following two commands in SQL*Plus to change the password of the SYS user:

   ```
   connect / as sysdba
   ALTER USER sys IDENTIFIED BY password
   ```

   Where password is the password that you specified in step 1.

3. Add the following line to the init.ora file:

   ```
   REMOTE_LOGIN_PASSWORDFILE=EXCLUSIVE
   ```

Oracle Files Configuration Assistant "session_max_open_files must be set to 50" Error Message

The session_max_open_files value in the init*sid*.ora file is not set correctly. Modify the init*sid*.ora file and set the value of the session_max_open_files parameter to 50.

Edit the file and add the following line:

```
session_max_open_files=50
```

After editing the file, shut down the database and then restart it with the new init*sid*.ora file. Use the following command in SQL*Plus to start the database:

```
startup pfile="$ORACLE_HOME/pfile/initsid.ora"
```

Run the Oracle Files configuration assistant.

Broken Images on UNIX

Oracle Files uses Oracle UIX (User Interface XML) technology to generate web pages. UIX dynamically generates many images, such as buttons and tabs, appearing throughout the UI. Due to limitations in Java 2 Standard Edition (J2SE) prior to version 1.4, UIX requires an X server process in order to generate dynamic images on UNIX platforms.

Note: This limitation does not affect Windows platforms.

To locate the X server, the UIX runtime relies on the value of the DISPLAY environment variable. If the Web Client is running on a UNIX host, and some of the images in the UI appear broken or inconsistent, the problem may be that the value of the DISPLAY environment variable for the Web Client process is set incorrectly.

A common symptom of this problem is that instead of the rounded, beige buttons, UI pages are rendered using native browser buttons.

To verify the value of the DISPLAY environment variable for the Web Client process, open the `$ORACLE_HOME/opmn/conf/opmn.conf` file in a text editor, and locate the entry for the instance called `\OC4J_Portal\`:

```
<oc4j maxRetry="3" instanceName="OC4J_Portal" gid="OC4J_Portal" numProcs="1">
  <environment>
    <prop name="DISPLAY" value="your-host-name:0.0"/>
  </environment>
</oc4j>
```

Change the value of the DISPLAY property to a running X server computer.

Note: During installation, the Oracle Universal Installer automatically populates the value of the DISPLAY property in `opmn.xml` using the value of the DISPLAY environment variable detected during the installation session. If you are running OUI remotely, such as from a desktop PC with X emulation software such as Hummingbird Exceed), this auto-detected value will be incorrect, because it will point to a remote X server that is not guaranteed to be available. The safest approach is to create an X server on the middle tier host and set the DISPLAY property to point to it. Consult your UNIX documentation on how to start an X server on your platform.

Troubleshooting Real Application Clusters

To ensure that the installation succeeds on the remote nodes you choose, select a path for Oracle home that is the same on all chosen nodes and is writable. Otherwise, installation on the remote nodes fails. No error message indicates this failure.

D

Default Port Numbers and Port Ranges

This appendix describes the port numbers automatically assigned by Oracle Universal Installer.

This appendix contains these topics:

- Port Allocation Overview
- Component Port Numbers
- Oracle Port Usage (Sorted by Component)
- Oracle Port Usage (Sorted by Port Number)

Port Allocation Overview

Oracle9*i*AS Infrastructure and Oracle Collaboration Suite automatically assign port numbers to a component when it is configured. The port number is assigned from a preallocated set of default port numbers and port ranges.

The following method is used to assign port numbers:

1. It is determined if the default port number is already in use by an Oracle or non-Oracle process.
2. If the default port number is not in use, it is assigned to the component.
3. If the default port number is already in use, an attempt is made to assign a number from the port range, starting with the lowest number and going up until a free port number is found.

Component Port Numbers

Oracle Universal Installer creates a file called `portlist.ini` showing the ports assigned during installation of Oracle9*i*AS Infrastructure and Oracle Collaboration Suite. The installation process automatically detects any port conflicts and chooses an alternate port in the range allocated for that component. The file is located at:

```
$ORACLE_HOME/install/portlist.ini
```

The `portlist.ini` file lists component entries using the "port name = port value" format. For example:

```
Oracle HTTP Server port = 7777
Oracle HTTP Server SSL port = 4443
Oracle HTTP Server listen port = 7778
Oracle HTTP Server SSL listen port = 4444
Oracle HTTP Server Jserv port = 8007
```

```
Enterprise Manager Servlet port = 1810
```

You can also view the port numbers by pointing your browser to the Oracle Collaboration Suite Welcome page and selecting the Ports tab.

`http://hostname:port_number/`

where the default *port_number* is `7777`.

> **Note:** Oracle Universal Installer uses the port numbers for select components during installation of Oracle Collaboration Suite. If you are planning on adding additional Oracle Collaboration Suite instances, make sure the installed instances are running at the time of additional installation.

Oracle9*i*AS Infrastructure Port Usage

Installation of the Oracle9*i*AS Infrastructure requires exclusive use of port 1521 on your computer. If one of your current system applications uses this port, then complete one of the following actions before installing Oracle9*i*AS Infrastructure:

- If you have an existing application using port 1521, then reconfigure the existing application to use another port.
- If you have an existing Oracle Net listener and an Oracle9*i* database, then proceed with the installation of Oracle9*i*AS Infrastructure. Your Oracle9*i*AS Infrastructure uses the existing Oracle Net listener.

Oracle Port Usage (Sorted by Component)

Table D–1 lists Oracle ports by components names.

Table D–1 Oracle Port Usage (Sorted by Component)

Component	Default Port Number	Port Number Range
Oracle9*i*AS Clickstream Intelligence		
Oracle9*i*AS Clickstream Collector Server	6675	Fixed
Oracle9*i*AS Clickstream Collector Agent	6666	Fixed
Oracle9*i*AS Clickstream Intelligence Collector Agent	6666	6666-6674
Oracle9*i*AS Clickstream Execution Engine	6676	Fixed
Oracle9*i*AS Clickstream Intelligence Viewer	Same as Oracle HTTP Server	Same as Oracle HTTP Server
Oracle9*i*AS Clickstream Runtime Administrator	Same as Oracle HTTP Server	Same as Oracle HTTP Server
Oracle9*i*AS Containers for J2EE		
Oracle9*i*AS Containers for J2EE AJP	3001	3001-3100
Oracle9*i*AS Containers for J2EE RMI	3101	3101-3200

Table D–1 (Cont.) Oracle Port Usage (Sorted by Component) (Cont.)

Component	Default Port Number	Port Number Range
Java Message Service (JMS) for Oracle9*i*AS Containers for J2EE	3201	3201-3300
Oracle9*i*AS Containers for J2EE HTTP Listener	3301	3301-3400
Oracle9*i*AS Forms Services		
Oracle9*i*AS Forms Services	Same as Oracle HTTP Server	Same as Oracle HTTP Server
Oracle HTTP Server		
Oracle HTTP Server- non-SSL	7777	7777-7877
Oracle HTTP Server- SSL	4443	4443-4543
Oracle HTTP Server Listen- non-SSL	7777	7777-7877
Oracle HTTP Server- non-SSL if Oracle9*i*AS Web Cache is installed and configured	7778	7777-7877
Oracle HTTP Server- SSL	4443	4443-4543
Oracle HTTP Server- SSL- Oracle9*i*AS Web Cache is installed and configured	4444	4443-4543
Oracle HTTP Server JServ Servlet Engine	8007	8007-8107
Oracle HTTP Server- Oracle Notification Service Requested Port	6003	6003-6099
Oracle HTTP Server- Oracle Notification Service Local Port	6100	6100-6199
Oracle HTTP Server- Oracle Notification Service Remote Port	6200	6200-6299
Oracle HTTP Server- Java Object Cache	7000	7000-7010
Oracle9*i*AS Portal		
Oracle9*i*AS Portal	Same as Oracle HTTP Server	Same as Oracle HTTP Server
Oracle9*i*AS Single Sign-On	5000	5000-5099
Oracle9*i*AS Reports Services		
Oracle9*i*AS Reports Services	3000	3000-3010
SQL*Net- For 6*i* Backward Compatibility Only	1950	1950-1960
Visigenics CORBA- Reports 9*i*	14000	14000-14010
Oracle Email		
Oracle Email	5100	5100-5200
IMAP4	143	Fixed
IMAP4- SSL	993	Fixed
POP3	110	Fixed

Table D–1 (Cont.) Oracle Port Usage (Sorted by Component) (Cont.)

Component	Default Port Number	Port Number Range
POP3- SSL	995	Fixed
SMTP	25	Fixed
NNTP	119	Fixed
NNTP- SSL	563	Fixed
Oracle9*i*AS Web Cache		
Oracle9*i*AS Web Cache HTTP Listen-non-SSL	7777	7777-7877
Oracle9*i*AS Web Cache HTTP Listen-SSL	4443	4443-4543
Oracle9*i*AS Web Cache Administration	4000	4000-4030
Oracle9*i*AS Wireless		
Oracle9*i*AS Wireless	Same as Oracle HTTP Server	Same as Oracle HTTP Server
Oracle9*i*AS Wireless PIM Notification Dispatcher	9000	9000-9100
Oracle Enterprise Manager		
Oracle Enterprise Manager Application Server Administration Service	1810, 1811	1812-1820
Oracle Enterprise Manager Intelligent Agent	1748, 1754, 1808, 1809	Fixed
Oracle Management Server	7771, 7772, 7773	7771-7773
Oracle Internet Directory		
Oracle Internet Directory	389, 4031-4040	4031-4040
Oracle Internet Directory- non-SSL	4032	
Oracle Internet Directory- SSL	636, 4031-4040	4031-4040
Oracle Calendar		
uniengd (UNIX daemon)	5730	
unisncd (UNIX daemon)	5731	
unidasd (UNIX daemon)	5732	
Oracle Calendar server manager	5734	
Oracle Files		
Oracle Files Domain Controller	53000 range (auto-assigned)	Dynamic
Main Oracle Files Node	53000 range (auto-assigned)	Dynamic
Oracle Files HTTP Node	53000 range (auto-assigned)	Dynamic
LDAP- non-SSL	Same as Oracle Internet Directory	Same as Oracle Internet Directory

Table D–1 (Cont.) Oracle Port Usage (Sorted by Component) (Cont.)

Component	Default Port Number	Port Number Range
LDAP- SSL	Same as Oracle Internet Directory	Same as Oracle Internet Directory
AFP	548	Fixed
FTP	21	Other typical values: 2100 or 21000
NFS	2049	4048 and 4049 for Mount Server
SMB	139	Fixed
Oracle Workflow		
TNS	1521	Fixed

Oracle Port Usage (Sorted by Port Number)

Table D–2 lists Oracle ports in ascending order.

Table D–2 Oracle Port Usage (Sorted By Port Number)

Port Number	Component
21	Oracle Files - FTP (default value)
110	Oracle Email - POP
119	Oracle Email - NNTP
139	Oracle Files - SMB
389	LDAP (Oracle Internet Directory)
548	Oracle Files - AFP
563	Oracle Email NNTP- SSL
636	Oracle Internet Directory- SSL
995	Oracle Email POP- SSL
1521	Oracle Workflow - TNS
1748	Oracle Enterprise Manager Intelligent Agent
1754	Oracle Enterprise Manager Intelligent Agent
1808	Oracle Enterprise Manager Intelligent Agent
1809	Oracle Enterprise Manager Intelligent Agent
1810	Oracle Enterprise Manager Application Server Service
1811	Oracle Enterprise Manager Application Server Service
1950	Oracle9*i*AS Reports Services SQL*Net
2049	Oracle Files - NFS (default value)
2070	Oracle9*i*AS Syndication Server (OSS); To access OSS
3001	Oracle9*i*AS Containers for J2EE - AJP
3101	Oracle9*i*AS Containers for J2EE - RMI
3201	Oracle9*i*AS Containers for J2EE - JMS
3301	Oracle9*i*AS Containers for J2EE HTTP Listener

Table D–2 (Cont.) Oracle Port Usage (Sorted By Port Number) (Cont.)

Port Number	Component
4000	Oracle9*i*AS Web Cache Administration Port
4001	Oracle9*i*AS Web Cache Invalidation Port
4002	Oracle9*i*AS Web Cache Statistics
4031	Oracle Internet Directory SSL
4032	Oracle Internet Directory non-SSL
4443	Oracle HTTP Server- SSL, Oracle HTTP Server Listen- SSL, Oracle9*i*AS Web Cache Listen- SSL
4444	Oracle HTTP Server Listen- SSL if Oracle9*i*AS Web Cache is installed and configured
5000	Oracle9*i*AS Single Sign-On
5100	Oracle Email
5730	Oracle Calendar
5731	Oracle Calendar
5732	Oracle Calendar
5734	Oracle Calendar server manager
6003	Oracle HTTP Server- Oracle Notification Service Request Port
6100	Oracle HTTP Server- Oracle Notification Service Local Port
6200	Oracle HTTP Server- Oracle Notification Service Remote Port
6666	Oracle9*i*AS Clickstream Collector Agent
6675	Oracle9*i*AS Clickstream Collector Server
6676	Oracle9*i*AS Clickstream Execution Engine
7000	Oracle HTTP Server Java Object Cache
7771	Oracle Management Server
7772	Oracle Management Server
7773	Oracle Management Server
7777	Oracle HTTP Server- non-SSL, Oracle HTTP Server Listen- non-SSL, Oracle9*i*AS Web Cache Listen- non-SSL
7778	Oracle HTTP Server Listen- non-SSL if Oracle9*i*AS Web Cache is installed and configured
8007	Oracle HTTP Server JServ Servlet Engine
9000	Oracle9*i*AS Wireless PIM Notification Dispatcher
14000	Oracle9*i*AS Reports Services Visigenics - CORBA
16001	IIOP
53000 range	Oracle Files Domain Controller and Nodes
53000 range	Oracle Files Main Node
53000 range	Oracle Files HTTP Node

E

Windows Services

This appendix lists the services that the Oracle Collaboration Suite for Windows installation creates during installation.

This appendix includes these topics:

- Accessing Windows Services
- Services for Oracle Collaboration Suite Installations
- Services for Oracle Voicemail & Fax Installation

Accessing Windows Services

To open Services on Windows NT, choose **Start** > **Settings** > **Control Panel** > **Services**.

To open Services on Windows 2000 and Windows XP, choose **Start** > **Programs** > **Administrative Tools** > **Services**.

Services for Oracle Collaboration Suite Installations

Table E–1 shows the Windows services created during the three Oracle Collaboration Suite installations.

ORACLE_HOME represents the Oracle home name.

Table E–1 Windows Services for Oracle Collaboration Suite

Install Type	Windows Services
Oracle9*i*AS Infrastructure	■ `Oracle OLAP 9.0.1.0.1` (Online Analytical Processing) ■ `Oracle OLAP Agent` ■ `Oracle`*`ORACLE_HOME`*`Agent` ■ `Oracle`*`ORACLE_HOME`*`ClientCache` ■ `Oracle`*`ORACLE_HOME`*`EMWebsite` ■ `Oracle`*`ORACLE_HOME`*`InternetDirectory_`*`SID`*[1] ■ `Oracle`*`ORACLE_HOME`*`ManagementServer`[2] ■ Oracle*`ORACLE_HOME`*`PagingServer` ■ Oracle*`ORACLE_HOME`*`ProcessManager`[5] ■ Oracle*`ORACLE_HOME`*`TNSListener` ■ Oracle*`ORACLE_HOME`*`WebCache` ■ Oracle*`ORACLE_HOME`*`WebCacheAdmin` ■ Oracle*`ORACLE_HOME`*`WebCacheMon` ■ `OracleService`*`SID`*[3]
Oracle Collaboration Suite information storage	■ `Oracle`*`ORACLE_HOME`*`Agent` ■ `Oracle`*`ORACLE_HOME`*`ClientCache` ■ `Oracle`*`ORACLE_HOME`*`SNMPPeerEncapsulator` ■ Oracle*`ORACLE_HOME`*`SNMPPeerMasterAgent` ■ `Oracle`*`ORACLE_HOME`*`TNSListener`[4] ■ `OracleService`*`SID`*n
Oracle Collaboration Suite	■ `Calendar Corporate-Wide Services` ■ `Calendar Directory Access Server` ■ `Calendar Engine` ■ `Calendar Lock Manager` ■ `Calendar Synchronous Network Connections` ■ `Oracle`*`ORACLE_HOME`*`Agent` ■ `Oracle`*`ORACLE_HOME`*`ClientCache` ■ `Oracle`*`ORACLE_HOME`*`EMWebsite` (Enterprise Manager Web site) ■ `Oracle`*`ORACLE_HOME`*`ProcessManager`[5] ■ `Oracle`*`ORACLE_HOME`*`TNSListener` ■ `Oracle`*`ORACLE_HOME`*`WebCache` ■ `Oracle`*`ORACLE_HOME`*`WebCacheAdmin` (Web Cache Administrator) ■ `Oracle`*`ORACLE_HOME`*`WebCacheMon` (Web Cache Monitor)

[1] Not created if Oracle Internet Directory is deselected during Oracle9*i*AS Infrastructure installation.
[2] Not created if Oracle Management Server is deselected during Oracle9*i*AS Infrastructure installation.
[3] Created during Oracle9*i*AS Metadata Repository installation.
[4] Not created if Software Only was selected as the database configuration type.
[5] Created during Oracle HTTP Server installation.

Services for Oracle Voicemail & Fax Installation

Table E–2 shows the Windows services created during the Oracle Voicemail & Fax installation.

Table E–2 Windows Services for Oracle Voicemail & Fax

Install Type	Windows Service
Oracle Voicemail & Fax	■ `Oracle Unified Messaging-Attendant` ■ `Oracle Unified Messaging-FaxRecv` (Fax) ■ `Oracle Unified Messaging-MWI` (Message Waiting Indicator) ■ `Oracle Unified Messaging-Process Manager` ■ `Oracle Unified Messaging-Recording` ■ `Oracle Unified Messaging-Retrieval` ■ `Oracle Unified Messaging-Routing` ■ `Oracle Unified Messaging-Recovery`

F

Installing Oracle Calendar Standalone

This chapter describes requirements and procedures for installing the components of Oracle Calendar standalone, including:

- **Oracle Calendar server**: Required in order to run the remaining components of Oracle Calendar. Complemented by the Oracle Calendar Administrator.
- **Oracle Calendar application system**: The application framework that controls the following components:
  - Oracle Calendar Web client
  - Oracle Calendar Web services
  - Oracle Sync Server

Instructions in this chapter apply to UNIX-based systems.

You can install Oracle Calendar server and the Oracle Calendar application system on the same host or on multiple, separate hosts across a network.

This appendix contains these topics:

- System Requirements
- Preinstallation
- Installation
- Upgrades
- Postinstallation Configuration
- Oracle Calendar Deinstallation
- General Issues and Workarounds

System Requirements

Since you can install Oracle Calendar server and the application system together or separately, the following sections list requirements common to both components and separate to each.

This section contains the following topics:

- Common Requirements
- Oracle Calendar Server Requirements
- Oracle Calendar Application System Requirements

Common Requirements

- **Operating system**: UNIX-based systems, as described in the requirements for Oracle Collaboration Suite
- **Colors**: A minimum of 256 display colors
- **Disk space**: Up to 150 MB free disk space may be necessary for installation
- **Patches**: On Solaris Operating Environment (SPARC 32-bit), hp-ux, Linux x86, the same patches apply as are listed in the requirements for Oracle Collaboration Suite

See Also: "Operating System Patches and Packages" on page 2-5

Oracle Calendar Server Requirements

- **Privileges**: During installation, the Oracle Universal Installer may require you to run some scripts with root privileges. For more information, see the documentation included with Oracle Universal Installer.
- **RAM**: An estimated 512 MB of RAM or more is needed for computers handling a large number of users or services. To calculate your exact requirements, see Appendix A, "Disk Space and Memory," in the *Oracle Calendar Administrator's Guide*.
- **Disk space**: 400 MB of disk space, plus space for the Oracle Calendar database and log files
- **Messaging server**: An SMTP messaging server for mail notifications
- **Web browser**: One of the following Web browsers, in order to use the Oracle Calendar Administrator:
  - Internet Explorer 5.5 or 6.0 (Windows only)
  - Netscape 7.0
  - Mozilla 1.2
- **Kernel parameters**: See Appendix B, "Adjusting Calendar Kernel Parameters," in the *Oracle Calendar Administrator's Guide* for details on the kernel parameters needed to run Oracle Calendar server on UNIX-based systems.

Note: Make sure you set the `shmsys:shminfo_shmmin` parameter to 1. This is different from other parameters, whose values are generally a maximum or sum of the host's existing value and the Calendar requirement. If you do not set `shmsys:shminfo_shmmin` to 1, you will not be able to start the Calendar server after installation.

Oracle Calendar Application System Requirements

- **Web server**: Oracle HTTP Server or Apache Web server. On Apache Web servers, you must have Apache 1.3.27 with mod-fastcgi 2.2.12. Find the latter through FTP access, as it is not readily available from the Apache Web site. Oracle Calendar standalone does not work with Apache 2.x and mod-fastcgi 2.4.x.
- **RAM**: 256 MB RAM or more is recommended for computers handling a large number of users.
- **Disk space**: 100 MB of disk space for installation, plus 200 MB for operation (linkdb and sessiondb disk space; more space may be required for heavy deployments).

- **Oracle Calendar Web client browsers**: Users must have one of the following browsers in order to use the Oracle Calendar Web client component of the Oracle Calendar application system:
  - Internet Explorer 5.x, 6.x (Windows)
  - Internet Explorer 5.x (Macintosh OS 9 only)
  - Netscape 6.x, 7.x (Linux x86, Macintosh, Windows)
  - Mozilla (Linux x86, Macintosh, Windows)
  - Safari (Macintosh OS X only)
  - Lynx 2.8.4 Pre5 (for Accessible mode, standalone only)

Preinstallation

This section contains important information you need to know before installing Oracle Calendar server and the Oracle Calendar application system, including:

- Setting up your Directory Server
- Planning Separate Installations of the Oracle Calendar Application System and Server
- Oracle Calendar Application System Considerations.

> **Note:** If you have a previous version of Oracle Calendar installed, please see "Upgrades" on page F-11, for information on working with other versions.

Setting up your Directory Server

When installed in standalone mode, the Oracle Calendar server can be used with a third party external directory server. Support for the Lightweight Directory Access Protocol (LDAP) is offered through separate connectors:

- LDAP Connector 9.0.4 for Sun ONE Directory Server
- LDAP Connector 9.0.4 for OpenLDAP
- LDAP Connector 9.0.4 for Syntegra Aphelion Directory Server
- LDAP Connector 9.0.4 for Critical Path InJoin Directory Server

Before installing Oracle Calendar server, you must use your LDAP connector to extend the directory schema. Directory servers have schemas that define the information they store. These schemas consist, amongst other things, of objects and attributes. The directory server schema needs to be extended to include objects and attributes needed by the Calendar server. For a list of the extensions to the Oracle Calendar server schema, see Appendix H, "Calendar Extensions to Directory Server Schema," of the *Oracle Calendar Reference Manual*.

This section contains the following topics:

- Sun ONE Directory Server
- OpenLDAP
- Syntegra Aphelion Directory Server
- Critical Path InJoin Directory Server

- Terminology for Directory Servers

Sun ONE Directory Server

These steps apply to the Sun ONE and iPlanet 5.x Directory Servers.

1. Extract the files from the tar file `ldapc0904000_SunOne_unix_en_rtm1.tar` included in the Oracle Calendar server package.
2. Find the file `SunOne/calendar-schema.ldif`.
3. Use this file with the `ldapmodify` utility to modify the directory entries:

   ```
   % ldapmodify -h host -p port -D Directory_Manager_DN -w Directory_Manager
   _Password -f "calendar-schema.ldif"
   ```

4. Verify that no error is reported.

OpenLDAP

These steps apply to the OpenLDAP Directory Servers version 2.x, and later.

1. Extract the files from the tar file `ldapc0904000_openldap_unix_en_rtm1.tar` included in the Oracle Calendar server package.
2. Find the file `openldap/calendar.schema`.
3. Locate the OpenLDAP configuration directory. On UNIX, it is usually set to `/usr/local/etc/openldap`. This directory will be used in the next examples.
4. Copy the file `calendar.schema` to `/usr/local/etc/openldap/schema`, assuming that the configuration directory is in `/usr/local/etc/openldap`.
5. Edit the file `/usr/local/etc/openldap/slapd.conf`.
6. Locate the line that contains

   ```
   include /usr/local/etc/openldap/schema/cosine.schema
   ```

7. If it has not been already been added, add the line:

   ```
   include /usr/local/etc/openldap/schema/inetorgperson.schema
   ```

8. Add the line:

   ```
   include /usr/local/etc/openldap/schema/calendar.schema
   ```

9. In the database section, add the line

   ```
   index ctcalxitemid pres,eq
   ```

10. Restart the `slapd` server.

Syntegra Aphelion Directory Server

These steps apply to the Syntegra Aphelion Directory Server.

1. Extract the files from the tar file `ldapc0904000_syntegra_unix_en_rtm1.tar`, included in the Oracle Calendar server package, to a temporary directory.

   The temporary directory should contain the following three files:

   ```
   syntegra/oidtable.gen_cst
   syntegra/oidtable.oc_cst
   syntegra/oidtable.at_cst
   ```

2. To prepare the directory server, you will need to install these files to configure `ctCal` directory objects. Append the content of these files (containing the Oracle Calendar server schema's object identifier numbers, the object classes, and the attributes) to the corresponding Syntegra Aphelion (object identifier) table files:

   ```
   /usr/var/osi/oidtable.gen
   /usr/var/osi/oidtable.oc
   /usr/var/osi/oidtable.at
   ```

3. Restart the directory server to allow the configuration changes to take effect.

Critical Path InJoin Directory Server

These steps apply to the Critical Path InJoin Directory Server version 4.x and include:

- Extending the Schema
- Creating Name Bindings
- Setting the Oracle Calendar Base DN
- Granting Anonymous Read Access (optional)

Extending the Schema

1. Extract the files from the tar file `ldapc0904000_injoin_unix_en_rtm1.tar`, included in the Oracle Calendar server package, in a staging directory. The directory should contain the following files:

   ```
   injoin/calendar_acsp
   injoin/calendar_admin_aci
   injoin/calendar_anonymous_aci
   injoin/calendar-attribute.schema
   injoin/calendar_local
   injoin/calendar-objc.schema
   ```

2. Type `http://`*`iCon_host`*`:`*`iCon_port`* in the location field to go to the iCon administration page. The iCon port is set to 1500 by default.
3. On the left tab, click the **Schema** navigational tab.
4. On the right windows, click **Schema Import**.
5. Copy the content of the file `calendar-attribute.schema` to the New attributes in LDAPv3 format text area.
6. Click **Schema Import**.
7. On the left tab, click the **Schema** navigational tab and on the right window, click **Schema Import**.
8. Copy the content of the file `calendar-objc.schema` to the New object classes in LDAPv3 format text area.
9. Click **Schema Import**.

Creating Name Bindings

The Oracle Calendar server introduces two types of structural object classes, `ctCalAdmin` and `ctCalResource`. The name binding registry must be updated to allow these types of entries to exist under an `organizationalUnit` entry.

To create a name binding for `ctCalAdmin`:

1. Type `http://iCon_host:iCon_port` in the location field to go to the iCon administration page. The iCon port is set to 1500 by default.
2. On the left tab, click the **Schema** navigational tab.
3. Click **Create a new name binding**.
4. Select **organizationalUnit** from the **Superior** list box.
5. Select **ctCalAdmin** from the **Subordinate** list box.
6. Select **ctCalXItemId** from the **Naming attributes** list box.
7. Click **Create Name Binding**.

Creating a name binding for `ctCalResource`:

1. Type `http://iCon_host:iCon_port` in the location field to go to the iCon administration page. The iCon port is set to 1500 by default.
2. On the left tab, click the **Schema** navigational tab.
3. Click **Create a new name binding**.
4. Select **organizationalUnit** from the **Superior** list box.
5. Select **ctCalResource** from the **Subordinate** list box.
6. Select **commonName** from the **Naming attributes** list box.
7. Click **Create Name Binding**.

Setting the Oracle Calendar Base DN

The subtree where the Oracle Calendar server will be installed must be set as an Access Control Specific Point (ACSP) subtree. In most installations, this is already the case. The following procedure shows how to do this.

1. Copy the files `calendar_acsp`, `calendar_anonymous_aci`, `calendar_local` and `calendar_admin_aci` to the working directory of your dsa.
2. Edit the `calendar_local` to match your deployment.

   Set the value of the macro `ctBaseDN` to the location where the Oracle Calendar server will be installed (BASEDN). For example:

   ```
   BASEDN: o=acme,c=us
   =ctBaseDN Rc("us") Ro("acme")
   BASEDN: ou=School of Law, o=ABC University,c=us
   =ctBASEDN Rc("us") Ro("ABC University") Rou("Shool of Law")
   ```

3. Go to the `dsa` working directory. For example: `/opt/ids/ICon/dsa1`
4. Start the `odsadmin` directory access tool by typing `odsadmin` at the command prompt.
5. Type `bman` to bind as the directory manager:

   ```
   odsadmin> bman
   ```

6. Enter the directory manager password when prompted.
7. Make the Oracle Calendar BASEDN an ACSP (unless it is already set up).

   ```
   odsadmin> run calendar_acsp ~
   ```

Granting Anonymous Read Access (optional)

The Oracle Calendar server binds anonymously or as a "bind user" when performing a search operation. If your directory server does not allow anonymous read access, you need to create an entry that has read access to the subtree where the Oracle Calendar server will be installed. You will need to supply the distinguished name (DN) of this entry and its password during the Oracle Calendar server installation. The following procedure shows how to grant read access for anonymous searches.

1. If you have already closed the `odsadmin` session, open it again by typing `odsadmin` from the `dsa` working directory.
2. Type `bman` to bind as the directory manager:

   ```
   odsadmin> bman
   ```

3. Enter the directory manager password when prompted.
4. Run the command file which will set the ACI to permit anonymous read-only access. This will modify your directory server's security.

   ```
   odsadmin> run calendar_anonymous_aci ~
   ```

Terminology for Directory Servers

Use the following table to determine the correlation between the directory server parameters required during installation and the terminology used for each separate product.

Table F–1 Calendar server / directory server concordance

Definition of concept	Oracle Calendar Server	Sun ONE Directory Server	Syntegra Aphelion Directory Server	Critical Path InJoin Directory Server
Computer on which Directory Server is installed	LDAP Host	Directory Server host		Directory Server host
Port number for Directory Server (LDAP) connections	LDAP Port	Directory Server port number	LDAP daemon port	Directory Server address port number
The point in the directory hierarchy from which searches are performed	Base DN	BaseDN / Directory suffix / search root	DN located beneath context prefix	Entry Starting Point / context prefix
"Superuser" for the directory (user with unrestricted access)	SuperUserDN	RootDN or Unrestricted user	Manager DN	Directory Administrator's DN
Password for unrestricted access	SuperUserDN Password	RootDN or Unrestricted user password	Manager DN Password	Directory Administrator's Password
The "parent" entry, offset from the baseDN, for the 6 reserved Oracle Calendar users	Oracle Calendar server Administrators' Parent DN	n/a	n/a	n/a
A new group, offset from the baseDN, for the 6 reserved Oracle Calendar users	Oracle Calendar server Administrators' Group DN	n/a	n/a	n/a

Planning Separate Installations of the Oracle Calendar Application System and Server

The Oracle Universal Installer allows you to install and configure the Oracle Calendar application system and server on the same host. Both components are configured to see one another's host and port. However, for large deployments, it is best to install the server and application system on separate hosts. You can do this by running the Installer on each host and selecting which component or components you want to install.

Generally, you should start by installing the server. You will need to enter a temporary value when prompted for the application system's host name and port. When you install the application system, you will need to enter information on the server you've just installed. Afterwards, you should edit the server's configuration file to enable resource approval, as described in "Installation" on page F-8.

For more information on editing Oracle Calendar configuration files, see the *Oracle Calendar Reference Manual*.

Oracle Calendar Application System Considerations

For security reasons, it is best that the Sync Server component only be accessible through SSL (`https`) connections. You may also want to install Oracle Sync Server on a separate host for easier accessibility from phones. Keep in mind that some phones support VPN access through a firewall, while others do not.

It is also best to only use Web services through SSL connections.

Installation

This section explains how to install Oracle Calendar standalone components on UNIX-based systems. This section contains the following topics:

- Installing Oracle Calendar Server and Oracle Calendar Application System
- Installing Oracle Calendar Server Only
- Installing Oracle Calendar Application System Only
- Installing Multiple Instances of Oracle Calendar
- Manually Running the Oracle Calendar Configuration Assistant

Installing Oracle Calendar Server and Oracle Calendar Application System

1. Extract or copy the Oracle Calendar installation files to a temporary directory.
2. In your temporary directory, go to the subdirectory

   ```
   ./Disk1/
   ```

3. Start the Oracle Universal Installer with the command

   ```
   ./runInstaller
   ```

4. Click **Next** on the Welcome screen and follow the installation instructions.
5. For Solaris and Linux platforms, in the Specify File Locations screen, select

   ```
   /Source_Path/Disk1/calendar_standalone/Disk1/stage/products.jar
   ```

   as the path of the product you want to install. You must select this path to install the standalone version of Oracle Calendar.

   For HP platforms, after you complete step 4, unmount Disk 1, eject Disk 1, and mount Disk 5. In the Specify File Locations screen, select

   ```
   /Source_Path/calendar_standalone/stage/products.jar
   ```

6. Also in the Specify File Locations screen, enter an `ORACLE_HOME` name and path, then click **Next**. The path you enter can be up to 74 characters long. If you have a previous version of Oracle Calendar installed and you want to upgrade it, do not overwrite it.

7. Select the components you want to install and click **Next**. Note that Oracle Calendar Web client, Sync Server and Web services cannot be installed unless you select **Oracle Calendar application system**. Oracle Calendar will be installed in the following locations:

Component	Location
Oracle Calendar server	`$ORACLE_HOME/ocal/`
Oracle Calendar Administrator	`$ORACLE_HOME/ocad/`
Oracle Calendar application system	`$ORACLE_HOME/ocas/`

8. If the kernel parameters on your computer are not sufficient to run the Oracle Calendar server, an information dialog box opens explaining which parameters you might have to change. You should make whatever changes are necessary, restart the computer and restart the installation. For details on calculating required kernel parameters, see Appendix B, "Adjusting Calendar Kernel Parameters," in the *Oracle Calendar Administrator's Guide*.
9. Select the time zone in which Oracle Calendar users will be working and click **Next**.
10. Select the directory server you will be using. (Select **Internal** if you do not have a directory server.) Click **Next**. You will be prompted for directory server configuration information such as **Host**, **Port** and **Base DN**, as described in "Setting up your Directory Server" on page F-3.

Notes: If you select **Critical Path InJoin Directory Server**:

- When you are prompted for the BASEDN subtree, ensure that you are setting it to the same location you set in `calendar_local`, as described in "Setting the Oracle Calendar Base DN" on page F-6.
- If your directory server has anonymous access disabled, clear the **Anonymous binding permitted** check box. Enter a DN and password of an entry that has read access on the Oracle Calendar BASEDN subtree.
- When prompted for the Oracle Calendar admin group name, leave it to the default value, unless you have changed the value in the `calendar_local` file.

---

11. After entering your directory server information, enter a password in the fields of the Oracle Calendar Administrative Password screen.
12. In the Oracle Calendar Node-ID screen, enter a Node-ID. This must be a unique value between 1 and 4999.
13. If this is your first installation of the Oracle Calendar server, select **Yes** in the Oracle Calendar Master Node screen to make the current installation the master node. You must have one master node on your network in order for Web services and Sync Server to work.
14. Click **Next** and follow the remaining instructions to complete the installation.

15. If you want to upgrade data from a previous version of Oracle Calendar, go to "Upgrades" on page F-11. Otherwise, go to "Postinstallation Configuration" on page F-16.

Installing Oracle Calendar Server Only

The procedure for installing just the Oracle Calendar server is similar to that described in "Installing Oracle Calendar Server and Oracle Calendar Application System" on page F-8, with the differences being:

- In step 7 you must select the **Oracle Calendar server** and *not* the **Oracle Calendar application system**.
- You will be prompted for the application system's host and port. If you do not know these yet, you can enter temporary values and, later, edit the `unison.ini` file server with the correct values. For example:

```
[RESOURCE_APPROVAL]
url=http://server:port/ocas-bin/ocas.fcgi
```

Installing Oracle Calendar Application System Only

The procedure for installing just the Oracle Calendar application system and its components is similar to that described in "Installing Oracle Calendar Server and Oracle Calendar Application System" on page F-8, with the differences being:

- In step 7, you must select **Oracle Calendar application system** (and any of its components), *not* **Oracle Calendar server** or the **Oracle Calendar Administrator**.
- After step 7, you will only be prompted to enter the **Host**, **Port** and **Node-ID** for the Oracle Calendar server. If you do not know these values, you can enter temporary values and, later, edit the `ocas.conf` file in the application system with the correct values. For example:

```
[CONNECTION]
mnode=Host:Engine_Port,node
```

Installing Multiple Instances of Oracle Calendar

If you install two instances of Oracle Calendar (two instances each of the Oracle Calendar server and the Oracle Calendar application system) on the same infrastructure, the `orclguest` account may not be provisioned for the second instance. If this happens, you must point the second instance of the Oracle Calendar application system to the first instance of the Oracle Calendar server.

To do this, edit the Oracle Calendar application system configuration file on the second instance (`$ORACLE_HOME/ocas/conf/ocas.conf`) as follows:

```
[CONNECTION]
mnode=host_name:engine_port,node
```

Where *`host_name`* is the first instance of the Oracle Calendar server and *`node`* is the master node.

Manually Running the Oracle Calendar Configuration Assistant

The Oracle Collaboration Suite installation program runs an Oracle Calendar server configuration assistant, a tool that configures Oracle Calendar standalone to work with your system. If you encounter an error during installation due to a problem with your

setup (for example, if a host URL you specified could not be read) you should manually run this configuration assistant once you have fixed the problem.

To manually run the configuration assistant:

1. Set your ORACLE_HOME environment variable to the directory where Oracle Calendar is installed.
2. Set your library path as follows.

   On Linux, set LD_LIBRARY_PATH to

   ```
   $ORACLE_HOME/lib:$ORACLE_HOME/ocal/sbin
   ```

   On HP, set SHLIB_PATH to

   ```
   $ORACLE_HOME/lib32:$ORACLE_HOME/ocal/sbin
   ```

3. Open the following log file:

   ```
   $ORACLE_HOME/cfgtoollogs/configtoolsDATE_TIME.log
   ```

4. Locate the configuration assistant header; for example:

   ```
   ------------------------------------------------
   Launched configuration assistant 'Calendar Server Configuration Assistant'
   ------------------------------------------------
   ```

5. Underneath the header, copy the command that was created during installation. The command will start with something similar to:

   ```
   /home/myuser/oracle_home/jre...
   ```

   And end with something similar to:

   ```
   ... -epw  -DSDS OID -portDAS 5736 -DSmgrdn cn=orcladmin -emgrp  -mnme  -ePIM
   -eimt  -eclient  -tzkey MEZ-1MESZ -silent
   ```

6. Run the command line you copied, making sure to replace the following parameters:

Parameter	Replace With
-epw	-nodepw *<ias_admin_password>*
-emgrp	-DSmgrp *<DSMgrdn_user_password>* (The DSMgrdn user is specified in the command line; for example, -DSmgrdn cn=orcladmin.)
-ecsm	-csmid *<password_for_new_csm>*

Upgrades

This section explains how to upgrade your data for Oracle Calendar and the Oracle Calendar application system. Make sure you read and follow these directions before removing your previous installation of Oracle Calendar.

This section includes these topics:

- Server Upgrade
- Oracle Calendar Application System Upgrade

Note: Before performing an upgrade, you are advised to re-evaluate your sizing calculations based on the requirements provided for the new software. See Appendix A, "Disk Space and Memory" in the *Oracle Calendar Administrator's Guide* to calculate disk space and memory requirements. For CPU usage, the hardware requirements have changed as a result of added functionality. If in your current Oracle Calendar installation you track regular peaks in CPU usage at 60%, or greater, several times a day, you may require additional CPU for a new installation. You will also notice increased CPU usage if your deployment contains previous versions of the Oracle Calendar application system working against a new Oracle Calendar server.

Server Upgrade

You can upgrade to Oracle Calendar server Release 2 (9.0.4) from:

- CorporateTime Server 5.3
- CorporateTime Server 5.4 (Oracle branded)
- Oracle Calendar server 5.5 (part of Oracle Collaboration Suite Release 1 (9.0.3))

If your installation is older than 5.3, you must upgrade it to 5.4 before you can upgrade to Release 2 (9.0.4).

Depending on the version you have, you may be able to do an automatic upgrade, or you may have to perform a manual upgrade. You can also install Oracle Calendar to coexist with your previous version.

This section contains the following topics:

- Supported Automated Upgrade Paths
- Supported Manual Upgrade Path
- Coexistence
- Upgrading the Server

Supported Automated Upgrade Paths

You can automatically upgrade Oracle Calendar from:

- 5.4 (or 5.3) internal to standalone 9.0.4 internal
- 5.4 (or 5.3) external to standalone 9.0.4 external (with supported 9.0.4 directory servers only)

Supported Manual Upgrade Path

You must do a manual upgrade when upgrading from standalone 9.0.4 internal to standalone 9.0.4 external. This involves a manual migration of the LDAP directory with supported third-party directory servers only. The following steps provide an overview of this procedure using the iPlanet directory server.

See Also: Doc ID 268950.1 on `http://metalink.oracle.com` for more detailed instructions.

Step 1 Install Oracle Calendar Standalone with iPlanet Directory Server

When you install Oracle Calendar standalone with iPlanet Directory Server, use the same node network configuration (nodes and node IDs) as your current configuration.

Step 2 Migrate the User and Resource Entries to iPlanet Directory Server

User and resource entries must be exported from Oracle Internet Directory to an LDAP Data Interchange Format (LDIF) file, then imported to iPlanet Directory Server. Depending on your setup you may need to add a `userPassword` attribute for resources to iPlanet Directory Server.

Step 3 Reconfigure the .ini Files

Update the `.ini` files on the Oracle Calendar standalone external installation so that they match the settings in the Oracle Calendar standalone internal installation.

Step 4 Migrate the Calendar Database

Migrating the calendar database involves moving the calendar nodes from the Oracle Calendar standalone internal installation to the Oracle Calendar standalone external installation, then reconfiguring the node network to recognize this change.

Coexistence

Coexistence can be useful for a large organization that needs to upgrade its current installation to a new version. The ability to have nodes and servers of different versions connected and running at the same time can help reduce the down time required to achieve the upgrade.

It is important to note that coexistence between Oracle Calendar servers of different versions is viewed as a migration step towards having a uniform (same version) network of Oracle Calendar servers. It is not recommended that a mix of different versions be sustained for a long period of time or permanently. There are limitations in having two servers of different versions co-exist. For example, the right version of utilities must be used on the corresponding server; also, Web services 9.0.4 will only work when all connected servers are upgraded to version 9.0.4.

Supported coexisting version combinations include:

- Standalone 9.0.4 with 5.3 or 5.4 (all internal, or all external to the same directory)

Unsupported coexisting version combinations include:

- Standalone 9.0.4 with pre-5.3
- Standalone 9.0.4 with 5.5 Oracle Collaboration Suite Release 1 (9.0.3)

Supported coexisting external/internal installations include:

Coexistence is supported for the following external (LDAP) and internal (no LDAP) combinations:

- Oracle Collaboration Suite Release 2 (9.0.4.1) with standalone 9.0.4 (internal or external using DIP)
- Standalone 9.0.4 external with standalone 9.0.4 internal
- Standalone 9.0.4 internal with Oracle Collaboration Suite Release 2 (9.0.4.1)

Upgrading the Server

Notes:

- Before you start, it is recommended that you back up your data in case you want to restore your previous version at a later time. For details, see Chapter 15, "Node Maintenance," in the *Oracle Calendar Administrator's Guide*.
- When you install Oracle Calendar Release 2 (9.0.4.1), a default node is created. This will be removed when you upgrade data from an older installation. If you have any important data stored in the new node, you should back it up before upgrading.

1. If your previous version is 5.2 or earlier, you must upgrade to version 5.4. For instructions on how to do this, see the version 5.4 readme.
2. Install Oracle Calendar server standalone as described in "Installation" on page F-8.
3. Stop both Oracle Calendar server 5.x and Oracle Calendar server 9.0.4.
4. Set the environment variable to your Oracle Calendar server 9.0.4, as in the following example:

   ```
   setenv ORACLE_HOME
   ```

5. From `$ORACLE_HOME/ocal/upgrade`, run `ocalPreUpg.sh` as root. This will change the ownership of your Oracle Calendar 5.x installation.
6. While logged on as the user who installed Oracle Calendar 9.0.4 (that is, *not* as root), run `ocalUpg.sh` from `$ORACLE_HOME/ocal/upgrade` using the following syntax:

   ```
   ./ocalUpg.sh -srcpath <current source location> -dstpath $ORACLE_HOME
   ```

   Where:

   - `-srcpath`: Location of your Oracle Calendar 5.x installation (/users/unison)
   - `-dstpath`: Location of the new Oracle Calendar installation (`ORACLE_HOME`)

7. If your server is coexisting with previous versions, you need to add the following parameters to `$ORACLE_HOME/ocal/misc/unison.ini` on the 9.0.4 calendar server.

   ```
   Section: [ENG]
   Parameter: usermailmap
   Value: "o"

   Section: [ENG]
   Parameter: coexist_cwsbasicauth
   Value: TRUE

   Section: [ACE_PLUGINS_SERVER]
   Parameter: cs-standard_coexistence
   Value: TRUE
   ```

Important: As a security precaution, you must remove the preceding parameters from `$ORACLE_HOME/ocal/misc/unison.ini` immediately after all calendar servers are upgraded to 9.0.4.

If you have any problems during the upgrade, please refer to the log file `$ORACLE_HOME/ocal/upgrade/log`.

Oracle Calendar Application System Upgrade

You can automatically upgrade CorporateTime/Oracle Calendar 3.x data to the new version of the Oracle Calendar application system.

> **See Also:** "General Issues and Workarounds" on page F-22 for known issues related to upgrading the application system

This section contains the following topics:

- Before You Start
- Upgrading the Oracle Calendar Application System

Before You Start

- Check for known upgrade issues in "General Issues and Workarounds" on page F-22
- Ensure that the following files have the appropriate permissions for the new version's `ORACLE_HOME` user:
  - Read access for the version 3.x configuration file, `webcal.ini`, generally found in the `/APACHE_ROOT/fcgi-bin/lexacal-private/ini/` directory
  - Read and write access for the Web server's configuration file, `httpd.conf` (or `Apache.conf`), generally found in `/APACHE_ROOT/conf/`
- Ensure the Oracle Calendar Web server and version 3.x FastCGI processes are stopped

Upgrading the Oracle Calendar Application System

1. Install the Oracle Calendar application system in standalone mode as described in "Installation" on page F-8.
2. Set the `ORACLE_HOME` and `LD_LIBRARY_PATH` environment variables for Solaris and Linux, and `ORACLE_HOME` and `SHLIB_PATH` for HP.
3. Stop the CorporateTime and Oracle Calendar Web servers.
4. From the new installation directory `$ORACLE_HOME/ocas/upgrade/`, run the upgrade assistant with the command `ocasua.sh`, using the following optional syntax:

   ```
   ./ocasua.sh [ -appdir appdir ] [ -resdir resdir ] [ -confdir confdir ]
   ```

   Where:

   - **`-appdir`** is the CorporateTime binary directory, such as:

     `/Apache_home/fcgi-bin/owc`

- **-resdir** is the CorporateTime base directory, such as:

  /*Apache_home*/fcgi-bin/lexacal-private

- **-confdir** is the Web server configuration directory, such as:

  /*Apache_home*/conf

A log of the process is generated in:

$ORACLE_HOME/ocas/upgrade/log/

5. Remove the FastCGI Server directives in the old version found in `httpd.conf`. They have been replaced by directives inserted in

   $ORACLE_HOME/ocas/conf/ocal.conf

6. Some sections and keys are not migrated from `webcal.ini` into `ocas.conf` and `ocwc.conf`. You will need to migrate these manually. For more information see "Upgrades" on page F-24.

Postinstallation Configuration

This section describes procedures necessary to configure your standalone installation of Oracle Calendar.

This section contains the following topics:

- Configuring the Web Server
- Configuring the Directory Server
- Configuring the Oracle Calendar Server
- Configuring the Oracle Calendar Application System
- Configuring Oracle Calendar E-Mail Delivery

Configuring the Web Server

If you are using an Apache server or Oracle HTTP Server, add the following to the Web server's `httpd.conf` file in order to recognize the Oracle Calendar Administrator:

```
include $ORACLE_HOME/ocad/config/ocad.conf
```

(Ensure there is read access to `ocad.conf`)

In addition, make the following changes to your `httpd.conf` file so that you can use the Oracle Calendar application system:

- Include `$ORACLE_HOME/ocas/conf/ocal.conf`
- Set the system library search path to include `$ORACLE_HOME/lib` on Solaris and Linux, or `$ORACLE_HOME/lib32` on HP
- Set the `ORACLE_HOME` environment variable to the directory where Oracle Calendar is installed

Keep in mind that you may have to resolve conflicting settings if you customized your original in a similar manner.

Restart the Web server after you make the changes.

Configuring the Directory Server

If, during installation, you selected a directory server to use with Oracle Calendar server, the Oracle Calendar Administrator must be granted certain access rights.

This section contains the following topics:

- Sun ONE Directory Server
- OpenLDAP
- Syntegra Aphelion Directory Server
- Critical Path InJoin Directory Server

Sun ONE Directory Server

To grant access rights to the Oracle Calendar Administrator, run the `unidsacisetup` utility with the `-w` option. For more details on this utility, see Appendix E, "Calendar Server Utilities," in the *Oracle Calendar Reference Manual*.

OpenLDAP

Use the base DN (example: "`dc=acme,dc=com`") and the Oracle Calendar Administrator parent DN (example: "`ou=OracleCalendarAdministrator`"). For example:

1. Edit the file `/usr/local/etc/openldap/slapd.conf`.
2. In the `database` section, add this information with the correct base DN and Oracle Calendar Administrator parent DN:

```
access to dn="(.*,)?dc=acme,dc=com"
by dn="(.*,)?ou=OracleCalendarAdministrator,dc=acme,dc=com" write
```

Syntegra Aphelion Directory Server

1. Use the Syntegra Aphelion Web application and sign in as a directory manager.
2. Click the "LDE" where the Oracle Calendar server is installed.
3. Click **Manage**.
4. Expand the **Access Control** folder.
5. Click **Advance Access Control**.
6. On the right pane, click **Add New Access Control Policy**.
7. In the Modify Access Control Policy text area, type the following:

```
to dn=.*BASEDN by dn=.*,ADMINDN,BASEDN write
```

   where the `BASEDN` is the value of the `[LDAP]basedn` parameter and `ADMINDN` is the value of the `[LDAP]admin` parameter in the `$ORACLE_HOME/ocal/misc/unison.ini` configuration file. For more details on these parameters see Appendix C, "Calendar Server Parameters," in the *Oracle Calendar Reference Manual*.

8. Click **Apply** for the change to take effect.

Critical Path InJoin Directory Server

1. If you have already closed the `odsadmin` session, open it again by running `odsadmin` from the `dsa` working directory.

2. Type `bman` to bind as the directory manager.

   ```
   odsadmin> bman
   ```

3. Enter the directory manager password when prompted.
4. Run the command file to set the ACI to grant access rights to the Oracle Calendar Administrator.

   ```
   odsadmin> run calendar_admin_aci ~
   ```

5. Exit the `odsadmin` session.

Configuring the Oracle Calendar Server

This section describes configuration changes you might need to make to the Oracle Calendar server after installing and, as the case may be, after upgrading.

This section contains the following topics:

- Starting and Stopping the Oracle Calendar Server
- Checking Port Values
- Opening and Configuring the Oracle Calendar Administrator
- Setting up Resource Approval
- Working with LD_LIBRARY_PATH and SHLIB_PATH
- Working with Security Mechanisms

Starting and Stopping the Oracle Calendar Server

Start the Oracle Calendar server with the following command:

```
./unistart
```

Stop the Oracle Calendar server with the following command:

```
./unistop -y
```

Checking Port Values

The default ports used by the Oracle Calendar server are:

Port	Function
5730	Oracle Calendar Engine
5731	Synchronous network connector
5732	Directory access server
5734	Oracle Calendar server manager

If these ports are already in use, the installation will use the next available port. Please verify `unison.ini` for the values used by the Oracle Calendar server.

Opening and Configuring the Oracle Calendar Administrator

Use the Oracle Calendar Administrator to manage users, events, resources, and public agendas, as well as perform administrative tasks. By default, open it at the following URL:

```
https://Web_server_host:https_port/ocad-bin/ocad.cgi?object=nodeadm
```

To log on to the Oracle Calendar Administrator, enter the Oracle Calendar administrative password you chose during installation. Do not enter a user name with this password.

In some cases, you may want to run the Oracle Calendar Administrator on a non-Apache Web server. If so, you should make the following changes to your Web server:

- Set the system library search path to include `$ORACLE_HOME/lib` (lib32 for other platforms such as hp-ux PA-RISC (64-bit)) and `$ORACLE_HOME>/ocad/bin`.
- Set the `ORACLE_HOME` environment variable to the directory where Oracle Calendar is installed.
- Configure a script alias, such as `ocad-bin`, to `$ORACLE_HOME/ocad/bin/ocad.cgi`. This alias must have the permissions to run `ocad.cgi`.
- Configure the `ocad-templates` script alias to `$ORACLE_HOME>/ocad/templates`. This alias *must* be named `ocad-templates`, and must have the permissions to read HTML, .js, and .css files.

The Web server identity must have access to server directories as follows:

Folder	Permissions
`$ORACLE_HOME/ocad/bin/`	Read, Write, Execute
`$ORACLE_HOME/ocad/sessions/`	Read, Write
`$ORACLE_HOME/ocad/temp/`	Read

The `$ORACLE_HOME/ocad/bin/ocad.cgi` program must have the permissions needed to read or write files in `$ORACLE_HOME/ocad/sessions` (this can be configured in `$ORACLE_HOME/ocad/bin/ocad.ini`).

You can find required settings for your server in `$ORACLE_HOME/ocad/config/ocad.conf`.

Setting up Resource Approval

If you intend to use the resource approval feature (on any Web server), you must set it up as follows:

1. Create or modify a resource with `NOTIFY-APPROVER` set to TRUE and `APPROVER-EMAIL` set to e-mail of the approver. For example, in `ocal/bin`:

   ```
   uniuser -resource -add R=Resource
   _Approval/NOTIFY-APPROVER=TRUE/APPROVER-EMAIL=approver.email@oracle.com
   /psw=password -n 4313 -p test1
   ```

2. Assign Resource designate rights; for example, in `ocal/bin`:

   ```
   uniaccessrights -mod -designate ALL=TRUE -grantee S=Designate/NODE-ID=4313
   -grantor R=Resource_Approval -n 4313 -p test1
   ```

3. Also make sure that the `RESOURCE_APPROVAL` section exists in `unison.ini` (located in `ocal/misc`) with the URL parameter; for example:

   ```
   [RESOURCE_APPROVAL]
   url=http://server:port/ocas-bin/ocas.fcgi
   ```

4. If you changed the resource approval URL, restart the Oracle Calendar server.

Working with LD_LIBRARY_PATH and SHLIB_PATH

Any values added to the `LD_LIBRARY_PATH` and `SHLIB_PATH` environment variables, for example to configure security mechanisms, are cleared by the Oracle Calendar server. Instead, add the values to `OCAL_ADDITIONAL_LIBPATH`.

Working with Security Mechanisms

Some security mechanisms require that you set the `OCAL_ADDITIONAL_LIBPATH` environment variable to include the paths to their libraries.

If you are using GSSAPI/Kerberos 5, you must include the path to the five shared libraries required by `libaut_gssapi.so`.

If you are using SASL/Kerberos 4 or SASL/GSSAPI, you must include the paths to:

- The same libraries as GSSAPI/Kerberos 5
- The Kerberos and SASL shared libraries required by `libaut_sasl.so`, `libsasl.so` and the SASL plug-in.

Each path must be separated by a colon (`:`). For example:

```
setenv OCAL_ADDITIONAL_LIBPATH
/usr/local/kerberos/krb5/lib:/usr/local/sasl/sasl-1.5.27/lib
```

Configuring the Oracle Calendar Application System

Generally, the Oracle Calendar application system successfully starts when you start the Web server, using the default installation settings. This section explains how to check the status of the application system and make configuration changes to it, if necessary.

This section contains the following topics:

- Checking the Status of the Oracle Calendar Application System
- Configuring the Oracle Calendar Application System

Checking the Status of the Oracle Calendar Application System

To see if the application system and its components are running, open the system page at `http://`*`server`*`:`*`port`*`/ocas-bin/ocas.fcgi?sub=sys`. If a component is not running, it will not appear in the system page.

To connect to a component with an appropriate client, use the following URLs:

Component	URL
Sync Server	`http://`*`host`*`:`*`port`*`/ocst-bin/ocas.fcgi`
Web services	`http://`*`host`*`:`*`port`*`/ocws-bin/ocas.fcgi`
Oracle Calendar Web client	`http://`*`host`*`:`*`port`*`/ocas-bin/ocas.fcgi?sub=web`

Configuring the Oracle Calendar Application System

The Oracle Calendar application system and its components are controlled with the following configuration files under `$ORACLE_HOME/ocas/conf`:

ocas.conf: Oracle Calendar application system

ocws.conf: Web services

ocst.conf: Sync Server

ocwc.conf: Oracle Calendar Web client

ocal.conf: Web server FastCGI directives, included from `httpd.conf`

Consider the following configuration options, depending on your environment:

- Run several instances of `ocas.fcgi` (the number of instances depends on setup and load). You can configure this in `ocal.conf`.
- You must run one instance of `ochecklet.fcgi` per installation or host. This is also configured in `ocal.conf`.
- To redirect the Web client from a custom URL, add the following statement to `ocal.conf`:

```
<Location /calendar>
   Redirect permanent /calendar \
           http://<host>:<port>/ocas-bin/ocas.fcgi?sub=web
</Location>
```

- In order to use the Sync Server, set your `KeepAlive` parameter in `httpd.conf` or `apache.conf` to 300 seconds, or turn it off. This is done to correspond to the idle-timeout value of 300 seconds in `ocal.conf`.
- Make sure that the `linkdb` and `sessiondb` variables in all hosts' ocas files refer to the same path; for example, the same NFS mount.
- Set Authentication, Compression and Encryption (ACE) values in each component's `conf` file. AUTH Web settings for all products should be configured in the `[ACE_PLUGINS_CLIENT]` section of `ocas.conf`.
- If you experience any problems, check for error messages in:

```
$ORACLE_HOME/ocas/logs/ocas_log
```

Make sure you restart Oracle HTTP Server or Apache after any changes to the `conf` files.

Configuring Oracle Calendar E-Mail Delivery

If e-mail sent by the Oracle Calendar server appears to come from the server's name rather than the desired domain name, make the following change to `sendmail.cf` in the `/etc/mail` directory on Solaris systems, or the `/etc` directory on Linux systems.

```
# who I masquerade as (null for no masquerading) (see also $=M)
DMdomainname
```

Where `domainname` is the mail domain name from which to send e-mail.

Oracle Calendar Deinstallation

The following steps describe how to deinstall the Oracle Calendar server and application system from a host.

1. Stop the Oracle Calendar server using the `unistop` command.
2. Stop the Web server.

3. In the directory server, remove the Oracle Calendar server attributes from your Oracle Calendar users. This is done by using LDIF update commands.
4. In the directory server, remove all `ctCal` objects for the Oracle Calendar server nodes that were on this server. Use the `ldapsearch` and `ldapdelete` commands and refer to your directory server administrator's guide for proper syntax.
5. In the directory server remove all the relevant Oracle Calendar server administrative groups and ACLs from the database. Clean up your `LDIF` file with a manual edit LDIF or use LDIF update statements.
6. Remove Oracle Calendar components using the Oracle Universal Installer. Start the Oracle Universal Installer with the command:

   ```
   ./runInstaller
   ```

7. Delete your *`calendar_server_path`*.
8. Delete your *`client_path`*.

General Issues and Workarounds

This section describes general issues and their workarounds for Oracle Calendar server and the Oracle Calendar application system. Issues are broken down into the following sections:

- Server Issues
- Oracle Calendar Application System Issues

Server Issues

This section includes the following topics:

- Installation
- Coexistence and Upgrades
- Designates
- Various

Installation

- **Blank sections in unison.ini**: Blank [LCK] and [LIC] sections will be added to the `unison.ini` file of a fresh installation of a standalone Oracle Calendar server and/or upgraded standalone server. Do not remove these sections.

Reinstallation

- When reinstalling components of Oracle Calendar, make sure to install the Oracle Calendar server component in a fresh directory. Other components can be installed or added to their existing paths.

Coexistence and Upgrades

- **Clients**: Versions of the Oracle Calendar application system that work with the Oracle Calendar server 9.0.4 include:
  - Oracle Calendar desktop client for Windows 6.0.5
  - Oracle Calendar desktop client for Mac version 5.2.3

- Oracle Calendar desktop client for Linux x86/Solaris Operating Environment (SPARC 32-bit) version 5.0.2
- Oracle Connector for Outlook version 3.3 and up

Note: Users of older clients should upgrade to the latest versions, available at

`http://metalink.oracle.com`

The preceding clients only support passwords of 15 characters or less. If a password longer than 15 characters is assigned by the administrator, the user will not be able to sign in.

If you only wish to support new clients, set `cs-standard_coexistence` in `unison.ini` to `false`.

- **Servers**:
  - Coexistence may cause odd error messages on an old Oracle Calendar server (5.x). This is due to the fact that the old server may not understand the features introduced by the new server.
  - There is no event Oracle Calendar coexistence between Oracle Calendar server versions. Release 1 (9.0.3) users will only see Release 1 (9.0.3) event calendars and Release 2 (9.0.4.1) users will only see Release 2 (9.0.4.1) event calendars.
- **Node networks**:
  - Node networks can only be created with version 5.3 and up of Oracle Calendar server.
  - If you need to create a node network, the `nodes.ini` and the use of `uninode` commands must be done on the most recent version (9.0.4) of the server within the network.
- **Administration utilities**:
  - Do not use 9.0.4 utilities to administer a 5.x Oracle Calendar server. The only exception to this is when moving users; the `moveuser` utility must be from the latest server version (9.0.4), even if moving a user between two nodes that are both on old server nodes (5.x).
  - Do not use 5.x utilities to administer a 9.0.4 Oracle Calendar server.
- **Mapping parameters**: Mapping parameters have been added to the 9.0.4 server `unison.ini` for coexistence and upgrades. 5.x servers map `O` for `EMAIL` and `P` for `UID`. However, 9.0.4 servers do not need this mapping anymore. Parameters added to a 9.0.4 server do not affect it.

  The new parameters include:

```
[ENG]
usermailmap = O
itemuidmap = P
resourcemailmap = O
usersmscprefmap = OU3
usermobiletypemap = N
usermobilemap = R
```

For version coexistence, these parameters should be added manually to the 9.0.4 `unison.ini` file. They are added automatically during an upgrade.

Designates

- **Listing designates**: Windows clients cannot list designates of remote resources
- **Creating events as a designate**: Users may get an error when creating an event while working as a Designate. However, the event will be properly created.
- **Remote Designate**: The Remote Designate feature can only be used with the Oracle Calendar Web client and the Oracle Calendar SDK

Various

- **Moving users**: Do not move users that have at some point used the Oracle Calendar Web client. Trying to move such a user may fail and cause some events to be duplicated.
- **UIDs**: A numeric UID will be created by the system for a user without an existing UID.
- **Remote users**: When a remote user is invited to meeting, the meeting owner's status is not correctly displayed to the remote user. The owner's status will be shown as `will confirm later` instead of `will attend`. This is a server issue. (2892129)

Oracle Calendar Application System Issues

This section includes the following topics:

- Installation
- Upgrades

Installation

- **No prompt for server information**: When installing the standalone package of the application system on a computer where Oracle Calendar server is already installed, you will not be prompted to enter server information during the installation. Once the application system is installed, you must open the `[connection]` section of `ocas.conf` and replace

  ```
  mnode=,
  ```

  with

  ```
  mnode=host:engine_port,node
  ```

  (2844399)

Upgrades

- **Multiple upgrades**: When the application system upgrade assistant is run more than once, multiple `include` lines may be inserted in `httpd.conf`, causing the Web server to not start properly. (#2978880). Suggested work-around: Remove the duplicated `include` lines from the `conf` file. Typically, the lines look like this:

  ```
  include full_path_of_install_home/ocas/conf/ocal.conf
  ```

- **Blank lines in ocas.conf and ocwc.conf**: Blank lines in `ocas.conf` and `ocwc.conf` in your R2 installation will be removed by the upgrade assistant. To preserve them, replace them with # prior to running the assistant.
- **Missing keys**: The upgrade assistant only migrates the following keys. Your installation will still work, but you may need to make changes to the new

parameters to get the look and feel you want. For information on editing parameters, see the *Oracle Calendar Reference Manual*.

```
[system]
connection

[servers]
(All keys migrated to "connection" section of ocas.conf. If the old
installation was a masternode, 'mnode' will be the only entry.)

[ACE_PLUGINS_CLIENT]
(All keys into ocas.conf)

[admin]
ssn_timeout
sso_user_env_key
max_login_attempts
login_fail_timeout
secure_login
cache

[ADA]
enable
hide_toggle_link

[modules]
logout
prefs
chgpwd
accrights
userlist_login
hide_eventcal
hide_global
hide_taskview
hide_managegroups
hide_suggesttime
hide_show_unconfirmed
hide_updateall
enable_designate
hide_viewpub

[file_attachment]
download_enable
upload_enable

[taskview]
quickCreateStartTime
quickCreateEndTime
showQCCompletion

[calendar_view]
default_view
default_dayview_mode
default_weekview_mode
hide_dayview_toggle
hide_weekview_toggle
pdv_notes_top_task_bottom
default_color_mgt_by

[cookies]
domain
```

```
[sms]
enable

[sched]
userlist_login (becomes same key in "modules" section of ocwc.conf)
serverlist_login (becomes same key in "modules" section of ocwc.conf).
enable_autologin (becomes same key in "modules" section of ocwc.conf).
modify_emailadd  (becomes same key in "modules" section of ocwc.conf).
showicalvcal (becomes same key in "modules" section of ocwc.conf).

[ACE]
authentication (becomes 'Authentication' of ocwc.conf).
```

G

Oracle Collaboration Suite Client Installations

The Oracle Collaboration Suite Client CD-ROM contains the client products.

This appendix contains these topics:

- Oracle Connector for Outlook
- Oracle Calendar Desktop Client for Windows
- Oracle Calendar Desktop Client for Linux
- Oracle Calendar Desktop Client for Macintosh
- Oracle Calendar Desktop Client for Solaris
- Oracle Calendar Sync for Palm for Windows
- Oracle Calendar Sync for Pocket PC
- Oracle Calendar Sync for Palm for Macintosh
- Oracle FileSync

Oracle Connector for Outlook

This section contains these topics:

- System Requirements for Oracle Connector for Outlook
- Preinstallation Requirements for Oracle Connector for Outlook
- Installing Oracle Connector for Outlook
- Silent Installation of Oracle Connector for Outlook
- Upgrading Microsoft Outlook
- Deinstalling Oracle Connector for Outlook

System Requirements for Oracle Connector for Outlook

The following table contains the Oracle Connector for Outlook system requirements.

Table G–1 Oracle Connector for Outlook System Requirements

Requirement	Value
Operating system	■ Windows NT 4.0 ■ Windows 98 ■ Windows 2000 ■ Windows XP Professional Administrative privileges are required to install Oracle Connector for Outlook on Windows NT, 2000, and XP.
Disk space	Free disk space equivalent to the approximate size of the user's IMAP4 mailbox
RAM	Refer to the RAM requirements of your Microsoft Outlook client.
Outlook	■ Outlook 98 ■ Outlook 2000 ■ Outlook 2002 ■ Outlook 2003 (supported in Oracle Collaboration Suite Release 2 Patch Set 1 (9.0.4.2.0) ■ **Note**: Native Language version or Multilingual User Interface Pack (MUI) is required for non-English version localization (see supported languages)
Calendar server	■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4 (required for most of the new Oracle Calendar functionality)
E-mail servers	SMTP server for outgoing mail included with Oracle Collaboration Suite Oracle IMAP4 Server 9.0.3 and above Other e-mail servers whose implementations are based upon the open standards of SMTP and the IMAP4 reference implementations Cyrus and University of Washington.
Conduits for PDA synchronization	■ PocketMirror 2.04 or 3.0 (3.0 recommended) ■ PocketJournal ■ Desktop To Go 2.5 ■ Desktop To Go 2.509 (for Outlook 2002 only) ■ PSIWIN 2.3 or 2.31 ■ ActiveSync 3.0, 3.1, or 3.5. Note: Oracle Collaboration Suite Release 2 Patch Set 1 (9.0.4.2.0) supports ActiveSync versions up to 3.7.1 ■ HotSync Manager 4.0 (for Windows XP only)

Table G–1 (Cont.) Oracle Connector for Outlook System Requirements

Requirement	Value
Devices	The following devices have been certified with Oracle Connector for Outlook. Similar devices may work but the end-user experience may vary. Pocket PC ▪ Compaq iPAQ Pocket PC 2002 - Model 3870 ▪ Compaq iPAQ Pocket PC 2002 - Model 3970 ▪ HP iPAQ Pocket PC 2003 - Model h 1945 Palm ▪ Palm III (3Com) ▪ Palm V Handheld Blackberry 6710 - Wireless Handheld

Preinstallation Requirements for Oracle Connector for Outlook

- A supported Outlook version must be installed on a supported platform
- Windows NT, 2000, and XP require you to have administrative privileges on your computer in order to install Oracle Connector for Outlook
- Outlook 98 and Outlook 2000 must be installed in Corporate/Workgroup mode. Verify the Outlook configuration by choosing **Tools** > **Options** > **Mail Services** > **Reconfigure Mail Support**.
- To avoid losing information, Oracle Corporation recommends that you synchronize your offline folders before upgrading

Installing Oracle Connector for Outlook

1. Exit all Windows applications before installing Oracle Connector for Outlook.
2. If you are upgrading from a previous version and want to add or change the languages installed, run `con_outlook_904x.exe` followed by the switch `/Lang`. Otherwise, just double-click the `con_outlook_904x.exe` file. Follow the on-screen installation instructions.

> **Note:** To avoid conflict between POP3 and IMAP4 protocols, do not set up Microsoft's Internet Mail or Exchange service providers in the same profile as Oracle Connector for Outlook.

Silent Installation of Oracle Connector for Outlook

When run in silent mode, the Oracle Connector for Outlook installer consults a preset configuration file for all the information normally provided by the user through the installation dialogs. Available with Oracle Connector for Outlook is a sample file, called `ctoc.ini`. Use this file as a template, changing its parameter values to suit your installation. For more details on the parameters available, see Table G–2. Any parameters for which you do not supply a value and that do not have default values are prompted for at first startup.

To install Oracle Connector for Outlook from the command line without requiring any user interaction, run the product self-extracting executable with the `-s` option, and specify the configuration file to use with the `-cfg` option.

For example, where both the installer and configuration file exist in the root directory of drive `C:`, and the installer file name is `con_outlook_904.exe`, perform the following:

```
C:\> con_outlook_904.exe -s -cfg ctoc.ini
```

Two optional flags can also be specified:

- `-f`

  If you specify `-f` in your command line, the Oracle Connector for Outlook installer attempts to remove any older versions of the product it finds before installing the current version.

- `-1`

  If you specify `-1` (the numeral `1`) in your command line, only the first part of the Oracle Connector for Outlook installation runs, copying necessary files and registering Oracle Connector for Outlook as an available service provider. The second part of the installation, in which Oracle Connector for Outlook is added to a profile, is not run.

  Note: After running the silent install once, subsequent silent installations that do not specify the `-f` option only perform the first part of the installation, copying necessary files and registering Oracle Connector for Outlook as an available service provider. The installer does not continue with the second part of the installation.

For more information about large-scale deployments of Oracle Connector for Outlook, contact Oracle Consulting.

Oracle Connector for Outlook Silent Installation Configuration File Parameters

The following table contains a list of available parameters for Oracle Connector for Outlook silent installation, organized alphabetically by section. Listed default values are applied when the value of the parameter in question is blank or the parameter is left out of the configuration file completely.

All lines beginning with a semicolon (`;`) in the configuration file are comments not read by the installer.

Table G–2 Oracle Connector for Outlook Silent Installation Configuration Parameters

Component	Parameter	Accepted Values	Default	Description
[Calendar]	AccountName	A valid calendar server user name	None	Specifies this user's calendar account name
[Calendar]	DomainID	A valid Domain ID	None	Specifies the Domain ID representing your organization. The [Calendar] UseDNS and [Calendar] HostName parameters must also be specified.
[Calendar]	HostName	A valid host name, or list of names in the format: *host1*;*host2*;*hostN*. For example: scooter;kermit	None	Specifies the host name or network address of the Calendar Domain Service host or hosts. The [Calendar] UseDNS and [Calendar] DomainID parameters must also be specified.
[Calendar]	NoAccount	0 (Configure a calendar server connection using the [Calendar] parameters) 1 (Skip configuring the calendar server connection and ignore any values set by other parameters in the [Calendar] section)	0	Specifies that this user has no calendar server account, and ignores any values set by other parameters in the [Calendar] section
[Calendar]	Password	The valid password for this user's calendar account	None	Specifies this user's calendar password
[Calendar]	Port	0 (use the default) A valid port	None	Specifies the port to use to connect to the calendar server specified by the [Calendar] ServerName parameter
[Calendar]	ServerName	A valid host name, followed by a comma, followed by a valid node-ID. For example: kermit,1200	None	Specifies the host name or network address of the calendar server, and the node-ID to which to connect, if desired
[Calendar]	UseDNS	0 or empty ("Corporate Mode") 1 (Use DNS)		Use Calendar Domain Service
[E-Mail]	AccountName	A valid user name	None	The account name of this user on the IMAP4 server

Table G–2 (Cont.) Oracle Connector for Outlook Silent Installation Configuration

Component	Parameter	Accepted Values	Default	Description
[E-Mail]	DisplayName	Any alphanumeric string	None	Sets the name to be displayed for all e-mail this user sends
[E-Mail]	EmailAddress	A valid e-mail address	None	Specifies the current user's e-mail address
[E-Mail]	Imap4ServerName	A valid host name	None	The host name or network address of the IMAP4 e-mail server
[E-Mail]	ImapNoAccount	0 (Configure an IMAP4 server connection using the other IMAP4 configuration parameters in the [E-Mail] section) 1 (Skip configuring the IMAP4 server connection and ignore any values set by other IMAP4 configuration parameters in the [E-Mail] section)		Specifies that this user has no IMAP4 account, and ignores any values set by other IMAP4 configuration parameters in the [E-Mail] section
[E-Mail]	ImapPort	A valid port	143	The port for the IMAP4 server
[E-Mail]	ImapSameAsCTime	0 (Do not use the same values set for the calendar server account name and password) 1 (Use the same values set for the calendar server account name and password)	0	Instructs the installer to use the same user name and password specified by the [Calendar] AccountName and [Calendar] Password parameters for the IMAP4 server. If this parameter is set to 1, the installer ignores any values set in the [E-Mail] AccountName and [E-Mail] Password parameters.
[E-Mail]	ImapSSL	0 (Do not use SSL) 1 (Use SSL)	0	Instructs the installer to use Secure Sockets Layer (SSL) for all communications with the IMAP4 e-mail server
[E-Mail]	Organization	Any alphanumeric string	None	Specifies the current user's organization to be included with outgoing e-mail (optional)
[E-Mail]	Password	The valid password for this user's e-mail account	None	The password for this user on the IMAP4 server

Table G–2 (Cont.) Oracle Connector for Outlook Silent Installation Configuration

Component	Parameter	Accepted Values	Default	Description
[E-Mail]	ReplyTo	A valid e-mail address	None	Specifies the destination e-mail address that mail is sent to when a user replies to mail sent by the current user (optional)
[E-Mail]	SmtpAccount	A valid host name	None	Specifies the host name or network address of the SMTP e-mail server
[E-Mail]	SmtpAuthentication	0 (No authentication required) 1 (User name and password required)	0	Instructs the installer that the specified SMTP e-mail server requires a user name and password
[E-Mail]	SmtpNoAccount	0 (Configure an SMTP server connection using the other SMTP configuration parameters in the [E-Mail] section) 1 (Skip configuring the SMTP server connection and ignore any values set by other SMTP configuration parameters in the [E-Mail] section)	0	Specifies that this user has no SMTP account, and ignores any values set by other SMTP configuration parameters in the [E-Mail] section
[E-Mail]	SmtpPassword	The valid password for the current user account	None	Specifies the password to use when connecting to the SMTP e-mail server, if the [E-Mail] SMTPAuthentication parameter is set to 1
[E-Mail]	SmtpPort	A valid port	25	The port for the SMTP server
[E-Mail]	SmtpSameAsImap	0 (Do not use the same values set for the IMAP4 server account name and password) 1 (Use the same values set for the IMAP4 server account name and password)	0	Instructs the installer to use the same user name and password specified by the [E-Mail] AccountName and [E-Mail] Password parameters for the SMTP server. If this parameter is set to 1, the installer ignores any values set in the [E-Mail] SmtpAccount and [E-Mail] SmtpPassword parameters.

Table G–2 (Cont.) Oracle Connector for Outlook Silent Installation Configuration

Component	Parameter	Accepted Values	Default	Description
[E-Mail]	SmtpServerName	A valid user name on the SMTP server	None	Specifies the account name to use when connecting to the SMTP e-mail server, if the [E-Mail] SMTPAuthentication parameter is set to 1
[E-Mail]	SmtpSSL	0 (Do not use SSL) 1 (Use SSL)	0	Instructs the installer to use SSL for all communications with the SMTP e-mail server
[General]	CompanyName	Any alphanumeric string	None	Specifies the name of the company employing the registered user
[General]	InstallPath	A valid path name	*current_drive*:\Program Files\Oracle\Connector_for_Outlook	Specifies the path in which to install Oracle Connector for Outlook
[General]	UserName	Any alphanumeric string	None	Specifies the name of the registered user. Also used as default values for the [Calendar] AccountName and [E-Mail] DisplayName parameters.
[Install]	ShowError	0 (Hide error messages) 1 (Show error messages)	0	Displays a button used to open a log file containing error messages encountered during the installation. If ShowOutput is 1, the button appears in the installation progress box. If ShowOutput is 0, the button appears in a separate dialog box.
[Install]	ShowOutput	0 (Hide output) 1 (Show output)	0	Displays the output of the Oracle Connector for Outlook installer as it progresses through the silent installation
[Install]	ShowSuccess	0 (Hide success message) 1 (Show success message)	0	Displays a status message when installation is completed successfully

Table G–2 (Cont.) Oracle Connector for Outlook Silent Installation Configuration

Component	Parameter	Accepted Values	Default	Description
[Install]	ShutdownOutlook	0 (Do not shut down Outlook automatically) 1 (Shut down Outlook automatically)	0	Instructs the installer to close Outlook automatically before installing Oracle Connector for Outlook, if Outlook is running. Outlook must not be running in order for the installer to function correctly.
[Languages]	(None)	Acceptable language values, such as: 1031=d 1036=fr 1041=ja 1042=ko Where the number represents the language, and the string is the same as that appended to the Oracle Connector for Outlook DLL and help files for that language.	None. Unless a value is specified, Oracle Connector for Outlook installs in English.	Sets the language used by Oracle Connector for Outlook
[MAPIProfile]	Name	Any alphanumeric string	Oracle Connector for Outlook	Specifies the profile in which to add Oracle Connector for Outlook. If the profile name specified does not already exist, the installation creates a new profile with this name and adds Oracle Connector for Outlook to that profile.
[Off-line]	Path	A valid path	A default path determined by the current platform and profile name	Specifies a location for the current user's offline storage
[Off-line]	Use	0 (Offline access disabled) 1 (Offline access enabled)	0	Instructs the installer to enable offline access and synchronization for the current user
[Settings]	DisableCfgUI	0 (Show the configuration dialog box normally) 1 (Disable the ability to create or modify profiles)	0	Hides the Oracle Connector for Outlook configuration dialog box normally available through the Windows Mail control panel, so that users cannot modify their sign-in and offline settings

Table G–2 (Cont.) Oracle Connector for Outlook Silent Installation Configuration

Component	Parameter	Accepted Values	Default	Description
[Settings]	DisablePwd	0 (Allow password saving) 1 (Disable password saving)	0	Instructs the installer to ignore passwords set for the calendar, IMAP4, and SMTP server, and requires the current user to provide an account password at each login
[Settings]	ForceReboot	0 (No reboot) 1 (Force reboot)	0	Instructs the installer to restart the operating system after the first part of the installation (copying files and installing Oracle Connector for Outlook as a service provider)
[Settings]	HideCTimePwdMenu	0 (Show the Change Password option) 1 (Hide the Change Password option)	0	Hides the Change Password option in the Tools menu, to prevent users from changing their calendar server passwords through Outlook
[Settings]	NoServerMail	0 (Enable connections to mail servers normally) 1 (Skip connections to both IMAP4 and SMTP servers) 2 (Skip connection to the IMAP4 server) 3 (Skip connection to the SMTP server)	0	Skips connecting to the IMAP4 and SMTP servers. Use this parameter if you want to use another service provider such as Microsoft's Internet E-Mail for mail instead of Oracle Connector for Outlook. If 1, 2 or 3 is specified, the corresponding server properties page in Outlook will be hidden.
[Settings]	ShowSrvIcon	0 (Do not show the unavailable servers icon) 1 (Show the unavailable servers icon)	0	Shows a small information icon in the lower right corner of the main Outlook window when a calendar or mail server is unavailable

Upgrading Microsoft Outlook

If you upgrade your Outlook installation, you must reinstall Oracle Connector for Outlook after the upgrade. See Installing Oracle Connector for Outlook for installation instructions.

Deinstalling Oracle Connector for Outlook

To remove Oracle Connector for Outlook:

1. Double-click **Add/Remove Programs** from the Control Panel.
2. Choose Oracle Connector for Outlook and click **Add/Remove**.

Oracle Calendar Desktop Client for Windows

This section contains these topics:

- System Requirements for Oracle Calendar Desktop Client for Windows
- Installing Oracle Calendar Desktop Client for Windows
- Silent Installation of Oracle Calendar Desktop Client for Windows
- Deinstalling Oracle Calendar desktop client for Windows

System Requirements for Oracle Calendar Desktop Client for Windows

The following table contains the Oracle Calendar desktop client for Windows system requirements.

Table G–3 Oracle Calendar desktop client for Windows system requirements

Requirement	Value
Operating system	■ Windows 98 ■ Windows ME ■ Windows NT ■ Windows 2000 ■ Windows XP Home ■ Windows XP Professional If you are installing Oracle Calendar desktop client for Windows on a Windows NT computer, you must install Microsoft Windows Service Pack 6 or later. Administrative privileges are required to install Oracle Calendar desktop client for Windows on Windows NT, 2000, and XP.
Disk space	25 MB
RAM	20 MB minimum
Calendar server	■ Oracle CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x

Installing Oracle Calendar Desktop Client for Windows

This section describes how to install Oracle Calendar desktop client for Windows.

1. Log in with administrative privileges if you are installing on Windows NT, 2000, or XP.
2. Run the self-extracting executable `cal_win_904x.exe` and follow the on-screen instructions.

Silent Installation of Oracle Calendar Desktop Client for Windows

Oracle Calendar desktop client for Windows 9.0.4 offers silent and customizable installations to ease large-scale deployment. The desktop client incorporates MSI installer technology to offer configurable levels of user interaction ranging from the regular interactive install to a completely silent behind-the-scenes procedure with no user feedback or prompts at all.

Performing the Silent Installation

Unzipping the self-extracting executable `cal_win_904x.exe` will extract the following: `setup.exe`, `Oracle Calendar 9.0.4.msi`, some `CAB` files, and a folder containing the `unison.ini` file. The `Oracle Calendar 9.0.4.msi` file is the main installer package that runs in the MSI engine. This file cannot be run directly because it depends on the InstallShield setup scripts which are available only through the `setup.exe` file. The `CAB` files contain the compressed data to be installed on the end user's machine. The only file left uncompressed is the template `unison.ini` file. The `setup.exe` file is the InstallShield wrapper that runs the MSI installer engine with the `Oracle Calendar 9.0.4.msi` file. The `setup.exe` file is also responsible for upgrading the user's machine if it does not already have the MSI installer engine.

Note that users installing Oracle Calendar must have administrator privileges on the machine. Although this is the default setting for Windows 98 and Windows ME, it may not be the case for multi-user operating systems such as Windows NT 4.0, Windows 2000 or Windows XP. Administrator privileges on the machine are required to write to the registry and install certain required files.

The installer will upgrade any previous versions of CorporateTime, OpenTime and Oracle Calendar on the user's machine. The installer will also upgrade any beta versions of Oracle Calendar desktop client for Windows 9.0.4.

To configure the level of user interaction, run the self-extracting executable `cal_win_904x.exe` file from the command line with the `/s` option. In addition, use the `/v` option to specify any information that should be passed by the InstallShield wrapper to the Windows Installer. The value of this option is a string specified inside double-quotes, which should provide a nested flag to control the level of user feedback given by the Windows Installer. Flags available include:

- **`/qn`** to specify a completely silent installation
- **`/qb`** to provide basic user feedback such as progress indicators during the installation, but prevent users from modifying any installation parameters or information. For example, users can see the progress indicator while files are being copied but not allowed to specify the destination path.

For more details on the levels of user interaction available with Windows Installer's `/q` option, see the Windows Installer documentation.

In the string value provided for the `/v` option, it is recommended to also include the `REINSTALL` and `REINSTALLMODE` parameters which instruct the installer to upgrade any Alpha or Beta versions of the software that may already be present on the system.

The basic recommended command line for a completely silent installation is therefore constructed as follows:

```
setup.exe /s /v"/qn REINSTALL=ALL REINSTALLMODE=voums"
```

> **Note:** The `/v` option should always be the last one specified on the command line.

Customizing the Oracle Calendar Preferences File

Most calendar preferences and setup information can be specified in the client-side `unison.ini` file. When you install the application, you can provide the installer with a template `unison.ini` file preset with a variety of preferences and other information. The template `unison.ini` file is used only when no personal `unison.ini` file exists. Once such a personal file exists for any given user, subsequent client upgrades will NOT remove it or replace it. In other words, the ability to preset

unison.ini preferences through the client installer is only available for users who have not yet used any version of Oracle Calendar on the current machine. For those users, Oracle Calendar will simply use their old set of preferences. There are two reasons for this behavior:

- On multi-user operating systems such as Windows NT and 2000, the user upgrading the application cannot necessarily view and modify files in other users' profile folders, where the individual unison.ini files are stored. In other words, the installer cannot locate all the unison.ini files on the current machine in order to replace them with the new template.
- All user preferences not stored directly in the calendar server or specified in the template unison.ini file would be lost if the user's personal unison.ini were replaced.

Deinstalling Oracle Calendar desktop client for Windows

To remove Oracle Calendar desktop client for Windows:

1. Double-click **Add/Remove Programs** from the Control Panel.
2. Choose **Oracle Calendar 9.0.4** and click **Add/Remove**.

Oracle Calendar Desktop Client for Linux

This section covers these topics:

- System Requirements for Oracle Calendar Desktop Client for Linux x86
- Installing Oracle Calendar Desktop Client for Linux x86
- Silent Installation of Oracle Calendar Desktop Client for Linux x86
- Deinstalling Oracle Calendar Desktop Client for Linux x86

System Requirements for Oracle Calendar Desktop Client for Linux x86

The following table contains the Oracle Calendar desktop client for Linux system requirements.

Table G–4 Oracle Calendar desktop client for Linux system requirements

Requirement	Value
Operating system	■ Red Hat Linux 7.x, to 9.0 ■ SuSE Linux 7.1 ■ Linux x86 with kernel 2.4.x or later
Disk space	33 MB
RAM	15 to 20 MB
Calendar server	■ Oracle CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x

Installing Oracle Calendar Desktop Client for Linux x86

This section describes how to install Oracle Calendar desktop client for Linux.

1. Unpack the distribution archive in a temporary directory. /tmp is the sample directory used in the following instructions.

```
cd /tmp
gtar zxvf /tmp/cal_linux_904x.tar.gz
```

2. Change to the `OracleCalendar_inst` directory.

```
cd OracleCalendar_inst
```

3. To install using a full graphical interface, run `gui_install.sh`. To install using a text mode interface, run `text_install.sh`. You will be prompted for installation and shortcut directories.

Silent Installation of Oracle Calendar Desktop Client for Linux x86

To run a silent installation of Oracle Calendar desktop client for Linux, follow the steps described in "Installing Oracle Calendar Desktop Client for Linux x86" on page G-13, except run the file `silent_install.sh`. This file reads the following parameters from the `ocal_conf/silent.properties` file:

- `USER_INSTALL_DIR`: Where the application will be installed
- `USER_SHORTCUTS`: Where the shortcut used to start Oracle Calendar will be placed

Both values must be fully-qualified paths, such as `/local/OracleCalendar`. Relative paths may not be used.

Deinstalling Oracle Calendar Desktop Client for Linux x86

To deinstall Oracle Calendar desktop client for Linux, remove the `OracleCalendar` directory:

```
rm -rf /OracleCalendar
```

Oracle Calendar Desktop Client for Macintosh

This section contains these topics:

- System Requirements for Oracle Calendar Desktop Client for Macintosh
- Installing Oracle Calendar Desktop Client for Macintosh
- Deinstalling Oracle Calendar Desktop Client for Macintosh

System Requirements for Oracle Calendar Desktop Client for Macintosh

The following table contains the Oracle Calendar desktop client for Macintosh system requirements.

Table G–5 Oracle Calendar desktop client for Macintosh System Requirements

Requirement	Value
Operating system	Mac OS 9.x (with CarbonLib 1.6), Mac OS X 10.1.4 to 10.2.6. Note: Oracle Collaboration Suite Release 2 Patch Set 1 (9.0.4.2.0) supports Mac OS 9.22 to OS 10.3.
Disk space	20 MB minimum
RAM	12 MB

Table G–5 (Cont.) Oracle Calendar desktop client for Macintosh System Requirements

Requirement	Value
Calendar server	■ Oracle CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x

Installing Oracle Calendar Desktop Client for Macintosh

Mac OS 9.x

This section describes how to install Oracle Calendar desktop client for Macintosh for Mac OS 9.x.

1. Ensure that you have administrative privileges.
2. Ensure that the `CarbonLib` file is installed in the `Extensions` folder of your active System Folder to run the installer.
3. Double-click `cal_mac_OS9_904x.hqx` and follow the on-screen instructions.

   The installer extracts the application and copies the `Readme.htm` file into the destination folder you have selected. It also extracts all shared libraries to the `Extensions` folder and `Oracle Calendar Help` to the Help folder of your active System Folder.

   If your `CarbonLib` file is prior to version 1.6, it is updated. Restart the computer for the new file version to take effect.
4. Double-click the Oracle Calendar desktop icon to start the application when installation is completed.

Mac OS X

This section describes how to install Oracle Calendar desktop client for Macintosh for Mac OS X.

1. Ensure that you have administrative privileges.
2. Double-click `cal_mac_OSX_904x.hqx` and follow the on-screen instructions.

   The installer extracts the application and copies the `Readme.htm` file into a destination folder you select. It also extracts all shared libraries to the `/Library/CFMSupport/` folder and the `Oracle Calendar Help` folder to the `/Library/Documentation/Help/` folder.
3. Double-click the Oracle Calendar desktop icon to start the application when installation is complete.

Deinstalling Oracle Calendar Desktop Client for Macintosh

Mac OS 9.x

This section describes how to deinstall Oracle Calendar desktop client for Macintosh for Mac OS 9.x.

1. To remove the Oracle Calendar desktop client for Macintosh, you must delete these components:
   - Shared libraries and ACE plug-ins
   - Help

- Preferences
- Oracle Calendar Desktop Client application
- Oracle Calendar data (offline files)

2. To remove the shared libraries and ACE plug-ins, go to your hard disk and open the `System` folder. Open the `Extensions` folder and delete these files:
   - `OCALACipher1EncrLib`
   - `OCALLightEncrLib`
   - `OCALSimpleCompLib`
   - `OCALStdAuthLib`
   - `OCALSASLAuthLib`
   - `OCALGssapiAuthLib`
   - `Unison Library`
3. To remove the Help, go to your hard disk and open the `System` folder. Open the `Help` folder, select the `Oracle Calendar Help` folder, and delete it.
4. To remove your Preferences, go to your hard disk and open the `System` folder. Open the `Preferences` folder, select the `Oracle Calendar Prefs` file, and delete it.
5. To remove the Oracle Calendar data files, go to your hard disk and open the `Applications (Macintosh OS 9)` folder. Select the `Oracle Calendar` folder and delete it.

Mac OS X

This section describes how to deinstall Oracle Calendar desktop client for Macintosh for Mac OS X.

1. To remove the Oracle Calendar desktop client for Macintosh, you must delete these components:
   - Shared libraries and ACE plug-ins
   - Help
   - Preferences
   - Oracle Calendar Desktop Client application
   - Oracle Calendar data (offline files)
2. To remove the shared libraries and ACE plug-ins, go to your hard disk and open the `Library` folder. Open the `CFMSupport` folder and delete these files:
   - `OCALACipher1EncrLib`
   - `OCALLightEncrLib`
   - `OCALSimpleCompLib`
   - `OCALStdAuthLib`
   - `OCALSASLAuthLib`
   - `OCALGssapiAuthLib`
   - `Unison Library`

3. To remove the Help, go to your hard disk and open the `Library` folder. Open the `Documentation` folder, and then open the `Help` folder. Select the `Oracle Calendar Help` folder and delete it.
4. To remove your Preferences, go to your hard disk and open the `Users` folder and go to the `User` folder that has your name on it. Open the `Library` folder, and then open the `Preferences` folder. Select the following files and delete them:
   - `com.Oracle.Oracle Calendar.plist`
   - `Oracle Calendar Prefs`
5. To remove the Oracle Calendar application, go to your hard disk and open the `Applications` folder. Select the `Oracle Calendar` folder and delete it.

Oracle Calendar Desktop Client for Solaris

This section contains these topics:

- System Requirements for Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)
- Installing Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)
- Deinstalling Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)
- Silent Installation of Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)

System Requirements for Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)

The following table contains the Oracle Calendar desktop client for Solaris system requirements.

Table G–6 Oracle Calendar desktop client for Solaris system requirements

Requirement	Value
Operating system	Solaris 8, 9 (SPARC only) Netscape Navigator or Netscape Communicator release 4.0 or later is required to use the Oracle Calendar Desktop Client online Help. The directory that contains the Netscape executable must be set in your path.
Disk space	40 MB
RAM	20 to 25 MB
Calendar server	■ Oracle CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x

Installing Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)

This section describes how to install the Oracle Calendar desktop client for Solaris.

1. Untar the distribution archive into a temporary directory. `/tmp` is the sample directory used in the following commands.

```
cd /tmp
gtar zxvf /tmp/cal_sun_os_904x.tar.gz
```

2. Change to the `OracleCalendar_inst` directory.

```
cd OracleCalendar_inst
```

3. To install using a full graphical interface, run `gui_install.sh`. To install using a text mode interface, run `text_install.sh`. You will be prompted for installation and shortcut directories.

Deinstalling Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)

To desinstall the Oracle Calendar desktop client for Solaris, remove the `OracleCalendar` directory:

```
rm -rf /OracleCalendar
```

Silent Installation of Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)

To run a silent installation of Oracle Calendar desktop client for Solaris operating environment (SPARC 32-bit), follow the steps described in "Installing Oracle Calendar Desktop Client for Solaris Operating Environment (SPARC 32-bit)" on page G-17, except run the file `silent_install.sh`. This file reads the following parameters from the `ocal_conf/silent.properties` file:

- `USER_INSTALL_DIR`: Where the application will be installed
- `USER_SHORTCUTS`: Where the shortcut used to start Oracle Calendar will be placed

Both values must be fully-qualified paths, such as `/local/OracleCalendar`. Relative paths may not be used.

Oracle Calendar Sync for Palm for Windows

This section contains these topics:

- System Requirements for Oracle Calendar Sync for Palm for Windows
- Installing Oracle Calendar Sync for Palm for Windows
- Deinstalling Oracle Calendar Sync for Palm for Windows

System Requirements for Oracle Calendar Sync for Palm for Windows

The following table contains the Oracle Calendar Sync for Palm for Windows system requirements.

Table G–7 Oracle Calendar Sync for Palm for Windows system requirements

Requirement	Value
Operating system	■ Windows 98 ■ Windows 2000 ■ Windows ME ■ Windows XP ■ Windows NT 4.0
Disk space	75 MB
RAM	64 MB
Calendar server	■ CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4
Palm Desktop	Palm Desktop 3.1 to 4.1
Device	■ Palm m100, m500, m505, III, IIIx, V, Vx, Tungsten *T*, Tungsten *W* ■ Handspring Visor

Installing Oracle Calendar Sync for Palm for Windows

This section describes how to install Oracle Calendar Sync for Palm for Windows.

If you have a previous version of Oracle Calendar Sync (CorporateSync) installed, Oracle Corporation recommends that you perform a synchronization before you install Oracle Calendar Sync for Palm for Windows.

1. Ensure HotSync is installed on your computer.
2. Run the `cal_syncpalm_win_904x.exe` setup program provided with the distribution package and follow the on-screen InstallShield instructions.
3. Choose an installation type. If you choose **Custom**, there is no difference between **This feature will be installed on local hard drive** and **This feature, and all subfeatures, will be installed on your local hard drive**. Select the conduits you want to install.
4. Enter your user information, including user name, password, calendar server, and node ID.
5. Follow the rest of the on-screen instructions to complete the installation.
6. Ensure that your device is in its cradle, then perform a synchronization. The first time you do this after installation, a full synchronization will take place.

Deinstalling Oracle Calendar Sync for Palm for Windows

To remove Oracle Calendar Sync:

1. Double-click **Add/Remove Programs** from the Control Panel.
2. Choose **Oracle Calendar Sync 9.0.4 for Palm** and click **Add/Remove**.

Oracle Calendar Sync for Pocket PC

This section contains these topics:

- System Requirements for Oracle Calendar Sync for Pocket PC
- Installing Oracle Calendar Sync for Pocket PC
- Deinstalling Oracle Calendar Sync for Pocket PC

System Requirements for Oracle Calendar Sync for Pocket PC

The following table contains the Oracle Calendar Sync for Pocket PC system requirements.

Table G–8 Oracle Calendar Sync for Pocket PC

Requirement	Value
Operating system	■ Windows 98 ■ Windows 2000 ■ Windows ME ■ Windows XP ■ Windows NT 4.0
Disk space	75 MB
RAM	64 MB
Calendar server	■ CorporateTime server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4
Pocket PC	Pocket PC (Windows CE 3.0) with MIPS, SH3, ARM or XScale processor
ActiveSynch	Version 3.0 to 3.7, as appropriate for your device. If you are running an older version of Microsoft ActiveSyncj, check your manufacturer's site for updates.
Device	■ HPC 2000 ■ Compaq iPAQ ■ HP iPAQ H1910 ■ HP Jornada 500 series ■ HP Jornada 700 series ■ Handheld PC ■ Pocket PC 2002 If you are running an older version of Microsoft ActiveSync, check your manufacturer's site for updates.

Installing Oracle Calendar Sync for Pocket PC

This section describes how to install Oracle Calendar Sync for Pocket PC.

If you have a previous version of Oracle Calendar Sync (CorporateSync) installed, Oracle Corporation recommends that you perform a synchronization before you install Oracle Calendar Sync for Pocket PC.

1. Ensure that ActiveSync is installed on your computer.
2. Run the `cal_syncppc_win_904x.exe` setup program provided with the distribution package and follow the on-screen InstallShield instructions.

3. Choose an installation type. If you choose **Custom**, there is no difference between **This feature will be installed on local hard drive** and **This feature, and all subfeatures, will be installed on your local hard drive**. Select the conduits you want to install.
4. Ensure that you install Oracle Calendar Sync Helper files when prompted by the application. Your device must be connected to install these files.

> **Note:** To connect at a later time and install the files, click **Start** > **Programs** > **Oracle Calendar Sync for Pocket PC** > **Install Device Files**.

5. Enter your user information, including user name, password, calendar server, and node ID.
6. Follow the rest of the on-screen instructions to complete the installation.
7. Remove your device from its cradle.
8. If you are upgrading from a previous version, select **File** > **Delete Partnership**.
9. Return your device to the cradle. The ActiveSync Partnership Wizard starts.
10. Follow the on-screen instructions to create a new ActiveSync Partnership. Select **Oracle Calendar** as your plug-in for Calendar, Tasks and Contacts.
11. Open Microsoft ActiveSync if it does not open automatically.
12. Click **Sync** if synchronization is not automatically initiated. The first time you synchronize, a full synchronization will occur.

Deinstalling Oracle Calendar Sync for Pocket PC

To remove Oracle Calendar Sync for Pocket PC:

1. Double-click **Add/Remove Programs** from the Control Panel.
2. Choose **Oracle Calendar Sync 9.0.4 for Pocket PC** and click **Add/Remove**.

To remove Oracle Calendar Sync Helper files from your mobile device:

1. On your device, choose **Start** > **Settings**.
2. Under **System**, click **Remove Programs**.
3. Select **Oracle Calendar Sync Helper Files** and click **Remove**.

Oracle Calendar Sync for Palm for Macintosh

This section contains these topics:

- System Requirements for Oracle Calendar Sync for Palm for Macintosh
- Preparing to Install Over Previous Versions
- Installing Oracle Calendar Sync for Palm for Macintosh
- Deinstalling Oracle Calendar Sync for Palm for Macintosh

System Requirements for Oracle Calendar Sync for Palm for Macintosh

The following table contains the Oracle Calendar Sync for Palm for Macintosh system requirements.

Table G–9 Oracle Calendar Sync for Palm for Macintosh system requirement

Requirement	Value
Operating system	Mac OS 9 or Mac OS X 10.1.4 to 10.2.6. Note: Oracle Collaboration Suite Release 2 Patch Set 1 (9.0.4.2.0) supports Mac OS 9.22 to OS 10.3.
Disk space	15 MB. If the Oracle Calendar desktop client for Macintosh is already installed, only 5 MB of disk space is required.
RAM	8 MB (64 MB is recommended)
Calendar server	■ Oracle CorporateTime Server 5.4 ■ Oracle Calendar server 5.5 ■ Oracle Calendar server 9.0.4.x
Palm	Palm Desktop version 4.0
Device	Any Palm compatible device running Palm OS 3.3 to 3.5x, Palm OS 4 or Palm OS 5

Preparing to Install Over Previous Versions

If you already have Sync software installed on your computer and you have data stored in Palm Desktop, perform a HotSync.

If you have a Beta version of Oracle Calendar Sync installed, or if you have version 2.1.4 or earlier of Oracle Corporate Sync installed, you must do the following before installing Oracle Calendar Sync for Palm for Macintosh, in order to protect your data.

1. Remove the Oracle Calendar Sync application (also known as CS Setup) from your Palm organizer.
2. Purge all items from your Date Book and To Do List. If you do not do this, duplicates of the items will be created when you perform your first HotSync after installing Oracle Calendar Sync for Palm for Macintosh. Note the following when purging data:
   - Ensure that **Save archive copy on PC** is selected.
   - To Do items that have not been marked as completed must be manually deleted.
   - To delete the majority of, or all, Date Book events, advance the date on your organizer by several years, then do your purge. For example, change your organizer's date to 2015, then purge all events **older than 1 week** to delete all events from the past up until the year 2015.

Installing Oracle Calendar Sync for Palm for Macintosh

This section describes how to install Oracle Calendar Sync for Palm for Macintosh.

1. Double-click the `cal_syncpalm_macOS9_904.hqx` (`cal_syncpalm_macOSX_904.hqx` if you are using Mac OS X) file. This creates the Oracle Calendar Sync installer.
2. Double-click **Oracle Calendar Sync Install**. The installer checks for existing Sync files and installs the program. Depending on your setup, this may take several minutes. Some error messages may be generated and saved to the install log; you can ignore these messages.

3. Copy `Oracle Calendar Sync.prc` from the `/Applications/Palm /Add-on/` directory to the `/Users/`*`user`*`/Documents/Palm/Users/`*`user`*` /Files to Install/` directory. *`user`* is the name of the relevant Mac user.

   If you have recently installed Palm Desktop and the Files to Install folder does not exist, create this folder manually.

   Note: The installer will move the Datebook and ToDo conduits to a folder entitled Disabled Conduits.

4. Turn on the Palm organizer and place it in its cradle.
5. Press the **HotSync** button on the front of the Palm organizer cradle. The Oracle Calendar Sync application will be installed on your Palm organizer.

   Note: You may get error messages in the HotSync log saying that Oracle Calendar Sync cannot be located. Ignore these messages.

6. If the HotSync Manager is running, the installer will ask if you want to close it. Click **Yes** to exit the HotSync Manager.
7. Click the **HotSync** icon in your HotSync folder and select **HotSync Manager**.
8. From the HotSync menu, choose **Conduit Settings**. A list of synchronizable items appears. Choose how you want Oracle Calendar Events and Tasks to be synchronized by double-clicking each item. A dialog box appears with the following choices:
   - **Synchronize the files**: Synchronizes all information that exists on both your Palm organizer and in Oracle Calendar
   - **Macintosh overwrites hand-held**: Information in your Oracle Calendar Agenda overwrites Events, Tasks, or Addresses on the Palm organizer
   - **Do Nothing**: The specified Entry type is not synchronized
9. Select a user name from the top of the Conduit Settings dialog box. If there is only one user name, it is selected automatically.
10. Open Oracle Calendar Sync on your Palm organizer and enter your Oracle Calendar user name, password, server and node ID. If you do not know this information, ask your Network Administrator.

Oracle Calendar Sync is now installed but no Entry information has been synchronized.

Troubleshooting the Oracle Calendar Sync for Palm for Macintosh Installation

Occasionally, after installing Oracle Calendar Sync for Palm for Macintosh, you may have difficulty performing a HotSync. This can be due to a conflict with Palm Desktop files. To fix the problem, do the following:

1. Delete the Users folder located in your Documents Folder under `/Users /`*`your_user_name`*`/Documents/Palm/Users`.
2. Delete the `com.palm.Desktop.plist` file, located in the `/Users /`*`your_user_name`*`/Library/Preferences/` directory.

3. Delete the following files located in the `/Users /your_user_name/Library/Preferences/ByHost/` directory:
   - `com.palm.HS.T.S.xxxxxxxx.plist`
   - `com.palm.HS.T.PC.xxxxxxxx.plist`
   - `com.palm.HS.T.USB.xxxxxxxx.plist`
4. Start HotSync Manager. You will be prompted for a user name, provided you deleted the files and folders as described in the preceding steps.
5. Enter your user name and any other necessary HotSync information.
6. Close HotSync Manager and perform a HotSync.

Deinstalling Oracle Calendar Sync for Palm for Macintosh

This section describes how to deinstall Oracle Calendar Sync for Palm for Macintosh.

1. Remove the Oracle Calendar Events and Oracle Calendar Tasks conduits from the HotSync Conduits folder:
2. Remove the `Unison Library` shared library from the active (Mac OS 10.2.1) `Library\CFM Support` folder.
3. Return the contents of the Disable Conduits folder to the HotSync conduits folder.

Oracle FileSync

This section contains these topics:

- Installing Oracle FileSync for Windows
- Deinstalling Oracle FileSync for Windows

Installing Oracle FileSync for Windows

Oracle FileSync is a Windows client software application that enables users to keep files synchronized between their local machine and Oracle Files. To install Oracle FileSync, users should follow these steps:

1. Save and exit all Windows applications.
2. Log in to Oracle Files and click **Help**. On the main online help page, click the link in the Oracle FileSync section.
3. Save the install executable to your hard drive.
4. Double-click **`FileSync.exe`** to run the installation program.
5. Follow the instructions and accept the defaults. The application is installed in the Windows client machine in the following directory:

   ```
   c:\Program Files\Oracle\Oracle FileSync
   ```

6. To start the Oracle FileSync application, select **Oracle FileSync** from the Windows Start -> Programs menu.

Deinstalling Oracle FileSync for Windows

To remove Oracle FileSync for Windows:

1. Double-click **Add/Remove Programs** from the Control Panel.

2. Select **Oracle FileSync** and click **Add/Remove**.

Glossary

Debian

A free operating system using the Linux kernel and basic operating system tools from the GNU project.

domain

Any tree or subtree within the **Domain Name System (DNS)** namespace. Domain most commonly refers to a group of computers whose host names share a common suffix, the domain name.

For Oracle Files, a domain is a logical grouping of Oracle Files **node**s and HTTP nodes, an **Oracle Files Domain Controller**, and an Oracle9*i* database instance that contains all Oracle Files data.

Domain Name System (DNS)

A system for naming computers and network services that is organized into a hierarchy of domains. DNS is used in TCP/IP networks to locate computers through user-friendly names. DNS resolves a friendly name into an IP address, which is understood by computers.

host name

The unique identity for each computer within a domain.

ias_admin password

The password used to administer any installation on the host where Oracle9*i*AS Infrastructure and Oracle Collaboration Suite are installed. This password is required for installing additional Oracle Collaboration Suite instances. If you are configuring **Oracle Internet Directory**, the default administrative user `orcladmin`, is assigned the same password as the `ias_admin` user by default. The `orcladmin` user is an **Oracle Internet Directory super user**.

instance name

Identifies the installation instance of Oracle9*i*AS Infrastructure and Oracle Collaboration Suite on a single host.

node

An Oracle Files node is a particular set of processes running on a host computer. One or more node processes can run on a host computer. An Oracle Files node is essentially the application software that comprises the product and the underlying processes, such as the Java VM (virtual machine), that support the software at runtime.

LDAP

See Lightweight Directory Access Protocol (LDAP).

LDIF

See LDAP Data Interchange Format (LDIF).

Lightweight Directory Access Protocol (LDAP)

A standard, extensible directory access protocol. It is a common language that LDAP clients and servers use to communicate. The framework of design conventions supporting industry-standard directory products, such as Oracle Internet Directory.

LDAP Data Interchange Format (LDIF)

The set of standards for formatting an input file for any of the LDAP command-line utilities.

Oracle Calendar

An Oracle Collaboration Suite application that provides calendaring, scheduling, and personal information management (PIM) capabilities through desktop clients, the Web, and any mobile device. The scalable calendar architecture allows companies to use sophisticated group calendars and resource scheduling across an entire enterprise.

Oracle Calendar Web Client

A convenient, accessible calendaring service that can be used either on its own or as a complement to any of the Oracle Calendar desktop clients. Users can work across time zones, operating systems, and languages with an interface that adapts to the needs of your organization through a user interface that you can customize. With a flexible, intuitive layout and organization, users can collaborate easily with the people around them.

Oracle Cluster Setup Wizard

The Oracle Cluster Setup Wizard performs the following tasks on all nodes:

- Installs and starts Oracle9*i* operating system dependent clusterware
- Optionally, installs and starts the OracleClusterFileSystem service and creates one or two shared file systems.
- Optionally, installs Object Link Manager and starts the Oracle Object Service on all nodes. This tool creates persistent symbolic links to logical drives. The service updates all nodes when symbolic links are modified, and is set to Automatic, so that it starts whenever you shut down and restart your computer.
- Preserves existing symbolic link information created by previous invocations of Oracle Object Link Manager
- Installs other disk management tools on all nodes
- Adds a node to an existing cluster

Oracle Collaboration Suite Web Client

Oracle Collaboration Suite provides an integrated Web client for browser-enabled computers, using the underlying Oracle9*i*AS Infrastructure to provide a secure, single sign-on environment for accessing messages (e-mail, voice mail, and fax), calendar and directory information, and content stored in **Oracle Files**, a file server designed for large-scale collaboration.

Oracle Context

The root of a directory subtree with a relative distinguished name of `cn=OracleContext`, under which all Oracle software information is kept. There may be one (or more than one) Oracle Context in a directory. An Oracle Context can be associated with a directory naming context.

The Oracle Context can contain the following Oracle entries:

- Connect identifiers for use with Oracle Net Services directory naming to make database connections
- Enterprise user security for use with Oracle Advanced Security

Oracle Calendar Sync

Synchronize your **Oracle Calendar** meetings, tasks, and address book with the entries on your handheld device. With Oracle Calendar Sync, you can take your calendar everywhere you go, make any changes you want on your device, then synchronize with the latest information about the Oracle Calendar server. Available for Palm (Windows and Macintosh) and Pocket PC devices (Windows only).

Oracle Calendar desktop client

With the **Oracle Calendar** desktop client, users can create and manage meetings, notes, events, and tasks, either on their own behalf or for other users. They can easily compare schedules or verify the availability of other users by means of a convenient combined Group View, and they can check scheduling conflicts before creating meetings. Users can keep track of their contacts with an online Address Book and classify them according to categories that you can configure. The Oracle Calendar desktop client is available for Windows, Macintosh, and Motif.

Oracle Email

A single message store used for voice mail, e-mail, and fax messages that provides storage, management, and access to all types of information. The message store provides delivery, telephone processing, wireless notification, browser-based clients (both Web and wireless), and administration utilities. Oracle Email provides access to all message types using any access method. Voice mail, e-mail, fax, and any other mail type are available to users through their choice of access channel and device.

Oracle Enterprise Manager Console

The client interface to Oracle Enterprise Manager, which provides a wide view of your Oracle environment. Use Oracle Enterprise Manager Console to automatically discover and manage Oracle databases, application servers, and Oracle applications across your entire network. The Console and its related tools are installed as part of the Oracle9*i*AS Infrastructure installation.

Oracle Enterprise Manager Web Site

A Web site providing management tools designed specifically for Oracle Collaboration Suite. You can use this Web site to monitor and configure the components of Oracle9*i*AS Infrastructure and Oracle Collaboration Suite. You can deploy applications, manage security, and create and manage Oracle Collaboration Suite clusters. The Oracle Enterprise Manager Web Site is installed on every host as part of the Oracle9*i*AS Infrastructure installation.

Oracle Files

A content management application that supports user collaboration and file sharing through a consolidated, scalable, and reliable file server. Oracle Files provides a

sophisticated, Web-based user interface and industry standard protocol support that enables users to easily share files of any kind with others in a workspace or across an enterprise. Self-service management features allow users to create Workspaces to secure, author, and publish content using preferred productivity tools and network protocol servers. Oracle Files can manage files systems for both data centers and users.

Oracle Files Domain Controller

A process used to control the **node**s that make up a **domain**.

Oracle FileSync

Oracle FileSync synchronizes all file changes between a local computer and **Oracle Files** and replaces older files with newer versions so that the content in both locations matches.

Oracle HTTP Server

Oracle HTTP Server, which is built on Apache Web server technology, supports Oracle9*i*AS Infrastructure and offers scalability, stability, speed, and extensibility. It also supports Java Servlets, Java Server Pages, Perl, PL/SQL, and CGI applications.

Oracle Internet Directory

An implementation of Lightweight Directory Access Protocol (LDAP), version 3. It enables sharing information about dispersed users and network resources.

Oracle Internet Directory super user

A special directory administrator who must be a member of the `IASAdmins` group and who typically has full access to directory information. The default user name of the super user is `orcladmin`; the default password is `welcome`. Oracle Corporation recommends that you change the password immediately. This user name is also a member of the `IASAdmins` group by default. If the Oracle Internet Directory administrator does not want to give out the `orcladmin` password, then the administrator can create a different username and password for a member of the `IASAdmins` group.

Oracle Management Server

Processes system management tasks and administers the distribution of these tasks across the network using the **Oracle Enterprise Manager Console**. The Console and its three-tier architecture can be used with the **Oracle Enterprise Manager Web Site** to manage your entire Oracle environment.

Oracle Connector for Outlook

Oracle Connector for Outlook provides e-mail and real-time calendaring through the familiar, integrated interface of Microsoft Outlook. With access to information both online and offline, full-featured mail functionality, and PDA synchronization, Oracle Connector for Outlook takes advantage of all of Microsoft Outlook's most popular features. In addition, users benefit from enhanced calendaring capabilities through real-time access to information and up-to-date free/busy time lookups with **Oracle Calendar**.

Oracle Ultra Search

Oracle Ultra Search provides uniform search-and-locate capabilities over multiple repositories: Oracle databases, other ODBC compliant databases, IMAP mail servers, HTML documents served up by a Web server, files on disk, and more. It is built on the Oracle database server and Oracle Text technology and uses a crawler to index documents. The documents stay in their own repositories, and the crawled

information is used to build an index that stays within your firewall in a designated Oracle database. Oracle Ultra Search also provides APIs for building content management solutions.

Oracle Voicemail & Fax

A reliable, highly scalable voice mail and fax system that provides centralized and secure message storage and retrieval for voice mails and faxes. Using the highly scalable and reliable **Oracle Email** message store as a foundation, Oracle Voicemail & Fax provides telephone processing, delivery, browser-based clients, and administration utilities.

Oracle Web Conferencing

Oracle Web Conferencing brings real-time online collaboration to any enterprise, enabling customers, employees, teams, and partners to meet online within the context provided by the content, commerce, and comprehensive business flows of e-business. It consists of client and server applications that let you create and participate in online conferences. Oracle Web Conferencing features multiple ways to collaborate in conferences, including desktop sharing, whiteboarding, chat, polling, and cobrowsing.

Oracle9*i*AS Wireless

A portal service for delivering information and applications to mobile devices. Using Oracle9*i*AS Wireless, you can create custom portal sites that use different kinds of content, including Web pages, custom Java applications, and XML-based applications. Oracle9*i*AS Wireless sites make this diverse information accessible to mobile devices without you having to rewrite the content for each target device platform.

Oracle9*i*AS Containers for J2EE

A complete set of Java 2 Enterprise Edition (J2EE) containers, provided by Oracle9*i*AS Infrastructure and written entirely in Java, that execute on the Java Virtual Machine (JVM) of the standard Java Development Kit (JDK). You can run Oracle9*i*AS Containers for J2EE (OC4J) on the standard JDK that exists on your operating system.

Oracle9*i*AS Metadata Repository

A preseeded database containing metadata needed to run Oracle Collaboration Suite instances. It can also store **Oracle Internet Directory** and **Oracle9iAS Single Sign-On** information.

Oracle9*i*AS Portal

Oracle9*i*AS Portal is a complete solution for building, deploying, and monitoring Web database applications and content-driven Web sites. Oracle9*i*AS Portal enables you to create and view database objects through an easy-to-use, HTML-based interface, and provides tools for creating HTML-based interfaces. It also enables you to resolve performance problems using performance tracking facilities, and enables you to manage database security through its interface.

Oracle9*i*AS Single Sign-On

An enterprise-wide user authentication process enabling access to multiple accounts and Oracle Collaboration Suite applications.

Oracle9*i*AS Web Cache

A server accelerator caching service that improves the performance, scalability, and availability of frequently used e-business Web sites that run on Oracle9*i*AS Infrastructure and Oracle databases. By storing frequently accessed URLs in virtual memory, Oracle9*i*AS Web Cache eliminates the need to repeatedly process requests for

those URLs on the Web server, and it caches both static and dynamically-generated HTTP content from one or more Web applications.

port

The number used to route transmitted data to and from a particular program.

schema

A collection of database objects, including logical structures such as tables, views, sequences, stored procedures, synonyms, indexes, clusters, and database links. A schema has the name of the user who controls it.

Subscriber

In Oracle Files, a Subscriber is an organizational entity where users collaborate. An Oracle Files subscriber maps to a subscriber on the Oracle Internet Directory LDAP server. Users on the Oracle Internet Directory server are provisioned in Oracle Files.

Each Subscriber has its own Subscriber Administrator. The Subscriber Administrator, an enhanced user, is responsible for the management of quota, the specification of Subscriber settings, the administration of users, the restoration of files, folders, and workspaces, and the administration of categories.

The Subscriber is managed by the Site Administrator. The Site Administrator creates, modifies, and deletes Subscribers.

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