

Oracle® Mobile Collaboration

Administrator's Guide

10g Release 1 (10.1.1)

B14497-02

September 23, 2005

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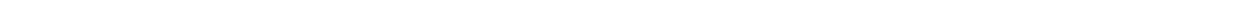
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Preface

This guide describes information and tasks for the administration of the Mobile Collaboration component of Oracle Collaboration Suite 10g.

Intended Audience

This manual assumes familiarity with the system management and content management function of Oracle Application Server Wireless as described in *Oracle Application Server Wireless Administrator's Guide*. This manual is intended for administrators who install, configure, and manage the Mobile Collaboration component of the Oracle Collaboration Suite.

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Related Documents

You can also find information on Mobile Collaboration through these resources:

- *Oracle Application Server Wireless Administrator's Guide*
- *Oracle Application Server Developer's Guide*
- Oracle Technology Network—dedicated to providing developers the best information on Oracle's products and technologies. Visit: <http://otn.oracle.com>
- javadoc—. . . /wireless/doc/javadoc/
- Studio—Oracle Mobile Online Studio is a 100% online environment for quickly building, testing, and deploying wireless applications. It enables any developer, systems integrator, or independent software vendor to quickly develop a mobile application that is immediately accessible from all devices. The Online Studio site includes technical papers and a FAQ. Visit: http://technet.oracle.com/hosted_dev/oracle_mobile/content.html

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, names of graphical user interface elements, and emphasis.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
<>	Angle brackets enclose user-supplied terms.

Introduction to Mobile Collaboration

This chapter, through the following sections, describes how Oracle Collaboration Suite 10g provides mobile access.

- ["Overview of Mobile Collaboration"](#)
- ["Providing Mobile Access to Oracle Collaboration Suite 10g Services"](#)

Overview of Mobile Collaboration

Oracle Collaboration Suite 10g provides a complete collaborative platform to enterprise customers, including services such as mail, calendar, files (Content Services), and Web conferences. Because users need access to these services while they are away from their desks, Oracle Collaboration Suite provides the Oracle Collaboration Suite 10g Mobile Collaboration. Oracle Mobile Collaboration provides users with a continuous connection to the enterprise, enabling them to access company e-mail, voice-mail, calendars, address books, tasks, online files, and directories from any location using any mobile device, including those with voice access. For example, an employee using a mobile phone can send a white paper to a client or retrieve the phone numbers of fellow employees from a company directory. Using the wireless and voice access to the Oracle Collaboration Suite, users receive notifications when important events are added to their calendars, when they receive specific e-mails or voice-mails, or when documents are updated in their folders.

Enabling Mobile Access to Oracle Collaboration Suite 10g

Oracle Mobile Collaboration provides the mobile and voice access to such browser-based applications as Oracle Collaboration Suite 10g Mail, Calendar, Search and Content Services through the following services:

- Oracle Collaboration Suite 10g Mobile Access

Oracle Collaboration Suite Mobile Access applications include the following options, which can be used in any combination:

- Mobile Browser Access

Mobile Browser Access enables access to e-mail, voicemail, fax, calendars, address books, and corporate directories from a mobile device. By providing access to the Oracle Collaboration Suite portal, mobile users can compose, send, receive, forward and reply to e-mail, as well as review, create, modify and confirm calendar events, view a file hierarchy or fax. A user can also search for names, numbers, locations and management structure in a corporate directory.

- Mobile Text Access

Mobile Text Access enables users to access Oracle Collaboration Suite services by sending a request to the Oracle Collaboration Suite through e-mail or Short Message Service (SMS) text message. Oracle Collaboration Suite then replies with the requested information. For example, a user can access information on appointments logged in the Oracle Collaboration Suite 10g Calendar by issuing a text message with the **short name**, *cal*.

- Mobile Notifications

Oracle Collaboration Suite 10g provides a set of configured notifications which enable users to receive notifications of messaging events, such as new e-mails or voicemails and reminders through SMS, e-mail, voice and fax delivery channels. Users manage notification subscriptions and set the preferences that trigger reminders for each application according to their preferences or context.

- Oracle Collaboration Suite 10g Voice Access

Oracle Voice Access enables users to compose, send, receive, forward and reply to e-mail (through .wav files attached to common e-mails), view, create, modify and confirm calendar events, audibly review a file hierarchy, fax and e-mail files, search for names, numbers, locations and management structure in a corporate directory, and place calls from any phone (including non-mobile phones). Oracle Collaboration Suite Voice Access also provides voice-dialing and enables users to receive voice notifications.

- Oracle Collaboration Suite 10g Mobile Push Mail

Oracle Mobile Push Mail is a Push IMAP (P-IMAP) solution that provides a real-time e-mail experience by automatically pushing e-mail to a user's device over a wireless network as soon as the e-mail is received by mail server. Oracle Mobile Push Mail provides "always on" mail push functionality to mobile devices without user intervention; users need only specify the type of mail that they want to receive, such as high-priority e-mail, or e-mail sent by specific individuals. Because the user's device stores the received e-mail, users can read and compose e-mail without a connection. Oracle Mobile Push Mail also provides cradle-free, two-way synchronization between the user's device and the Push Mail server that reflects the current state of the e-mail at the server or stored on the user's device; any action made by the user (such as read or delete) is securely sent to the mail server.

- Oracle Collaboration Suite 10g Mobile Data Sync

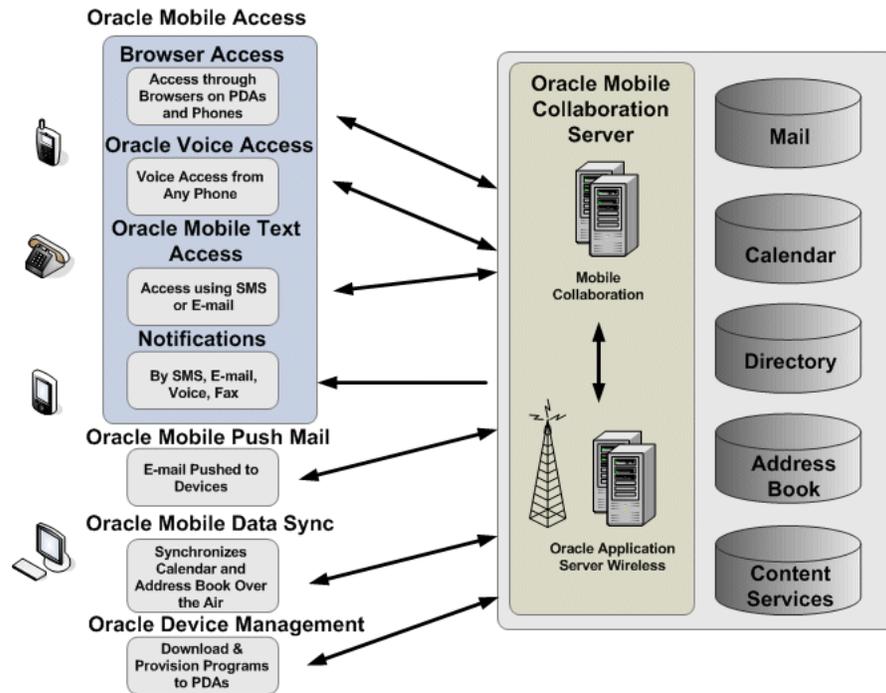
Oracle Mobile Data Sync enable users to keep abreast of important information without a physical connection to a laptop corporate network. Oracle Mobile Data Sync provides over-the-air (OTA) synchronization of Oracle Collaboration Suite calendar events, tasks, and personal address book to the native applications of a user's device, enabling users to view data off-line after synchronization. The intelligent, bi-directional sync engine ensures that data maintains its integrity when it is propagated to both the server and device, with respect for meeting ownership and recurrence rules. Based on the Open Mobile Alliance – Data Synchronization (OMA-DS, formerly SyncML), the Mobile Data Sync is certified for most devices that support OMA-DS. For more information on Mobile Data Sync, see *Oracle Calendar Administrator's Guide*.

- Oracle Collaboration Suite 10g Mobile Device Management

Oracle Mobile Collaboration enables smart client devices to leverage Oracle Calendar [10g] and Oracle Mail [10g] through the downloading of **client programs** for Oracle Mobile Push Mail and Oracle Mobile Data Sync. Oracle Mobile Device

Management is an infrastructure that provides a central repository for the client programs and settings for various mobile devices. In addition, Oracle Mobile Device Management enables you to manage the over-the-air (OTA) installation of these client programs, which users request through the Oracle Collaboration Suite portal when they configure their devices. Oracle Mobile Collaboration also provisions the properties files of the downloaded client programs, enabling immediate communication with the user device. For security, Oracle Mobile Device Management enables you to remotely lock down user devices that are stolen, lost, or have been used to perpetrate misuse of the system.

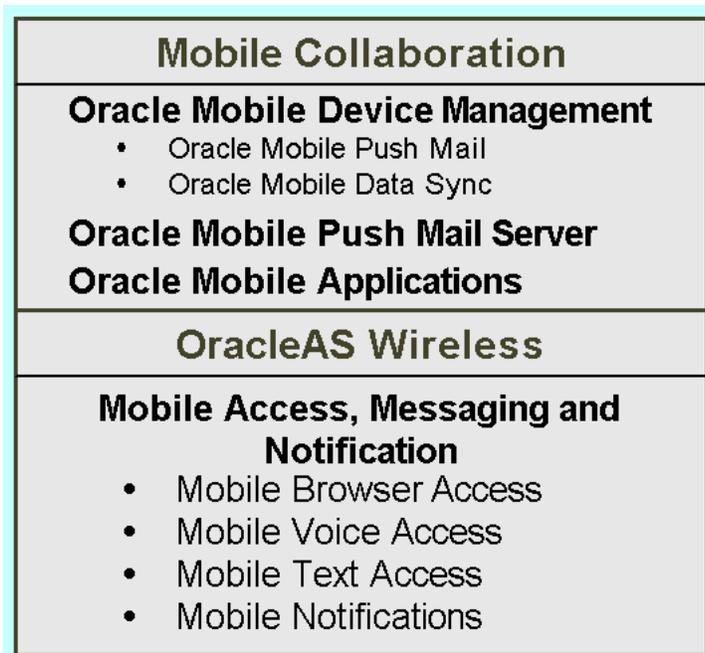
Figure 1–1 Architecture of Oracle Mobile Collaboration



Providing Mobile Access to Oracle Collaboration Suite 10g Services

As illustrated in [Figure 1–1](#), the Oracle Mobile Collaboration Server not only provides users with voice and mobile browser access to Oracle Collaboration Suite data, messaging and notifications, but also enables mobile push mail (that is, constant access to Oracle Mail [10g]) for device-specific e-mail applications and native calendar applications to synchronize with Oracle Calendar [10g]. The Oracle Mobile Collaboration Server ([Figure 1–2](#)) provides these functions through two components: Mobile Collaboration and Oracle Application Server Wireless. While Mobile Collaboration provides the Oracle Mobile Device Management functions for the Oracle Mobile Push Mail and Oracle Mobile Data Sync client programs, the Oracle Mobile Push Mail Server, which interprets and manages user actions with the Oracle Mobile Push Mail client, and the mobile applications that support Oracle Collaboration Suite services, it is Oracle Application Server Wireless which provides the messaging, voice, mobile access and notification components of the Oracle Mobile Collaboration Server. The messaging component of OracleAS Wireless also provides the OTA provisioning the client programs. Its notification component enables mobile push mail and calendar notifications.

Figure 1–2 The Oracle Mobile Collaboration Server



Deploying the Mobile Collaboration Components

This chapter, through the following sections, describes Oracle Mobile Collaboration deployment scenarios.

- ["Overview of Mobile Collaboration Deployment"](#)
- ["Deploying Oracle Mobile Access"](#)
- ["Deploying Oracle Collaboration Suite 10g Mobile Push Mail"](#)
- ["Deploying Mobile Notifications for E-Mail"](#)
- ["Deploying Mobile Notifications for Oracle Collaboration Suite 10g Calendar"](#)
- ["Deploying Oracle Voice Access"](#)
- ["Deploying Oracle Mobile Data Sync"](#)

Overview of Mobile Collaboration Deployment

Oracle Collaboration Suite 10g provides users with continuous access to enterprise collaboration data such as e-mail, voicemail, calendar, address book, online files, and employee directory, from any location and from any mobile device. Providing such universal, network- and device-agnostic access to corporate content requires that the Mobile Collaboration Server component be deployed and configured correctly. For more information, see ["The Messaging and Notifications Components of Mobile Collaboration Deployment"](#).

This chapter describes the deployment architecture and data flows for [Mobile Browser Access](#), [Oracle Mobile Text Access](#) through e-mail and SMS, [Oracle Voice Access](#), and [mobile notifications](#) for Messaging and for Oracle Collaboration Suite 10g Calendar. In addition, this chapter describes the deployment architecture and data flows for [Oracle Mobile Data Sync](#) and [Oracle Mobile Push Mail](#). For information on such deployment scenarios as the single- box, multi-box and high-availability installations of Oracle Collaboration Suite 10g Mobile Collaboration, refer to *Oracle Collaboration Suite Deployment Guide*

The Messaging and Notifications Components of Mobile Collaboration Deployment

The OracleAS Wireless component of the Oracle Mobile Collaboration Server ([Figure 2-1](#)) provides the following messaging and notification functions for the Oracle Mobile Collaboration Server:

- Messaging Server

The Messaging Server is the component that delivers messages and notifications by interfacing with the Async Listener and Notification Engine and a **messaging gateway** to deliver messages. Although this component ships configured to use the Oracle-hosted online push service (<http://messenger.oracle.com/xms/webservices>), you can configure the Messaging Server to use other voice, SMS, e-mail, fax, or SMS gateways as needed.

The Messaging Server is the enabling component for **Oracle Mobile Text Access** (described in ["Deploying Mobile Text Access Through E-Mail"](#) and ["Deploying Oracle Mobile Text Access Through SMS"](#)) and for **mobile notifications** as described in ["Deploying Mobile Notifications for E-Mail"](#), ["Deploying Mobile Notifications for Oracle Collaboration Suite 10g Calendar"](#), and ["Deploying Oracle Voice Access"](#).

- Async Listener

The Async Listener, a client of the Messaging Server, interprets and processes the e-mail and SMS requests. You must configure this component to enable Oracle Mobile Text Access. For more information on configuring the Async Listener, see ["Configuring Mobile Text Access"](#).

- Notification Engine

The Notification Engine, a client of the Messaging Server, processes the notifications dequeued from the Notification Event Collector and sends them to the Messaging Server for ultimate delivery to users. The roles of the Notification Engine and Notification Event Collector are described in ["Deploying Mobile Notifications for Oracle Collaboration Suite 10g Calendar"](#).

- Notification Event Collector

Notification Event Collector acquires the notifications from the various OCS content sources (such as Calendar) and then dequeues them to the Notification Engine.

Figure 2–1 The Oracle Application Server Wireless Mobile Access Components

Deploying Oracle Mobile Access

This section describes the following:

- [Mobile Browser Access](#)
- [Deploying Mobile Text Access Through E-Mail](#)
- [Deploying Oracle Mobile Text Access Through SMS](#)

Mobile Browser Access

Mobile Browser Access enables access to corporate collaboration data over any wireless network from mobile devices that support browsers for such markup languages as HTML, XHTML, WML, and HDML. Mobile Browser Access communicates with all content sources, defined in the Identity Management Service Registry, to format and render the content based on the device type (user-agent). Mobile Browser Access does not require deployment or configuration, because the content sources for all the services available on the Mobile Collaboration Server for browser access are configured out of the box in the Identity Management service registry upon successful installation of Oracle Collaboration Suite. For more information on the Service Registry, see *Oracle Internet Directory Administrator's Guide*.

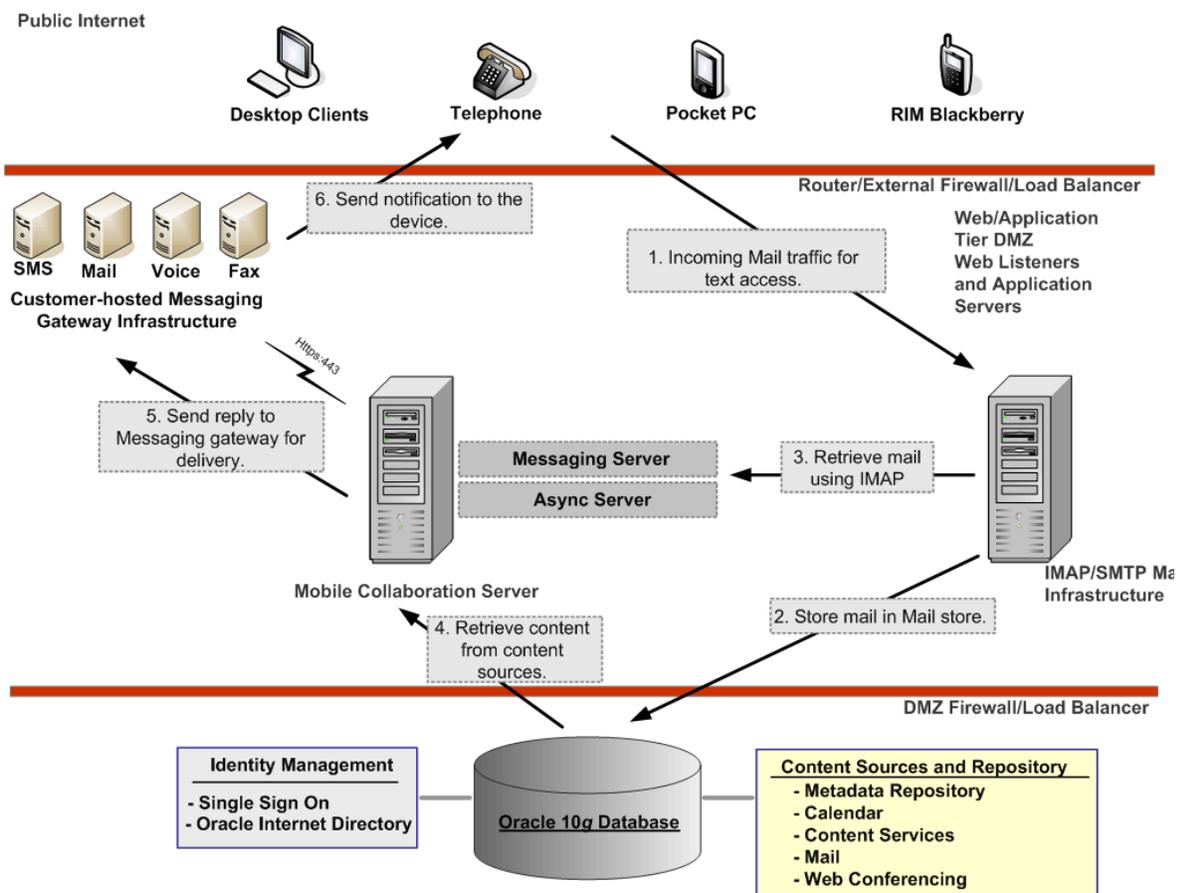
Deploying Mobile Text Access Through E-Mail

Users retrieve corporate data by sending an e-mail to the Oracle Collaboration Server. They in turn receive a text response containing the requested data. [Figure 2–2](#) shows the deployment for Mobile Text Access through e-mail using a two-tier architecture, with the Intranet tier containing the metadata repository, as well as the content source repositories for Oracle Collaboration 10g Calendar, Content Services, Mail, and Search.

The Application tier (separated by a **DMZ** firewall and load balancer) houses the **messaging gateway**, the Oracle Mobile Collaboration Server and Web listeners. The listener monitors requests from devices (located outside the router, external firewall and load balancer) and then notifies Mobile Collaboration (and underlying OracleAS Wireless Server), which mines the content sources and sends the response data to the messaging gateway. The messaging gateway sends the reply to the requesting device through the public Internet

To deploy Mobile Text Access through e-mail, you must configure the Messaging Server and Async Listener components, create a valid e-mail account for incoming text access requests, and also set up a messaging gateway. For more information, see ["Configuring the E-Mail Access Point"](#).

Figure 2-2 Deployment Architecture for Implementing Mobile Text Access Through E-Mail



The following steps illustrate the data flow for accessing the Oracle Collaboration Suite through e-mail.

1. A user sends an e-mail message to e-mail account, which is configured as the Async Listener e-mail access point. (For more information, see ["Configuring the E-Mail Access Point"](#).) The contents of the e-mail message include the **short name** commands which request the Oracle Collaboration Suite services.
2. The SMTP server receives the e-mail message and places it in the mail store.

3. The Messaging Server retrieves the e-mail message through IMAP requests to the mail server (the IMAP Listener).
4. The Messaging Server hands the e-mail's requests to the Async Listener, which interprets the e-mail's requests and then retrieves the requested content from the content sources located on the intranet behind a **DMZ** firewall and a load balancer. The Async Listener sends the retrieved contents to the Messaging Server.
5. The Messaging Server pushes the content to a **messaging gateway** which is either hosted in-house or by a third party.
6. The messaging gateway sends the retrieved content to the end user.

Deploying Oracle Mobile Text Access Through SMS

In Mobile Text Access through SMS, users retrieve corporate data by sending a short message (SMS) to the Oracle Mobile Collaboration Server. [Figure 2-3](#) illustrates how the deployment architecture enables the Oracle Mobile Collaboration Server to both receive the user request and send the appropriate text response. The following steps illustrate the data flow for accessing the Oracle Collaboration Suite through SMS:

1. On the public Internet, a user sends an SMS message to the SMS account, which is the SMS access number attained from the SMS provider. (For more information, see "[Configuring the SMS Access Point](#)".) The contents of the SMS message include the **short name** commands (also known as ASK commands) that request the Oracle Collaboration Suite services.
2. The wireless (or mobile) carrier receives the SMS message and then conveys it to the SMS aggregator.
3. The SMS aggregator pushes the SMS message to the Oracle Mobile Collaboration Server, which is located on the Application tier and separated from the public Internet by a router, external firewall, and load balancer.
4. The Messaging Server hands the SMS requests to the Async Listener, which interprets the SMS requests and then retrieves the requested content from the content sources, located on the intranet behind a **DMZ** firewall and a load balancer. The Async Listener sends the retrieved contents to the Messaging Server.
5. The Messaging Server sends the retrieved content as a text response to the SMS aggregator.

Notes: The driver running on the Messaging Server:

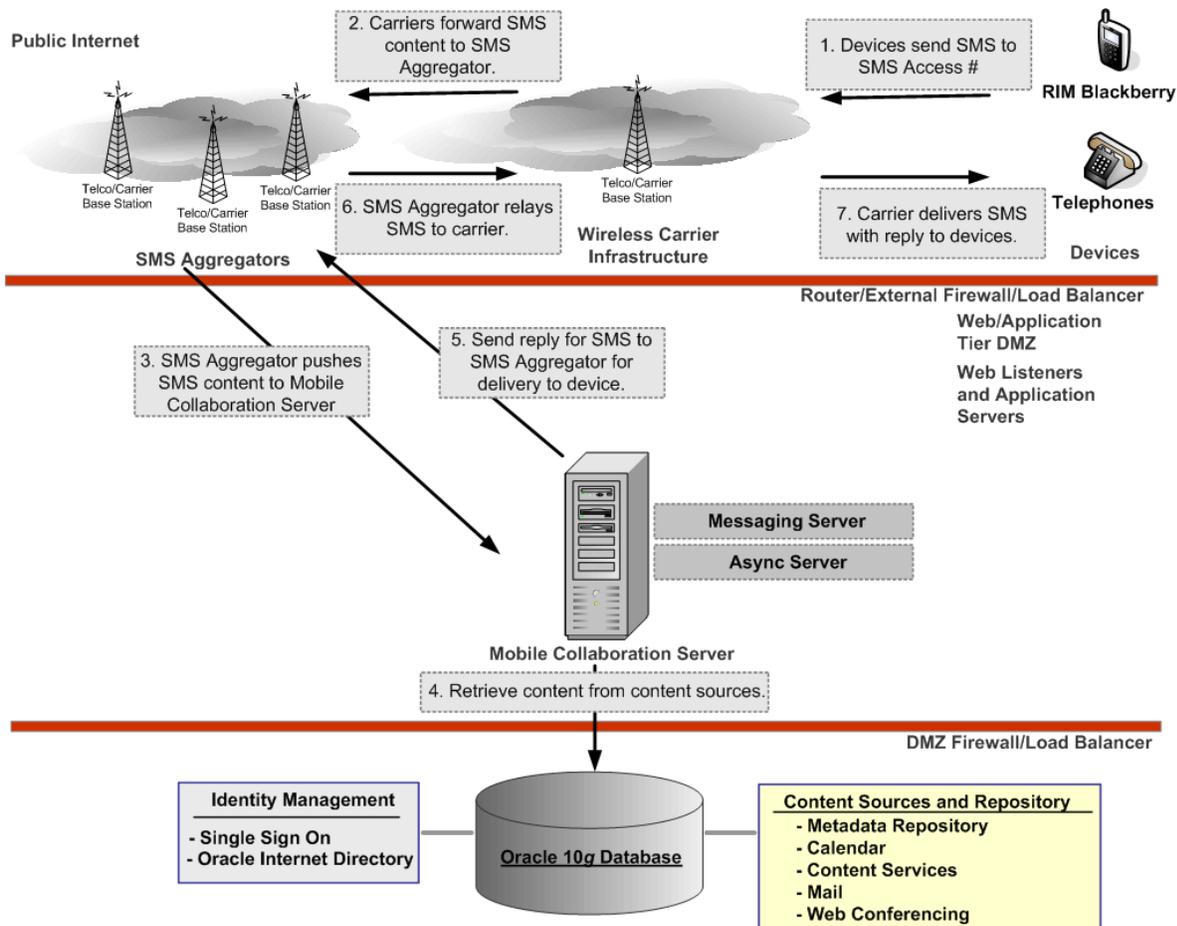
- Uses the agreed-upon communication protocol between the Mobile Collaboration Server and the SMS aggregator's server infrastructure.
 - Listens to the SMS traffic from the SMS aggregator.
-

6. The SMS aggregator sends the retrieved content to the wireless carrier.
7. The wireless carrier sends the retrieved content to the user device.

Deploying Mobile Text Access through SMS requires that you obtain a service-level agreement (SLA) with a telecommunications company or an SMS aggregator for forwarding the SMS content to the Mobile Collaboration Server. In addition, you must also configure the OracleAS Wireless Messaging Server and Async Listener

components and also set up a driver appropriate to the SMS provider or aggregator's infrastructure. For more information, see "[Configuring the SMS Access Point](#)".

Figure 2-3 Deployment Architecture for Mobile Text Access Through SMS



Deploying Oracle Collaboration Suite 10g Mobile Push Mail

Figure 2-4 illustrates the deployment architecture for **Oracle Mobile Push Mail**. The following steps illustrates the data flow for Oracle Mobile Push Mail.

1. The Oracle Mobile Push Mail client program starts on a user's device and authenticates with the Oracle Mobile Push Mail Server.

Notes:

- All commands from the Oracle Mobile Push Mail client to the Oracle Mobile Push Mail Server are sent through the HTTPS/HTTP channel.
 - The username and device ID are automatically provisioned to the device during the OTA (over-the-air) installation process. The end user enters only the password.
-
-

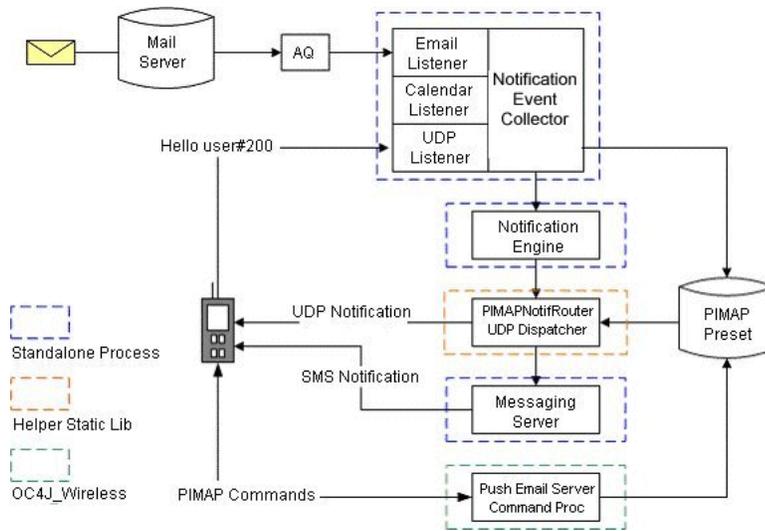
2. The Mobile Push Mail Command Processor receives the LOGIN command. The LOGIN command is then relayed to the back end IMAP server for authentication.

Note: The LOGIN command sent to the back end also carries the current view filter that is applied to the inbox. Because filtering occurs only on the Oracle IMAP Server, there is no impact on performance.

3. Once the LOGIN is successful, the Mobile Push Mail client then synchronizes its inbox with that of the server. During this process, one known as *state comparison sync*, any actions performed by the end user when they are not connected to the server are uploaded to the Oracle Mobile Push Mail Server.
4. After synchronization ends, the Mobile Push Mail client starts the *Push* mode, where it sends an IDLE command to the Oracle Mobile Push Mail Server. The IDLE command is relays back to the IMAP Server, so that the Mobile Push Mail client is immediately informed of changes to messages in the inbox (such as creating, deleting or reading messages).
5. When an event occurs on the Mobile Push Mail Server, the event is then sent to the Mobile Push Mail client which performs the appropriate action. For a new message event, the Mobile Push Mail client must contact the server to fetch the message body. For delete message or change flag events, the Mobile Push Mail client must update its own message store with the new flags.
6. If the end user performs actions on the messages stored in the device, then these actions are then sent to the Oracle Mobile Push Mail Server. The events are either sent immediately (when there is an active connection to the Oracle Mobile Push Mail Server) or cached and then sent later. New messages are sent to the Oracle Mobile Push Mail Server using the XDELIVER PIMAP command. The Oracle Mobile Push Mail Server then contacts the SMTP server to deliver the message. After the Mobile Push Mail client sends changes to the Oracle Mobile Push Server, it returns to the IDLE state.

WARNING: Because some features of the Push Mail Server may not function properly if the push mail traffic is routed through Oracle Webcache, you must route push mail traffic directly through the Oracle HTTP Server to the OC4J_Wireless JVM. To implement this architecture in the single- and multi-box deployment scenarios discussed in the *Oracle Collaboration Suite Deployment Guide*. See also "[Configuring Oracle Mobile Push Mail and the Oracle Mobile Device Management Access Points](#)".

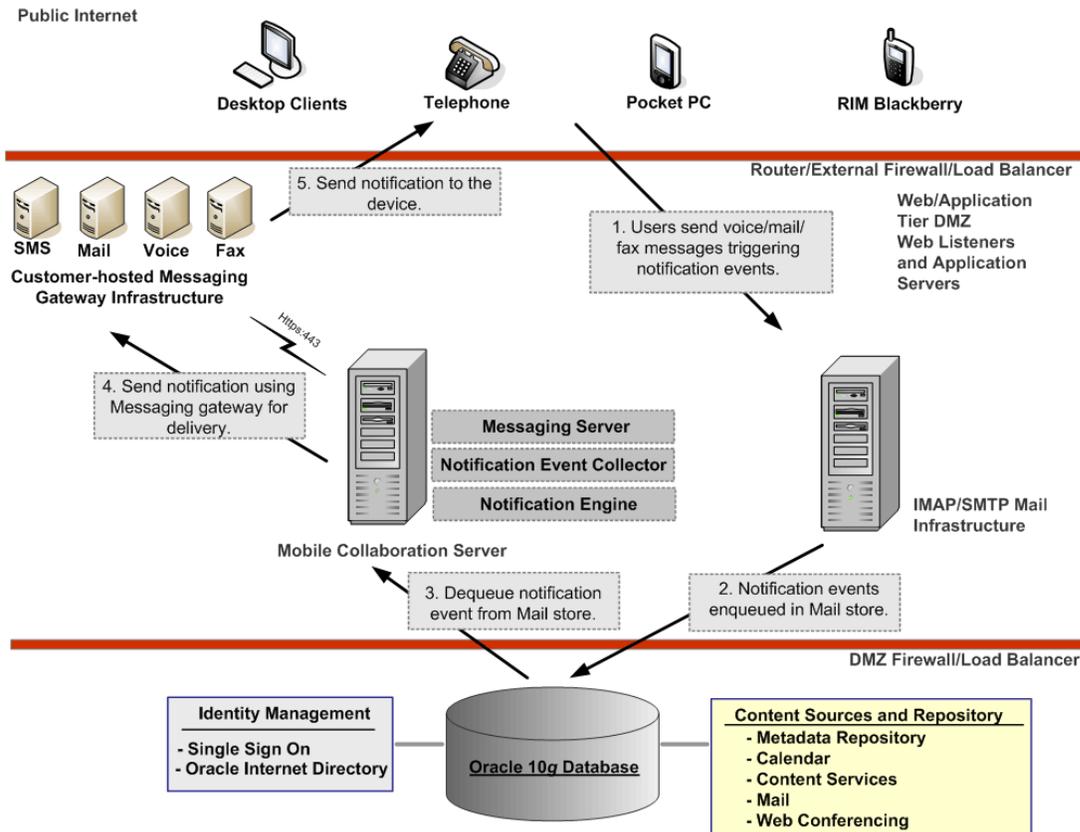
Figure 2-4 Deployment Architecture for Oracle Mobile Push Mail



Deploying Mobile Notifications for E-Mail

Figure 2-5 illustrates the typical deployment architecture for **mobile notifications** for e-mail.

Figure 2-5 Deployment Architecture for Mobile Notifications



The following steps illustrate the data flow for mobile notifications through e-mail.

1. A user sends a voicemail or fax message that triggers notification preferences set by another user.

Note: Users create messaging notification rules from the *Mobile Preferences* page ([Figure 3-1](#)) of the Oracle Collaboration Suite portal. The Mail server maintains the notification rules.

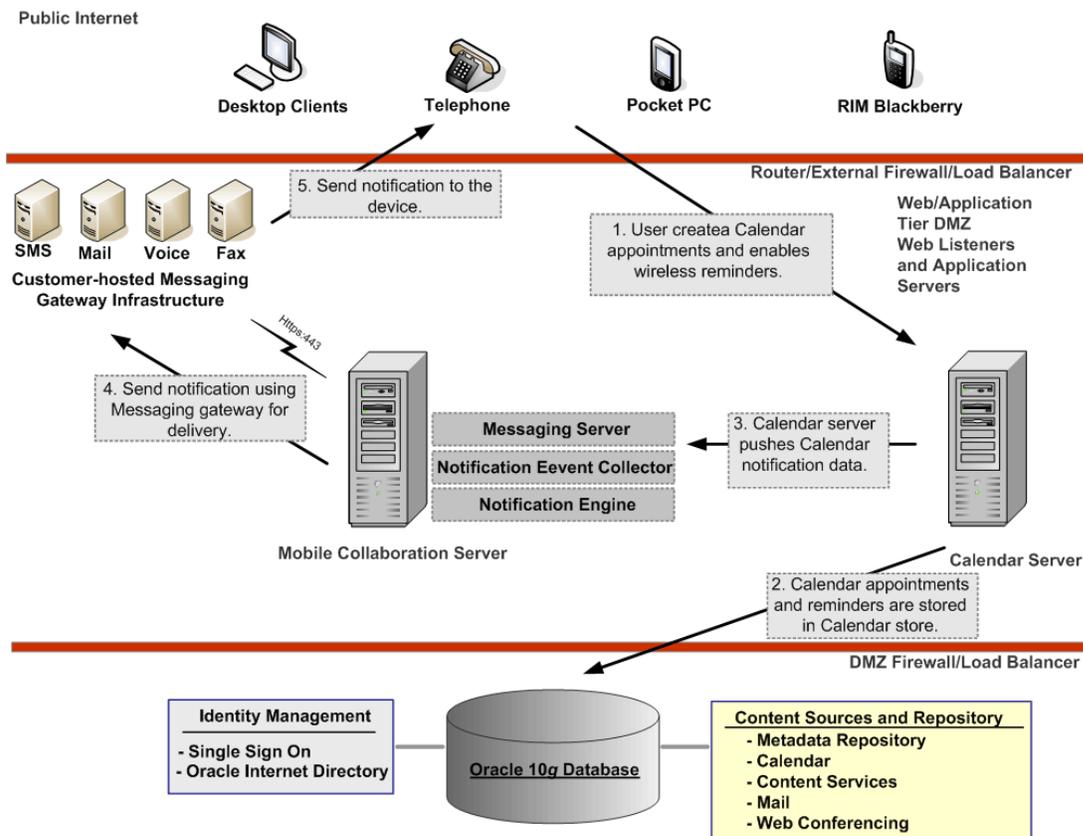
2. The notification events are enqueued in a queue in the mail database.
3. The Notification Event Collector running on the Oracle Mobile Collaboration Server continuously de-queues these events to the Notification Engine, which processes the notification event by looking up the end user's preferences (such as the device notification address) and then hands over the event to the Messaging Server.
4. The Messaging Server delivers the notification to the end user's device by pushing the notifications through a **messaging gateway** (either hosted in-house or by a third party)
5. The messaging gateway sends the notification to the user's device.

See also "[Configuring the Messaging Server for Notifications](#)".

Deploying Mobile Notifications for Oracle Collaboration Suite 10g Calendar

Users receive Oracle Collaboration Suite 10g Calendar-related notifications through SMS, e-mail, voice messages or fax messages. These messages alert users to such events as new meetings, updated meeting information, or cancelled meetings. [Figure 2-6](#) illustrates the deployment architecture for Oracle Calendar notifications.

Figure 2–6 Deployment Architecture for Oracle Calendar Notifications



The following steps describe the data flow for Oracle Calendar notifications.

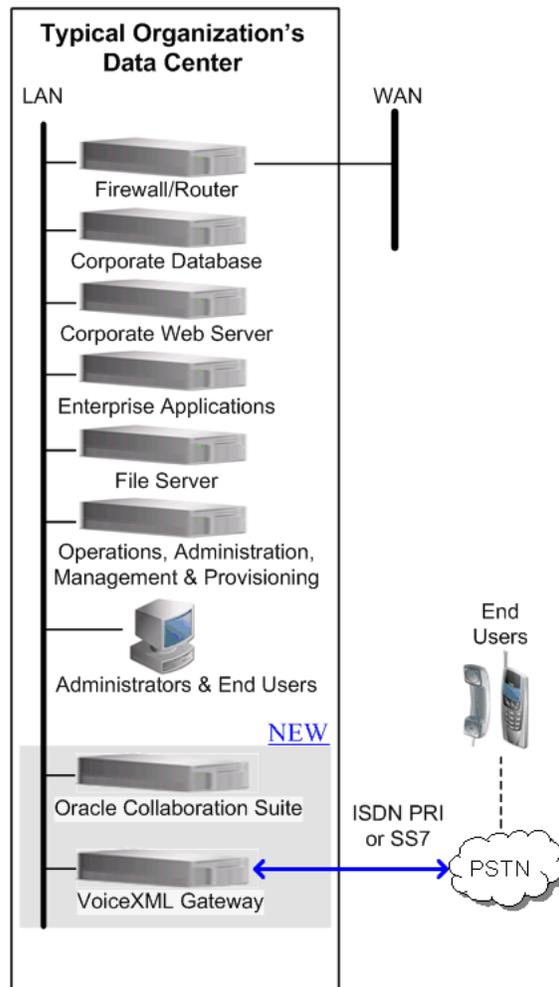
1. Users enable (or disable) notifications for Oracle Calendar.
2. The Calendar Server tracks the users' notification preferences for Oracle Calendar.
3. The Calendar Server, which uses the Oracle Mobile Collaboration Server's Notification Engine for processing and delivery of Oracle Calendar notifications, pushes the notification directly to the Notification Event Collector using a TCP connection on a configured port. By default, the Notification Event Collector listens on Port 9000 for incoming notification events from the Calendar Server.
4. The Notification Event Collector running on the Oracle Mobile Collaboration Server continuously de-queues these events to the Notification Engine. The Notification Engine processes the notification event by looking up the end user's preferences (such as the device notification address) and then hands over the event to the Messaging Server. The Messaging Server delivers the notification to the end user's device by pushing the notifications through a **messaging gateway** (either hosted in-house or by a third party).
5. The messaging gateway sends the notification to the user.

See also "[Configuring the Messaging Server for Notifications](#)".

Deploying Oracle Voice Access

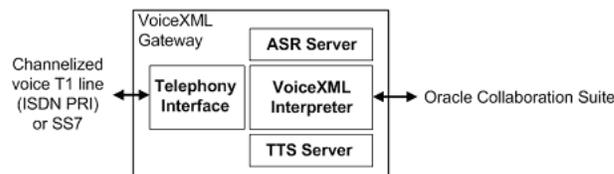
Figure 2–7 illustrates the deployment architecture for **Oracle Voice Access**.

Figure 2-7 Deployment Architecture for Oracle Voice Access



Deploying Oracle Voice Access to the Oracle Collaboration Suite requires a VoiceXML gateway which has a telephony interface, an ASR (Automatic Speech Recognition) server, a VoiceXML Interpreter, and a TTS (Text-to-Speech) server (illustrated in Figure 2-8).

Figure 2-8 Required Components for Deploying Oracle Voice Access

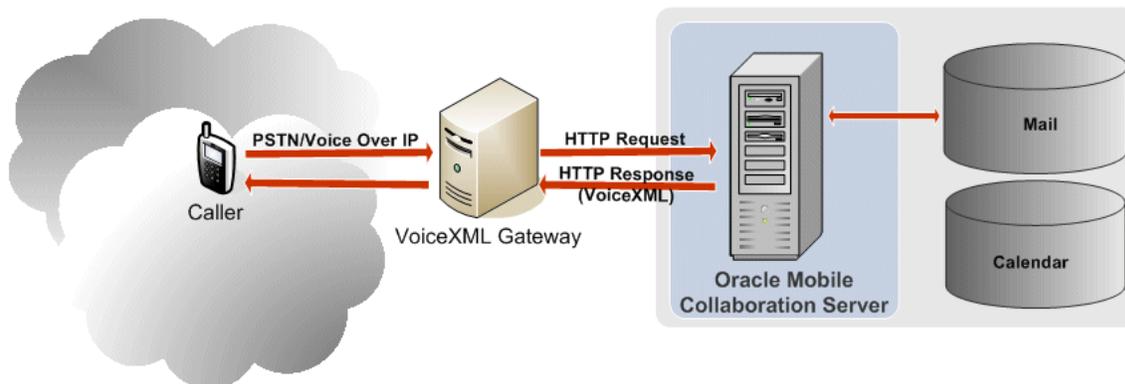


The following steps illustrate the data flow for Oracle Voice Access (illustrated in Figure 2-9).

1. A Oracle Collaboration Suite user calls the voice access number to the Oracle Collaboration Suite. The voice gateway is then contacted. For more information on setting the voice access number, see "[Configuring Oracle Voice Access](#)".
2. Based on the number called, the voice gateway selects the appropriate URL to contact the login service.

3. An HTTP request is sent to the Oracle Mobile Collaboration Server, asking for the initial login page. The Oracle Mobile Collaboration Server detects that the request originated from a voice device and subsequently contacts the Single Sign-On server.
4. The Single Sign-On server sends back a login page in presentation-independent XML.
5. The Oracle Mobile Collaboration Server then translates the login page to VoiceXML, which it then sends to the voice gateway in an HTTP response.
6. The voice gateway processes the VoiceXML and prompts the caller for an account number.
7. The caller says the account number and then presses # on the keypad.
8. The voice gateway then prompts the caller for a PIN.
9. The caller says the PIN and then presses # on the keypad.
10. The voice gateway submits the information back to the Oracle Mobile Collaboration Server as an HTTP server request.
11. The Oracle Mobile Collaboration Server collects the submitted credentials and contacts the Single Sign-On server to verify the credentials.
12. The Single Sign-On server contacts the Oracle Internet Directory (OID) and matches the submitted credentials with the user.
13. The Single Sign-On server signals the Oracle Mobile Collaboration Server that the user has been authenticated.
14. The Oracle Mobile Collaboration Server serves up the *Voice Main Menu* application in presentation-independent XML and then translates the page to VoiceXML.
15. The VoiceXML is sent back to the voice gateway as an HTTP response.
16. The voice gateway processes the VoiceXML and plays the *Voice Main Menu* for the caller.

Figure 2–9 The Network Flow for Oracle Voice Access



Deploying Oracle Mobile Data Sync

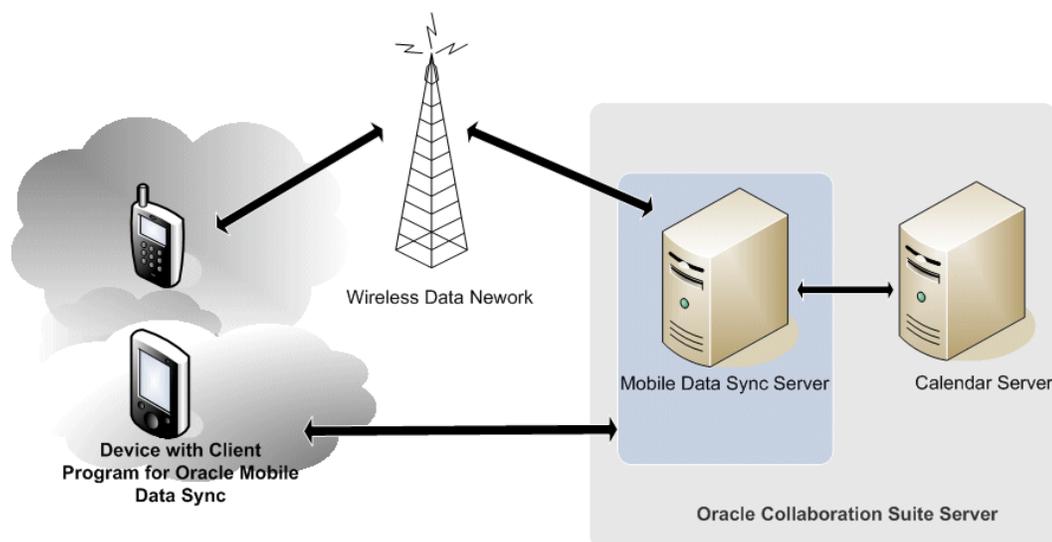
Figure 2–10 illustrates the data flow for Oracle Mobile Data Sync. The following steps illustrate the data flow.

1. A user initiates synchronization from the OMA-DS client (the client program for Oracle Mobile Data Sync) on the device (this client can be native to the device or from a third party).
2. The device initiates a data connection through the best channel available that is supported by this device (for example, cradle, Bluetooth, or GPRS). The channel can be different upon each sync.
3. The connection finds the Mobile Data Sync Server using the URL saved in the OMA-DS client settings.
4. The Mobile Data Sync Server checks for any valid previous sessions for the user. If any valid prior sessions exist, then the session begins with changes made since the last sync. If it finds no valid prior sessions, then a "slow sync session" begins, wherein the context for the user is built (or rebuilt).
5. The Mobile Data Sync Server receives data for both the device and the user account. For a "normal" session (that is, one where the Mobile Data Sync Server found a valid prior user session), the Mobile Data Sync Server receives the changed data from the last session. For the "slow sync" session (one where no prior user session was found), the Mobile Data Sync Server receives all data.

Note: The connection between the Mobile Data Sync Server and the Calendar Server goes through the firewall.

6. The Mobile Data Sync Server performs conflict and ownership resolution. For the "normal" session, the Mobile Data Sync Server performs this task using the mapping tables; for the "slow sync" session, the Mobile Data Sync Server rebuilds the context through a matching heuristic.
7. Once the Mobile Data Sync Server completes the conflict and ownership resolution, the data is sent back to both the user device and the server account. The context is updated for use for the next sync.

Figure 2–10 Data Flow for Oracle Mobile Data Sync



Configuring the Mobile Collaboration Server

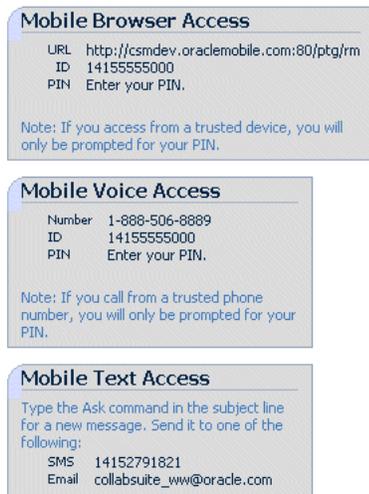
This chapter describes the required configuration for enabling Oracle Collaboration Suite 10g Mobile Collaboration to provide mobile access and notifications to the Oracle Collaboration Suite 10g components. This chapter includes the following sections.

- ["Overview of Oracle Mobile Collaboration Server Configuration"](#)
- ["Configuring Mobile Text Access"](#)
- ["Configuring Oracle Voice Access"](#)
- ["Configuring Oracle Mobile Push Mail and the Oracle Mobile Device Management Access Points"](#)
- ["Configuring the Messaging Server for Notifications"](#)
- ["Configuring the Fax Server"](#)

Overview of Oracle Mobile Collaboration Server Configuration

The properly configured Oracle Mobile Collaboration Server provides Oracle Collaboration Suite users with the *Mobile Browser Access URL* address which enables them to access the Oracle Collaboration Suite 10g components from a mobile device, the *Mobile Text Access* addresses for Async access (e-mail and SMS) to Oracle Collaboration Suite services and the *Mobile Voice Access* number which provides voice access to Oracle Collaboration Suite 10g components. These entry points display in the *Mobile Preferences* configuration pages of the Oracle Collaboration Suite portal ([Figure 3-1](#)) and are configured automatically on users' devices through OTA provisioning.

Figure 3–1 Oracle Mobile Access



Configured Components

The successful installation of Oracle Collaboration Suite 10g provides the following:

- The *Mobile Preferences* configuration pages in the Oracle Collaboration Suite portal (Figure 3–1) as well as the value for the *Mobile Browser Access URL* listed on these pages. This URL is a bookmark to the mobile portal that enables users to access and browse Oracle Collaboration Suite services from mobile devices.
- The Oracle Mobile Push Mail Server
- Mobile notifications— Oracle Mobile Collaboration ships with an account that enables 1000 units of notifications for SMS, voice, e-mail and fax messages. In addition, the Messaging Server component is already configured to use the Oracle-hosted online push service (`http://messenger.oracle.com/xms/webservices`). Although configuring the Messaging Server for notifications is optional, you may have to create a new notification channel once the quota of messages has been exhausted. For more information, see "[Configuring the Messaging Server for Notifications](#)".

Required Post-Installation Configuration

While Oracle Mobile Collaboration ships with the *Mobile Browser Access URL* and Oracle Mobile Push Mail Server and (limited) mobile notification ability already configured, you must configure [Oracle Mobile Text Access](#), [Oracle Voice Access](#), and the fax server. Because the Oracle Application Server Wireless component of the Oracle Mobile Collaboration Server provides messaging and notification functions needed to support Mobile Text Access and Oracle Voice Access to the Oracle Collaboration Suite (Figure 2–1) as well as fax delivery, you must use the OracleAS Wireless System Manager and the Wireless tools to complete the post-installation configuration of Oracle Mobile Collaboration. For more information on the OracleAS Wireless System Manager and the OracleAS Wireless Tools, see the *Oracle Application Server Wireless Administrator's Guide*

The OracleAS Wireless System Manager

The OracleAS Wireless System Manager (Figure 3–2), enables you to configure the Async Listener access points for the Mobile Text Access through e-mail and SMS as

well as the voice entry point for Oracle Voice Access (described in "Configuring Mobile Text Access" and "Configuring Oracle Voice Access", respectively).

Figure 3–2 The Home Page of the OracleAS Wireless System Manager

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com >
Wireless

Page Refreshed Apr 27, 2005 12:24:53 PM

Home Site Performance Site Administration

General



Start All Stop All

Status **Unavailable**
Version **10.1.2.0.0**
Host omcollab03.us.oracle.com
OC4J Instance [OC4J_Wireless](#)
Configuration Status **Configured**
Related Link [Basic Site Configuration](#)
Required configuration for the Wireless Site

Response and Load

Active Sessions **0**
Average Response Time (seconds) **0.0**
Average Session Duration (seconds) **0.0**
Applications Invoked **0**
J2ME Applications Downloaded **0**
Notifications Sent **0**
Messages Sent **0**
Messages Received **0**

 **TIP** This data is based on the last 10 minutes.

Web-Based Applications

Web-based applications are the OC4J applications running in the Wireless OC4J instance. They must be started and stopped together by starting and stopping the OC4J instance.

Start OC4J Instance Stop OC4J Instance

Name	Type	Status
DYN_ASYNCAGENT_2026	Async Listener	

Accessing the OracleAS Wireless System Manager

You can access the System Manager using either of the following methods:

- Clicking *Wireless* in the *System Components* table of the Oracle Collaboration Suite Application Server Control.
- Clicking *Wireless* in the *Home* page of Oracle Mobile Collaboration (Figure 4–2).

When you first access the System Manager, the tool defaults to its *Home* page, which includes information on the running status of the OracleAS Wireless Server and the OracleAS Wireless processes. The *Standalone Processes* table on the *Home* page includes the processes of the Messaging Server.

You access the configuration pages related to the Async Listener and messaging from the *Component Configuration* section of the System Manager's *Site Administration* page.

Figure 3–3 The Component Configuration Section of the Site Administration Page

The screenshot shows the Oracle Enterprise Manager 10g interface. At the top, it says "ORACLE Enterprise Manager 10g" and "Application Server Control for Collaboration Suite". There are navigation links for "Logs", "Topology", "Preferences", and "Help". Below that, the breadcrumb path is "Farm > Application Server: ocsapps.omdemo11.oraclemobile.com >". The main heading is "Wireless", with a sub-heading "Page Refreshed Jun 22, 2005 12:35:16 PM". A navigation bar contains "Home", "Site Performance", and "Site Administration" (which is selected). Below this, a paragraph explains that settings apply to all wireless servers of the Wireless Site. The "General Configuration" section lists links for "HTTP, HTTPS Configuration", "System Logging", "Site Locale", "JDBC, OID Connection Pool", "User Provisioning", "WAP Provisioning Profiles", "Performance Monitor", "Billing Framework", and "Mobile Studio". The "Component Configuration" section is expanded to show three columns of links: "Multi-Channel Server" (Runtime, Device, Folder, Event and Listener, Hook, Multimedia Adaptation Service), "Notification Engine" (Notification System, Messaging Server Client), "Async Listener" (Access Points, Async Listener, Messaging Server Client), "Location-Related" (Location Management, Location Services, Location Event Server, Location Mark Address Format), "Messaging" (Drivers, Messaging Server Configuration, XMS Configuration), and "Provisioning Server" (Provisioning Server).

The OracleAS Wireless Tools

Oracle Mobile Collaboration ships with a set of mobile applications, which support the mobile access of the Oracle Collaboration Suite’s services, such as Mail and Content Services. Although the mobile applications run out-of-the-box, the *Login*, *Voice Main Menu*, *Directory*, and *E-Mail* applications require additional configuration for voice access. Likewise, configuring the fax server also requires that you configure the Fax mobile application. The Content Manager, one of the OracleAS Wireless tools, enables you to edit the input parameters of these mobile applications as needed. For more information on the mobile applications see [Appendix A, "Configuring the Mobile Applications"](#).

Accessing the OracleAS Wireless Tools

You access the OracleAS Wireless Tools by clicking the administration icon ([Figure 3–4](#)) for *Mobile Collaboration* in the *System Components* table of the Application Server Control *Home* page ([Figure 4–1](#)).

Figure 3–4 The Administration Icon



Enter the administrator name and password and then click **Sign In**. The OracleAS Wireless Tools appear. Click the *Content Manager* tab to access the Content Manager Tool. The tool’s browsing page appears ([Figure 3–5](#)), listing the mobile applications in the *Application Links* table.

Figure 3–5 The Content Manager Tool's Browsing Screen

Oracle Application Server
Wireless

Logout View Log Help

Users Foundation Services **Content** Sensor Services

Publish Content | Access Control Content | Render Content | Categorize Content

Search Type Any Category Any Go

You may use asterisks (*) as wildcards in your search

You are logged in as orcladmin

Application Links

Add Folder Add Bookmark Add Application Link Quickly Add Notification

Use this page to create application links, which enable an application to be published to user groups

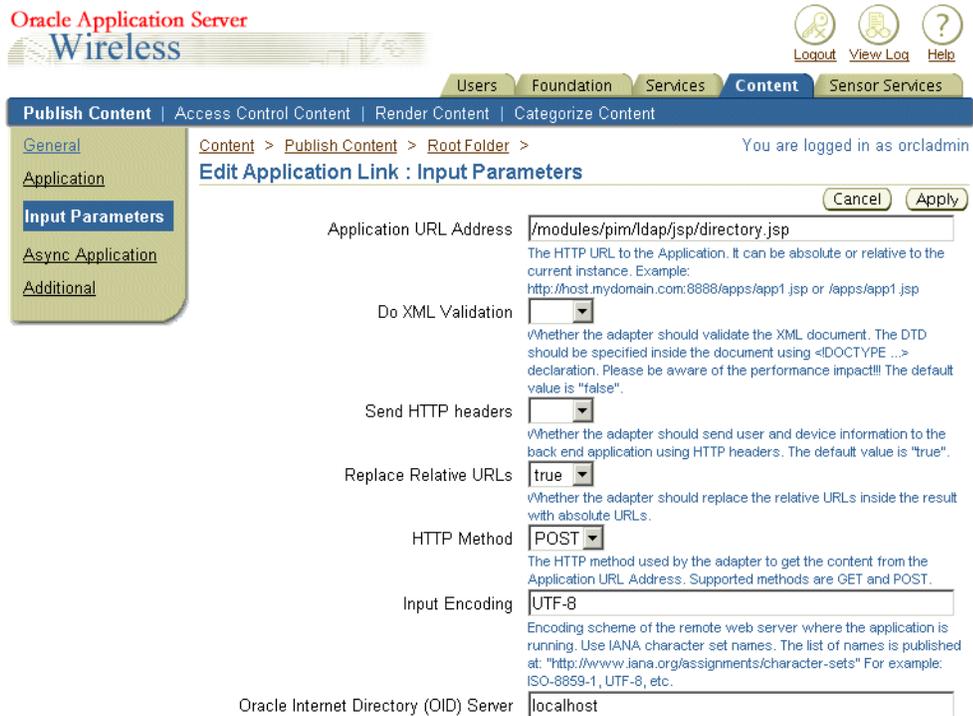
Select an Item and... Delete Categorize Move Debug Edit

Select	Type	Name	Object ID	Application	Test Valid	Visible	Sequence	Group	Last Modified
<input type="radio"/>		Address Book	6993	Address Book	true	true	3	Guests;	May 18, 2005 12:11:25 PM PDT
<input type="radio"/>		Calendar	6994	Calendar	true	true	1	Guests;	May 18, 2005 12:11:25 PM PDT

Completing the post-installation configuration of Oracle Mobile Collaboration requires that you edit the parameters of the *Voice Main Menu*, *Directory* and *Fax* mobile applications. To do this:

1. Select a mobile application from the *Application Links* table and then click **Edit**. The editing page appears, displaying the general information for the mobile application.
2. Click **Input Parameters**. The input parameters for the mobile application appear (Figure 3–6). Some of the parameters are read-only and cannot be modified.
3. Change the values as needed.
4. Click **Apply** to commit the changes to the input parameters.

Figure 3–6 Editing (or Viewing) the Input Parameters for a Mobile Application



Configuring Mobile Text Access

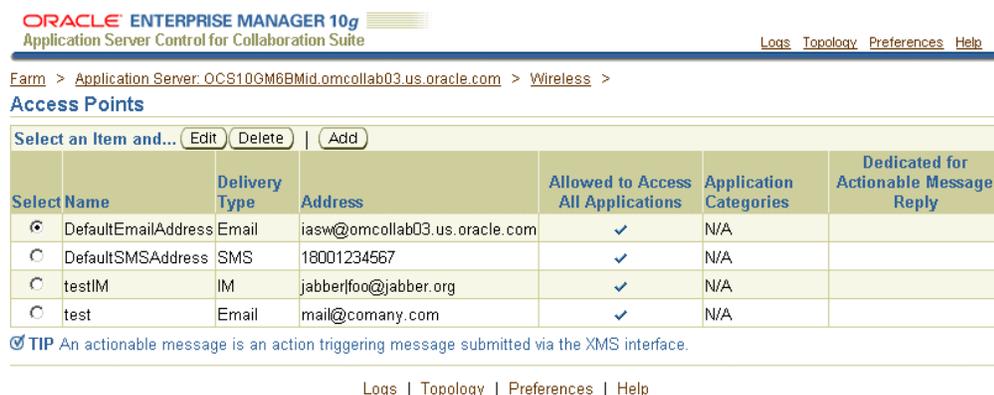
Oracle Mobile Text Access uses the e-mail and SMS channels. Configuring Mobile Text Access involves creating Async Listener access points using the OracleAS Wireless System Manager.

Creating Async Listener Access Points

To create an access point:

1. From the *Site Administration* page of the System Manager (Figure 3–3), click **Access Points** (located under Async Listener). The *Access Points* page appears (Figure 3–7), which lists the access points.

Figure 3–7 The Access Points Page



2. Click **Add**. The *Add Access* page appears (Figure 3–8).

3. Enter a unique name for this access point.
4. Select the delivery type for this access point. Options include e-mail, SMS, or two-way pager.
5. Enter the address for this access point. For SMS, it is a phone number, such as 18001234567. The e-mail address values can reflect different client account addresses. For example, if you create a user account called *ask@oracle.com* for incoming Mobile Text Access user requests through e-mail, you enter *ask@oracle.com* as the address for the access point as well.
6. Select *Allowed to Access All Applications* if this is a site access point or an application category access point. If you do not select this option, then you can associate one or more application categories with an access point used to support **Premium SMS**. If you select this option and create a site access point, then OracleAS Wireless prompts you to confirm the removal of all of the application categories (if any) associated with this access point.
7. Select *Dedicated for Actionable Message Reply* to create an address that is dedicated for **actionable message** reply. Once it is set, all of the actionable push messages have the *From* address set to the access point. The instructions for replying to an actionable message omit the application **short name**. To answer these messages, users need only to reply with a transaction ID and the application parameters.
8. Click **OK**. The new access points appear in the table in the *Access Points* page.

The access points can now be associated with an Application Category using the Content Manager tool. For more information, see *Oracle Application Server Wireless Administrator's Guide*.

Figure 3–8 Adding an Access Point

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite [Logs](#) [Topology](#) [Preferences](#) [Help](#)

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > Wireless > Access Points >

Add Access Point Cancel OK

* Name

* Delivery Type

* Address

For IM address, use the format of <network><User ID>. (Example: jabberfoo@jabber.org, yahoofoo, msnfoo@msn.com, aimfoo, and icq12345)

Dedicated for Actionable Message Reply

Allowed to Access All Applications
If allowed to access all applications, then this access point cannot be associated with any application categories.

Cancel OK

Notes:

- If needed, you can use a driver other than the PushDriver to receive incoming text requests.
- After you create a driver instance from a site-level driver supporting e-mail or SMS (such as EmailDriver, SMPPDriver, DataCommunicationDriver or UCPDriver), you must create access points for the driver instance.

Configuring the E-Mail Access Point

To access the Oracle Collaboration Suite through e-mail, a user sends an e-mail to a predefined address. In either the body or the subject line of this e-mail, the user enters a **short name** command to invoke one of the Oracle Collaboration Suite services, such as *cal* for information on appointments logged in the Oracle Collaboration Suite 10g Calendar. Oracle Collaboration Suite then replies with the requested data.

To configure the e-mail and paging services for the Oracle Collaboration Suite:

1. Ensure that Oracle Collaboration Suite 10g Mail functions correctly and that its IMAP and SMTP servers are running. In particular, you must ensure that the SMTP server runs on port 25.

Note: Although Mobile Text Access through e-mail does not require any external components, you must still ensure the proper functioning of Oracle Collaboration Suite 10g Mail.

2. Set up client accounts for incoming Mobile Text Access requests as follows:
 - a. Navigate to `http://infra_hostname:port_number/oiddas`
 - b. Login as `orcladmin`
 - c. Click the *Directory* tab
 - d. Click **Create**.
 - e. Enter the values for *User ID* (such as *ask*), *Email Address* (for example, *ask@oracle.com*), *Password* and *Confirm Password*.
 - f. Provision this user for e-mail only and then click **Next**.
 - g. Click **Next** and then **Finish**.
3. Create a driver instance of `EmailDriver`. If you do not use `EmailDriver`, then you must create a driver and then add an instance of that driver to a Messaging Server process.

Because this driver uses all of the delivery categories, you must remove delivery categories from `PushDriver` when you create a new driver instance. For example, if you create an e-mail driver instance from the seeded `EmailDriver`, you must first edit `PushDriver` to remove its e-mail channel, so that all of the e-mail messages are routed through the instance of the `EmailDriver` and not `PushDriver`.

To remove a delivery channel from `PushDriver`:

- a. On the System Manager's *Site Administration* page, click **Drivers**. The *Drivers* screen appears (Figure 3-9), displaying all of the supported drivers for the OracleAS Wireless instance.

Figure 3–9 The Drivers Page of the OracleAS Wireless Messaging Server Component

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite

Logs Topology Preferences Help

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > Wireless >

Drivers

Select driver and... Edit Delete Add

Select Name	Class Name	Delivery Categories	Enabled
<input checked="" type="radio"/> PushDriver	oracle.panama.messaging.transport.driver.push.PushDriver	Email,SMS,Voice,Fax	<input checked="" type="checkbox"/>
<input type="radio"/> SMPPDriver	oracle.panama.messaging.transport.driver.sms.SMPPDriver	SMS,EMS,USDD	<input checked="" type="checkbox"/>
<input type="radio"/> UCPDriver	oracle.panama.messaging.transport.driver.sms.UCPDriver	SMS,EMS	<input checked="" type="checkbox"/>
<input type="radio"/> VoiceGenieDriver	oracle.panama.messaging.transport.driver.voice.VoiceGenieDriver	Voice	<input checked="" type="checkbox"/>
<input type="radio"/> PAPDriver	oracle.panama.messaging.transport.driver.wap.PAPDriver	Wap Push	<input checked="" type="checkbox"/>
<input type="radio"/> RightFAXDriver	oracle.panama.messaging.transport.driver.fax.RightFAXDriver	Fax	<input checked="" type="checkbox"/>

- b. Select PushDriver and then click **Edit**. The *Properties* page for PushDriver appears (Figure 3–10).
- c. Select the delivery type for the driver you plan to use and then click **Remove** to prevent messages from being routed through the PushDriver.
- d. Click **OK** to save the changes to PushDriver.

Figure 3–10 Editing PushDriver

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite

Logs Topology Preferences Help

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > Wireless > Drivers >

PushDriver: Properties

Cancel OK

* Driver Name Protocols
 Enable Driver
 * Delivery Types

Name	Remove
Email	<input type="button" value="Remove"/>
SMS	<input type="button" value="Remove"/>
Voice	<input type="button" value="Remove"/>
Fax	<input type="button" value="Remove"/>

 Carriers
 Speed Level
 Cost Level
 Capability

Supported Encoding and Locales

Encoding
 (Example: UTF-8, Shift-JIS, etc.)

Select locale and... Delete

Select Locale

English (United States)

After you define the driver instance, click **OK** and then stop and restart the Messaging Server process.

4. Once you remove the delivery category from PushDriver, you must add a driver instance to a new or existing Messaging Server process. To add a driver instance:
 - a. From the *Standalone Processes* table of the System Manager's *Home* page, click the standalone Messaging Server process link. The detail page for the process appears.

Note: By default, the Messaging Server processes are named *messaging_gateway_XXX*, where *XXX* is a number.

- b. From the *Driver Instances* table, click **Add**. The *Add Driver Instance* page appears (Figure 3–11).
- c. Select the site-level driver from the *Driver Name* list and then click **Go**. The parameters specific to the driver appear.
- d. Enter a name for the driver.
- e. Enter the number of sending threads (and, if applicable, enter the number of receiving threads).
- f. Select **Enabled** to enable this driver instance.

Note: For a driver instance to start simultaneously with the Messaging Server, you must enable both the site-level driver and its driver instance.

- g. Define the parameters for a driver instance based on EmailDriver. Table 3–1 describes these parameters.

Table 3–1 E-Mail Driver Instance Parameters

Parameter	Value
server.incoming.protocol	The protocol for incoming mail, such as IMAP
server.incoming.host	The server for incoming mail. For example, <i>mtier_hostname</i> .
server.incoming.receivefolder	The name of the folder for incoming mail, such as <i>INBOX</i> .
server.incoming.usernames	The names e-mail accounts. Separate account names with a comma (,).
server.incoming.passwords	The passwords to the e-mail accounts. Separate multiple passwords with a comma (,).
server.incoming.emails	The addresses of the e-mail accounts (such as <i>ask@oracle.com</i>). Separate each address with a comma (,).
server.incoming.checkmailfreq	The frequency, in seconds, to check for incoming e-mail. The default is 5.
server.incoming.deletefreq	The frequency, in seconds, to purge processed e-mails. The default is 600.
server.incoming.autodelete	Enter true to delete e-mails after they have been processed; enter false to retain e-mails after they have been processed.
server.incoming.retry.limit	The number of times the driver should attempt to reconnect when disconnected from the incoming mail server. Enter -1 for unlimited retries.
server.outgoing.host	The name of the outgoing e-mail server, such as <i>mtier_hostname</i> .

Table 3–1 (Cont.) E-Mail Driver Instance Parameters

Parameter	Value
default.outgoing.from.address	The default <i>from</i> address of the e-mail (if none is provided in the message). For example, enter <i>ask@oracle.com</i> .
server.outgoing.username	Do not enter a value for this parameter for e-mail and paging in Oracle Collaboration Suite.
server.outgoing.password	Do not enter a value for this parameter for e-mail and paging in Oracle Collaboration Suite.

- h. Click **OK**.
- i. Select the Messaging Server process from the *Standalone Processes* table and then click **Stop** and then **Start**.

Figure 3–11 Creating a Driver Instance for a Messaging Server Process

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite

Logs Topology Preferences Help

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > Wireless > Messaging Server: messaging_qbwy_1000 >

Add Driver Instance Cancel OK

* Driver Instance Name:

* Driver Name: Go

Delivery Categories:

Sending Threads:

Receiving Threads:

Enabled

Site Driver Enabled

For a driver instance to run, both the site driver and the driver instance have to be enabled.

Driver Specific Parameters

Name	Description	Mandatory	Value
server.incoming.protocol	Incoming mail protocol	false	<input type="text" value="POP3"/>
server.incoming.host	Incoming mail server	false	<input type="text" value="12.07.0.1"/>
server.incoming.receivefolder	Mail receive folder	false	<input type="text" value="INBOX"/>
server.incoming.usernames	Account names (names separated by comma - ',')	false	<input type="text" value="scott, tiger"/>
server.incoming.passwords	Passwords (passwords separated by comma - ',')	false	<input type="text" value="welcome,welcome"/>

5. Create access points for the driver instance as described in "[Creating Async Listener Access Points](#)".

Configuring the SMS Access Point

To deliver SMS messages, set up a communication channel to the SMS carrier that forwards the SMS content to the Oracle Mobile Collaboration Server. You must contract with a carrier that has a network for sending and receiving SMS messages through the UCP or SMPP protocols and obtain SMS phone numbers as well. Alternatively, you can use an SMS aggregator, such as Mobile 365, which acts as an

intermediary between the SMS carriers and the enterprise. (This may be beneficial when supporting messaging that requires multiple carriers.)

Tip: For global SMS delivery, you must obtain an SLA from an SMS aggregator with a reasonable success rate in delivering messages worldwide. Unlike a single carrier, an SMS aggregator can offer expanded reach and coverage because of peering relationships and roaming partnerships. The SMS aggregator must be able to receive messages from global carriers and then communicate with the Oracle Mobile Collaboration Server. A list of certified aggregators is located at:

<http://otn.oracle.com/products/iaswe/integration/content.html>

You also must create a driver that communicates with the aggregator's infrastructure.

To create an SMS access point:

1. Set up a telecom bridge that enables SMS delivery to the Oracle Collaboration Suite over the wireless network. To do this, you must create a driver that communicates with an SMS aggregator's infrastructure. Before you contract with an aggregator, refer to the list of certified SMS aggregators located at:

<http://otn.oracle.com/products/iaswe/integration/content.html>

Alternatively, you can use one of the pre-built Messaging Server drivers that Support SMS or you can build a driver. If you build a driver, you must consult with the SMS aggregator and follow the OracleAS Wireless SDK. For more information on developing drivers, see to *Oracle Application Server Wireless Developer's Guide*.

Once you have built a driver, you must add an instance of that driver to a Messaging Server process. For more information on creating driver instances based on Messaging Server drivers, see *Oracle Application Server Wireless Administrator's Guide*.

2. Create access points for the driver instance as described in "[Creating Async Listener Access Points](#)". Enter a name for the access point, enter the SMS phone number as the address, select SMS as the delivery type, and select **Allowed to Access All Applications**.

Configuring Oracle Voice Access

Oracle Voice Access is achieved through a VoiceXML gateway, a third-party server that connects to the telephony network on one side and Oracle Collaboration Suite on the other. This voice gateway translates voice commands from the telephony line into HTTP requests which it sends to Oracle Collaboration Suite. The voice gateway then renders the results as audio replies that are played back to the user.

Once you have created and installed the service, you can enable Oracle Voice Access. To do this, you must have a third-party VoiceXML gateway that is approved by Oracle Corporation. The list of accepted gateways is located at:

<http://otn.oracle.com/tech/wireless/integration/content.html>

Tip: See http://www.oracle.com/technology/products/iaswe/OracleAS_Wireless_Voice_Deployment.pdf for additional information on configuring and deploying Oracle Voice Access.

To integrate Oracle Collaboration Suite with a VoiceXML gateway:

- Obtain and configure a VoiceXML gateway approved by Oracle Corporation. For more information on configuring VoiceXML gateway drivers, refer to *Oracle Application Server Wireless Administrator's Guide*.

If you do not have access to a VoiceXML gateway, a number of gateway providers have hosted gateways for developers that can be used free of charge for development and testing purposes. For example, VoiceGenie maintains a developer studio at <http://developer.voicegenie.com>, where users can sign up for a development account that provides them with 10 extensions to a voice gateway. From the developer studio site, users configure each of their extensions to point to different URLs.

Note: To use the VoiceGenie hosted VoiceXML gateway for testing, you must add the VoiceGenie*NXP/7.* user agent. For more information, see "[Adding the User Agent for Version 7 of VoiceGenie](#)".

To provision the voice gateway login to point to the voice login for the Oracle Collaboration Suite, you must set up an extension to point to the URL outlined in "[Provisioning Oracle Voice Access](#)".

- You must integrate with a VoiceGenie VoiceXML gateway for voice notifications. Provide the application URL to the VoiceGenie outbound call servlet (the required value for the `voicegenie.outbound.servlet.uri` parameter) by first selecting VoiceGenieDriver from the *Drivers* page ([Figure 3-9](#)) and then by clicking **Edit**. From the *Driver Class and Parameters* section of the *Properties* page for VoiceGenieDriver, enter the URL for the `voicegenie.outbound.servlet.uri` parameter.
- Configure a voice driver instance for a Messaging Server process.
- Enter the number of the VoiceXML gateway as the value for the *Voice Access Phone Number* parameter in the *Basic Site Configuration* wizard (or in *Voice Access Phone Number* parameter in the URL section of the *HTTP, HTTPS* configuration page of the System Manager).
- Enter the URL of OracleAS Wireless in the VoiceXML gateway *start page* slot.

Additional VoiceGenie Configuration

This section describes the following:

- [Changing the User Agent on the SpeechGenie VoiceXML Gateway](#)
- [Creating a Web-Accessible Directory for Recording Audio](#)
- [Downloading and Installing the VoiceGenie Outbound Caller for Voice Notifications](#)

Changing the User Agent on the SpeechGenie VoiceXML Gateway

This section describes how to change the SpeechGenie default user agent from PMLI/1.1 to PMLI/SpeechGenie/1.1 for SpeechGenie versions 6.4.2 and 5.9.6.

For SpeechGenie v. 6.4.2

To change the SpeechGenie v. 6.4.2 user agent to PMLI/SpeechGenie/1.1:

1. Login to the VoiceGenie Management Console (VMC), which is located at `http://<VoiceGenie Server Name>:8080/vmc` as the administrator. Login using *pw*, the default administrator login and password.
2. Click the *Configuration* tab and then *Web Proxy*.
3. Select the **Default** radio button.
4. Click **Edit**.
5. Edit the `iproxy.user_agent` parameter by setting it to `iproxy.user_agent=PMLI/SpeechGenie/1.1`.
6. Click **Update**.
7. Restart the platform.

For SpeechGenie v. 5.9.6

To change the SpeechGenie v. 5.9.6 user agent to PMLI/SpeechGenie/1.1:

1. login to the Unix account, *pw*.
2. Enter `cd ~/config` to move to the root directory.
3. Enter `vi voicexml.cfg` to open `voicexml.cfg` for editing.
4. In `voicexml.cfg`, replace `USER_AGENT` with `USER_AGENT=PMLI/SpeechGenie/1.1`.
5. Save `voicexml.cfg`.
6. Restart the SpeechGenie platform.

Creating a Web-Accessible Directory for Recording Audio

You can improve the experience for voice access users sending a recorded e-mail by creating a Web-accessible directory. This directory optimizes the uploading of a recorded audio file, such as one for an e-mail reply. See also "[Configuring the Mail Application to Improve User Experience When Sending E-Mail](#)".

To create a Web-accessible directory:

1. Login to the SpeechGenie server using the administrator account (*pw* is the both the username and password).
2. Create a symbolic link in the `/usr/local/pool/webapps` directory to the directory for recording audio as follows:
 - Enter `cd /usr/local/pool/webapps` to navigate to the `/usr/local/pool/webapps` directory.
 - Enter `ln -s /usr/local/phone/record` to create the symbolic link to `/usr/local/phone/record`, with `record` as the name of the link file. Once you create the `record` link file, the directory under `phone/record` can be accessed through the Web.

Note: You may need to be at the root directory to perform the link command for the symbolic link (`ln -s`).

Downloading and Installing the VoiceGenie Outbound Caller for Voice Notifications

For information on how to download and install the notification servlet, see the tutorial from VoiceGenie Support located at

<http://support.voicegenie.com/tutorials.php?tutorial=aioc>.

Adding the User Agent for Version 7 of VoiceGenie

To use the VoiceGenie hosted VoiceXML gateway for testing, you must add SpeechGenie's new user agent to the list of expected user agents. To add the VoiceGenie*NXP/7.* user agent to the SpeechGenie device, you must edit the SpeechGenie device using the Foundation Manager, one of the OracleAS Wireless Tools. Like the Content Manager, you access this tool using the administration icon as described in "Accessing the OracleAS Wireless Tools".

1. After you access the OracleAS Wireless Tools, click the *Foundation* tab. The *Devices* browsing page of the Foundation Manager appears.
2. From the *Devices* table, select SpeechGenie and then click **Edit**. The editing page appears, defaulting to Basic page. From the menu, select **Transformer**.
3. Enter VoiceGenie*NXP/7.* in the *User Agent* field (Figure 3–12).

Figure 3–12 Adding the User Agent to the SpeechGenie Device



4. Click **Add**.
5. Click **Apply** to commit the change to the SpeechGenie device.

Provisioning Oracle Voice Access

To provision the VoiceXML gateway login to point to the voice login for Oracle Collaboration Suite, access the voice gateway configuration system (provided by the VoiceXML gateway provider) and provision a phone number to the following URL:

`http://host.domain/ptg/rm?PAlogin=true&start=true&PAoid=<oid of the Voice Main Menu service>`

To define the `PAoid` attribute, use the OID (the Object ID in the Oracle Application Server Wireless Repository) of the *Voice Main Menu* application, which is listed in the *Object ID* column of the browsing and *Search Result* tables of the Content Manager (Figure 3–13). For example, the Object ID of the *Voice Main Menu* application is noted as 7009. The Content Manager enables you to both view and edit the input parameters of a mobile application. For more information on the Content Manager, see *Oracle Application Server Wireless Administrator's Guide*

Figure 3–13 The Object ID of the Voice Main Menu Application

The screenshot shows the Oracle Application Server Wireless Content Manager interface. At the top, there are tabs for 'Users', 'Foundation', 'Services', and 'Content'. Below these are sub-tabs for 'Publish Content', 'Access Control Content', 'Render Content', and 'Categorize Content'. A search bar contains the text 'Voice' and 'Any' for both Type and Category. Below the search bar is a table titled 'Search Result' with the following data:

Name	Object ID	Full Path	Visible	Last Modified
Voice Main Menu	7009	Root Folder >	false	May 1, 2005 11:57:08 PM PDT

Configuring the Voice Main Menu Application for Voice Dialing

The *Voice Main Menu* application's *Voice Dial* option enables users of the Oracle Collaboration Suite to call their contacts directly from the main menu. By default, the *Voice Dial* mode is not enabled.

To enable voice dialing from the main menu, edit the *Voice Main Menu* application using the Content Manager as follows:

1. From the *Publish Content* tab of the Content Manager, select the *Voice Main Menu* application from the *Application Links* table.
2. Click **Edit**. The *Edit Application Link* screen appears, defaulting to the *General* screen for the *Voice Main Menu* application.
3. Click **Input Parameters**.
4. Set the *Address Book Grammar* parameter to *true*.
5. Click **Apply**.

Configuring Voice Access to Directory Search

There are two versions of the *Directory* application: Dual Tone Multi-Frequency (DTMF) and Large-scale speech. The DTMF version provides a telephone keypad-based user interface. The Large-scale speech version provides a voice user interface. By default, the Large-scale speech version is not enabled because it is only compatible with version 5.9.6 or higher of the SpeechGenie VoiceXML gateway. For more information on the parameters of the *Directory* application refer to "[Configuring the Directory Application](#)".

Generating DTMF-Equivalents and User Name Grammars

Configuring the Directory application for DTMF and Large-scale speech modes requires that you generate the DTMF equivalents and grammar (a vocabulary of the Oracle Collaboration Suite user names) from the list of Oracle Collaboration Suite users stored in Oracle Internet Directory (OID) server. For information on generating DTMF equivalents, see "[Managing Voice Support](#)".

Enabling the Large-Scale Speech User Interface

To enable the large-scale speech user interface for the directory:

1. From the *Publish Content* tab of the Content Manager, select the *Directory* application from the *Application Links* table.
2. Click **Edit**. The *Edit Application Link* screen appears, defaulting to the *General* screen of the *Directory* application.
3. Click **Input Parameters**.
4. Set the *Use Voice LSS* parameter to *true*.
5. Click **Apply**.

Note: When the voice-enabled *Directory* application with Large-Scale Speech is loaded for the first time, the grammar that was generated by the application server is copied and cached on the voice gateway. Depending on the number of contacts in OID, this may cause a significant delay. It is therefore crucial for the administrator to be the first one to call in after the grammar has been regenerated or has expired in the cache. Usually, the voice gateway cache knows when to retrieve a new grammar generated by the administrator.

Scheduling the Command-Line Utility and Caching

When the voice gateway accesses the Large-Scale Speech User Interface Directory for voice access for the first time, it caches the grammar for a specified period. If the voice gateway does not check the application server for a newer grammar until this time period expires (that is, the application server does not support the *If-Modified-Since* request header), you must create a generation/caching strategy to ensure efficient performance through caching and up-to-date grammars. The generation/caching strategy is comprised of two components:

- [Scheduling the Command-Line Utility to Generate the Grammars at Set Intervals](#)
- [Setting the Maximum Age for the Grammar Held in the Cache](#)

Scheduling the Command-Line Utility to Generate the Grammars at Set Intervals

To schedule the utility to run on a periodic basis:

- On UNIX:
 - Add scheduling information to `popdir.sh` in the operating system crontab file. For example: adding `30 3 **4 ORACLE_HOME/wireless/bin/popdir.sh` runs the `popdir.sh` script every Thursday at 3:30 AM. Refer to UNIX documentation for further information on scheduling cron jobs.
- On Windows:
 - Use the Scheduled Task wizard to run `popdir.bat` at a specified interval as follows:

1. Go to **Start** and then click **Run**.
2. Enter *tasks*.
3. Click **Add Scheduled Task**. The *Scheduled Task* wizard appears.
4. Click **Next** and then use **Browse** to locate, and then select, `popdir.bat`.
5. If needed, enter a name for the task.
6. Define the interval and time for the task.
7. Enter the user name and password.
8. Click **Finish**.

Setting the Maximum Age for the Grammar Held in the Cache

To ensure a seamless transition from the expiration of the grammar in the cache to the cache's retrieval of a newly generated grammar from the application server, you must synchronize the expiration with the retrieval, so that the application server generates a new grammar when a grammar expires in the cache.

The *Max Age* input parameter of the *Directory* application enables you to set the maximum age for the grammar (that is, the length of time that the cache holds the grammar). To set the maximum age of the grammar:

1. From the *Publish Content* tab of the Content Manager, select the *Directory* application from the application links table.
2. Click **Edit**. The *Edit Application Link* screen appears, defaulting to the *General* screen for the *Directory* application.
3. Click **Input Parameters**.
4. Set the *Grammar Max Age* input parameter to the cache expiration time, in seconds.
5. Click **Apply**.

Configuring the Mail Application to Improve User Experience When Sending E-Mail

If you use Version 5.9.6 or higher of SpeechGenie, you can improve the experience for voice access users sending e-mail. Configuring the *URL for direct access to recorded audio* parameter of the *Mail* application reduces the latency of `.wav` file uploads to one or two seconds.

1. Create a directory on the SpeechGenie gateway called *audio* in the form of `http://<speechgeniegateway.domain.com>:<port>/record/audio`. For more information, see "[Creating a Web-Accessible Directory for Recording Audio](#)".
2. Use the Content Manager to edit the input parameters of the *Mail* application as follows:
 1. From the *Publish Content* tab of the Content Manager, select *Mail* from the application links table.
 2. Click **Edit**. The *Edit Application Link* screen appears, defaulting to the *General* screen for the *Mail* application
 3. Click **Input Parameters**.
 4. Define the *URL for direct access to recorded audio* parameter by entering the full URI to the *record* directory (not the URI to the *audio* directory). Include the protocol, port, and path. For example, enter `http://<speechgeniegateway`.

domain.com>:<port>/record/audio/ as the URL used to fetch .wav files from the SpeechGenie VoiceXML gateway.

5. Click **Apply**.

See also ["Changing the User Agent on the SpeechGenie VoiceXML Gateway"](#).

Note: The *Mail* application works with a multi-gateway deployment as well. For multiple SpeechGenie gateways, the paths for each gateway must be Web-accessible. For the *URL for direct access to recorded audio* input parameter, you need only specify one voice gateway. The *Mail* application computes the specific voice gateway that stores the `audio` directory. For more information on the *Mail* application, refer to ["Configuring the Mail Application"](#).

Testing the Voice Access Configuration

This section describes how to confirm that the configuration described in ["Configuring the Voice Main Menu Application for Voice Dialing"](#) and ["Configuring Voice Access to Directory Search"](#) has taken effect and that the voice applications function properly.

Notes:

- Before you begin testing, create a mobile account number and PIN to enable access your Oracle Collaboration Suite account from mobile devices and through voice commands on the telephone.
 - You must have at least one message in your e-mail inbox, one contact with both a phone number and e-mail address in your contacts, and one appointment in your calendar.
-

To test voice access:

1. Dial the Voice Access phone number. You should hear, "Welcome to Oracle Collaboration Suite."
2. When prompted, enter your account number and PIN. You should hear the main menu reply, "You have X new messages and Y appointments. Your options are"
3. To test main menu voice dialing, say "Call <contact name>" at the main menu. A phone call is then placed to the work phone number of your contact. If the call is not placed, then the voice dialing is not configured correctly. See ["Configuring the Voice Main Menu Application for Voice Dialing"](#).
4. Enter ** to end the conversation.
5. Say "Main Menu."
6. Say "Messages" at the main menu. You should hear the word messages, and then hear your e-mail message headers.
7. Say "Reply."
8. Record a message that is at least 30 seconds long and say "send it" when prompted. It should not take more than two seconds to send the message. If sending messages takes more than two seconds, then the user experience improvement is not configured properly. See ["Configuring the Mail Application to Improve User Experience When Sending E-Mail"](#).

9. Say "Calendar." You should hear the word *calendar* and then a listing of your appointments for today.
10. Say "Files." You should hear the word *files*, and then the contents of your home folder.
11. Say "Directory." You should hear the word *directory* and then be prompted to say a name.
12. Say "Oracle admin." You should hear *please wait* and then you should hear an option to play details.
13. Say "Goodbye." You should hear the phrase *exiting, or say cancel*.

Configuring Oracle Mobile Push Mail and the Oracle Mobile Device Management Access Points

During installation, the hostname and the HTTP port of the Application tier are automatically configured as the URLs for Oracle Mobile Push Mail and for Oracle Mobile Device Management. There is no need for further configuration. If you must change the hostname and port, however, you can do so by performing either of the following tasks:

- [Changing the URL for the Entire Oracle Collaboration Suite System](#)
- [Changing the URL for a Single Application Tier](#)

Changing the URL for the Entire Oracle Collaboration Suite System

If the installation of Oracle Collaboration Suite uses multiple Application tiers, you can configure a load-balancer as the URL for Oracle Mobile Push Mail. You provision this URL to the mobile device. To configure the URL as the load balancer:

1. Telnet to one of the Application tiers.

Note: The `$ORACLE_HOME` environment must be set properly.

2. Navigate to `$ORACLE_HOME/wireless/install`.

- For secure access (HTTPS).

On UNIX and Linux, run the script:

```
./mcsutil.sh -O $ORACLE_HOME -U -H <old hostname> -P <old port number> -N <new hostname> -W <new port>
```

On Windows, run:

```
mcsutil.bat -O %ORACLE_HOME% -U -H <old hostname> -P <old port number> -N <new hostname> -W <new port>
```

- For non-secure (HTTP) access.

On UNIX and Linux, run

```
./mcsutil.sh -O $ORACLE_HOME -U -H <old hostname> -P <old port number> -N <new hostname> -W <new port> -T
```

On Windows, run

```
mcsutil.bat -O %ORACLE_HOME% -U -H <old hostname> -P <old port number> -N <new hostname> -W <new port> -T
```

Note: In these scripts:

- -O ORACLE_HOME is the absolute path to the ORACLE_HOME directory.
 - -U is update URLs
 - -H <old host> is the old host name
 - -P <old port number> is the old port
 - -N <new host name> is the new host name
 - -W <new port> is the new port
 - For -T, use http:// URLs rather than https://. This is an optional parameter.
-
-

Changing the URL for a Single Application Tier

You can also configure the URL for Oracle Mobile Push Mail for a single Application tier by editing the properties file, `pimap.properties`, as follows:

1. Telnet to an Application tier.

Note: The `$ORACLE_HOME` environment must be set properly.

2. Navigate to `$ORACLE_HOME/wireless/server/classes/oracle/panama/imap/config`.
3. Open the `pimap.properties` file.
4. Edit the `<hostname>` and `<port>` properties in the *External URLs for OTA Provisioning* section ([Example 3-1](#)) so that they point to the URL for Oracle Mobile Push Mail.

Notes:

- Modifying `pimap.properties` overrides the values in the database.
 - Edit the `<hostname>` and `<port>` only. Do not change any other part of the URLs.
 - Remove the # that precedes the URL so that it can be used.
-
-

Example 3-1 External URLs for OTA Provisioning from the `pimap.properties` File

```
# =====
# EXTERNAL URLS FOR OTA PROVISIONING
# =====
# Push Email Server Internet URL
# this property needs to be configured to the URL that is visible for end
# users on the Internet. You MUST make sure that during deployment,
# this external URL is mapped to the internal URL:port that Apache is listening.
# YOU SHOULD MAKE SURE IT MAPS TO APACHE'S LISTENER port AND NOT WEBCACHE'S.
#
# For a MID-TIER only install port 7777 = webcache and 7778 = Apache
# For a SINGLE-BOX install port 7778 = webcache and 7779 = Apache
#
```

```
# This value will be provisioned to the device OTA
pimap.external.URL=https://<hostname>:<port>/mobileocs/pushMailServer

# Setup Server Internet URL
# configure here values that are accessible through the Internet
# this is the URL for the device manager.
#
# This value will be provisioned to the device OTA
setup.external.URL=https://<hostname>:<port>/mobileocs/setup

# Push Servlet Internet URL
# configure here values that are accessible through the Internet
# this is the URL for the push servlet.
#
# This value will be provisioned to the device OTA
push.external.URL=https://<hostname>:<port>/mobileocs/push

# DM Servlet Internet URL
# configure here values that are accessible through the Internet
# this is the URL for the push servlet.
dm.external.URL=https://<hostname>:<port>/mobileocs
```

Configuring the Access Points for Oracle Mobile Data Sync

The URL for Oracle Mobile Data Sync is read from the Service Registry. This URL is configured during installation. For more information on Oracle Mobile Data Sync, see *Oracle Calendar Administrator's Guide*. For information on Service Registry, see *Oracle Internet Directory Administrator's Guide*.

Configuring the Messaging Server for Notifications

Notifications are delivered through different channels (SMS, e-mail, voice, or fax) and alert users to specific messaging events, such as the arrival of an e-mail from a specific individual or the receipt of an urgent fax. Users can also receive notifications of Oracle Collaboration Suite 10g Calendar events, such as cancelled or rescheduled meetings.

Oracle Mobile Collaboration ships with its *Messaging Server* component already configured to use the Oracle-hosted messaging gateway (`http://messenger.oracle.com/xms/webservices`). The Messaging Server communicates with hosted messaging gateway using the default Messaging Server driver, `PushDriver`.

Notes:

- Because PushDriver uses the HTTP protocol to communicate with the Oracle-hosted messaging gateway, you must therefore select the **Use Proxy** option in the OracleAS Wireless *Basic Site Configuration* wizard if you run the application behind a firewall. For more information see *Oracle Application Server Wireless Administrator's Guide*.
 - If the OracleAS Wireless instance has been upgraded from the 9.0.2 to the 9.0.4 release, then the URL, `http://messenger.oracle.com/push/webservices` is valid (though the application will, in fact, be running on the 9.0.2 code base). As such, this URL is intended for backward compatibility only; update the clients of the SOAP API to use `webservices`.
-
-

Oracle Mobile Collaboration also ships with an account that enables 1000 units of notifications for SMS, voice, e-mail and fax messages. Because this account provides a limited number of notifications, you must obtain a certified messaging gateway provider (such as MutliMode, Inc.) and then build a push driver appropriate to the messaging gateway provider. To contract with a certified messaging gateway provider, refer to

<http://otn.oracle.com/products/iaswe/integration/content.html>

Alternatively, you can configure the appropriate delivery channel for one of the OracleAS Wireless Messaging Server drivers that ship with Oracle Mobile Collaboration. Oracle Mobile Collaboration ships with 15 pre-built network drivers that support protocols that are accepted as industry standards (Figure 3–9). These drivers handle such communications protocols as SMS (short message for phone), e-mail (paging or desktop), voice and fax. To enable those network channels, you must configure the drivers to work with their corresponding network servers by identifying the external server to which Oracle Mobile Collaboration Server connects (this includes acquiring this connectivity and the configuration values for the Messaging Server drivers relevant to their particular protocols).

If you build a custom driver, you must consult with the service provider and follow the OracleAS Wireless SDK. For more information on developing drivers, see to *Oracle Application Server Wireless Developer's Guide*.

Configuring the Fax Server

Mobile Collaboration supports fax delivery through RightFax, a product of Captaris, Inc. You must acquire the RightFax product and follow its instructions to set up an external fax server (described in Table 3–2) and configure the parameters of the Fax mobile application as described in "Configuring the Fax Application".

Note: The Fax mobile application requires the RightFax Java API to connect to a RightFax server.

Table 3–2 Required Software for the Fax Mobile Application

Name	Instructions	From Version
RightFaxServer (available from RightFax)	Install the RightFax server.	7.2
RightFax Integration Application (available from RightFax)	Install the Integration Application on the Fax server.	7.2
RightFax PFD application (available from RightFax)	Install the PFD Application on the Fax server.	7.2
RightFax Java API (available from RightFax)	<p>On Windows NT, copy RFJavaInt.zip (the Fax server's RightFax/Production/xml/java directory) to:</p> <p>ORACLE_HOME%\wireless\lib.</p> <p>On Solaris, copy RFJAVAInt.zip to:</p> <p>ORACLE_HOME/wireless/lib</p> <p>Include this .zip file in the OC4J classpath by adding the following line to</p> <p>ORACLE_HOME\j2ee\OC4J_Wireless\config\application.xml:</p> <pre><library path=../../wireless/lib/RFJava_api.zip"/></pre>	7.2

Sample Cover Page

Although the Fax mobile application uses a customized cover page file, you can use the sample cover page provided by Mobile Collaboration. To use this cover page, Microsoft Word 2000 must be installed on the RightFax server to enable server-side application conversion.

On Solaris installations, this cover page is located at:

```
ORACLE_HOME/j2ee/OC4J_Wireless/applications/modules/modules-web/
images/pim/fax/FCS.doc
```

On Windows NT installations, this cover page is located at:

```
ORACLE_HOME\j2ee\OC4J_Wireless\applications\modules\modules-
web\images\pim\fax\FCS.doc
```

To use the provided fax cover page:

1. Copy FCS.doc to the directory called RightFax\FCS, which is located on the machine on which you installed the RightFax server.
2. Specify the cover sheet.
3. Restart Enterprise Fax Manager.
4. Highlight **Users** under the appropriate server and double-click the user ID Administrator. Click the *Default Cover Sheets* tab. In the Cover Sheet Defaults group box, check **Send Cover Sheets** and select the cover sheet file (FCS.doc) in the *Cover Sheet Model* field.
5. Under the appropriate server, highlight **Groups** and then double-click the group ID **Everyone**. Click the *Basic Information* tab. Select the cover sheet file (FCS.doc) in the Cover Sheet Model field.
6. Restart Enterprise Fax Manager

Notes:

- See the RightFax administrator's guide for detailed instructions on fax cover sheets. You can download the documentation from:

`http://www.captaris.com/rightfax/`

- The location of client API .jar files from RightFax must be added to the classpath in `$ORACLE_HOME/wireless/sample/runpanamaserver.sh`.
-

Administering Mobile Collaboration

This chapter, through the following sections, describes administration of Mobile Collaboration. Sections include:

- "Overview of Oracle Mobile Collaboration Management"
- "Managing the Oracle Mobile Push Mail Server"
- "Managing Devices"
- "Managing Voice Support"
- "Monitoring Performance"
- "Managing Users and Provisioning Services"

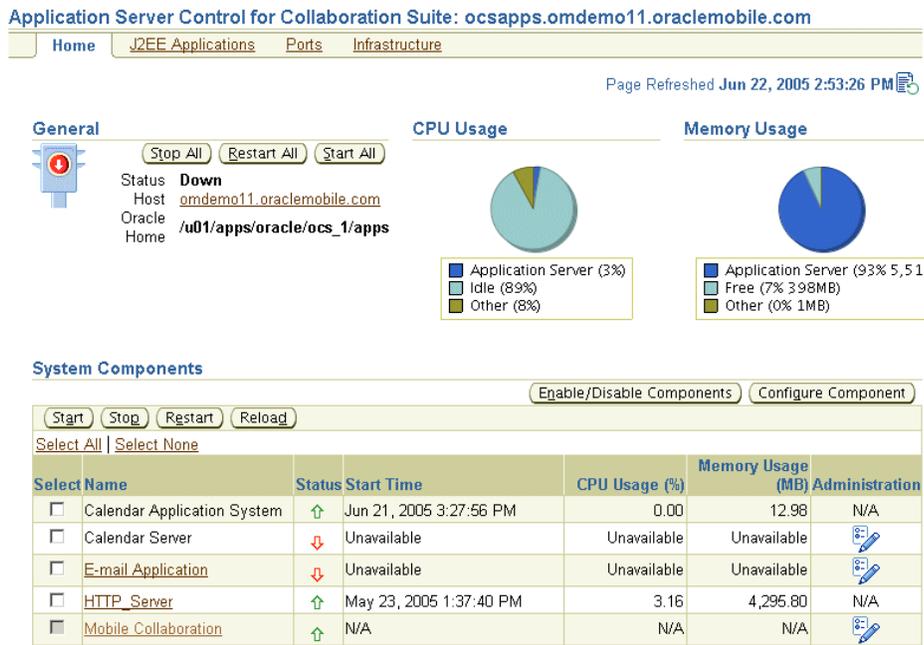
Overview of Oracle Mobile Collaboration Management

Oracle Mobile Collaboration administration enables you to configure the Oracle Mobile Push Mail server's error log and usage, add or remove client programs that enable smart devices to receive mobile push mail and synchronize with Oracle Collaboration Suite Calendar. In addition, you can generate voice grammars and DTMF (Dual Tone Multi-Frequency) equivalents that enable the look-up of user names from the Oracle Internet Directory (OID) and monitor Mobile Collaboration performance.

Accessing Oracle Mobile Collaboration Administration

Oracle Mobile Collaboration is listed in the *System Components* table of the Application Server Control *Home* page (Figure 4-1). The *Mobile Collaboration* component cannot be started, stopped, enabled or reloaded from the Application Server Control *Home* page (the check box used to select this component is grayed out). For more information about using the Enterprise Manager Application Server Control Console for Oracle Collaboration Suite refer to *Oracle Collaboration Suite Administrator's Guide*.

Figure 4–1 The System Components Table



When you click *Mobile Collaboration*, the *Home* page appears. (Figure 4–2).

Figure 4–2 The Home Page for Mobile Collaboration Server Management



The *General* section provides you with the running status of the instance (up, down or unavailable). The Oracle Mobile Collaboration Server status depends on Oracle Application Server Wireless. For more information, see "Starting and Stopping the Oracle Mobile Collaboration Server".

The page also displays the current version of the Mobile Collaboration Server. The *Wireless* link provides access to the System Manager of OracleAS Wireless.

Note: Oracle Application Server Wireless must be up to enable Oracle Mobile Collaboration.

The performance metrics in the *Response and Load* section include the *Mobile Access* section, which aggregates the statistics for all types of mobile access for this instance (that is, **Mobile Browser Access**, **Oracle Mobile Text Access**, **Oracle Voice Access**) and the *Mobile Notification* section, which displays the statistics for **mobile notifications**. The *Mobile Push Mail* section displays the total number of connected users for this instance of the Mobile Collaboration Server.

Tip: Click the *Refresh* icon (Figure 4-3) to update the performance data and running status of the *Home* page as well as the performance data displayed in the *Performance* page.

Figure 4-3 The Refresh Icon



Accessing Administration and Performance

The *Home* page includes the *Performance* and Administration tabs. By clicking the *Performance* tab, you can view the performance for Oracle Mobile Access, notifications, and Oracle Mobile Push Mail that display on the *Performance* page (Figure 4-4).

Figure 4-4 The Performance Page

The following metrics display the performance statistics for all of the Mobile Collaboration servers.

Mobile Access

Process Name	Average Response Time (seconds)	Average Session Duration (seconds)	Users	Applications Invoked	Average Application Invocations per Session	Average Application Invocations per User
DYN_HTTPSRV_1947	130.067000	1422.000000	1	1	1.000000	1.000000

Mobile Notification

Process Name	Notifications Processed	Notifications Sent	Errors
notification_eng_1003	7	7	0

Mobile Push Mail

Host Name	Devices Served	Connections	Inband Notifications Sent	UDP Notifications Sent	SMS Notifications Sent	Current Connections
omcollab03.us.oracle.com	1	2	1	0	0	2
pushmail.oracle.com	1	1	0	1	0	1

By clicking the *Administration* tab, you access the *Administration* page (Figure 4-5), which enables you to perform the following tasks:

- Setting the Error Logging Level for the Oracle Mobile Push Mail Server
- Setting the Number of Users for the Oracle Mobile Push Mail Server

- [Adding Client Programs to the Program Repository](#)
- [Locking Down Devices](#)
- [Generating DTMF Equivalents and Voice Grammars](#)

Figure 4–5 The Administration Tab



Starting and Stopping the Oracle Mobile Collaboration Server

The running status of the Oracle Mobile Collaboration Server depends upon that of Oracle Application Server Wireless; because its life cycle and status are determined by OracleAS Wireless, the Oracle Mobile Collaboration Server runs only when OracleAS Wireless runs. Stopping OracleAS Wireless also stops the Oracle Mobile Collaboration Server. Because you can neither start nor stop the Oracle Mobile Collaboration Server from the *System Components* table, you must select the *Wireless* component listed in the table and then click **Start** to start the Oracle Mobile Collaboration Server. Likewise, to stop the Oracle Mobile Collaboration Server, you must select the *Wireless* component and then click **Stop**. For more information on the *System Components* table, refer to *Oracle Collaboration Suite Administrator's Guide*.

Managing the Oracle Mobile Push Mail Server

The *Mobile Push Mail Configuration* page (Figure 4–6) enables you to set the error logging for the Oracle Mobile Push Mail server and set the number of concurrent users for a Mobile Collaboration Server instance.

Setting the Error Logging Level for the Oracle Mobile Push Mail Server

To set the error logging, select *Warning*, *Error*, or *Verbose* for the log level. This parameter enables you to select the type of messages written to the Oracle Mobile Push Mail Server error log (ORACLE_HOME/wireless/pimap/logs/logs.xml) by severity (*Warning* and *Error*) as well as by the amount of information (*Verbose*) that is recorded to the log.

Selecting *Error* writes all of the exception and error messages to the log. Selecting *Verbose* writes the debug-level messages to the error log. In addition, verbose logging includes error messages (written in order, by process time) for all of the commands and responses sent to and from clients and the Oracle Mobile Push Mail Server. Verbose messages for the LOGIN, FETCH, or XCONVERT commands do not include payloads. See also "[Examining Logs for Oracle Mobile Push Mail, Oracle Mobile Access and Mobile Notifications](#)"

Note: Selecting the *Verbose* error logging level may affect performance.

Setting the Number of Users for the Oracle Mobile Push Mail Server

To set the number of concurrent users for an instance of the Oracle Mobile Push Mail Server, enter an integer that is greater than zero. The number of concurrent users for an Oracle Mobile Push Mail Server instance ranges from 1 to 2000.

Click **OK** to commit the values for the logging level and the number of concurrent users to the Oracle Mobile Push Mail Server and then restart the *OC4J_Wireless* component in the *System Components* table.

Figure 4–6 Setting the Logging Level and Usage

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite

Logs Topology Preferences Help

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > >

Mobile Push Mail

The Mobile Push Mail Server configuration on this page applies to all servers of the Mobile Collaboration Site. Cancel OK

Log Level Controls how much information is recorded on the Mobile Push Mail Server log. Note: selecting Verbose level may affect the server's performance.

Maximum Number of Concurrent Users Controls how many concurrent users are supported per Mobile Collaboration middle-tier instance. Once the maximum number of users is reached, the least active user connection is released. The valid range is 1-2000.

Cancel OK

[Logs](#) | [Topology](#) | [Preferences](#) | [Help](#)

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[About Oracle Enterprise Manager 10g Application Server Control for Collaboration Suite](#)

Managing Devices

The *Client Program Management* and *Device Lockdown* pages, accessed from the *Mobile Collaboration Administration* tab (Figure 4–5), enable you to manage **client programs**. These programs, which are downloaded over the air (OTA) to end-user devices, provide mobile push mail and synchronization with the Oracle Collaboration Suite 10g Calendar. The mobile device management infrastructure provides a central repository that stores the client programs and settings of client programs that are downloaded and provisioned OTA to user devices.

Mobile Collaboration manages the client programs on user devices through OTA downloads as follows:

1. Using the *Client Program Management* page, the administrator uploads a client program to the **Program Repository**. For more information, see "[Adding and Removing Client Programs from the Program Repository](#)".
2. A mobile user selects a client program from the *Mobile Preferences* pages of the Oracle Collaboration Suite portal (Figure 4–8) and then clicks **Configure**. This elicits a request for **Setup Servlet** to download and run a **Setup Program**.
3. Setup Servlet sends the Setup Program that is appropriate to the operating system of the requesting device.
4. Setup Servlet downloads the Setup Program appropriate to the device.

5. Setup Program requests a download servlet from Setup Servlet. The download servlet downloads client programs.
6. The download servlet accesses the Program Repository and retrieves the client programs for the requesting device.
7. The download servlet transmits the client programs to the requesting device.
8. The client programs are installed and stored on the requesting device.
9. The client program download record is stored in the Client Repository for future client program upgrades. For more information, see "[Deploying Oracle Collaboration Suite 10g Mobile Push Mail](#)" and "[Deploying Oracle Mobile Data Sync](#)".

Oracle Mobile Collaboration not only deploys the client program to the user device, it also provisions the parameters onto the device over-the-air. For more information, see "[OTA Provisioning Behavior](#)". Once the provisioning completes, the user's device can communicate with Oracle Mobile Collaboration Server.

OTA Provisioning Behavior

In Oracle Collaboration Suite 10g (10.1.1.0.2), the OTA (over-the-air) provisioning behavior varies depending on device type when users select *Mobile Browser Access URL Bookmarks* in the *Mobile Preference* pages ([Figure 4-8](#)) and then click **Configure**.

The bookmark configuration sends three SMS messages:

1. *Mobile Browser Access URL*— The URL used on the device's browser to connect to **Mobile Browser Access**. This URL displays in the first page of the Oracle Mobile Collaboration *Preferences* page ([Figure 3-1](#)).
2. *Mobile Voice Access Phone Number*— This is the phone number for **Oracle Voice Access**. For some devices, Oracle Mobile Collaboration sends a vCard which creates this phone number in the phone book as a new contact. Other devices receive this phone number through an SMS message.
3. *Mobile Text Access*— This can be phone number or the e-mail address for the **Oracle Mobile Text Access** which is sent to the device. Like the *Mobile Voice Access Phone Number* message, the means of transport (SMS, or vCard) depend on the device type; the vCard creates an entry in the phone book, or an SMS message with the phone number or e-mail address is sent to the device.

[Table 4-1](#) describes the provisioning behavior for the Mobile Browser, Oracle Voice Access and Oracle Mobile Text Access. In this table:

- *SMS* is an SMS message bearing the information that is sent to the device.
- *link* is an SMS message that is sent to the device and then stored as a bookmark.
- *vCard* is an SMS message containing a vCard that is sent to the device. The vCard can be saved in the device's phone book.

Table 4–1 Provisioning Behavior for Supported Devices

Device Model	Message Type for Mobile Browser Access	Message Type for Oracle Voice Access	Message Type for Oracle Mobile Text Access
Blackberry 6200 and 7200	SMS	SMS	SMS
Window Mobile 2003 Phone and SmartPhone	SMS	SMS	SMS
Sony Ericsson T610, T616, T630, T637, P800, P900, P910a, P10i, K700i, S700i	link	vCard	vCard
Nokia 6260, 6600, 6620, 6630, 7610, 9300, 9500	link	vCard	vCard

Adding and Removing Client Programs from the Program Repository

The *Client Program Management* page (Figure 4–7) enables you to upload Oracle Mobile Push Mail clients and Oracle Mobile Data Sync clients to the **Program Repository** or remove a selected client program from the Program Repository by using the **Upload** or **Delete** buttons, respectively.

Figure 4–7 The Device Management Page

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite [Logs](#) [Topology](#) [Preferences](#) [Help](#)

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > Mobile Collaboration >

Client Program Management

This table lists the client programs available for the end users to download. Users can select these programs when they set up their Mobile Preferences. Client programs are either a Mobile Push Mail client program or a Mobile Data Sync client program.

Select an Item and...		Delete	Upload					
Application Type	Description	Vendor	Platform	Processor	Operating System	Language	Version	
<input checked="" type="radio"/> PUSHMAIL	Push Mail Client	Oracle	PPC	ARM	2003	en_US	10.1.1.0.0 (build 2005.03.18.18.09 PST)	

[Logs](#) | [Topology](#) | [Preferences](#) | [Help](#)

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About Oracle Enterprise Manager 10g Application Server Control for Collaboration Suite

This page lists the client programs available to end users when they configure their mobile devices from the Oracle Collaboration Suite portal (Figure 4–8). Once the client program is uploaded to the Program Repository, it appears in the table and is available to all of the Oracle Mobile Collaboration instances.

Note: Since all of the Oracle Mobile Collaboration instances share the same Program Repository, you can upload the client program to any Oracle Mobile Collaboration instance.

Figure 4–8 Selecting a Client Program from the Oracle Collaboration Suite Portal**Automatic Configuration**

A configuration message can be sent to your mobile phone to automatically configure your device. Select the following checkboxes and click the Configure button to start the installation process of the desired applications on your device.

- Mobile Browser Access URL Bookmark
- Mobile Push Mail Client
- Mobile Data Sync Client

Configure

Adding Client Programs to the Program Repository

To add a Oracle Mobile Push Mail or Oracle Mobile Data Sync client program to the Program Repository, click **Upload**. the *Upload Client Program* page appears. The **Browse** function enables you to locate the .zip file containing the Oracle Mobile Push Mail client or a Oracle Mobile Data Sync client program. This file is called a **client program package**. For more information on Oracle Mobile Data Sync, see *Oracle Calendar Administrator's Guide*.

Click **OK** after you select the client program package for the client program.

The uploaded program, which appears in the table, is available for download by end users to provide mobile push mail or synchronization with Oracle Calendar [10g]. For more information, refer to the *Oracle Calendar Administrator's Guide*.

Notes:

- You can only upload client programs that have been packaged into a .zip file.
- Because no Oracle Mobile Push Mail programs are automatically uploaded to the Application tier after installation, you must upload the .zip file to the repository. You can download the Pocket PC Edition Oracle Mobile Push Mail client (developed by Oracle Corp.) from the Oracle Technology Network (<http://www.oracle.com/technology/>). See also "[Obtaining the Oracle Mobile Push Mail Client for Windows Mobile 2003](#)".
- Oracle Collaboration Suite 10g (10.1.1.02) supports only client programs for Oracle Mobile Push Mail and Oracle Mobile Data Sync. For more information on Mobile Data Sync, see *Oracle Calendar Administrator's Guide*.
- Before uploading any client program, you must obtain the necessary third-party licenses for any client program.

Obtaining the Oracle Mobile Push Mail Client for Windows Mobile 2003

After installation of the Application tier, the .zip files for the Oracle Mobile Push Mail client for Windows Mobile 2003 are located at

```
$ORACLE_HOME/wireless/pimap/download/client/wince/ppc2003
```

The *ppc2003* folder contains two subfolders:

- *arm*—Contains the .zip files for the client programs that run on ARM processor-based PocketPC devices.

- *x86*—Contains the .zip files for the client programs that run on the PocketPC emulators.

Tips:

Use the .zip files in *x86* for support or training situations in which you cannot provide a device to all of the participants. Upload this .zip file and instruct training or support participants to use the PocketPC emulator to run the Oracle Mobile Push Mail client.

You do not need to upload all 30 .zip files (15 for the ARM processor and 15 for the emulator). You can instead only upload the English version of the ARM processor (if you have device) or the English version on the emulator.

Introducing New Carriers to Oracle Mobile Collaboration

The Oracle Mobile Collaboration management of OTA downloading and provisioning enables you to add a new carrier.

To add a new carrier:

1. Log into the Oracle Mobile Collaboration repository as the Wireless user with the command

```
sqlplus wireless/<password>
```

Note: See ["Retrieving the OracleAS Wireless Database User Password"](#) for the value for the password of the Wireless user in the database.

2. Add the new carrier. For example, to add ATT Wireless Carrier, enter the SQL statements as illustrated in [Example 4–1](#).

Example 4–1 Adding ATT Wireless as a Carrier

```
INSERT INTO WIRELESS.CARRIERS VALUES ('5', 'name', 'ATT Wireless' );
INSERT INTO WIRELESS.CARRIERS VALUES ('5', 'ota', 't' );
INSERT INTO WIRELESS.CARRIERS VALUES ('5', 'pingInterval', '600' );
INSERT INTO WIRELESS.CARRIERS VALUES ('5', 'emailFormat', 'att.com' )
```

In this example, 5 is the unique ID for ATT Wireless. [Table 4–2](#) describes the parameters that you define for a carrier in these SQL statements.

Table 4–2 Carrier Parameters

Parameter	Value
name	The name of the carrier.
ota	Enter 't' (true) if the carrier supports OTA provisioning; enter 'f' (false) if the carrier does not support OTA provisioning.
pingInterval	Enter the time, in milliseconds, for the default interval to keep a UDP session open and valid for this carrier.
emailFormat	The default domain for sending e-mail to the devices supported by this carrier.

WARNING: Do not add any device to the Oracle Mobile Collaboration repository that has not been tested by Oracle Corp.

Retrieving the OracleAS Wireless Database User Password

To connect as the Wireless user, you must retrieve the user password from the Oracle Internet Directory (OID) repository as follows:

1. Start the Oracle Directory Manager application from either the Application tier or Infostore machine.
 - On UNIX, enter `$ORACLE_HOME/bin/oidadmin`.
 - On Windows:
 1. Click **Start**.
 2. Click **All Programs**.
 3. Select **Oracle Application Server**, then **Integrated Management Tools**.
 4. Select **Oracle Directory Manager**.
2. Connect to the OID repository using `orcladmin/<password>`.
3. Navigate to `OrclResourceName=WIRELESS` through the following:
 - a. Entry Management
 - b. Oracle Context
 - c. Products
 - d. IAS
 - e. IAS Infrastructure Databases
 - f. `orclReferenceName=<yourDatabase>`

At `OrclResourceName=WIRELESS`, the password is stored in `orclpasswordattribute`. Use that value to connect as the Wireless user in the database.

Locking Down Devices

The *Device Lockdown* page (Figure 4-9) enables you to protect a user's account by shutting down and then deleting client programs installed on lost, stolen, or damaged devices. When you lock down a user device, the Oracle Mobile Push Mail server sends an SMS message that shuts down and then deletes the Oracle Mobile Push Mail client program. As a result, you prohibit that device from accessing the Oracle Mobile Push Mail Server. To reactivate push mail, users must return to the end-user portal (Figure 4-8) and select the *Mobile Push Mail Client* option.

Note: For Release 10.1.1, you can shut down and delete only Oracle Mobile Push Mail client programs.

Figure 4–9 The Device Lockdown Page

ORACLE ENTERPRISE MANAGER 10g
Application Server Control for Collaboration Suite

Logs Topology Preferen

Farm > Application Server: OCS10GM6BMid.omcollab03.us.oracle.com > >

Device Lockdown

Search for a user device configured for Mobile Push Mail and lock down the client program on that device.

Search

Enter either the full or partial user name, email address, or phone number.

Select User Name	Email Address	Phone Number	Device Name
<input checked="" type="radio"/> scott_tiger	scott.tiger@company.com	16505555555	my_work_phone
<input type="radio"/> joe_tiger	joe.tiger@company.com	14155556000	my_blackberry

Logs | Topology | Preferences | Help

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About Oracle Enterprise Manager 10g Application Server Control for Collaboration Suite

From the *Device Lockdown* page, you can search for devices that require their Oracle Mobile Push Mail client to be shut down and then deleted by first entering the full or partial user name, e-mail address, or phone number and then by clicking **Go**. The table displays the search result by user name, e-mail address, phone number and device name (which users assign from the Oracle Collaboration Suite portal).

The *Device Lockdown* page enables you to not only shut down and delete Oracle Mobile Push Mail clients for user devices on which the client has been configured, but also for user devices on which the client program has been downloaded, but not yet configured. Disabling the Oracle Mobile Push Mail client for a device that has not downloaded the client program prohibits that device from downloading the client program.

Note: End users can lock down a device by deleting it from *My Communication Devices* table on the *Advanced Preferences* page of the Oracle Collaboration Suite portal.

Providing Client Program Instructions to End Users

The End-User Documentation Portal is a set of customizable HTML pages that provide end-user instructions on downloading, installing, and configuring the Oracle Collaboration Suite clients. The End-User Documentation Portal includes links to the Oracle Technology Network (OTN) end-user FAQ and troubleshooting pages as well as Oracle Collaboration Suite end-user tutorials. For components that require frequent device certification updates, the End-User Documentation Portal provides getting-started information and OTN links for device certification and configuration. You can customize the default content of the End-User Documentation Portal, add content to it, and select the information that you want to expose to end-users. For more information, see *Oracle Collaboration Suite Administrator's Guide*.

The End-User Documentation Portal is included on the installation CD as `eudp.zip` (which is located at `DVD/DOC/EUDP`). See the installation guides for Oracle Collaboration Suite 10g for information on installing and deploying the End-User Documentation Portal.

Managing Voice Support

Oracle Mobile Collaboration provides support for directory searches using voice commands or the touch-tone keypad by generating the Dual Tone Multi-Frequency (DTMF) equivalents and voice grammars of the Oracle Collaboration Suite user names that are stored in the Oracle Internet Directory (OID). The DTMF equivalents enable users to look up a contact using a keypad-based user interface; the generated grammars, a vocabulary of Oracle Collaboration Suite user names, enable users to search for a contact using a speech-recognition engine. The generated grammars also enable the *Directory* application to pronounce the full name of a contact. You must generate the DTMF equivalents and voice grammars to enable the *Directory* application's Large scale speech voice interface. For more information, refer to "[Configuring Voice Access to Directory Search](#)".

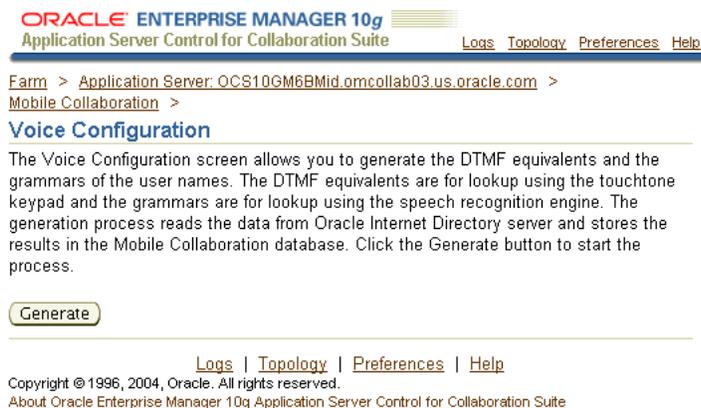
This section describes the following task:

- [Generating DTMF Equivalents and Voice Grammars](#)
- [Generating the Voice Grammars from a Command Line](#)

Generating DTMF Equivalents and Voice Grammars

The *Voice Configuration* page ([Figure 4–10](#)) enables you to generate the DTMF equivalents and the grammars of user names stored in the OID server by clicking the **Generate** button.

Figure 4–10 The Voice Configuration Page



The automatic speech recognition (ASR) engine downloads the newly generated grammar to cache it. As a result, the first voice access of the *Directory* application will be slow because of the ASR engine's downloading of the grammar into the cache. If the access to the *Directory* remains slow, then the ASR cache might not be functioning properly.

Note: The time taken to complete the generation process, which involves reading data from the OID and storing the results in the database, depends on the number of Oracle Collaboration Suite user name entries in OID.

Generating the Voice Grammars from a Command Line

As an alternative method of generating the voice grammars, run:

ORACLE_HOME/wireless/bin/popdir.sh (UNIX)

or

ORACLE_HOME\wireless\bin\popdir.bat (WINDOWS)

See also ["Scheduling the Command-Line Utility and Caching"](#).

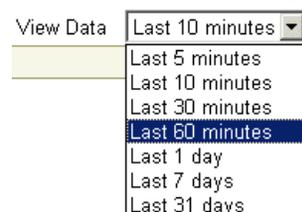
Monitoring Performance

From the *Site Performance* page (Figure 4-4), you can monitor the site-wide performance for Oracle Mobile Access, notifications, and Oracle Mobile Push Mail for the following intervals:

- *Last 5 minutes*
- *Last 10 minutes* (This is the default selection.)
- *Last 30 minutes*
- *Last 60 minutes*
- *Last 1 day*
- *Last 7 days*
- *Last 31 days*

To view performance data, select an interval from the *View Data* list (Figure 4-11) and then click **Go**.

Figure 4-11 The View Data List



Monitoring Oracle Mobile Access Performance

The Oracle Mobile Access performance metrics aggregate all types of mobile access, such as mobile text access, mobile voice access, and mobile browser access for the Oracle Mobile Collaboration site. The performance categories include:

- **Average Response Time (seconds)**
The average application response time over the specified period.
- **Average Session Duration (seconds)**
The average duration for a session in which applications were evoked over the specified period.
- **Users**
The number of users who invoked applications over the specified period.
- **Applications Invoked**

The number of applications invoked over the specified period.

- Average Number of Application Invocations per Session

The average number of application invocations for each session over the specified period.

- Average Number of Application Invocations per User

The average number of application invocations for each user over the specified period.

Monitoring Oracle Mobile Push Mail Performance

The Oracle Mobile Push Mail performance data reflects the overall usage of the Oracle Mobile Push Mail server (by host name) over the designated time period. The performance categories include:

- Devices Served

The number of devices using Oracle Mobile Push Mail for the specified period.

- Connections

The number of active connections for the specified period.

- Inband Notifications Sent

The number of notifications sent by the Oracle Mobile Push Mail Server to clients through HTTPS for the specified period. For Release 10.1.1, Pocket PC and Blackberry clients use **inband** notification.

- UDP Notifications Sent

The number of notifications sent from the Oracle Mobile Push Mail server to clients through **outbound** UDP (User Datagram Protocol). For Release 10.1.1, Nokia clients use outbound UDP notification.

- SMS Notifications Sent

The number of notifications sent from the Oracle Mobile Push Mail server to clients using outbound SMS for the specified period.

- Current Usage

The number of current, active connections for the Oracle Mobile Collaboration site. (There is a maximum of 2000 connections for each instance of the Oracle Mobile Push Mail server.)

Monitoring Mobile Notification Performance

The *Mobile Notification* performance categories (by host name) include:

- Notifications Processed

The total number of notifications processed for the specified time period.

- Notifications Sent

The total number of notifications sent for the specified time period.

- Errors

The total number of errors occurred for the specified time period.

Managing Users and Provisioning Services

You create users with the Oracle Internet Directory Self-Service Console. This tool interfaces with Delegated Administration Services (DAS), which stores user and group information in the Oracle Internet Directory (OID) database. The Self-Service Console enables you to create a single user, or to bulk-provision several users at one time. For more information, see *Oracle Collaboration Suite Administrator's Guide*.

Examining Logs for Oracle Mobile Push Mail, Oracle Mobile Access and Mobile Notifications

The **View Logs** function of Oracle Enterprise Manager Application Server Control for Oracle Collaboration Suite enables you to access the error logs for the **Oracle Mobile Access, mobile notifications** and **Oracle Mobile Push Mail**.

1. Click **Logs** on the *Home* page of Oracle Enterprise Manager Application Server Control for Oracle Collaboration Suite. The *View Logs* page appears.
2. For the error logs for Oracle Mobile Push Mail, select *Mobile Collaboration* from the *Available Components* pane and then use the **Move** function to shuttle it to the *Selected Components* pane (Figure 4–12).
3. For the error logs for Oracle Mobile Access and mobile notifications, select *Wireless* in the *Available Components* pane and then use the **Move** function to shuttle it to the *Selected Components* pane (Figure 4–12)

Figure 4–12 Selecting the Oracle Mobile Access and Oracle Mobile Push Mail Logs



4. Click **Search**. The log entries appear for the selected components (Figure 4–13).

Figure 4–13 The Search Results

Search

Results: 6 Log Entries Retrieved

Component Type 	Component Name	Log Type	Log File	Modified	Size (bytes)	OPMN Process Set
Mobile Collaboration	Push Email Server	Error	log.xml	June 22, 2005 6:00:43 PM PDT	30733507	
Wireless	Notification Event Collector Server	Server	redirected output/errors	June 22, 2005 10:19:08 AM PDT	10940	notification_evtcol_1002
Wireless	Performance Server	Server	redirected output/errors	June 22, 2005 10:19:04 AM PDT	9029	perfmonitor_1001
Wireless	Messaging Server	Server	redirected output/errors	June 22, 2005 10:19:06 AM PDT	11244	messaging_gtwy_1000
Wireless	Notification Server	Server	redirected output/errors	June 22, 2005 10:21:07 AM PDT	9657	notification_eng_1003
Wireless		Error	log.xml	June 22, 2005 6:00:18 PM PDT	6028449	

- To view a log file, click the link in the *Log File* column. For example, click *log.xml* for the *Mobile Collaboration* entry to view the log file for Oracle Mobile Push Mail (ORACLE_HOME/wireless/pimap/logs/logs.xml, illustrated in [Figure 4–14](#)). See also "[Setting the Error Logging Level for the Oracle Mobile Push Mail Server](#)" and *Oracle Application Server Wireless Administrator's Guide*.

Figure 4–14 Viewing the Log File

ORACLE Enterprise Manager 10g
Application Server Control for Collaboration Suite

Topology Preferences Help

Farm > Application Server: ocsapps.ondemo11.oraclemobile.com > View Logs >

Refresh

Log File: log.xml

Page Refreshed Jun 22, 2005 6:10:50 PM

Log File [/u01/apps/oracle/ocs_1/apps/wireless/pimap/logs/log.xml](#)
(Click on the log file link to download the log or view it as plain text)

Component Name	Push Email Server	Modified	Jun 22, 2005 6:10:29 PM
Component Type	Mobile Collaboration	Size (bytes)	31226878

Log File Contents

Below are the most recent log entries from the specified log file. A maximum of 100 log entries is displayed.

- **Log Entry: June 22, 2005 6:09:57 PM PDT**

Component	Wireless
Message Type	Notification
Organization ID	ORACLE
User ID	oracle
Host Name	ondemo11.oraclemobile.com
Host Network Address	148.87.26.133
Thread ID	AJPRequestHandler-ApplicationServerThread-26
Message Level	1

Message Text

```
===VerboseIMAPEventListener [1119488997577]
==> IMAPRequestLine [jack.liu@oracle.com#463] is received: 18 UID XCONVERT 8773 BODY.PEE
r21
```

Configuring the Mobile Applications

This appendix, through the following sections, describes the mobile applications, which support the mobile access of the Oracle Collaboration Suite's services. These sections include:

- ["Overview of the Mobile Applications"](#)
- ["Configuring the Mail Application"](#)
- ["Configuring the Calendar Application"](#)
- ["Configuring the Address Book Application"](#)
- ["Configuring the Directory Application"](#)
- ["Configuring the Files Application"](#)
- ["Configuring the Mail Application"](#)
- ["Configuring the Short Messaging Application"](#)
- ["Configuring the Fax Application"](#)
- ["Configuring the Files Application"](#)

Overview of the Mobile Applications

Oracle Mobile Collaboration ships with a set of mobile applications, which support the mobile access of the Oracle Collaboration Suite's services, such as Mail and Content Services. Although the mobile applications run out-of-the-box, the *Directory*, and *Mail* applications require additional configuration for voice access. Likewise, configuring the fax server also requires that you configure the Fax mobile application. Using the editing pages of the Content Manager ([Figure A-1](#)), one of the OracleAS Wireless tools, you can both view and change the needed input parameters of these applications. For information on accessing the Content Manager and its editing pages, see ["The OracleAS Wireless Tools"](#).

Figure A–1 Editing the Configuration Parameters of a Mobile Application

The screenshot shows the 'Edit Service: Input Parameters' page in the Oracle Collaboration Suite administration console. The breadcrumb trail is 'Content Manager > Root Folders and Services > PIM > Short Messaging'. The page title is 'Edit Service: Input Parameters'. The left sidebar shows a navigation menu with 'Input Parameters' selected. The main content area contains the following configuration parameters:

- * Application URL Address:** /modules/pim/shortmessaging/jsp/sm.jsp. Description: The HTTP URL to the Application. It can be absolute or relative to the current instance. Example: `http://host.mydomain.com:8888/apps/app1.jsp` or `/apps/app1.jsp`
- Replace Relative URLs:** true. Description: Whether the adapter should replace the relative URLs inside the result with absolute URLs.
- HTTP Method:** POST. Description: The HTTP method used by the adapter to get the content from the Application URL Address. Supported methods are GET and POST.
- Input Encoding:** UTF-8. Description: Encoding scheme of the remote web server where the application is running. Use IANA character set names. The list of names is published at: "http://www.iana.org/assignments/character-sets" For example: ISO-8859-1, UTF-8, etc.
- * Message Sender:** oraclemobile@oracle.com. Description: Specifies the identity used for anonymous users when they send short messages. This field will be ignored for non-anonymous users. Examples: 'Anonymous User', '(100)111-1111', 'user@oracle.com'
- Display All Delivery Types:** false. Description: Specifies whether all the delivery types (Email, Fax, SMS and Voice) will be displayed regardless of whether or not they are configured. If set to 'false', only configured delivery types will be shown to the user.

The parameters described in this document are divided into four categories:

- **Active Parameters**

The values that you enter for these parameters, such as those for voice access and for the delivery of fax messages described in "[Overview of Oracle Mobile Collaboration Server Configuration](#)", affect the behavior of both Application tiers running Oracle Collaboration Suite Release 10g (10.1.1.0.2) and earlier versions of Oracle Collaboration Suite applications.

- **Parameters Replaced by the Service Registry**

Some values, such as those for the Calendar mobile application's *Calendar Server Name and Port* parameter are read from the Service Registry of OID (Oracle Internet Directory). If no value is found, then the value set for the mobile application's parameter is used. In heterogeneous environments, Application tiers running versions of Oracle Collaboration Suite applications prior to Oracle Collaboration Suite Release 10g (10.1.1.0.2) read the value set for the mobile application's parameter. Changing the values for these parameters can affect the behavior of Oracle Collaboration Suite applications from prior releases. For more information on the Service Registry, see *Oracle Internet Directory Administrator's Guide*

- **Parameters for Internal Use**

These parameters are for internal use. Do not change the values for these parameters.

- **Deprecated Parameters or Parameters Included for Backward Compatibility**

Changing the values for these mobile applications changes the behavior of Application tiers running versions of Oracle Collaboration Suite that are prior to Oracle Collaboration Suite Release 10g (10.1.1.0.2).

Configuring Applications for Oracle Mobile Text Access

The address book application includes the following four configuration parameters that apply to all Oracle Mobile Text Access (asynchronous) applications:

- Asynchronous Contact Separator
- Asynchronous Query OID
- Asynchronous Max Contacts Results
- Asynchronous Translate Commands

The values set for these parameters affect all asynchronous-enabled services.

Configuring the Mail Application

The Mail application enables users to access their e-mail messages from any mobile device.

Active Mail Application Parameters

The following sections describe the parameters and values of the Mail application:

- [Auto Domain for E-Mail Addresses](#)
- [Inbox Name](#)
- [Sent Folder Name](#)
- [Max Messages Fetched](#)
- [Timeout](#)
- [Encoding](#)
- [Deleted Messages Folder Name](#)
- [Save the Contents in Audio Reply?](#)

Auto Domain for E-Mail Addresses

The domain that is used for the recipient when no domain is present in the recipient's e-mail address. This parameter can construct the sender's identity if it is not specified by the user.

- **Valid value:** A string value
- **Default value:** *localhost*
- **Examples:**
mycomp.com
xyz.com

Inbox Name

The primary folder for the user; usually it is *INBOX*.

- **Valid values:** Any valid folder name on the mail server.
- **Default value:** *INBOX*
- **Examples:** *INBOX*

Sent Folder Name

The name of the folder where the sent messages are saved.

- **Valid values:** Any valid folder name on the mail server
- **Default value:** *Sent*
- **Examples:**
SentItems
Sent

Max Messages Fetched

Enter the maximum number of the messages that will be fetched, per request, from the server.

- **Valid values:** Any integer value
- **Default value:** *200*
- **Examples:**
9
200

Timeout

The timeout connection limit to the Mail server, specified in milliseconds.

- **Valid values:** Any integer value
- **Default value:** *2000*
- **Examples:**
2000
5000

Encoding

Enter the encoding used while sending an e-mail. Use the character set names of the Internet Assigned Numbers Authority (IANA). The list of names is published at:

<http://www.iana.org/assignments/character-sets>

If the value for this parameter is left blank (that is, no value has been entered), then the system's default encoding is used for outgoing messages. The user can override this setting in the mail application under *Setup*.

- **Valid values:** A valid encoding format
- **Default value:** *UTF-8*
- **Examples:**
UTF-8
ISO-8859-1

Deleted Messages Folder Name

The name of the folder where the deleted messages are saved.

- **Valid values:** Any valid folder on the mail server
- **Default value:** empty
- **Examples:**
DeletedItems
Wastebasket

Save the Contents in Audio Reply?

This parameter specifies if the contents of the audio reply should be saved in the *Sent Folder*.

- **Valid values:** A boolean value (*true, false*)
- **Default value:** *true*

Mail Application Parameters for Internal Use

The following values are for internal use. Do not change the values for these parameters.

- [Can User Use Different Server Settings?](#)
- [Outgoing Mail Server \(SMTP\) Login](#)
- [Mail Protocol](#)
- [Application Setup OMP URL](#)

Can User Use Different Server Settings?

Whether the a user can edit such settings as those for server and domain. The default value is *false*.

Outgoing Mail Server (SMTP) Login

When required, it specifies username for the outgoing server. The default is an empty value.

Mail Protocol

The mail protocol supported by the mail server. The default value is *esmail*.

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) URL of the Application Setup Modulable Application. The default value is *omp://oracle/applications/appsetup*.

Mail Application Parameters Replaced by the Service Registry

Parameters include:

- [Outgoing Mail Server \(SMTP\)](#)
- [Outgoing Mail Server \(SMTP\) Port](#)

Outgoing Mail Server (SMTP)

The value for this parameter is the name or IP address of the of the Outgoing Mail Server (SMTP). The default value is *localhost*.

Outgoing Mail Server (SMTP) Port

The port number for the Outgoing Mail Server. The default value is 25.

Deprecated Mail Application Parameters and Parameters Included for Backward Compatibility

Parameters include:

- [Incoming Mail Server Name](#)
- [Incoming Mail Server Port](#)
- [E-Mail Configuration Driver Class](#)

- [Mail JDBC Driver Type](#)
- [Temporary Directory](#)
- [Audio Temporary Directory](#)
- [Audio Temporary Directory URL](#)
- [OID Administrator Username](#)
- [OID Administrator Password](#)

Incoming Mail Server Name

The name of the incoming e-mail server. If the selected protocol is esmail, then this should point to the Oracle Internet Directory (OID) server. The default value is *localhost*.

Incoming Mail Server Port

The server port for incoming e-mail. If the selected protocol is esmail, then this should point to the OID server. The default value is 4032.

E-Mail Configuration Driver Class

A Java driver class that loads the e-mail configuration. This parameter is provided only for backward compatibility. The default value is *oracle.panama.module.pim.mail.util.Config*.

Mail JDBC Driver Type

This parameter specifies the Mail JDBC driver type that connects to the OID server. This parameter is needed only when the Mail application is configured to connect to Oracle Internet Directory (OID) to retrieve inbox filters. The default value is *thin*.

Temporary Directory

Enter the temporary directory where the attachments are downloaded. The default value is */tmp*.

Audio Temporary Directory

This parameter must be specified for voice access and for voice attachment replies to e-mail. This directory must be accessed through the Web. It specifies the temporary directory where the voice files are stored on the server which holds the E-mail application. For convenience, specify the fully qualified path to the "audiotemp" directory on the *Oracle Application Server Wireless Application* tier server. The default value is */modules/modules-web/pim/mail/audiotemp*.

Audio Temporary Directory URL

This parameter is mandatory for voice access and for replying to an e-mail as a voice attachment. It specifies the HTTP URL that retrieves audio files sent in the e-mail and points to the *Audio Temporary Directory*. If the default value for the *Audio Temporary Directory* has not changed, then the value for this parameter does not need to be changed; otherwise specify the URL for the folder. The default value is */modules/pim/mail/audiotemp*.

OID Administrator Username

The username for the Administrator account on the OID Server. This parameter is needed only when the Mail application is configured to connect to the Oracle Internet Directory (OID) to retrieve inbox filters. The default value is *orcladmin*.

OID Administrator Password

The password for the OID administrator user. This parameter is needed only when the Mail application is configured to connect to Oracle Internet Directory (OID) to retrieve Inbox Filters. The default is an empty value.

Configuring the Calendar Application

The Calendar application enables users to manage their schedule and tasks using mobile access to calendar servers.

Calendar Application Parameters Replaced from the Service Registry

The Calendar application includes the *Calendar Server* parameter called *Calendar Server Name and Port*. Enter the name and port of the Oracle Collaboration Suite Calendar Server. Separate both of these entries with a colon (:). The port is where the "unieng" TCP/IP service is running on the Calendar Application tier.

Calendar Application Parameters for Internal Use

The following parameters are for internal use. Do not change the values of these parameters.

- [Can User Use Different Server Settings?](#)
- [Calendar Java Driver Class](#)
- [Application Setup OMP URL](#)
- [Account Name](#)

Can User Use Different Server Settings?

This parameter determines if the user can edit the current application settings. The default value is *false*.

Calendar Java Driver Class

The Java driver class that implements the Oracle calendar backend. The default value is:

```
oracle.panama.module.pim.calendar.star.StarCalendarService
```

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) URL reference used by the URL group. The default value is *omp://oracle/applications/appsetup*.

Account Name

If the Calendar application shares login authentication information with the Address Book application, then enter the string value used for the Address Book's *Account Name* parameter. The default value is *OraAddressBookCalDomain*.

Configuring the Address Book Application

The address book enables users to manage their address books and contacts. It also enables call functions from wireless phones. The mobile address book integrates with the Mail application to enable users to compose a messages' recipient list from their address book.

Active Address Book Application Parameters

The active parameters for the Address Book include the following asynchronous-specific parameters used for **Oracle Mobile Text Access**:

- [Asynchronous Contact Separator](#)
- [Asynchronous Query OID](#)
- [Asynchronous Max Contact List Results](#)
- [Asynchronous Translate Commands](#)

Asynchronous Contact Separator

The valid contact separators in asynchronous mode. When in asynchronous mode, the end user may query for more than one contact at one time. To separate the contact names, the user can use such separator types as a comma (,), colon (:), or a semi-colon (;). For example, a user can separate the following three contacts using a comma and a semi-colon: *john, joe; jeremy*.

- **Valid values:** A list of characters
- **Default value:** *,;
- **Examples:** *,,;:

Asynchronous Query OID

Queries the end-user's address book when the end-user searches for contacts. Setting this parameter to *true* enables this query to be performed in both the Oracle Internet Directory (OID) and in the end-user's address book.

- **Valid values:** A boolean value (*true, false*)
- **Default value:** *true*
- **Examples:** *true, false*

Asynchronous Max Contact List Results

Indicates the maximum number of contacts returned to the end-user if a search for contacts returns multiple values. If the query returns more than the value defined by this parameter (for example, 10 contacts returned from a query when only five contacts have been specified), then the application returns a message asking for the end-user to narrow the search.

- **Valid values:** An integer value
- **Default value:** 5
- **Examples:** 5, 10, 19

Asynchronous Translate Commands

Enables (or disables) the translation of Oracle Mobile Text Access (asynchronous) commands. If this value is set to *true*, then the Oracle Mobile Text Access commands

(that is, the **short name** or ASK commands) are translated from the current language of the end-users. Setting this parameter to *true* enables end-users to send short name commands in their current language. For example, users can enter the *show* command for the calendar, *cal show*, in Portuguese (*cal mostrar*) or in French (*cal montrer*).

- **Valid values:** A boolean value (*true*, *false*)
- **Default value:** *true*
- **Examples:** *true*, *false*

Note: The values set for the parameters *Asynchronous Contact Separator*, *Asynchronous Query OID*, *Asynchronous Max Contacts Results*, and *Asynchronous Translate Commands* affect all Asynchronous-enabled applications. These values do not affect the Address Book application alone, but any Mobile Text Access (asynchronous-enabled) application.

Address Book Application Parameters for Internal Use

The following parameters are for internal use. Do not change the values for these parameters.

- [Can the User Use Different Server Settings?](#)
- [Address Book Java Driver Class](#)
- [Account Name](#)
- [Application Setup OMP URL](#)

Can the User Use Different Server Settings?

This parameter determines if the user can edit the current application settings. The default value is *false*.

Address Book Java Driver Class

The Java driver that implements the Oracle Address book back end. The default value is:

oracle.panama.module.pim.addressbook.oracle.UMAAddressBook

Account Name

If the Address Book shares login authentication information with the Calendar application, then you must specify the same `String` value as that used for the Calendar applications Account Name parameter. The default value is *OraAddressBookCalDomain*.

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) reference used by the URL group. The default value is *omp://oracle/applications/appsetup*.

Deprecated Address Book Parameters and Parameters Included for Backward Compatibility

Parameters include:

- [Address Book Server Name](#)
- [Address Book Server Port](#)
- [OID Administrator Username](#)
- [OID Administrator Password](#)
- [Path to ORACLE_HOME](#)

Address Book Server Name

The server name, or IP address, of the Address Book server. When connecting to the Oracle Collaboration Suite, enter the name or IP of the Oracle Internet Directory (OID). The default value is *localhost*.

Address Book Server Port

The port number for the Address Book server. For the Collaboration Suite, enter the port number for the OID server. The default is an empty value.

OID Administrator Username

The user name for the Administrator account on the OID server. This is a required parameter for the Oracle Unified Messaging Address Book standalone configuration. The default value is *orcladmin*.

OID Administrator Password

The password for the OID administrator user. This value is required for the Oracle Unified Messaging Address Book standalone configuration. The default is an empty value.

Path to ORACLE_HOME

The complete system path to the ORACLE_HOME where the OracleAS Wireless Application tier is installed. This is a required parameter for the Oracle UM-integrated configuration. The default is an empty value.

Configuring the Directory Application

The Directory application enables users to access Oracle Internet Directory (OID) servers from any mobile device. This application is integrated into the mobile E-Mail service, enabling users to browse their corporate directory and then send an e-mail to a selected contact, or to create a list of e-mail recipients from the Directory.

Active Directory Application Parameters

The following sections describe the parameters and related values for the Directory application:

- [Maximum Results Returned](#)
- [OID Search Entry Point](#)
- [Search Scope](#)
- [Query Filter Attributes](#)
- [Query Filter Expression](#)
- [Query Filter Attribute Display Names](#)

- Query Result List Attributes
- Query Result List Attribute Display Names
- Query Attributes Types
- Link Attributes on Result List
- Query Link Names
- Link Refer Attributes
- Link Bind Attributes
- Link Attribute Display Name
- Max Records Per Page
- Merge Results
- Use Voice LSS

Maximum Results Returned

- The maximum results returned to the user regardless of the set size for the query result.
- **Valid values:** An integer value.
- **Default value:** 200
- **Examples:** 100, 200

OID Search Entry Point

The entry point in OID where the queries start.

- **Valid value:** A string specifying the search entry point. For more information, refer to RFC 2251 -- Lightweight Directory Access Protocol.
- **Default value:** empty
- **Examples:** *dc=oracle, dc=com*

Search Scope

This parameter defines the scope of the query search, which are *BASE* for a base object search, *ONE* for a one-level search, or *SUBTREE* for a subtree search. The base object used in relation to these search types is specified as the *OID Search Entry Point*. For more information, refer to RFC 2251 -- Lightweight Directory Access Protocol.

- **Valid values:** *BASE, ONE, SUBTREE*
- **Default value:** *SUBTREE*
- **Examples:** *BASE, ONE*

Query Filter Attributes

This parameter defines the query attributes that are used in the filter expression.

- **Valid values:** A comma-delimited string of the attribute name values
- **Default value:** *givenname, sn, cn, orclmail, email, telephonenumber*
- **Examples:** *givenname, sn, email*

Query Filter Expression

This parameter defines the query filter expression, which is based on the specifications described in *RFC 2251 -- Lightweight Directory Access Protocol*.

- **Valid values:** A string filter expression.
- **Default value:**
`(&(1(1(1(givenname=?*)(sn=?*))(cn=?*))(1(orclmailemail=?*)(telephonenumber=?*))) (objectclass=orclusero2))`
- **Examples:** `(cn=?*)`

Query Filter Attribute Display Names

Reserved for future use.

- **Valid values:** A comma-delimited string of prompts for each of the filters.
- **Default value:** *Enter the name that you're searching for, Enter the e-mail address, Enter a telephone number*
- **Examples:**
Enter the ID you're searching for
Search

Query Result List Attributes

This parameter defines the query attributes on the result list (illustrated by [Figure A-2](#)).

- **Valid values:** A comma-delimited string of attributes
- **Default value:**
givenname,sn,telephonenumber,mail,homephone,facsimiletelephonenumber,mobile,street,l,s,t,postalcode,description,orclguid
- **Example:** *givenname,sn,mail,telephonenumber*

Query Result List Attribute Display Names

Defines the query attributes display names that appear on the result list (illustrated by the labels in [Figure A-2](#)).

- **Valid values:** A comma-delimited string of attribute labels.
- **Default value:** *First Name, Last Name, Work Phone, Email, Home Phone, Fax, Mobile, Address, City, State, Zip, Notes, Oracle GUID*
- **Example:** *First Name, Last Name, Email, Work Phone*

Figure A-2 The Details Page.

- **Summary Results Attributes**

The attributes displayed during the summary of returned results. Enter true or false for the attributes in *Query Result List Attribute Display Names* in the same order. Refer to [Figure A-3](#).

- **Valid values:** A comma-delimited list of boolean values
- **Default value:** *true,true,true,true,false,false,false,false,false,false,false*
- **Examples:** *true, true, false, true*

Figure A-3 The Summary Results Page**Query Attributes Types**

This parameter specifies the applications to which the listed attributes are linked.

Note: *display* shows only the attribute, but does not link to it; *email* links to the Mail application. *phone*, *fax* and *sms* link to Short Messaging, with the respective delivery type. *hidden* does not display the attribute.

- **Valid values:** A comma-delimited string of the following values: *display, email, phone, fax, sms* and *hidden*.
- **Default value:** *display,display,email,phone,fax,phone,display,display,display,display,display,hidden*
- **Examples:** *display,display,email,phone*

Link Attributes on Result List

Specifies the attributes which are linked in the result query that perform further queries

- **Valid values:** A comma-delimited list of *yes* and *no* values
- **Default value:** *no,no,no,no,no,no,no,no,no,no,no,no,no,no,no*
- **Examples:** *no, no, no, yes, yes*

Query Link Names

A caption for the links on the result list. Possible values are *LINK1* or *nope*.

- **Valid values:** A comma-delimited string of link names or *nope*
- **Default value:** *nope,nope,nope,nope,nope,nope,nope,nope,nope,nope,nope,nope,nope*
- **Examples:** *nope, nope, nope, LINK1, LINK1*

Link Refer Attributes

Specifies a comma-delimited list of result sub-attributes which are used in the linked query. For example, if the result returned is *manager=cn=john/sn=doe* and the Link Refer Attribute is *cn*, then the value *john* is used in the next linked query.

- **Valid values:** A comma-delimited string of attributes
- **Default value:** *cn*
- **Examples:** *cn, sn*

Link Bind Attributes

Specifies the comma-delimited list of filter attributes that bind the *Link Refer Attributes*. For example, if the *Link Refer Attribute* is *cn* and the *Bind Attribute* is *givenname*, then the value for *cn* is used for *givenname*.

- **Valid values:** A comma-delimited string of attributes
- **Default value:** *cn*
- **Examples:** *givenname, cn*

Link Attribute Display Name

A comma-delimited list of the *Query Result List Attributes* that display in the link.

- **Valid values:** A comma-delimited string of attribute names
- **Default value:** *givenname, sn*
- **Examples:** *givenname, mail*

Max Records Per Page

The maximum number of results displayed per page.

- **Valid values:** Integer values
- **Default value:** 10
- **Examples:** 9, 15

Merge Results

If you set this parameter's value to *true*, then all other public attributes are included in the result of the query. If you set it to *false* (the default value), then the query attributes on the result list display as dictated by the values set for the *Query Result List Attributes* parameter. (See also [Query Result List Attributes](#).)

- **Valid value:** A boolean value (*true, false*)
- **Default value:** *false*
- **Examples:** *true*

Use Voice LSS

This parameter determines the use of large-scale speech (LSS) for voice access.

- **Valid value:** A boolean value (*true, false*)
- **Default value:** *false*
- **Examples:** *true*

For more information on LSS and generating voice grammars, refer to [Enabling the Large-Scale Speech User Interface](#).

Directory Application Parameters for Internal Use

The following parameters are for internal use. Do not change the values for these parameters.

- [Query Names](#)
- [Query Title](#)
- [Query Visibility](#)
- [Link Names](#)
- [Query Link Name](#)

Query Names

The system-assigned names to internal queries.

Query Title

The descriptive captions which display during queries, such as *Search by E-Mail*. The default value is *Search*.

Query Visibility

For internal use only. This value defaults to *true*.

Link Names

A system-assigned name to internal links. The default value is *LINK1*.

Query Link Name

The query associated with current Link. The default value is *Q1*.

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) reference used by the URL group. The default value is *omp://oracle/applications/appsetup*.

Deprecated Mail Application Parameters and Parameters Included for Backward Compatibility

Parameters include:

- [Oracle Internet Directory \(OID\) Server](#)
- [OID Server Port](#)
- [Administrator Login Access to OID](#)
- [OID Administrator Username](#)
- [OID Administrator Password](#)

Oracle Internet Directory (OID) Server

The OID Server name or an IP Address. For example, enter *ldap.mydomain.com*. The default value is *localhost*.

OID Server Port

The port number for the OID server. The default value is 389.

Administrator Login Access to OID

If you set the value to this parameter to *false*, then the administrator accesses the OID through a guest account. If set to *true*, then the administrator must specify both the OID Administrator username and password. The default value is *false*.

OID Administrator Username

The user name for the administrator account in the OID Server, such as *orcladmin*. The default value is empty.

OID Administrator Password

The password for the OID administrator. For example: *welcome1*. The default value is empty.

Configuring the Short Messaging Application

The Short Messaging application enables users to send messages through such mediums as voice, e-mail, fax or SMS. To send a short message, a user sends the application the following parameters:

- The type of message
- The destination address of the message
- The subject text
- The body text of the message

The subject and body text are translated into the medium appropriate to the message type and then sent to the destination. This application does not require any third-party software components; instead, it requires that the OracleAS Wireless transports be configured. The Short Messaging application does not require scripts.

Active Short Messaging Application Configuration Parameters

The parameters for the Short Messaging Application include:

- [Message Sender](#)
- [Display All Delivery Types](#)

Message Sender

Specifies the identity used for anonymous users when they send short messages. This field is ignored for users that are not anonymous.

- **Default Value:** *oraclemobile@oracle.com*
- **Examples:**
 - *Anonymous User*
 - *1(100)111-1111*
 - *user@myCompany.com*

Display All Delivery Types

Specifies whether all the delivery types (e-mail, fax, SMS and voice) display, even if they have not been configured. If set to *false*, then only configured delivery types display for the user.

- **Valid Values:** a boolean value (*true, false*).
- **Default Value:** *false*
- **Example:** *true*

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) reference for the URL group.

- **Valid Values:** An OMP URL
- **Default Value:** *omp://oracle/applications/appsetup*
- **Examples:** *omp://myCompany/services/appsetup*

Short Messaging Application Parameters for Internal Use

The *Application Setup OMP URL* parameter is the OMP (Oracle Mobile Protocol) reference for the URL group. The default value is *omp://oracle/applications/appsetup*. This parameter is for internal use. Do not change the value for this parameter.

Configuring the Fax Application

The Fax mobile application enables users to send a fax, check the status of a fax, and forward or delete a fax from any wireless device. Mobile Collaboration supports fax delivery through RightFax, a product of Captaris, Inc. In addition to configuring the required parameters for the Fax mobile application, you must acquire the RightFax

product and follow its instructions to set up an external fax server as described in ["Configuring the Fax Server"](#).

This mobile application, when combined with the Mail or Files applications, supports faxing documents through mobile devices.

Active Fax Application Configuration Parameters

The following sections describe the parameters and values for the Fax application:

- [Fax Server URL](#)
- [Fax Sender Account](#)
- [Faxes Kept per User](#)
- [Fax Items per Page](#)
- [Debug](#)
- [Query OID](#)
- [Cover Page](#)

Fax Server URL

The HTTP URL of the Fax server. The values for this parameter can an IP Address or a domain name address.

- **Valid values:** A string value
- **Default value:** `http://localhost`
- **Examples:**
`http://111.11.111.11`
`http://host.mydomain.com`

Fax Sender Account

The name of the account on the Fax Server for sending faxes.

- **Valid values:** A string value
- **Default value:** *Administrator*
- **Example:** *Administrator*

Faxes Kept per User

The number of recently sent faxes that are kept in the user's Fax History.

- **Valid values:** A non-negative integer
- **Default value:** 20
- **Example:** 20

Fax Items per Page

The per-screen number of sent faxes that display in the Fax History.

- **Valid values:** A non-negative integer
- **Default value:** 9
- **Example:** 9

Debug

If the value for this parameter is set to *true*, then the log messages are written to the *Oracle Application Server Wireless* log file.

- **Valid value:** A boolean value (*true*, *false*)
- **Default value:** *false*
- **Example:** *true*

Query OID

If the value for this parameter is set to *true*, then it enables the retrieval of recipient addresses from the Oracle Internet Directory (OID).

- **Valid values:** A boolean value (*true*, *false*)
- **Default value:** *false*
- **Examples:** *true*

Cover Page

A cover page used when sending faxes. The default value is *FCS.doc*. The document path of the cover page is relative to the FCS directory on the Fax Server.

- **Valid values:** A file name
- **Default value:** *FCS.doc*
- **Examples:**

FCS2.doc

Cover.doc

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) reference used by the URL group.

- **Valid values:** An OMP URL
- **Default value:** *omp://oracle/applications/appsetup*
- **Example:** *omp://oracle/applications/appsetup*

Fax Application Parameters for Internal Use

The *Application Setup OMP URL* parameter is the the OMP (Oracle Mobile Protocol) reference used by the URL group. This parameter is for internal use. Do not change the value of this parameter.

Deprecated Fax Application Parameters and Parameters Included for Backward Compatibility

The *Download Directory* parameter sets the directory where fax documents are temporarily stored in OracleAS Wireless. You must specify this directory to send faxes with attached documents. The default value is */temp/fax*.

Configuring the Files Application

The Files application enables users to both attach and save files in their native formats. The Files application is also integrated with RightFax (a product of Captaris, Inc.) to

enable document printing through faxes. Using this application, a mobile user can select a file attachment and then e-mail it to another mobile user, who can then view the document using Microsoft Office files and print it to a nearby fax.

Configuration Parameters for the Files Application

The following sections describe the parameters and values for the Files application:

- [Proxy Host](#)
- [Proxy Port](#)
- [Authorization Realms](#)
- [Show Service URL?](#)

Proxy Host

The HTTP Proxy Host, such as *proxy.mydomain.com*.

- **Valid values:** URLs
- **Example:** *proxy.mydomain.com*

Proxy Port

The HTTP Proxy Port.

- **Valid values:** A port number
- **Example:** 80

Authorization Realms

The HTTP authorization realms associated with each of the preceding Service URLs. Separate each of the authorization realms values with a comma.

- **Valid values:** A string value
- **Default value:** *Authorized_Users*
- **Example:** *Authorized_Users*

Show Service URL?

This parameter enables the server name to be either hidden or displayed by the Files application.

- **Valid values:** *yes, no*
- **Default value:** no
- **Example:** no

Files Application Parameters for Internal Use

The following parameters are for internal use. Do not change the values for these parameters.

- [Allow Navigation](#)
- [Application Setup OMP URL](#)

Allow Navigation

Whether the user can navigate to any open service URLs. If the value for this parameter is set to *true*, then users with proper authentication credentials can access any service URL. If the value for this parameter is set to *false*, then users can access only the service URLs which are specific to the parameter *Service URLs*. The default value is *true*.

Application Setup OMP URL

The OMP (Oracle Mobile Protocol) reference to the URL group. The default value is *omp://oracle/applications/appsetup*.

Files Application Parameters Replaced by the Service Registry

The *Service URLs* parameter defines the HTTP URLs to the WebDav file systems where users upload and download files. This parameter applies only if *Allow Navigation* has been set to *false*. The default value is *http://webdav.mycompany.com/files*.

Deprecated Files Application Parameters and Parameters Included for Backward Compatibility

The *Download Directory* parameter specifies directory used to hold files for download or for attachments. The path is local to the server holding the Files application. The default value is */tmp*.

Troubleshooting Oracle Mobile Collaboration

This appendix describes common problems with Oracle Collaboration Suite 10g Mobile Collaboration and explains how to solve them. It contains the following topics:

- ["Problems and Solutions"](#)
- ["Diagnosing Oracle Application Server Wireless Problems"](#)
- ["Viewing UTF-8 Pages in Localized Languages with Netscape 4.7 or Earlier"](#)
- ["Avoid Saving Non-UTF-8 Strings in PIM Applications"](#)
- ["Re-Registering the OracleAS Wireless Portal Services URL Reference in OracleAS Portal"](#)
- ["Customizing Oracle Mobile Collaboration"](#)

Problems and Solutions

This section describes common problems and solutions. It contains the following topics:

- [Post-Installation Configuration](#)
- [Error Enqueuing Received Messages](#)
- [Errors in Receiving Messages](#)
- [Setting the Proxy in XMS](#)
- [Unable to Reach XMS Gateway](#)
- [Dialing Country Codes with SMS or MMS](#)
- [Bad Username/Password Exceptions](#)
- [Intermittent Browser Crashes](#)
- [Downloading SSL Root Certificates](#)
- [Setting Up OracleAS Wireless to Support HTTPS](#)
- [Out of Memory Exceptions in Log Files](#)
- [Non-ASCII User Name Corrupted in HDML Browser](#)
- [Configuration Assistant Hanging](#)
- [Problems with Voice Access Configuration and Installation](#)
- [Problems Invoking Services from the Voice User Interface](#)

Post-Installation Configuration

Problem

I installed OracleAS Wireless without running the Wireless configuration assistant. Then I ran `wirelessCA.sh` from the command line without problems (it returned *success*), but not all of the components are installed. How can I fix this?

Solution

Perform the following on the Application tier to configure OracleAS Wireless as a post-installation step:

1. Using the Oracle Enterprise Manager 10g Application Server Control, first selecting the *Wireless* Application-tier node on the *Farm* page of the Oracle Enterprise Manager 10g Application Server Control. The *Home* page appears.
2. Under *System Components*, click **Configure Component**. The *Select Component* page displays.
3. Select *Wireless* from the list.
4. Click **Continue**.
5. Enter the password for the OID super user (*orcladmin*).
6. Click **Finish**.
7. Wait 10 minutes to deploy OC4J_Wireless and complete the process.
8. Start the Wireless server from EM by selecting *Wireless* and clicking **Start** (under *System Components*, or use the OPMN command set options).

Error Enqueuing Received Messages

Problem

I configured a driver to receive messages. When I tried to send messages to the driver, I received a failed to enqueue a received message error in the log.xml file. Is it a bug?

Solution

This is not a bug. You received the error because the Messaging Server does not know where to dispatch the received message; there must be a registered application listening for incoming messages from the driver. This application must have the addressing information for the driver (such as the incoming e-mail address for an e-mail driver).

Note: If you configure a driver only to see if it can receive messages, you can ignore such errors.

If you configure the driver so that an application can receive messages received by the driver, you must ensure that your application is running (or at least has run once before). If your application is running (or has run at least once before), it is possible that your application did not register the correct endpoint to the transport layer. An access point (also known as an endpoint) is a pair (a delivery type supported by the driver and the incoming address for which the driver listens). The application should be named *Messenger* instance. Call the `addEndPoint(EndPoint ep)` method of

Messenger to register the endpoint, then call the `start()` method of the Messenger instance.

If you configured the driver to work with Async Listener, the error indicates that Async Listener is not properly configured, is not running, or has not been up at least once after you properly configured it. The Async Listener is a built-in application to listen for received messages. The access points to which the Async Server listens can be configured with System Manager.

When configuring the Async Listener access points, make sure you correctly entered the incoming address to which the driver listens. This address must be one of the Async Listener's access points.

Ensure the Async Listener is running (you can check this status of the Async Listener from the *Home* page of the OracleAS Wireless System Manger).

In the System Logging page, select the NOTIFY logging level, then start the *OC4J_Wireless* component in the *Home* page of the Oracle Enterprise Manager to ensure that the Async Listener is running. If the Async Listener is running, then the `log.xml` file should contain a message such as: *Async Listener started*.

Errors in Receiving Messages

Problem

I sent a message but it has not been received. Where is it?

Solution

To best answer this question, the implementation details should be examined, but without going that far, here are possibilities:

- Since the Messaging Server depends on each driver to actually deliver the message, the message could be in the external messaging gateway, or still in the Messaging Server persistence store. If it stays in the Messaging Server store, it is not delivered to the external messaging gateway. This could be because a proper Messaging Server is not up, or that the message is routed to a driver that does not have a configured driver instance. In this case the sending status, is: *The message was accepted*.
- If the message has been delivered to the external messaging gateway, then the status message *The message has been delivered to the messaging gateway successfully* appears after the message is delivered to the external messaging gateway. Check the external messaging gateway for the status of the message.

Setting the Proxy in XMS

Problem

I use an HTTP proxy to connect to the Internet. How do I set the proxy in XMS?

Solution

An XMS client connects to the XMS Web service through the HTTP protocol. As such, a proxy must be set if one is needed to communicate over HTTP from the host that the XMS client runs on to the host the XMS Web service runs on. Set the proxy programmatically using the XMS API as follows:

```
XMSSender.setProxy(host, port)
```

or

```
XMSSimpleSender.setProxy(host, port)
```

Unable to Reach XMS Gateway

Problem

Why do I receive a *No response from gateway* message when I send a message using the XMS API to a messaging gateway.

Solution

You received this message either because the messaging gateway is not running or because it cannot be reached. To reach the messaging gateway from the client machine:

- Use the command: `telnet <gateway URL> <port>` to check if the client machine can contact the messaging gateway. For example, enter the following command:

```
telnet messenger.oracle.com 80
```

If the Telnet hangs, it is likely that the outgoing network traffic is blocked by a firewall.

- Otherwise, use the following command in the Telnet window:

```
GET /xms/webservices <Enter <Enter
```

You should receive a short reply from the gateway such as:

```
SOAP Server
```

Sorry, I don't speak via HTTP GET- you have to use HTTP POST to talk to me. (The actual replies may vary.) If the client machine requires a proxy to access the Internet, be sure to set the proxy settings correctly.

Dialing Country Codes with SMS or MMS

Problem

In my country, I must add a 00 or 011 prefix before the country code when I make international long distance calls. Must I do the same when I am sending out SMS or MMS?

Solution

No. Do not add those prefixes. You need only provide the country code, and cell phone number with area code (if any). However, note that you must provide the prefix for voice notifications.

Bad Username/Password Exceptions

Problem

I am getting the exception: *Bad username or password* when I contact the messaging gateway. What is wrong?

Solution

Possible reasons include:

- password is not correct

- username does not exist on that gateway
- user is not enabled
- user does not have quota available

Ensure that the user name and password are valid. If they are valid and this error occurs when accessing the messenger.oracle.com-hosted instance, contact mobilesupport_ww@oracle.com to determine the exact problem.

Intermittent Browser Crashes

Problem

An intermittent problem has been reported in which the Microsoft Internet Explorer 6.x running on the Microsoft Windows XP operating system crashes while a user is using the Oracle Application Server Wireless Tools (such as the Content Manager). The problem typically occurs on resource-limited servers.

Solution

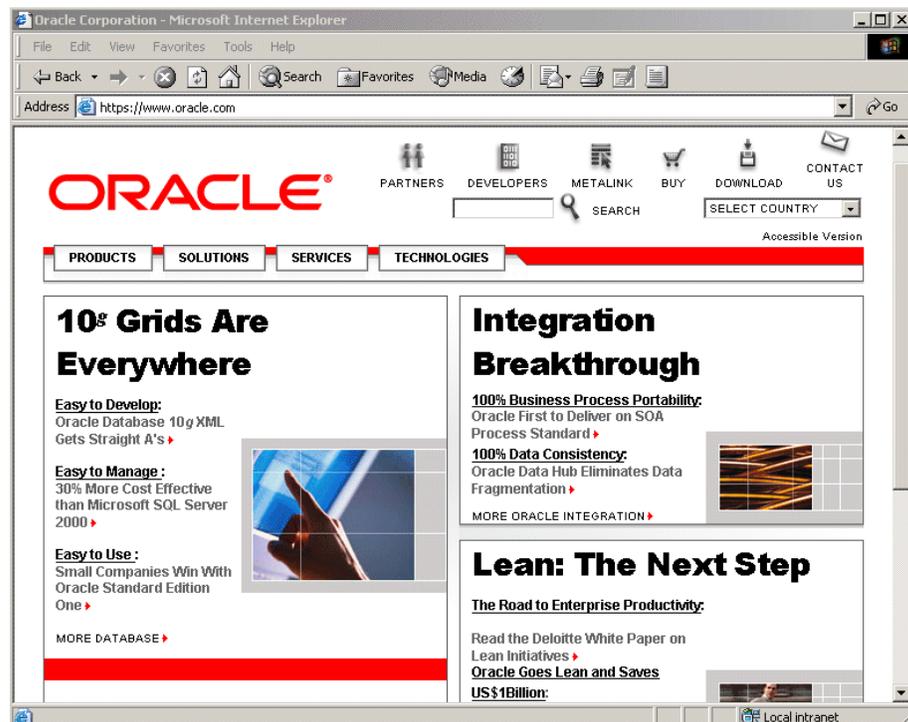
The problem has not been reported when Netscape or Mozilla browsers are used, so a solution to the problem is to use one of these browsers.

Downloading SSL Root Certificates

Of the many ways to download SSL root certificates, one of the easiest methods is to use a desktop browser to download the certificate. The following steps use Internet Explorer.

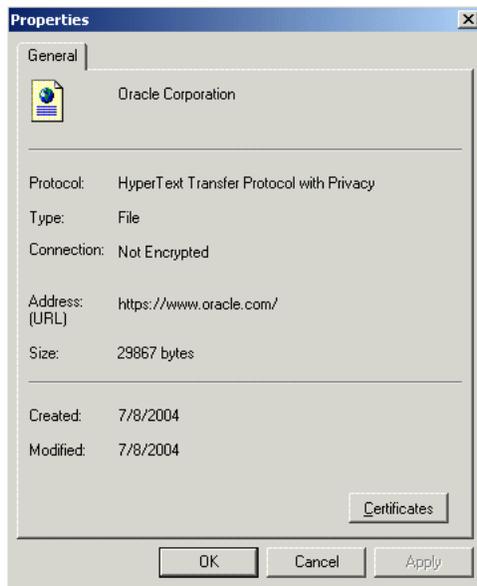
1. Open Internet Explorer and access the HTTPS Web site containing the SSL root certificate that you want to download.

Figure B-1 Web Page for Downloading SSL Root Certificates



2. On the page, right-click the mouse and select **Properties** from the menu. The *Properties* window appears (Figure B-2).

Figure B-2 The *Properties* Window

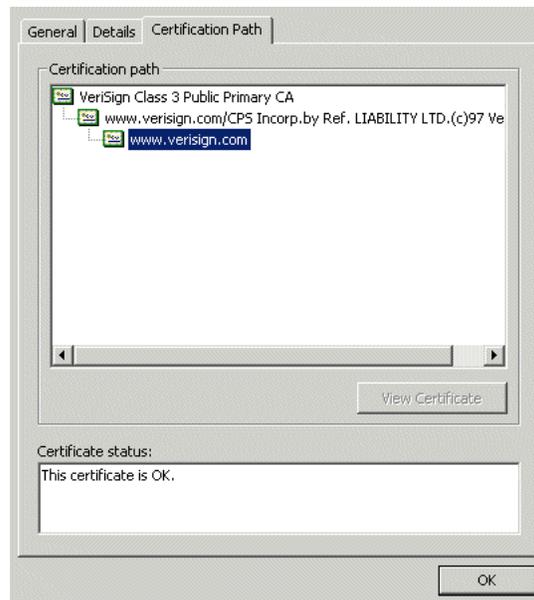


3. Click the **Certificates** button. The certificate information dialog appears (Figure B-3).

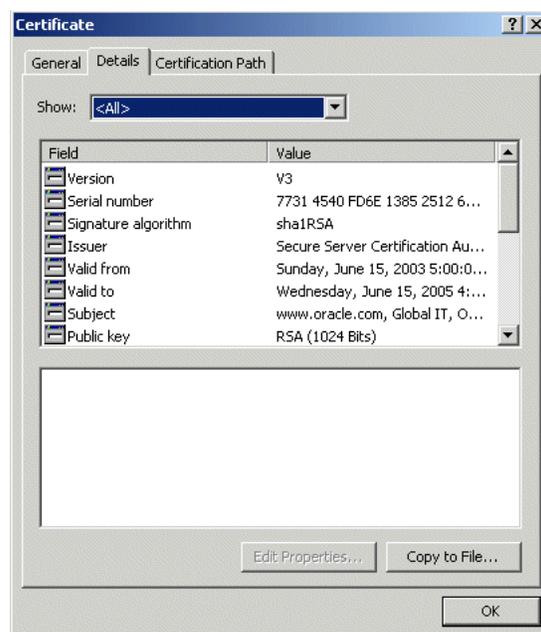
Figure B-3 The *Certificates Information* Dialog



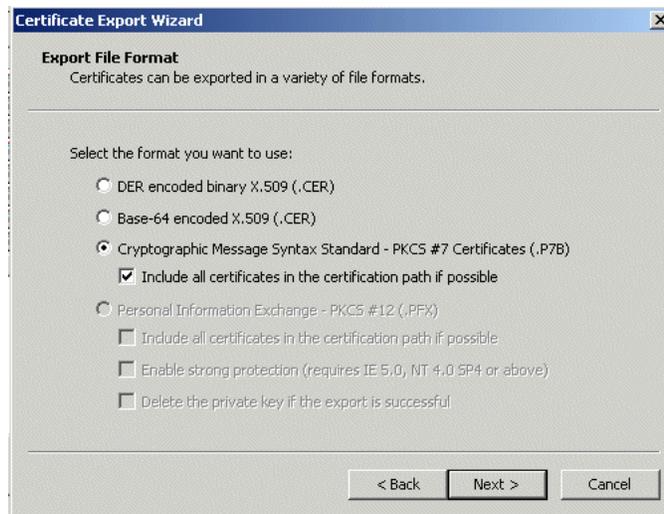
4. Click the **Certification Path** tab. The *Certificate Path* dialog appears (Figure B-4), listing the certificates.

Figure B–4 The Certificate Path Dialog

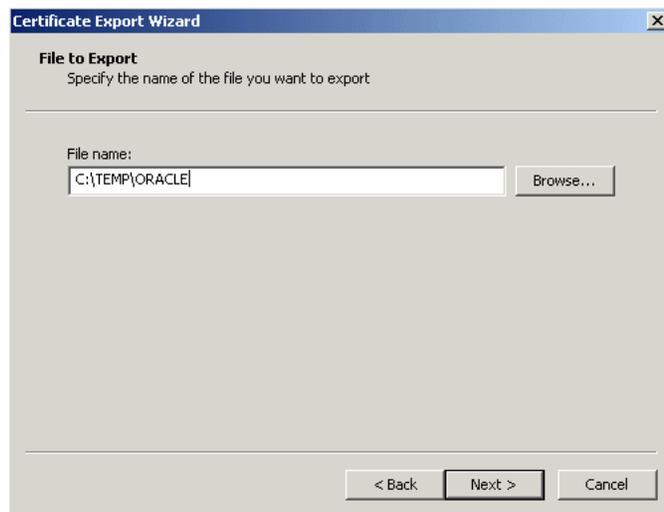
5. Select the first certificate in the *Certificate* path list.
6. Click the **Details** tab. The *Details* dialog appears (Figure B–5).

Figure B–5 The Details Tab of the Certificate Dialog

7. Click **Copy to File...** . The Certificate Export Wizard's *Welcome* screen appears.
8. Click **Next**. The *Export File Format* dialog appears (Figure B–6).

Figure B–6 The Export File Format Dialog

9. Select the PKCS #7 (or Base-64) format, then click **Next**. A dialog appears (Figure B–7) requiring you to enter the file name and path of the file that you want to export.

Figure B–7 Exporting the File

10. Specify a file name and location for the file in which certificate information will be saved. Do not specify the file extension; the wizard adds the extension automatically. Be sure to note the location of the file.
11. Click **Next**. A *Summary* page appears with the information that you supplied to the Wizard.
12. Click **Finish**. The SSL root certificate is stored in the file.
13. Select the next certificate in the *Certificate path* list and repeat Steps 6 through 12. You must download all of the available certificates.

Setting Up OracleAS Wireless to Support HTTPS

Problem

How do I set up Oracle Application Server Wireless to support HTTPS?

Background

OracleAS Wireless is a Application tier between mobile devices and mobile content. Some devices use the HTTP(S) protocol to communicate with OracleAS Wireless. OracleAS Wireless uses the HTTP(S) protocol to retrieve content from content providers. This means that there are two HTTP(S) hops between a mobile device and mobile content. They both can be configured to use HTTPS. To support HTTPS between a mobile device and OracleAS Wireless, you must configure the Oracle HTTP server to accept HTTPS requests. See the *Oracle HTTP Server Administrator's Guide* for more information.

Solution

For content providers, OracleAS Wireless functions as a virtual browser. Like other browsers, OracleAS Wireless uses certificates to positively identify certification authorities and publishers. Before you can use HTTPS to connect to a content provider, you must download the content provider's SSL root certificates (refer to [Downloading SSL Root Certificates](#) for more information). After you download the certificate, copy it to the OracleAS Application tier machine.

Note: If you have more than one Application tier, then you must copy the file to all Application tier machines. The file must be in the same location on all of the middle-tier machines.

Once you have copied the certificate file to the Application tier machine, you must configure OracleAS Wireless to use that certificate. If you have more than one Application tier machine, you must configure only the first Application tier; all Application tiers will use the same settings (that is why the certificate file must be in the same location on all Application tier machines).

To set a certificate for the Wireless Server:

1. From the Oracle Enterprise Manager 10g Application Server Control, select the OracleAS Wireless middle-tier node on the *Farm* page of the Oracle Enterprise Manager 10g Application Server Control and then click **Wireless** on the *Application Server Home* page to access the Wireless system management functions.
2. Click the *Site Administration* tab of the OracleAS Wireless *Home* page. From the *General Configuration* section, select **HTTP, HTTPS Configuration**. The *HTTP, HTTPS Configuration* screen appears.
3. The SSL section enables you to add a certificate. The OracleAS Wireless Server supports two certificate file formats: *Base64* or *PKCS#7*.
4. Enter the absolute path to the certificate file. You can set more than one certificate by clicking **Add Another Row**.
5. Click **OK**.

Out of Memory Exceptions in Log Files

Problem

I am receiving *Out of Memory* exceptions in my log file; how do I correct this?

Solution

When *Out-of-Memory* exceptions appear in either the ORACLE_HOME/wireless/logs/log.xml or the OPMN log files, increase the OC4J_Wireless JVM memory size:

1. From the Oracle Enterprise Manager 10g Application Server Control, first select a *Wireless* Application-tier node on the *Farm* page of the Oracle Enterprise Manager 10g Application Server Control and then select the **OC4J_Wireless** process on the *Application Server Home* page and then select **Administration**.
2. Select **Server Properties** (located under *Instance Properties*). The *Server Properties* page for the OC4J_Wireless Server appears.
3. In the *Java Options* field, enter `-Xms128 -Xmx256`. This sets the JVM Heap Memory to be started at 128MB and could expand to 256MB.
4. Click **Apply**.
5. Shut down and restart *OC4J_Wireless*; the JVM will be started with the new memory configuration data.

Non-ASCII User Name Corrupted in HDML Browser

Problem

A user has reported that corrupted user name data displayed in their HDML browser. Are non-ASCII data not supported?

Solution

The problem occurs not because of non-ASCII data, but instead from invalid user names that contain non-ASCII data. When you access Wireless through an HDML browser (such as a Japanese KDDI device), and attempt a login with an invalid account, the non-ASCII data in the user name is displayed as corrupted data or is changed to another string. To fix this, input the correct user account information.

Configuration Assistant Hanging

Problem

Why does the Wireless Configuration Assistant hang while I use it against my 64-bit database?

Solution

The account is being locked out because too many incorrect username and password requests have been received. Before recreating a 10g database on the same machine as the original database, using the same Service Name and SQL*Net port as the original database, then shut down any Application tiers that are trying to connect to the database.

If you must keep the Application tier running while creating the new database, then set `failed_login_attempts` to `UNLIMITED` as a workaround.

Problems with Voice Access Configuration and Installation

Topics include:

- [Problems Connecting to the VoiceXML Gateway](#)
- [Errors When Generating Voice Grammars and DTMF Equivalents](#)
- [Slowness of Oracle Voice Access Directory Application When Responding to Voice Commands](#)

Problems Connecting to the VoiceXML Gateway

No Oracle Collaboration Suite Prompt

I entered the URL of the Oracle Collaboration Suite start page into my VoiceXML gateway, and I connected a phone line to the gateway, but I do not hear the Oracle Collaboration Suite login prompt when I call.

Solutions

To resolve this problem:

- On the VoiceXML gateway, verify that the phone number is associated with the URL of Oracle Collaboration Suite as described in "[Provisioning Oracle Voice Access](#)".
- Verify that the Oracle Collaboration Suite servers are running and that you can access the Oracle Collaboration Suite portal from a Web browser.
- Using the Foundation Manager (one of the Oracle Application Server Wireless tools, which you access from the *Wireless* link in the Mobile Collaboration *Home* page), verify that the user-agent of the VoiceXML gateway (VG) matches the user agent expected by the corresponding device. To do this:
 1. Click **Wireless** in the *Home* page of Mobile Collaboration.
 2. Log into the Oracle Application Server Wireless tools using the appropriate name and password.
 3. Access the Foundation Manager by clicking the *Foundation* tab.
 4. Click the *Devices* tab to access the browsing screen listing all of the devices in the repository.
 5. Select the device.
 6. Click **Edit**. The properties of the selected device appear.
 7. Select **Transformer**. The *Transformers* page appears, displaying the user agents selected for the device in the *User Agent* pane.
 8. Enter the name of the user agent in the *User Agent* field and then click **Add**.
 9. Click **Apply** to commit the change to the device. For more information on the Foundation Manager and devices in the Oracle Application Server Wireless repository, see *Oracle Application Server Wireless Administrator's Guide*.
- If you use the SpeechGenie VoiceXML gateway, you must change the user agent on the Voice XML gateway to PMLI/SpeechGenie/1.1. For instructions on changing the user agent for versions 6.4.2 and 5.9.6 of the SpeechGenie VoiceXML gateway, see "[Changing the User Agent on the SpeechGenie VoiceXML Gateway](#)".

Errors When Generating Voice Grammars and DTMF Equivalents

Problem

An error message appeared when I clicked **Generate** in the Oracle Mobile Collaboration *Voice Configuration* page.

Solution

To resolve this problem:

- Check for errors in `$ORACLE_HOME/sysman/em-application.log`.
- Verify that Oracle Collaboration Suite 10g Search is running.
- Verify that the grammar for the directory was completely generated by accessing `http://<midtier-node>:<port>/modes/DirectoryGrammar` to check the validity of the XML.

Slowness of Oracle Voice Access Directory Application When Responding to Voice Commands

Problem

The Oracle Voice Access *Directory* takes too long to respond when I say a name.

Solution

After the voice grammars are generated, the automatic speech recognition (ASR) engine must then download the grammar to cache it. As a result, the first access of the Oracle Voice Access Directory is slow after the voice grammars have been generated, because of the downloading of the grammar into the cache.

If the slowness persists at every access of the application, then the ASR engine's cache may not be working correctly. Refer to the SpeechGenie documentation for the correct set up of the cache. The ASR `If-Modified-Since` header must be working for the grammar to be cached properly. If the header is not working properly, see "[Scheduling the Command-Line Utility and Caching](#)" for information on synchronizing the generation of the grammars with the maximum time that they remain in the cache.

Problem

I configured a SpeechGenie VoiceXML gateway for optimized upload of recorded audio files, but the upload is still slow or does not occur at all.

Solution

To resolve this issue:

- Verify that you configured the VoiceXML gateway to write audio files to the proper directory.
- Verify that this directory can be accessed from the Internet through HTTP. To enable this access, create a symbolic link as described in "[Creating a Web-Accessible Directory for Recording Audio](#)".
- Verify that the E-Mail mobile application's *URL for direct access to recorded audio* parameter is set to the URI of the *record* directory. For more information, see "[Configuring the Mail Application to Improve User Experience When Sending E-Mail](#)".

Problem

Voice notifications do not arrive, even though I configured the VoiceGenie VoiceXML gateway for voice notifications and configured the Messaging Server for voice notifications using the Oracle Application Server Wireless System Manager.

Solutions

To resolve this problem:

- Verify that you configured the VoiceGenie VoiceXML gateway correctly to send voice notifications. For information on how to download and install the notification servlet, see the tutorial from VoiceGenie Support located at <http://support.voicegenie.com/tutorials.php?tutorial=aioc>.
- Verify that the Messaging Server process is both enabled and running.
- Verify that the Messaging Server's PushDriver instance is properly configured.

Touchtone Buttons Do Not Respond**Problem**

User complain that the touchtone buttons do not function

Solution

To resolve this issue:

- Verify that the DTMF recognizer functions properly on the VoiceXML gateway.
- Note that not all speech commands have DTMF backup keys associated with them. Users should not rely on DTMF commands unless prompted to enter a number or are specifically told to use the touchtone keypad.

Problems Invoking Services from the Voice User Interface

Topics Include:

- [System Does Not Understand User Commands](#)
- [System Does Not Hear User Commands](#)
- [User Account PIN and ID Do Not Match](#)
- [Login Problems](#)
- [Problems with the Main Menu](#)
- [Problems with Oracle Collaboration Suite 10g Voice Access Messages](#)
- [Oracle Collaboration Suite Voice Access Directory](#)
- [Problems with Oracle Collaboration Suite 10g Voice Access Calendar](#)
- [Problems with Oracle Collaboration Suite 10g Voice Access Content Services](#)

System Does Not Understand User Commands

For example, users complain that the voice interface does not understand what they say.

Solution

To resolve this issue:

- Verify that the ASR (automatic speech recognition) engine functions properly on the VoiceXML gateway.
- Note that the ASR sometimes fails to recognize utterances when the user issues voice commands in a noisy environment.
- Note that the ASR may have difficulties understanding accents.
- Tell the user to listen to the options carefully and then speak clearly when prompted. Remind them that they can also say *help* to hear a list of options.

System Does Not Hear User Commands

For example, users complain that the voice interface does not hear them.

Solution

To resolve this issue:

- Verify that automatic speech recognition (ASR) engine functions properly on the VoiceXML gateway.
- Verify that the user's phone is not set on mute.
- Note that the ASR can misinterpret background noise as a user command.
- Tell the user that they must speak both clearly and loudly when issuing voice commands in a noisy environment.
- Tell the user to listen to the options carefully and then speak clearly when prompted. Remind them that they can also say *help* to hear a list of options.

User Account PIN and ID Do Not Match

For example, a user says her (or his) account ID and PIN when prompted, but then receives a message that they do not match.

Solution

To resolve this issue:

- Verify that the user account was properly created in OID. For more information, see *Oracle Internet Directory Administrator's Guide*
- Verify that the Mobile Access is enabled for the user.
- Verify that the account number consists of the country code and the mobile phone number (and that the two are concatenated).
- Verify that the entire number is used.
- Verify that the OID and SSO components are running.

Login Problems

This section describes problems encountered by users when logging in to the Oracle Collaboration Suite.

Users Receive Temporary Difficulty Messages

Users are told that the system is experiencing temporary difficulties after they follow the prompts to enter account ID and PIN.

Solution

To resolve this issue:

- Verify that the voice login is provisioned correctly. "[Provisioning Oracle Voice Access](#)".
- Verify that the OID of the *Voice Main Menu* is correct.
- Verify that the proper transformer is installed for the VoiceXML gateway. For more information, refer to the instructions of adding a user agent to a device using the Foundation Manager in "[Problems Connecting to the VoiceXML Gateway](#)".
- Reproduce the error, if possible. A timeout could occur if the service is accessed immediately after a restart.

Problems with the Main Menu

This section describes the problems users encounter when accessing the Main Menu.

No Options (or Unexpected Options) Presented at Main Menu

Users login, say "Main Menu", but do not hear any options, or hear unexpected options.

Solution

To resolve this issue:

- Verify that the *Main Menu* master application has been set as *modulable* application. You must use edit the *Additional Info.* page of the *Main Menu* master application using the Service Manager to verify that the *Modulable* option has been set. For more information, see the information on creating a multi-channel application in *Oracle Application Server Wireless Developer's Guide*.
- Using the Content Manager, edit the *Voice Main Menu* application to ensure that the OMP URL is set as `omp://oracle/services/voice/mainmenu`.
- Restart OC4J_Wireless from the *System Components* table if you make any changes to the *Voice Main Menu* application.

Long Silences Followed by Error Messages

Users experience a long silence and then hear an error message after saying the name of an application.

Solution

To resolve this issue:

- Verify that the application has been configured correctly.
- If the application requires a login, verify that it is set up and saved in the Oracle Collaboration Suite user portal (`http://<midtier-node>:<port>/ptg/rm`).
- Check the Oracle Application Server Wireless logs (`$ORACLE_HOME/wireless/logs/log.xml`) for error messages.

Problems with Oracle Collaboration Suite 10g Voice Access Messages

This section describes problems users encounter when using the voice interface to access e-mail. Topics include:

- [Error Message when Fetching Messages](#)
- [Error Message Occurring when Users Send Replies](#)
- [Error Message when Users Fax Messages](#)

- [Problem with User Account Credentials](#)

Error Message when Fetching Messages

After logging in, a user says "messages" at the Main Menu, hears "Messages. Please wait while your messages are fetched", but then hears an error message.

Solution

To resolve this issue:

- Verify that the Mail application is configured correctly.
- Verify that Oracle Collaboration Suite 10g Mail is running from the *System Components* table.
- Verify that the user has been provisioned for Oracle Collaboration Suite 10g Mail (<http://<midtier-node>:<port>/um/UMAdminUserManagementMain.jsp>).
- Verify that the username and password for e-mail is set correctly in the Oracle Collaboration Suite end user portal (<http://<midtier-node>:<port>/ptg/rm>).

Error Message Occurring when Users Send Replies

When using Oracle Collaboration Suite Mail, a user records a reply for a message and then says "send it", only to hear an error message.

Solution

To resolve this issue:

- Verify that Oracle Collaboration Suite 10g Mail is running from the *System Components* table.
- Verify that the SMTP service is running.
- Verify that the configuration for optimizing the upload of recorded audio is configured properly. For more information, see "[Configuring the Mail Application to Improve User Experience When Sending E-Mail](#)".

Error Message when Users Fax Messages

Users hear an error message when they say "fax message".

Solution

Verify that the fax server is configured correctly. For more information, see "[Configuring the Fax Server](#)".

Problem with User Account Credentials

A user hears "In order to use this service, you must have your account credentials configured. You can set this up in the Oracle Collaboration Suite portal."

Solution

To resolve this issue:

- Verify that Oracle Collaboration Suite 10g Mail is running from the *System Components* table.

- Verify that the user has been provisioned for Oracle Collaboration Suite 10g Mail (<http://<midtier-node>:<port>/um/UMAdminUserManagementMain.jsp>).
- Verify that the username and password for e-mail is set correctly in the Oracle Collaboration Suite portal (<http://<midtier-node>:<port>/ptg/rm>). Click **Save** to store the credentials permanently as presets.

Oracle Collaboration Suite Voice Access Directory

This section describes problems encountered by users searching for contacts through the voice and keypad interfaces. Topics include:

- [System Does Not Recognize User Name](#)
- [Busy Signal or Error Message Occurring after "Call" Command](#)
- [System Cannot Find User Name](#)
- [Errors Messages Related to "Send E-Mail" Command](#)
- [Error Messages Related to "E-Mail <name>" Command](#)
- [Error Messages Related to "Call <name>" Command](#)

System Does Not Recognize User Name

When searching the directory, users say a user name but hear "I don't understand."

Solution

To resolve this issue:

- Repeat the name several times.
- If the system returns the "I don't understand" message again, then the user name may not be included in the directory voice grammar.
 - Verify that the user who is the subject of the search is included in OID (Oracle Internet Directory).
 - Regenerate the voice directory grammars as described in ["Generating DTMF Equivalents and Voice Grammars"](#).

Busy Signal or Error Message Occurring after "Call" Command

A user says "Call work" or "call" but then hears a fast busy signal or an error message.

Solution

Verify that the outbound dialing on the VoiceXML gateway has been configured correctly.

System Cannot Find User Name

Users hear "I didn't find any matches for that name" when searching for a name using the keypad interface.

Solution

To resolve this issue:

- Verify that users enter the search using the keypad interface as `<firstname>*<lastname>`. Users can also enter the last name without the asterisk (*).

- Verify that the user who is the subject of the search is included in the OID (Oracle Internet Directory).
- After you create a user in the OID, you must regenerate the DTMF equivalents as described in "[Generating DTMF Equivalents and Voice Grammars](#)" so that the Oracle Collaboration Suite Search can recognize the user.

Errors Messages Related to "Send E-Mail" Command

User hears an error message after saying "Send e-mail."

Solution

To resolve this issue:

- Verify that the Mail application is configured correctly.
- Verify that Oracle Collaboration Suite 10g Mail is running from the *System Components* table.
- Verify that the user has been provisioned for Oracle Collaboration Suite 10g Mail (<http://<midtier-node>:<port>/um/UMAdminUserManagementMain.jsp>).
- Verify that the username and password for e-mail is set correctly in the Oracle Collaboration Suite end user portal (<http://<midtier-node>:<port>/ptg/rm>). Click **Save** to store the credentials permanently as presets.

Error Messages Related to "E-Mail <name>" Command

User hears an error message after they say "E-mail <name>."

Solution

To resolve this issue:

- Verify that the Mail application is configured correctly.
- Verify that Oracle Collaboration Suite 10g Mail is running from the *System Components* table.
- Verify that the user has been provisioned for Oracle Collaboration Suite 10g Mail (<http://<midtier-node>:<port>/um/UMAdminUserManagementMain.jsp>).
- Verify that the username and password for e-mail is set correctly in the Oracle Collaboration Suite end user portal (<http://<midtier-node>:<port>/ptg/rm>). Click **Save** to store the credentials permanently as presets.

Error Messages Related to "Call <name>" Command

A user says "Call <name>" but hears an error message.

Solution

Verify that the outbound dialing on the VoiceXML gateway has been configured correctly.

Problems with Oracle Collaboration Suite 10g Voice Access Calendar

This section describes the problems encountered by users when accessing Oracle Collaboration Suite Calendar through the voice interface.

Problem with User Account Credentials

After users say "Calendar", they hear "In order to use this service, you must have your account credentials configured. You can set this up in the Oracle Collaboration Suite portal."

Solution

To resolve this problem:

- Verify that Oracle Collaboration Suite 10g Calendar is running from the *System Components* table.
- Verify that the user has been provisioned for Oracle Calendar (<http://<midtier-node>:<port>/ocad-bin/ocad.cgi?object=nodeadm>).
- Verify that the username and password for Oracle Calendar is set correctly in the Oracle Collaboration Suite end user portal (<http://<midtier-node>:<port>/ptg/rm>). Click **Save** to store the credentials permanently as presets.

Problems with Oracle Collaboration Suite 10g Voice Access Content Services

This section describes the problems encountered by users accessing files through the voice interface.

Problem with User Account Credentials

After users say "Files", they hear "In order to use this service, you must have your account credentials configured. You can set this up in the Oracle Collaboration Suite portal."

Solution

To resolve this problem:

- Verify that Oracle Collaboration Suite 10g Content Services is running from the *System Components* table.
- Verify that the user has been provisioned for Oracle Calendar (<http://<midtier-node>:<port>/files>).
- Verify that the username and password for Oracle Calendar is set correctly in the Oracle Collaboration Suite end user portal (<http://<midtier-node>:<port>/ptg/rm>).

Error Messages Related to Fax Command

Users hear an error message after saying "Fax".

Solution

Verify that the Oracle Collaboration Suite 10g Voicemail & Fax is running.

Diagnosing Oracle Application Server Wireless Problems

Check the log files to diagnose problems, as they include information necessary for administrators and support personnel to help you solve problems.

Viewing UTF-8 Pages in Localized Languages with Netscape 4.7 or Earlier

Some languages may not display properly if you use Netscape 4.7 or an earlier version. In some cases, characters may display as boxes. To fix this problem, configure the Netscape preferences as follows:

1. Select *Preferences* from the menu. The *Preferences* dialog appears.
2. From the *Category* tree, select **Fonts** to display the *Fonts* dialog.
3. In the *Fonts* dialog, select **Unicode** from the *For the Encoding* list.
4. From the *Variable Width Font* and *Fixed Width Font* lists, select the font that supports the preferred language. For example, if you select Chinese as your preferred language, select *MS Song* to view the page in Chinese.

From the Netscape tool bar, select **Edit**.

Avoid Saving Non-UTF-8 Strings in PIM Applications

The *Save Message* feature for PIM applications (such as Mail and Short Messaging) does not support multi-byte characters if the device configuration does not support UTF-8 encoding. Many Japanese devices are set to Shift_JIS encoding in Foundation Manager, one of the Oracle Application Server Wireless tools.

Re-Registering the OracleAS Wireless Portal Services URL Reference in OracleAS Portal

Installing OracleAS Wireless version 10.1.2 against Oracle Application Server Wireless 9.0.2 re-registers the OracleAS Wireless portal service URL and might prevent OracleAS Portal from responding to mobile requests. To avoid this problem, you must re-register the URL as follows:

1. In Portal Builder, click the **Administer** tab.
2. In the *Services* portlet, click **Global Settings**.
3. Click the **Mobile** tab.
4. Enter the OracleAS Wireless URL in the *OracleAS Wireless 10g Wireless Portal Service URL* field.
5. Click **OK**.

For more information about configuring mobile settings and updating the Oracle Application Server Wireless service URL in OracleAS Portal, refer to the *Oracle Application Server Portal Configuration Guide*.

Customizing Oracle Mobile Collaboration

The following sections describe how to customize Oracle Collaboration Suite by editing the `portal.properties` file.

Changing the Privacy Notice

To change the privacy note:

1. Extract the `portal.properties` file from `$ORACLE_HOME/wireless/lib/wireless_modules.jar`.

2. Replace the text for the `modules.ocs.privacy.desc3` key with the privacy note for your company.
3. Insert `portal.properties` back into `$ORACLE_HOME/wireless/lib/wireless_modules.jar`.
4. Re-start the `Wireless_OC4J` and `Wireless` components on from the `System Components` table in the Application tier.

Rebranding the Oracle Logo Icon

The icon of the Oracle logo resides on the Application tier installation of the Oracle Collaboration Suite at the following locations, specific to each device type:

- For Pocket PC (Color 82 x 10 pixel), the logo icon is located at
`ORACLE_HOME/j2ee/OC4J_Wireless/applications/modules/modules-web/images/oracle_logo.gif`
- For PALM devices (Black/White 60 x 8 pixel), the logo icon is located at
`ORACLE_HOME/j2ee/OC4J_Wireless/applications/modules/modules-web/images/oracle_logo.g2.gif`

There is no logo image for WAP devices.

Changing the Logo File Name

To change the file name, you must edit the reference for the logo in the `portal.properties` file (`ORACLE_HOME/wireless/server/classes/messages/oracle/panama/module/common/portal.properties`), which also resides on the Application tier of the Oracle Collaboration Suite.

To edit the reference in `portal.properties` file, edit the following key:

```
modules.common.UI.image.oracle=/modules/images/<logo_name_
without_extension>
```

For example, edit the key as follows:

```
modules.common.UI.image.oracle=/modules/images/oracle_logo
```

In addition, you must edit this key in the corresponding properties files of the supported languages. For example, to edit the key for Brazilian Portuguese, you must edit the property file `portal_pt_BR.properties`. Likewise, to edit the key for French, you must edit `portal_fr.properties`.

This chapter includes the following sections:

- ["Overview of Globalization"](#)
- ["Determining a User's Locale"](#)
- ["Determining the Encoding of a Device"](#)
- ["Languages Available for Online Help"](#)
- ["Driver Encoding"](#)
- ["Localizing Voice Applications"](#)

Overview of Globalization

Oracle Mobile Collaboration supports multi-locale and multi-encoding. OracleAS Wireless dynamically determines locale and request and response encoding based on the runtime context.

Determining a User's Locale

OracleAS Wireless dynamically determines the appropriate locale of a user by using such locale information as `PAlocale`, the user's preferred locale, the Accept Language header, and the site locale.

`PAlocale` is a HTTP parameter that specifies the preferred value before login. The possible value for the `PAlocale` parameter follows the HTTP accept-language header format. For example, `PAlocale = en-US`. This format is distinct from the Java locale format (`en_US`).

The Accept Language header is an HTTP protocol parameter that user agents (Web browsers) send with HTTP requests.

Note: For information on the HTTP accept-language header format, see the HTTP specification of the World Wide Web Consortium (W3C).

The Site Locale is an instance-wide default locale of OracleAS Wireless.

After Login

After login, the Oracle Mobile Collaboration Server respects the user's preferred locale.

Before Login

Before login, the Oracle Collaboration Suite portal (ptg/rm), Async Listener, the OracleAS Wireless Tools and the Oracle Collaboration Suite portal's *Mobile Preferences* page each determine the appropriate locale of a user's device.

Table C-1 illustrates how the Async Listener, the Oracle Collaboration Suite portal, the OracleAS Wireless Tools and the Oracle Collaboration Suite portal's *Mobile Preferences* determine the locale of a user. The numeric value indicates the preference for the detection methods in descending order.

Table C-1 *Locale Determination*

Method	Async Listener	Oracle Collaboration Suite Portal (ptg/rm)	OracleAS Wireless Tools and Mobile Preferences Pages
Locale of the registered user or virtual user	1	1	1
HTTP parameter: PALocale	N/A	2	N/A
Accept-language http header	N/A	3	N/A
Site default locale	2	4	2

Oracle Collaboration Suite Portal

The Oracle Collaboration Suite portal (ptg/rm) determines the locale of a user in the following order:

1. Use PALocale (if present).
2. Use the Accept_Language HTTP header (if present).
3. Use the site default locale.

The OracleAS Wireless Tools and Mobile Preferences Pages

The OracleAS Wireless Tools and *Mobile Preferences* pages determine the location of a user in the following order:

1. Use PALocale (if present).
2. Use the site default locale.

Async Listener

The Async Listener determines the location of a user in the following order:

1. Use the user's preferred locale if the connecting user can be identified through the device ID.
2. Use the site default locale.

Setting the Site Locale

From the Site Administration screen of the OracleAS Wireless System Manager (accessed through the Oracle Enterprise Manager Application Server Control), you can specify the default site locale and add to the list of locales that the site can support.

Use a Java locale (such as en_US) when adding to the list of supported locales (depicted in [Figure C-1](#)).

Note: You can also set the site locale using the Basic Site Configuration wizard, accessed from the *Home* page of the System Manager.

Figure C-1 The Site Locale Screen of the System Manager (Partial View)

Wireless Server
System > Wireless Server Administration > Site Locale
Site Locale

* Locale English
* Time Zone (00:00) Universal Time

Supported Locales

Select locale and... Delete

Select Display Name	Locale Code
<input checked="" type="radio"/> English	en
<input type="radio"/> Arabic	ar
<input type="radio"/> Portuguese (Brazil)	pt_BR
<input type="radio"/> French (Canada)	fr_CA
<input type="radio"/> Czech	cs
<input type="radio"/> Danish	da
<input type="radio"/> Dutch	nl
<input type="radio"/> Finnish	fi
<input type="radio"/> French	fr

Determining the Encoding of a Device

The content sent to the device is encoded using the character encoding of the device. The character encoding is among the device attributes stored in the OracleAS Wireless repository. Using the Foundation Manager, you can edit the browser capabilities of a device in the OracleAS Wireless repository to update it to the encoding appropriate to a given country or locale ([Figure C-2](#)).

Figure C-2 Editing the Encoding for a Device (Partial View of the Editing Function)

Accepted Character Encodings

Available

UTF-8
ISO-8859-1
Shift_JIS
iso-8859-1

Selected

UTF-8

Move
Move All
Remove
Remove All

Add

The character encodings that can be accepted by the user-agent (e.g. Accept-Charset Header). Move item(s) to the selected list

The Internet Assigned Numbers Authority (IANA) specifies the valid values for the character encoding format of a device. The names of the IANA character set are available at:

<http://www.iana.org/assignments/character-sets>

Table C–2 illustrates how the encoding is determined.

Table C–2 Determining the Device Encoding at Runtime

Component	Method of Determination
Oracle Collaboration Suite portal	<ol style="list-style-type: none"> Using the Accept-Charset HTTP header sent by the device. If the device does not send the Accept-Charset HTTP header, then the value stored in the OracleAS Wireless repository is used instead.
Async Listener	Determined by the corresponding transport driver.
OracleAS Wireless Tools and Mobile Preferences pages	<ol style="list-style-type: none"> Using the Accept-Charset HTTP header sent by the device. If the device does not send the Accept-Charset HTTP header, then the character encoding of the device called PAPZ is used instead. The default encoding is UTF-8.
Notification Application	Determined by the corresponding transport driver.

HTTPAdapter – Based Service

This section describes the encoding for the request and response of a HTTPAdapter-based application

Encoding for the Request of an HTTPAdapter-Based Application

When sending the HTTP request to the remote content provider, only the parameters of the HTTPAdapter application are encoded using the `input_encoding` of the application (if it is specified). Use the encoding format of the IANA (Internet Assigned Numbers Authority) when specifying the value for `input_encoding`.

Best Practice for Writing Multi-Channel Applications Using JSPs.

When using JSPs to write Multi-Channel applications, insert the content described in [Example C–1](#) at the top of the JSP.

Example C–1 Multi-Channel Content

XHTML MP Content:

```
<%
    String userAgent = request.getHeader("User-Agent");
    if(userAgent != null && userAgent.indexOf("PTG/2.0 (Oracle9ias Wireless)") >= 0)
    {
        response.setContentType ("application/vnd.wap.xhtml+xml; charset=UTF-8");
        %><?xml version = "1.0" encoding = "UTF-8" standalone="yes" ?>
        <!DOCTYPE html PUBLIC "-//WAPFORUM//DTD XHTML Mobile 1.0//EN"
            "http://www.wapforum.org/DTD/xhtml-mobile10.dtd">
    <%
    } else {
        response.setContentType ("text/xml; charset=UTF-8");
        %><?xml version = "1.0" encoding = "UTF-8" standalone="yes" ?>
    <%
    }
    // Set the request character encoding
    String encoding = request.getCharacterEncoding();
    if(encoding == null) {
        encoding = request.getHeader("x-oracle-mcs.character.encoding");
        encoding = ((encoding == null) || (encoding.length() == 0)) ? "UTF-8" :
```

```

encoding;
    request.setCharacterEncoding(encoding);
}

// Optional - Prevent Page Caching
response.setHeader("Cache-Control", "no-store"); // HTTP 1.1
response.setHeader("Pragma", "no-cache"); // HTTP 1.0
response.setHeader("Expires", "0"); // prevents caching at the proxy server
%>

MobileXML Content:

<%
    String userAgent = request.getHeader("User-Agent");
    if(userAgent != null && userAgent.indexOf("PTG/2.0 (Oracle9iAS Wireless)") >= 0)
    {
        response.setContentType ("text/vnd.oracle.mobilexml; charset=UTF-8");
        %><?xml version = "1.0" encoding = "UTF-8" standalone="yes" ?>
        <!DOCTYPE SimpleResult PUBLIC "-//ORACLE//DTD SimpleResult 1.1//EN"
        "http://xmlns.oracle.com/ias/dtds/SimpleResult_1_1_0.dtd">
        <%
        } else {
            response.setContentType ("text/xml; charset=UTF-8");
            %><?xml version = "1.0" encoding = "UTF-8" standalone="yes" ?>
            <%
            }
            // Set the request character encoding
            String encoding = request.getCharacterEncoding();
            if(encoding == null) {
                encoding = request.getHeader("x-oracle-mcs.character.encoding");
                encoding = ((encoding == null) || (encoding.length() == 0)) ? "UTF-8" :
encoding;
                request.setCharacterEncoding(encoding);
            }

// Optional - Prevent Page Caching
response.setHeader("Cache-Control", "no-store"); // HTTP 1.1
response.setHeader("Pragma", "no-cache"); // HTTP 1.0
response.setHeader("Expires", "0"); // prevents caching at the proxy server
%>

```

Note: This example uses UTF-8 encoding. Substitute this value for that of the correct encoding for the application. Be sure to replace all occurrences of this value.

Encoding for the Response of an HTTP Adapter-Based Application

OracleAS Wireless determines the encoding of the response of an HTTPAdapter-based application in the following order:

1. Charset as part of the content-type header on the response.
2. Input-encoding (if present) of the input parameter of the application.
3. ISO-8859-1 (the default).

Languages Available for Online Help

Users can view the online help for the OracleAS Wireless Tools and the *Mobile Preferences* pages in 29 languages. The site locale, configured through the System Manager, determines the display language.

In this release, the built-in labels and on-line help for the OracleAS Wireless Tools and System Manager display in nine languages.

The OracleAS Wireless portal (ptg/rm) can display the built-in labels in 29 different languages.

Driver Encoding

Each driver handles encoding individually.

Localizing Voice Applications

To localize the voice-enabled applications included with the Oracle Collaboration Suite:

1. Identify the location of the English audio files. These files are located in the `en` application subdirectory as noted in [Table C-3](#).

Table C-3 Location of the English Audio Files for Voice-Enabled Applications

Application	Location
Common (Default)	ORACLE_HOME/wireless/modules/common/voice/default/en
Voice Login	ORACLE_HOME/wireless/marconi_voice/voicelogin/audio/en
Voice Main Menu	ORACLE_HOME/wireless/marconi_voice/mainmenu/audio/en
Mail	ORACLE_HOME/wireless/modules/common/voice/pim/mail/en
Contacts	ORACLE_HOME/wireless/modules/common/voice/pim/addressbook/en
Calendar	ORACLE_HOME/wireless/modules/common/voice/pim/calendar/en
Directory	ORACLE_HOME/wireless/modules/common/voice/pim/ldap/en
Files	ORACLE_HOME/wireless/modules/common/voice/pim/ifs/en

1. Using the English audio files as a model, record the exact same set of files in the target language. The names of the files must be same as those in the English language version.
2. Place the newly recorded, localized audio files into their own locale-specific subdirectory of the application directory. Accomplishing this basically involves first moving up one level in the hierarchy from the `en` subdirectory and then placing the newly recorded audio files into the appropriate locale-specific directory noted in [Table C-4](#).

Table C-4 *Locale-Specific Subdirectories for Applications*

Locale	Directory Name
Arabic	ar
Czech	cs
Danish	da
German	de
Greek	el
English	en
English-US	en_US
Spanish	es
Spanish-Spain	es_ES
Finnish	fi
French	fr
French_Canada	fr_CA
Hungarian	hu
Italian	it
Japanese	ja
Korean	ko
Dutch	nl
Norwegian	no
Polish	pl
Portuguese	pt
Portuguese - Brazil	pt_BR
Romanian	ro
Russian	ru
Slovak	sk
Swedish	sv
Thai	th
Turkish	tr
Chinese	zh
Chinese-Taiwan	zh_TW

Performance Tuning

This appendix, through the following sections, discusses the tuning methods that enable you to optimize Oracle Collaboration Suite 10g Mobile Collaboration.

- ["Overview of Oracle Mobile Collaboration Optimization"](#)
- ["Tuning the Oracle Database"](#)
- ["Increasing the Single Sign-On Connection Pool"](#)
- ["Increasing the JDBC and OID Connection Pools"](#)
- ["Tuning the OC4J_Wireless Server Instance"](#)
- ["Optimizing the Performance of the Oracle HTTP Server"](#)
- ["Optimizing the Capacity of Web Cache"](#)
- ["Optimizing Oracle Mobile Access Mail"](#)

Overview of Oracle Mobile Collaboration Optimization

Upon installation, Oracle Collaboration Suite 10g Mobile Collaboration initializes a default setup that is appropriate for the performance of most applications. However, you may need to use additional tuning knobs to adjust performance, since applications vary in features, hardware setup, and performance requirements.

Tuning the Oracle Database

This section describes how to optimize the database for Oracle Mobile Collaboration. Topics include:

- ["Modifying the Initialization Parameters of the Server Parameter File \(SPFILE\)"](#)
- ["Adding Redo Logs Groups"](#)

Modifying the Initialization Parameters of the Server Parameter File (SPFILE)

Use the `ALTER SYSTEM` statement and the `SET` clause to set the values for the processes and sessions, the automatic shared memory management feature of the System Global Area (`sga_target`), and PGA memory management (`pga_aggregate`) as follows:

```
alter system set processes=600 scope=spfile;
alter system set sessions=700 scope=spfile;
alter system set sga_target=1600M scope=spfile;
alter system set pga_aggregate_target=1000M scope=spfile;
```

Because all of these statements use the `SCOPE = SPFILE`, the changes dictated by these statements apply only to the server parameter file. For more information on `SPFILE`, see *Oracle Database Administrator's Guide*. The changes to the `SPFILE` become effective at the next startup.

Adding Redo Logs Groups

Adding redo log groups avoids failures from redo log switches. To perform the operations in this section, you must be granted the `ALTER DATABASE` system privilege. For more information on managing redo logs, see *Oracle Database Administrator's Guide*.

To add a redo log group, first use the query `SELECT * FROM V$LOGFILE;` to view the current active redo log files in the database. There are three redo log groups. Each group has two members, each sized 10M. You must add six additional redo log groups, for a total for nine redo log groups. In addition, each redo log group has two members, both sized 50M.

Note: To illustrate these instructions, the redo log groups are referred to as *redo log group 1* through *redo log group 9*. Redo log groups 1 through 3 are the initial redo log groups; redo log groups 4 through 9 are the additional groups.

To add redo log group and its members, use the `ALTER DATABASE` with the `ADD LOGFILE` clause for each redo log group. The following statement adds *redo log group 4* (`o1_mf_4.log`) to the database:

```
ALTER DATABASE
  ADD LOGFILE GROUP 4 ( '/home/ocs1/CS10Gm6b/oradata/CS10M6B/onlinelog/o1_mf_
4.log', '/home/ocs1/CS10Gm6b/backend/flash_recovery_area/CS10M6B/onlinelog/o1_mf_
4.log' )
  SIZE 500K;
```

Notes:

- Because the path of the redo log files varies, use the query result of the `SELECT * FROM V$LOGFILE;` to find the path locations of the members.
 - Use the fully specified filenames of new log members to indicate where the operating system file should be created. Otherwise, the files will be created in either the default or current directory of the database server, depending on the operating system.
-
-

After you complete creating the remainder of the redo log groups, you must then drop the first three redo log groups and their members. Before you can drop these groups, however, use the query result of `SELECT * FROM V$LOG;` to ensure that none of these groups are *active* (required for instance recovery) or *current* (the Log Writer, LGWR, is actively writing to this log). If any of the logs are active or current, then you must force a log switch to make log inactive using the `ALTER SYSTEM` statement with the `SWITCH LOGFILE` clause. If archiving is enabled, then you must ensure that a redo log group is archived before you drop it by viewing the query result of the `V$LOG` view.

Once redo log groups 1 through 3 are inactive, you can drop them using the ALTER DATABASE SQL statement with the DROP LOGFILE clause. For redo log groups 1 through 3, use the following statements:

```
ALTER DATABASE DROP LOGFILE GROUP 1;  
ALTER DATABASE DROP LOGFILE GROUP 2;  
ALTER DATABASE DROP LOGFILE GROUP 3;
```

Dropping redo log groups 1 through 3 leaves six redo log groups. Each group has two members, both sized 50 MB.

Increasing the Single Sign-On Connection Pool

Oracle Application Server uses database connections for Single Sign-on (SSO). Because the default number of connections may not suffice for the high number of users, you should therefore increase the `maxConnectionsInPool` and `cacheSize` parameters of the `policy.properties` file (`$ORACLE_HOME/sso/conf/policy.properties`) to the following values:

```
maxConnectionsInPool = 300  
cacheSize = -1
```

Increasing the JDBC and OID Connection Pools

Increasing the maximum number of connections for the JDBC and OID connection pools improves performance. You can increase this attribute by editing the parameters in the *JDBC, OID Connection Pool* page (accessed from the *Site Administration* page of the OracleAS Wireless System Manager). For more information, see "[The OracleAS Wireless System Manager](#)" and *Oracle Application Server Wireless Administrator's Guide*

Note: The default number of maximum connections to the JDBC connection pool is 100.

Tuning the OC4J_Wireless Server Instance

This section includes the following topics:

- "[Setting the OC4J Logs and Tuning the GC Performance](#)"
- "[Setting the Database Driver Type](#)"
- "[Setting the Session Timeout](#)"
- "[Enabling the Response Time in the Apache Log](#)"

Setting the OC4J Logs and Tuning the GC Performance

To tune the OC4J_Wireless Server instance to both enable the OC4J logs and to optimize the Java GC (garbage collection) attributes, you must modify both the *OC4J Options* and the Java attributes in the *Java Options* field, which are located in the *Command Line Options* section of the Oracle Enterprise Manger's *Server Properties* page ([Figure D-1](#)).

Note: To access this page, first select the **OC4J_Wireless** process on the *Home* page and then select **Administration**. Next, select **Server Properties** (located under *Instance Properties*). The *Server Properties* page appears.

Figure D-1 *Editing the OC4J and Java Options*

Command Line Options	
Java Executable	
OC4J Options	-properties -userThreads
Java Options	-server -Xdebug -Xrunjdw:transport=dt_socket,server=y,suspend=n

To enable OC4J logging, add the following to the *OC4J_Options* field:

```
-properties -userThreads -verbosity 10 -out oc4j.out -err oc4j.err
```

To optimize the Java GC options, add the following to the *Java Options* field:

```
-Xss256k -Xms512m -XX+UseParallelGC -XXParallelGCThreads=4  
-XX:NewRatio=2 -XX:SurvivorRatio=16 -verbose:gc -XX:+PrintGCDetails  
-XX:+PrintGCTimeStamps
```

For more information on modifying the default GC behavior and improving GC performance, see *Oracle Application Server Wireless Administrator's Guide*.

Setting the Database Driver Type

Set the database driver as a thin driver by setting `db.driver=thin` in the `System.Properties` file (`$ORACLE_HOME/wireless/server/classes/oracle/panama/core/System.properties`).

Setting the Session Timeout

Change the session timeout from 50 to 10 by editing the `<session timeout>` element in the `web.xml` file (located at `$ORACLE_HOME/j2ee/OC4J_Wireless/applications/module-web/WEB-INF/web.xml`) as follows:

```
<session-config>  
  <session-timeout>10</session-timeout>  
</session-config>
```

Optimizing the Performance of the Oracle HTTP Server

Edit the following configuration directives in `httpd.conf` to enhance performance of the Oracle HTTP Server (OHS). See *Oracle Application Server Wireless Administrator's Guide* for descriptions of these directives. See *Oracle Application Server Administrator's Guide* for more information on accessing the `httpd.conf` file from the Oracle Collaboration Suite Enterprise Manager Application Server Control.

Backend Settings

MaxClients 300

MaxRequestsPerChild 0

Min SpareServers 5

MaxSpareServers 20

StartServers 5

Timeout 300

KeepAlive On

Application Tier Settings

MaxClients 300

MaxRequestsPerChild 0

MaxSpareServers 20

StartServers 5

Timeout 300

KeepAlive Off

Enabling the Response Time in the Apache Log

To enable the response time in the Apache log, you must comment out the LogFormat line in `httpd.conf` as follows:

```
#LogFormat "%h %l %u %t \"%r\" %>s %b" common
```

and replace it with the following line:

```
LogFormat "%h %l %u %t \"%r\" %>s %b T" common
```

Optimizing the Capacity of Web Cache

The Web Cache capacity should be set to a high value depending upon the load. For example, if you are hitting 50 requests per second, then you must set the capacity to 100. You can increase the Web Cache capacity by editing the properties of the Web Cache's origin server.

To edit the Web Cache capacity from the Oracle Collaboration Suite Enterprise Manager Application Server Control:

1. Click **Web Cache** in the *Application Server Home* page of the Enterprise Manager. The *Web Cache Home* page appears.
2. Click the *Administration* tab.
3. Click **Origin Servers** (located in the *Application* section under *Properties*). The *Origin Server* page appears.
4. Select an origin server and then click **Edit**. The *Edit Origin Server* page appears.
5. Increase the value in the *Capacity* field.
6. Click **OK** to commit the change.

Note: Depending on the incoming requests and the size of documents to be cached, you must also change the maximum incoming connections and the maximum cache size. You can change these values using the *Resource Limits and Timeouts* page (accessed by clicking **Resource Limits and Timeouts** in the *Web Cache* section of the *Web Cache Administration* tab).

Setting the Capacity and Resource Limits in webcache.xml

You can increase the values for the CAPACITY and RESOURCELIMITS parameters of the webcache.xml file (\$ORACLE_HOME/webcache/webcache.xml) if the values are not high enough. Change these parameters in webcache.xml on the Application tier (where the ORACLE_HOME and HOST attributes of the CACHENAME element reflects the Application tier, such as <CACHE NAME="fst1c07d.us.oracle.com-WebCache" ORACLEHOME="/home/ocs1/CS10gm9b/midtier" HOSTNAME="fst1c07d.us.oracle.com" VOTES="1" CAPACITY="30" WCDEBUGON="NO">>) as follows:

1. Open the webcache.xml file.
2. Locate the CAPACITY parameter. You can set the value of this element as high as the value set for MaxClient in the httpd.conf file. For example, you can set this value to 300 servers. For more information, see ["Optimizing the Performance of the Oracle HTTP Server"](#).
3. Locate the <RESOURCELIMITS> parameter and then set the value of its MAXINBOUNDCONNECTIONS attribute to 700 and the MAXCAHESIZE attribute to 500 as follows:

```
<RESOURCELIMITS MAXINBOUNDCONNECTIONS="700" MAXCAHESIZE_MB="500"/>
```

Note: You can further increase the values of these attributes if needed.

See *Oracle Application Server Webcache Administrator's Guide* for more information on webcache.xml.

Optimizing Oracle Mobile Access Mail

To optimize Oracle Mobile Access Mail, add the following lines to oc4j.properties (\$ORACLE_HOME/j2ee/OC4J_Wireless/config/oc4j.properties):

```
oracle.ocs.ldappool.maxsize=300
oracle.ocs.ldappool.minsize=5
oracle.ocs.ldappool.shrinkinterval=1800
oracle.ocs.ldappool.timeoutinterval=30
oracle.ocs.ldappool.incrementsize=1
oracle.ocs.ldappool.reconnecttime=30
oracle.ocs.ldappool.initialsize=5
oracle.mail.sdk.esmail.connpool_max_limit=100
oracle.mail.sdk.esmail.connpool_min_limit=5
oracle.mail.sdk.esmail.ojma_debug=false
oracle.mail.sdk.esmail.cache_inactivity_timeout=300
oracle.mail.sdk.esmail.ldap_debug=false
oracle.mail.sdk.esmail.driver_type=thin
oracle.mail.sdk.esmail.timing=false
oracle.mail.sdk.esmail.dbpool_timing=false
```

Glossary

actionable message

An interactive push message sent from the Oracle Application Server Wireless instance to a user's device. Actionable messages are sent through SMS, and e-mail and can be acted upon by users. Other, non-actionable messages are in final form once delivered to a user's device, prohibiting users from replying to these messages.

application

A core object used in a Oracle Application Server Wireless server to represent a unit of information requested by, and delivered to, a client.

bookmark

A link from a service to an external, device-compatible data source that does not require processing through the Oracle Application Server Wireless server.

client programs

Programs, such as those for [Oracle Mobile Push Mail](#) and [Oracle Mobile Data Sync](#), which are stored in the [Program Repository](#) and downloaded to end-user devices.

client program package

A file packaging the files and properties for [client programs](#) which ensure that the client programs are downloaded to the correct type of mobile device. Before an administrator uploads a client program to the [Program Repository](#), the client program must be packaged into a .zip file that contains the property file, `program.properties`, along with the program files. `setup.properties` describes the client program by application type (such as Oracle Collaboration Suite 10g Mobile Push Mail or Oracle Collaboration Suite 10g Mobile Data Sync), description, vendor, version, platform (such as PPC, PALM, or J2ME), processor (such as ARM, MIPS), operating system, and language. The client program files included in the client program package include a Cabinet file (.CAB) for a Pocket PC, .PDB for a Palm device, or .COD for J2ME on the RIM Blackberry. Oracle Collaboration Suite 10g (10.1.1.0.2) supports only client programs for Oracle Mobile Push Mail and Oracle Mobile Data Sync.

DMZ

Because most wireless protocols cannot communicate through traditional firewalls, a special deployment environment in a DMZ (De-militarized Zone) is needed to deploy Mobile Collaboration Server component of Oracle Collaboration Suite 10g. A DMZ can be considered as a network island that is located between a trusted internal network, such as a corporate intranet, and an external network that is not trusted, such as the public Internet. A DMZ prevents outside users from getting direct access to servers

behind corporate firewall that contain confidential corporate data. Typically, firewalls, routers and hardware load balancers (optional) are integral components of the DMZ infrastructure.

DTMF

Dual Tone Multi-Frequency. Oracle Mobile Collaboration's voice support enables you to generate the DTMF equivalents of user names stored in the Oracle Internet Directory (OID). DTMF equivalents support searching for user names using a telephone keypad-based user interface.

end user

A person who accesses an Oracle Collaboration Suite 10g service from a client device.

inband

The Oracle Collaboration Suite 10g Mobile Push Mail server sends notifications over the same channel (such as HTTPS) used by the client to send commands to the server. Inband refers to a full-duplex channel, one providing back-and-forth communication between server and client.

messaging gateway

A messaging gateway enables the Oracle Collaboration Suite or Oracle Application Server instance to push messages to the Internet through various delivery channels (e-mail, voice, fax, or SMS). The messaging gateway can be considered a collection of e-mail, SMS, voice and fax gateways under a single umbrella. Customers can host their own messaging gateway using Oracle Application Server platform, outsource the hosting of messaging gateway to a third party, or sign up for a subscription-based service provided by a vendor.

Mobile Browser Access

Mobile Browser Access enables access to e-mail, voicemail, fax, calendars, address books, and corporate directories from a mobile device. By providing access to the Oracle Collaboration Suite portal, mobile users can compose, send, receive, forward and reply to e-mail, review, create, modify and confirm calendar events, view a file hierarchy or fax. A user can also search for names, numbers, locations and management structure in a corporate directory.

mobile notifications

Oracle Collaboration Suite 10g provides a set of configurable notifications which enable users to receive notifications of Messaging events, such as new e-mails or voicemails and reminders through SMS, e-mail, voice and fax delivery channels. Users manage notification subscriptions and set the preferences that trigger reminders for each application according to their preferences or context.

Oracle Mobile Access

Oracle Mobile Access applications include the following options, which are based on a user's preference and context:

- [Mobile Browser Access](#)
- [Oracle Mobile Text Access](#)
- [Oracle Voice Access](#)

Oracle Mobile Data Sync

Oracle Collaboration Suite 10g Mobile Data Sync enable users to keep abreast of important information without a physical connection to a laptop corporate network. Oracle Mobile Data Sync provides over-the-air (OTA) synchronization of Oracle Collaboration Suite calendar events, tasks, and personal address book to the native applications of a user's device, enabling users to view data off-line after synchronization. The intelligent, bi-directional sync engine ensures that data maintains its integrity when it is propagated to both the server and device, with respect for meeting ownership and recurrence rules. Based on the Open Mobile Alliance – Data Synchronization (OMA-DS, formerly SyncML), the Mobile Data Sync is certified for most devices that support OMA-DS. PDAs that do not support OMA-DS out of the box synchronize with the Oracle Collaboration Suite using Synthesis AG's Synthesis SyncML Clients for PalmOS, PocketPC, and MS Smartphone (Windows Mobile) PDA platforms. The Synthesis SyncML Clients are certified against the Oracle Sync Server. For more information, see <http://www.synthesis.ch>. For more information on Mobile Data Sync, see Oracle Calendar Administrator's Guide.

Oracle Mobile Push Mail

Oracle Collaboration Suite 10g Mobile Push Mail is a Push IMAP (P-IMAP) solution that provides a real-time e-mail experience by automatically pushing e-mail to a user's device over a wireless network as soon as the e-mail is received by mail server. Oracle Mobile Push Mail provides "always on" mail push functionality to mobile devices without user intervention; users need only specify the type of mail that they want to receive, such as high-priority e-mail, or e-mail sent by specific individuals. Because the user's device stores the received e-mail, users can read and compose e-mail without a connection. Oracle Mobile Push Mail also provides cradle-free, two-way synchronization between the user's device and the Push Mail server that reflects the current state of the e-mail at the server or stored on the user's device; any action made by the user (such as read or delete) is securely sent to the mail server.

Oracle Voice Access

Oracle Collaboration Suite 10g Voice Access enables users to compose, send, receive, forward and reply to e-mail (through .wav files attached to common e-mails), view, create, modify and confirm calendar events, audibly review a file hierarchy, fax and e-mail files, search for names, numbers, locations and management structure in a corporate directory, and place calls from any phone (including non-mobile phones).

Oracle Mobile Text Access

Oracle Collaboration Suite 10g Mobile Text Access enables users to access Oracle Collaboration Suite services by sending a request (an ASK message) to the Oracle Collaboration Suite through e-mail or Short Message Service (SMS) text message. Oracle Collaboration Suite then replies with the requested information. For example, a user can access information on appointments logged in the Oracle Collaboration Suite 10g Calendar by issuing a text message with the **short name**, *cal*.

outbound

Outbound communication refers to the Oracle Collaboration Suite 10g Mobile Push server sending a notification to a client through one channel (such as SMS) while the client sends commands to the Oracle Mobile Push Mail server over another channel (such as HTTPs).

Premium SMS

The Async Listener enables users of SMS-enabled phones to access content from the Internet. To request such an application, a mobile user sends a message containing

SMS keywords describing the application to an Async account using a short address (a number) known as the Large Account. The SMS keywords identify the application (for example, *ST* for stock quote applications.) The message goes through the network of a PremiumSMS operator to retrieve the content supplied by the Content Provider, whose system listens for the SMS message sent to the Large Account. The Content Provider processes the message and returns the requested information as a message to the user, who is charged a premium on top of the standard SMS transport rate for mobile device-issued requests. The content provider and Premium SMS operator (or carrier) both share this premium.

Program Repository

A server repository that stores a **client programs**, which is installed onto, and then runs on, an end-user mobile device.

repository

An Oracle database which stores all of the Oracle Application Server Wireless objects, such as users, groups, adapters, and applications.

request

A query to initiate a desired Oracle Application Server Wireless service. Requests are submitted on behalf of end-users to the OracleAS Wireless server.

request manager

The Oracle Application Server Wireless component that processes requests for services. The request manager authenticates the user, submits the request to the Oracle Application Server Wireless core, and retrieves the device type and any presentation settings. The request manager also forwards converted content from the transformer to the user.

request object

An XML document representing a request for service.

Setup Program

A bootstrap program downloaded on the end-user's mobile device that interacts with **Setup Servlet** to install **client programs** onto that device.

Setup Servlet

A server-side request handler that interacts with **Setup Program** to install **client programs** onto an end-user device.

short name

A site-wide, unique name that identifies a Oracle Application Server Wireless application. Device users invoke applications by sending messages to the site address with short names for the requested applications in the body or subject line of the message. For example, a user requests a stock quote application by sending a message to a site address (such as *ask@oraclemobile.com*) with the short name of the stock quote application (*stk*) in the body of the message.

user agent

An object that associates an end user with a device type.

user group

A Oracle Application Server Wireless object that represents a set of users that are grouped together based on common criteria such as interests, subscription level, or geographic location.

VoxML

A markup language that enables the use of voice to interface with applications.

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