Oracle9*i*AS Wireless

Administrator's Guide

Release 2 (9.0.4)

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Oracle9*i*AS Wireless Administrator's Guide

Part No. B10685-01

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Preface

Oracle9*i*AS Wireless provides the ability to enable wireless access to your Oracle Collaboration Suite applications. This Administrator's Guide discusses how you can use Oracle9*i*AS Wireless with Oracle Collaboration Suite. The guide includes these chapters:

- Chapter 1, "Introduction"—Introduction to Oracle Collaboration Suite, and how Oracle9*i*AS Wireless supports it.

- Chapter 2, "Configuring Access Points"—Details the steps required to enable your Collaboration Suite applications for wireless access.

- Chapter 3, "Managing Contact Rules"—Discusses contact rule management, which enables users to tailor how they receive notifications for any given situation.

- Chapter 4, "Configuring Mobile Services for Voice and Wireless"—Describes Wireless mobile services and details the configuration steps required to use them with Collaboration Suite applications.

- Chapter 5, "Globalization"—Describes how Wireless determines locales and device encoding.

- Chapter 6, "Wireless Tools"—Introduces the Oracle9*i*AS Wireless Webtool.

- Chapter 7, "Managing Logical Devices"—Describes how Content Developers use the Service Designer to create and manage logical devices in the repository.

- Chapter 8, "Managing Wireless and Voice Applications"—Describes how to create services, topics, and alerts and publish them to user groups using the Content Manager Tool.

- Chapter 9, "Managing Users"—Describes how to use the User Management Tool to create users and groups and subscribe to services.

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More Information

You can also find information onOracle9*i*AS Wireless through these resources:

- Oracle Technology Network—Oracle Technology Network is dedicated to providing developers the best information on Oracle's products and technologies. Visit: http://otn.oracle.com

- javadoc—. . . /wireless/doc/javadoc/

- Studio—OracleMobile 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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Part I

Collaboration Suite

1

Introduction

Effective mobile computing delivers information users need, on the devices they want to receive it on, when and where they need it. For enterprises looking to cut operational costs and drive new revenue mobile technology offers untapped potential. This chapter introduces Wireless and Voice access to Oracle Collaboration Suite. It includes the following sections:

- Section 1.1, "Wireless and Voice Access to Oracle Collaboration Suite"
- Section 1.2, "How Does Wireless and Voice Access Benefit Employees?"

1.1 Wireless and Voice Access to Oracle Collaboration Suite

Oracle Collaboration Suite provides the most complete set of capabilities to enable mobile employees to have full access to all of their corporate information anywhere, from any device.

Oracle Collaboration Suite provides anytime-anywhere access to email, voicemail, calendar, address book, tasks, files, corporate directories, and instant messaging from any device with wireless or voice access. Employees can use their cell phones or other wireless devices to receive and answer email, send a white paper to a customer or look up the phone numbers of other employees in the corporate directory, from anywhere.

When important events are added to their calendars, when they receive specific email or voicemail, when documents are updated in their folders, or simply as a reminder service, employees can stay *connected* to the enterprise through wireless devices.

Oracle Collaboration Suite allows users to define where they are at a given time, what they need to know and how they want to be notified.

1.1.1 Wireless and Voice Capabilities

Wireless and Voice access mean the following advantages for employees:

- Wireless and Voice access to Email, Voicemail, Fax, and Directory.

- Access and manage your mail from any mobile device, anywhere.

- Retrieve new message summaries with Voice access; *listen* to your email.

- Access your corporate directory from any mobile device. Integrated with email, this enables users to browse their corporate directories and then send email to specific contacts, or to compose a recipient list from the directory.

- Create Virtual Inboxes based on user preferences, and then specify which Inbox view you want to access from the mobile device or voice. For example, users can create Virtual Inboxes (and set any of the Virtual Inboxes as default). Here are some examples:

  - *mysenders*: Give me all email from my list of senders

  - *urgent*: Give me all email with Priority set to HIGH, or where the subject field contains the *urgent* keyword

  - *today*: Give me all email from last 24 hours

  - voicemail: Get all my voice messages

  - fax: Get all my faxes

1.1.2 Wireless and Voice Access to Calendar and Address Book

- Manage your appointments and tasks from any mobile device.

- Play the summary of new or modified appointments using Voice access.

- Enables users to manage their own address books and contacts.

- Enable call function from wireless phones, and integrate with the email to allow users to compose messages' recipient list from their address books as well as add contacts into their address books based on their email messages.

1.1.3 Wireless and Voice Access to Files

- Access Oracle Files from any device including voice anywhere.

- Integrate with Oracle email to access Oracle Files attachments.

- Enable document printing by fax using third-party Fax servers such as *RightFax*.

■ Remotely select an attachment and send it by email to another mobile user.

1.1.4 Presence Management

Presence Management is the method by which a user's *presence* defines the best method for contacting the user at a particular moment in time, in a given location, based on the user's availability, device capability, and personal preferences.

Oracle Collaboration Suite allows users to create a profile that defines where they are during the day and how they want to be notified at this location: their desktop, their mobile phone or their pager.

1.1.5 Instant Messaging

Employees can communicate to each other faster and more accurately even when out of the office, from their mobile devices. Oracle Collaboration Suite provides the ability to enable instant messaging among employees; no need to worry about networks or hardware dependencies.

1.2 How Does Wireless and Voice Access Benefit Employees?

1.2.1 Multi-Channel Access

The centerpiece of Wireless and Voice features of Oracle Collaboration Suite is Oracle9*i*AS Wireless, which provides the most flexible, scalable and reliable mobile infrastructure on the market. Oracle9*i*AS Wireless offers access to any application through any device (including voice), and is the only true multi-channel platform.

Oracle9*i*AS Wireless uses an open standards XML application model that makes applications accessible from any device. This is a key differentiator for companies looking to reach the maximum amount of users and provide more value. Indeed, the benefit of open standards is twofold, as it is also easier for partners to integrate solutions reducing the cost of implementation. With Oracle9*i*AS Wireless, time-to-market decreases, as companies don't have to worry about networks or hardware dependencies. And it is straightforward to decide what mobile access channel to choose; they are all supported with Oracle.

1.2.2 Increased Personal Productivity

Email, voicemail, calendar, files, address book, corporate directories, instant messaging, and notification are key productivity tools for all enterprises. To remain

productive away from the desk, Oracle Collaboration Suite allows enterprises to integrate corporate email, voicemail, calendar, directory, address book, document management and instant messaging applications into their mobile solution. The tight integration of the all these collaborative services increases usability as applications are intelligently linked.

1.2.3 Voice-enabled Services

Oracle Collaboration Suite voice-enabled services are 100% VoiceXML-compliant and thus speech-recognition-vendor neutral. These services run on commercially available VoiceXML gateways, eliminating the risk of using an obsolete or inferior technology.

1.2.4 Presence-aware Communication

Presence in Oracle Collaboration Suite empowers employees to manage how they want to be contacted, when they want to be contacted, and where they want to be contacted.

Oracle Collaboration Suite applications, integrated with Presence Server, knows exactly how to contact anyone at a particular moment in time, in a given location, based on the user's availability, device capability, and personal preferences.

1.2.5 Faster Response Time

Mobile notification broadens access to applications, information and services. Mobile notification is when information is delivered, or pushed, to mobile devices. In the consumer market, SMS is one area of two-way messaging that has been extremely successful with millions of messages sent every day. Today, many enterprises have recognized the value of immediate notification of important events such as new customer meetings, critical Email, or upload of a new project plan that requiring immediate attention. Employees can respond immediately to time-critical alerts, and companies can capture new revenue and increase customer service. Oracle Collaboration Suite Wireless & Voice access pushes critical information to any mobile device or voice interface over any delivery channel.

1.2.6 Security and Performance

Secure access to sensitive enterprise information is a primary concern when deploying a mobile solution. With an evolving labyrinth of mobile infrastructure (devices, protocols, networks, and hardware), the problem of security cannot be solved in one homogeneous way. A combination of confidentiality, integrity,

authentication, and non-repudiation ensures the secure delivery of mission-critical content to mobile devices. To guarantee confidence in mobile transactions such as stock trades, patient/doctor communication, legal documents and contracts, it is essential that security is ubiquitous and transparent.

Depending on the applications, Oracle9*i*AS Wireless infrastructure for Wireless & Voice access to Oracle Collaboration Suite supports many techniques to satisfy end-to-end security requirements. All sensitive user data and profiles are encrypted and stored in the secure Oracle Database.

2

Configuring Access Points

For the Collaboration Suite to work with wireless devices, communications to those devices must be enabled. This chapter includes instructions on enabling these devices. It includes the following sections:

2.1 Enabling Palm, Pocket PC and WAP Devices

Wireless can serve requests from different devices, including Palm, Pocket PC, and WAP. These devices must be configured in order to access the Wireless server. Requests from these devices to the wireless server come through HTTP(S) protocol Protocol transformation gateway may be used in some cases to convert the device native network protocol to HTTP(S).

Note: One of the parameters that must be configured for all devices is the URL to the Wireless server. If the Wireless server is installed on host *host.domain*, then the default URL for HTTP and HTTPS protocols are:

- http://host.domain:7777/ptg/rm

- https://host.domain:4443/ptg/rm

Consult with your Wireless server administrator for the exact URL to your Wireless server.

Setting the HTTP(S) URL depends on the type of device. The following sections describe a different device. These sections include:

- Section 2.1.1, "Palm Devices"

- Section 2.1.2, "Pocket PC Devices"

- Section 2.1.3, "WAP Devices"

2.1.1 Palm Devices

2.1.1.1 Connecting to a Network

There are two types of Palm devices when it comes to connecting to the Internet/Intranet:

- Devices with built-in wireless Internet access (Palm.Net® ready) - Palm i705

- Devices that require an Internet Service Provider (ISP) account and data-enabled phone or modem to access the Internet - Palm m515, Palm m505, Palm m500, Palm m130, Palm m125

If you have a device with built-in wireless Internet access, then the only thing that you need to do to connect your device to the Internet is to activate your wireless service. For more information about Wireless Connectivity with Palm.Net® Service see: http://www.palm.com/products/palmi705/wireless.html.

If your device does not have built-in Internet access then you will need either a data-enabled phone or a Palm modem. Also, you will need an ISP account. (You can use a a data-enabled phone or a Palm modem with Palm i705, too.)

2.1.1.2 Configuring the Connection Method

1. Open Preferences by tapping the Prefs icon.

2. Select Connection.

3. Select the connection method from the list of Available Connections.

2.1.1.3 Configuring an ISP Account

1. Open Preferences by tapping the Prefs icon.

2. Select Network.

3. Select the Service value from the drop down list.

4. Enter your User Name.

5. Enter your Password.

6. Select the Connection type from the drop down list.

7. Enter Phone number.

8. Tap the Connect button to test the settings.

If your handheld device supports more than one-way to connect to the Internet, you may choose your preferred method.

1. Open Preferences by tapping the Prefs icon.

2. Select Web Clipping.

3. Select the Connection name from the drop down list.

2.1.1.4 Accessing the Wireless Server Using MyPalm Application

If you have a Palm device with built-in wireless Internet access and you have activated your wireless service, then you can use the Palm native web browser to access a wireless server.

1. Open MyPalm application by tapping the MyPalm icon.

2. Enter the URL to the wireless server and tap the "Go" button.

2.1.1.5 Installing Blazer Web Browser

There are different web browsers for Palm, but probably the most popular one is Blazer by Handspring.

1. Download the Blazer browser software from http://blazer.handspring.com

2. Follow the installation instructions provided by Handspring:

   http://www.handspring.com/software/how_to.jhtml. (General instructions about installing software on Palm devices is available here: http://software.palm.com/download.jsp)

2.1.1.6 Accessing the Wireless Server Using Blazer

1. Open Blazer by tapping the Blazer icon.

2. Tap the Go to Web Page icon (the opened folder icon).

3. Enter the URL to the wireless server and tap the "OK" button.

> **Tip:** You can create a Bookmark so you do not need to repeatedly type the URL.

2.1.2 Pocket PC Devices

2.1.2.1 Connecting to the Network

To access the Wireless server from your Pocket PC device, connect the device to the network. If the Wireless server is on your corporate Intranet, then you must connect your device to your corporate Local Area Network (LAN). If the Wireless server is on the Internet, then you must connect to your Internet Service Provider (ISP). There are different ways to connect your Pocket PC device to your corporate LAN or to your ISP, and they are all documented in the Pocket PC Connection Manager tutorial at:

http://www.microsoft.com/mobile/pocketpc/tutorials/connectionmanager/default.asp

2.1.2.2 Accessing the Wireless Server Using Internet Explorer

1. Open Internet Explorer by tapping Start, then Internet Explorer. (If you are already in Internet Explorer, go to step 2.)

2. Tap View, then Address Bar to display the Internet Explorer Address Bar (If the Internet Explorer Address Bar is already shown, go to step 3.)

3. Enter the URL to the Wireless server in the Address Bar and tap the "GO" button (the green arrow).

2.1.2.3 Setting Up the Internet Explorer Home Page

Once connected to the main page on the Wireless server, you can make that page the Home Page for your Internet Explorer. Doing so saves you the efforts of entering the URL every time.

1. While still displaying the Wireless server main page tap Tools, then Options...

2. Tap Use Current button in the Home page section.

3. Tap OK.

2.1.3 WAP Devices

WAP devices use the WAP protocol for communication. The Wireless server does not support the WAP protocol directly. For this reason, you need a WAP gateway to convert the WAP protocol to HTTP(S). If you connect to the Internet through your Wireless service provider, then the carrier must have already configured a WAP gateway for you. However, if you connect to the Internet/Intranet through a dial-up (PPP connection), then you must install and configure a WAP gateway.

2.1.3.1 Installing and Configuring a WAP Gateway

Ensure that the WAP gateway you plan to install is a certified WAP gateway. The certified WAP gateways are listed at: http://mobile.us.oracle.com/ompm/site/product/devices/certified/certified_gateways_wap.jsp. Follow the installation instructions provided by your WAP gateway vendor.

Some gateways (WAPLite for example) have a configuration parameter for the Default WML Home Page. You can set this parameter to the Wireless server main page to save your users the inconvenience of typing this over and over again.

2.1.3.2 Configuring a WAP Phone

The WAP phone configuration is specific to the phone model and wireless service provider. In general the phone must be configured for dial-up network connection (not applicable for GPRS phones), WAP gateway, and the home URL for your WAP browser. In most cases, your phone is reconfigured by your wireless service provider to connect to their own WAP gateway. Some wireless service providers even hide the phone settings so that they cannot be changed by the phone user. And in most cases you will not need to make any changes in the phone network settings. The only thing that you will need to access a wireless server from your WAP phone is the URL to that server. Open the WAP browser (see the phone user's manual how to do that) and type that URL.

2.2 Enabling Voice

You must perform the following configuration to enable voice access to the Collaboration Suite components. This section describes the configuration tasks using Nuance Voice Web Server as an example.

2.2.1 Prerequisites

To enable wireless voice access, you must build a voice gateway. To build the gateway, you must establish two accounts, free of charge, before being able to download the evaluation software to build your development VoIP Voice Gateway. To establish the necessary accounts:

1. Obtain a Nuance Extranet Developer account free of charge by visiting http://extranet.nuance.com/developer/. Follow directions at that site.

2. Obtain a PingTel Developer account free of charge by visiting https://secure.pingtel.com/www/registration/registerUser.jsp. Follow directions at that site.

2.2.2 Platform requirements

The Nuance Voice Web Server (VWS) Installation Guide specifies the configurations supported by Voice Web Server and lists the required hardware and software. Note that this release of Voice Web Server is supported with the Nuance software versions listed in this section. Later versions of Nuance software may be available from the download area of the Nuance Developer Network, but this release of VWS may not be supported on them.

> **Note:** This release of VWS is supported only on a special release of Nuance 8.0 which is available from the VWS download section of the Nuance extranet.
>
> The special release of Nuance 8.0 is intended only for use with this release of VWS. No other use is supported.

2.2.2.1 Hardware

- Pentium II or higher CPU.

- SoundBlaster audio hardware if using native audio or SIP desktop telephony.

- Dialogic or NMS telephony board, if applicable.

2.2.2.2 Operating System

- Windows 2000 with Service Pack 2.

2.2.2.3 Third-party Software

- Java 2 Standard Edition (J2SE) SDK 1.3.1

- Jakarta Tomcat 4.0.3 (recommended).

- Dialogic System Release 5.1 (if using Dialogic telephony boards).

- NMS Natural Access 2002-1 (if using NMS telephony boards).

2.2.2.4 Nuance software

- Nuance System 8.0 Release for VWS. This special release is available in the VWS download section of the Nuance extranet.

- Connectivity Pack 2.0.

  - Dialogic Connectivity Pack 2.0.4

  - SIP Connectivity Pack 2.1.1

  - NMS connectivity Pack 2.1.0

- Foundation Speech Objects 1.1.1

- Nuance Vocalizer 2.0 Service Pack 1 (Recommended)

> **Note:**   See the Nuance Voice Web Server release notes for the most current information.

Once you have downloaded all the preceding software and followed all the Nuance instructions on how to configure the Voice Web Server, you will be able to connect to your Voice Gateway by using the PingTel Softphone that you have downloaded.

2.2.3 marconi_voice.ear

marconi_voice.ear includes two applications:

- Voice Login

- Main Menu Service

2.2.4 Voice Login

The main **.jsp** is located in:

/marconi_voice/voicelogin/login.jsp

The audio files are located in:

/marconi_voice/voicelogin/audio/default/en

Note: This is the voice login **.jsp** that must be provisioned to a phone number. It is a voice XML script that goes through the voice login procedure and then forwards to ptg/rm with the login credentials and the OID of the main menu service. It has to be provisioned in the following way:

http://<server-name>:<port>/marconi_ voice/voicelogin/login.jsp?PAoid=<oid of the Voice Main Menu service>&language=<language code>&countrycode=<country code>

- Where the port is the WebCache listening port number. 7777 is the default port number, and the port number range is 7777 to 7877.

- To obtain the voice main menu_service OID, log in to the Webtool, click Content Manager and get the Object ID for the *Voice Main Menu* service.

- The Language code is in the standard 2-letter Java locale format (for example: "en" = English, "fr" = French). The Country code is also in a 2 letter Java format (for example: "US", "UK", "BR").

    If English is the intended language, then you do not need the language and the country code attributes.

2.2.4.1 Sample Use Case for Voice Login

System: Welcome to the Oracle Collaboration Suite. Enter your account number or say help.

User: 1234

System: Enter your PIN.

User: 1234

System: Hold on for a second while I access your account.

> **Note:** Users must provide account number and PIN to access the portal. See Section 9.3.4 for information on creating user accounts.

2.2.5 Main Menu Service

The main JSP is located in /marconi_voice/mainmenu/myhome.jsp

The audio files are in /marconi_voice/mainmenu/audio/default/en

A top level service called "Voice Main Menu" is created on the webtool to access this **.jsp**.

The setup for this service should include the URL, /marconi_voice/mainmenu/myhome.jsp and all of the service parameters from the mail and calendar modules.

The voice login automatically forwards to this service on ptg/rm instantiation.

The main menu includes **MailMessageInclude.jsp** which counts the number of new email messages and **CalendarAppointmentInclude.jsp** which counts the number of calendar appointments.

2.2.5.1 Sample user case for main menu

System: Main Menu. You have two new email messages, one new voicemail message and no pending appointments. Your options are: mail, calendar, tasks, files, address book, directory, or my location.

User: Mail.

System: Oracle Email. Please wait while your email is fetched.

2.3 Enabling ASK

2.3.1 Introduction

The Asynchronous Server Kernel (ASK) enables Wireless services to be accessed using such messaging devices as SMS phone (two-way text message capable), two-way pagers and email. Here are some ASK-related terms:

- Site address—the entry point to the ASK server, akin to a URL to a Web site. Users send messages to the address to invoke the service of interest. Currently, ASK supports email addresses and SMS phone numbers.

- Service short name—site-wide unique name that identifies a Wireless service. Device users send messages to the site address with service short names in the message body to invoke the corresponding service. For example a message is sent to site address *ask@oraclemobile.com*, with the short name *stk*. This invokes the stock service built on top of Wireless (assuming a Wireless service was given the short name *stk* and *ask@oraclemobile.com* was designated as a site address for messaging devices to access Wireless services).

- Messaging Server—built on top of the Wireless Messaging System, ASK is able to support multiple transport protocols. To enable ASK, you must configure the messaging capability of a particular network, and a messaging driver supporting such a protocol (with two-way capability) for the underlying Messaging Server.

See the *Oracle9iAS Developer's Guide* for Oracle9iAS Wireless for more information on ASK features.

2.3.2 Enabling Email-based (Two-Way Pager) Access

1. Choose one or more site-addresses as the ASK email entry points to the site.

2. Add the site-addresses onto the Wireless system. For more information, see Section 12.2.2. The designated site addresses should be configured on the underlying Messaging Server. For example, to receive messages for a site-address such as *foo@bar.com*, you must know the mail server which hosts the account, the protocol used (IMAP or POP3), and the user name and password. You must then create and configure an email driver instance so that messages sent to *foo@bar.com* can be retrieved. Set up and configuration tasks are listed in Enabling Messaging, Section 12.2.3, "Configuring the Site Processes of the Messaging Server".

2.3.3 Enabling SMS Phone Access

1. Acquire one or more SMS phone numbers from the SMS carrier or aggregator. They are used as the SMS entry points to the site.

2. Add the site-addresses onto the Wireless system as detailed in Section 12.2.2. The designated site addresses must be configured on the underlying Messaging Server to ensure the retrieval of messages addressed to the SMS phone number can be retrieved (as is done in email). Different drivers must be configured

depending on the actual protocol of the SMS connectivity. Set up and configuration tasks are listed in Enabling Messaging, Section 12.2.3, "Configuring the Site Processes of the Messaging Server".

2.3.3.1 Service Short Name Change

Each preconfigured ASK-enabled service is assigned a short name so the service is addressable to device users. In other words, a shortname is the keyword that device users use to identify which service they intend to invoke. The name can be easily configured and changed through a GUI tool if desired.

2.4 Enabling Messaging

Oracle9*i*AS Wireless features a messaging component that handles sending and receiving messages to and from devices. Typically, Wireless must be configured to connect to an external server to deliver messages (such as SMS or email).

Wireless is preconfigured to send SMS/Voice/Email/Fax messages without configuration, by connecting to and utilizing the Oracle-hosted online Push Service.

If you choose not to use the Oracle-hosted online Push Service, you must set up the necessary communications channels. Wireless includes a set of drivers that you can use to configure your network capability (such as SMS, Voice, or email). This may involve dealing with network providers (carriers) depending on your network type, to set up the kind of connection the drivers can connect to for message delivery.

2.4.1 Oracle-hosted Messaging Delivery

The Wireless messaging system is preconfigured to connect to the Oracle-hosted online Push Service capable of sending messages to SMS phones, pagers, voice and faxes. No configuration is required. Once the pre-seeded Messaging Sever is started, you can send messages. The driver in this case is the PushClient driver; it is configured to communicate with the Oracle-hosted online Push Service running at URL http://messenger.oracle.com/push/webservices. Contact messenger_us@oracle.com for information, or to set up your own account for volume message delivery.

> **Note:** The Wireless PushClient driver uses the HTTP protocol to communicate with the Oracle online Push Web Service; the HTTP proxy setting is needed if you run your application behind a firewall. See this Guide for steps on proxy changes.

2.4.2 Non Oracle-hosted Messaging Delivery

Wireless ships with pre-built network drivers that support major protocols that have been accepted as industry standards. The pre-built drivers handle communications protocols such as SMS (short message for phone), email (paging or desktop), voice and fax.

To enable those network channels, you must configure the pre-built drivers to work with their corresponding network servers:

1. Identify to which external server to which Wireless will connect, including acquiring such connectivity and preparing for the values needed to configure the Wireless drivers depending on their particular protocols.

2. Add the supported driver and configure its messaging properties.

3. Create a Messaging Server or choose an already created Messaging Server.

4. Create a driver instance and associate it with the Messaging Server on which it will run. The driver instance properties must be configured to work with its corresponding external network connectivity.

5. Start the Messaging Server. For details on driver configuration see Section 12.1.2. For Messaging Server management, see Section 11.2.1.

Also, the preconfigured PushClient driver and its corresponding instances should be removed if they are not to be used.

Here are tasks, specific to different network channels:

2.4.2.1 Email-based Message Delivery

To enable the email and paging services:

1. Set up an SMTP mail server for outgoing messages.

2. Optionally, set up an IMAP or POP3 mail server if message receiving is required.

3. Configure the email driver and driver instance as described in the common tasks section.

2.4.2.2 SMS Phone Message Delivery

In order to deliver SMS messages to phones, you must set up a communication channel to the SMS carrier. To do this, you must contract with a carrier having a network that you will use to enable the sending and receiving of SMS messages through UCP or SMPP protocol.

Alternatively, you can choose to use a network aggregator, such as Mobileway, who acts as an intermediary between the SMS carriers and the enterprise. This may save some effort when supporting messaging on which multiple carriers are required. See the following URL for vendors whose protocols are certified to work with Wireless:

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

Configure the corresponding SMS drivers (for example: UCP, SMPP) and driver instances as specified in the common tasks Section 12.2.3, "Configuring the Site Processes of the Messaging Server".

2.4.2.3 FAX Delivery

For this release, RightFax (a product of Captaris Inc.) is the supported product. Customers must acquire the RightFax product and follow its instructions to set up a fax server.

The location of client API **.jar** files from RightFax must be added to the classpath in ORACLE_HOME/wireless/sample/runpanamaserver.sh. Configure the fax driver and driver instance as specified in the common tasks.

2.4.2.4 Voice Delivery

The voice driver implements the Out Bound Call protocol supported by VoiceGenie Technologies Inc. It has been certified to work with the VoiceGenie gateway. A gateway to be used by Wireless's Voice Driver must be identified.

Configure the voice driver and driver instance as described in the common tasks.

3

Managing Contact Rules

This chapter discusses contact rule management, which enables users to tailor how they receive notifications for any given situation. This chapter includes the following:

- Section 3.1, "Overview"

- Section 3.2, "PIM Notification Dispatcher Administration"

- Section 3.3, "Managing Voice and Wireless Settings"

- Section 3.4, "Managing Personal Contact Rules"

3.1 Overview

The continuing diversification of devices not only offers mobile employees more options for keeping in touch with their fellow employees and associates, but more confusion as to which would be the best way to contact others and be contacted themselves. While on the road, they juggle a number of devices and technologies; they use a laptop and phone line to check email, store and carry needed documents in a local file system, and dial in to a work phone each time they want to access their voice mail.

Often, a mobile employee can only guess as to how would be the best and most appropriate way to reach a colleague directly. Likewise, anyone trying to contact a mobile employee faces the same predicament; one method of communication may be better than another, depending on the mobile employee's current circumstances. For example, during a meeting, a mobile employee may prefer to receive a notification on a cell phone about receiving a fax rather than receiving a disruptive phone call. The Oracle Collaboration Suite enables users to select how they wish to be contacted at any moment. A user can set preferences for both the means of

contact (for example, cell phone, PDA, or regular phone) appropriate to any context (such as *in a meeting* or *out of the office*).

Not only does the Oracle Collaboration Suite alert users to receipt of important faxes, emails, voicemails, but it also simplifies the sending of an email, fax, message, or voicemail. Users no longer have to shuffle separate device addresses. Instead, a user needs only enter the name of the recipient. The Presence Server, a component integrated into Oracle9*i*AS Wireless, stores both an Oracle Collaboration Suite user's ID and contact profile information, which includes device addresses and current contact rules. The contact rules are defined prefences describing how a user wishes to receive calls and messages.

The Oracle Collaboration Suite uses Oracle9*i*AS Wireless to enable mobile employees to access their corporate information using any device with wireless or voice access. In addition, the Oracle Collaboration Suite keeps employees abreast of the latest information, such as receiving notifications for meetings, or important emails, by providing users with continuous access to email, voice-mail, calendar, address book, tasks, files, corporate directories, and instant messaging.

Figure 3–1   The Oracle Collaboration Suite
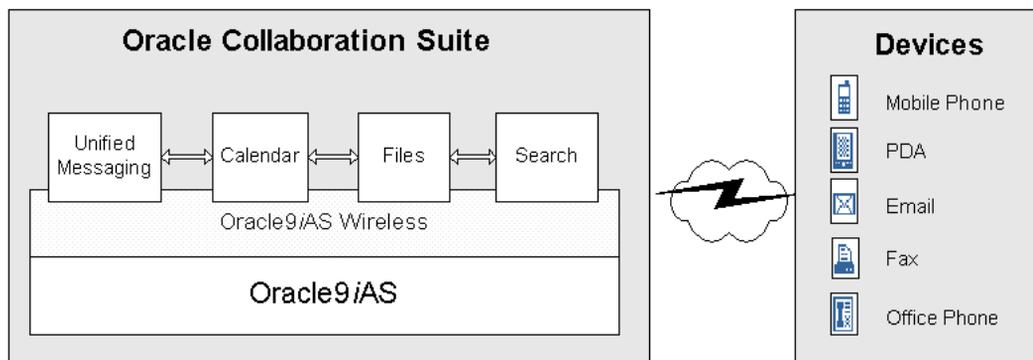
3.1.1 System Architecture

The Unified Messaging, and Calendar applications generate notifications, which are delivered to the user by the PIM Notification Dispatcher. The Unified Messaging application enters the notifications into the Notification Queue in the database, which is managed by Advanced Queuing (AQ). The PIM Notification Dispatcher reads the notifications from the Notification Queue and then processes them. In

addition, the PIM Notification Dispatcher listens on a TCP/IP port for notifications sent by the Calendar application. Each notification must contain an Oracle Global User ID as the destination. To find the user's current device address, the PIM Notification Dispatcher then contacts the Presence Server, which stores the user's Global User ID and contact rules. The Presence Server is an integrated part of Oracle9*i*AS Wireless. The PIM Notification Dispatcher then pushes the notification to the Oracle9*i*AS Wireless Messaging Layer, which delivers the notification to the user's device.

Figure 3–2   PIM Notification Dispatcher Architecture
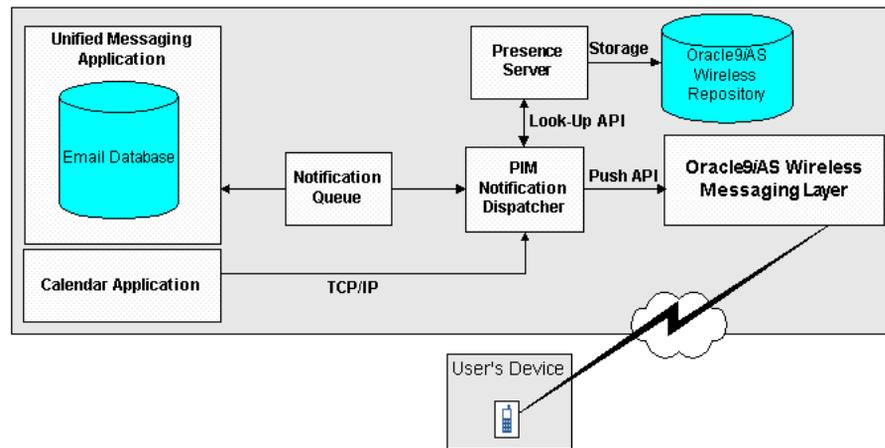
3.2 PIM Notification Dispatcher Administration

You use the Wireless system management for such administrative functions as starting, stopping, creating, and configuring the PIM notification dispatcher processes.

3.2.1 Managing PIM Notification Dispatcher Processes from the Enterprise Manager

You can start, stop, or add aPIM notification dispatcher process through Wireless system management. You access the management functions by drilling down from the PIM notification dispatcher hyperlink in Wireless management's Server tab.

3.2.1.1 Creating a Oracle9*i*AS Wireless PIM Notification Dispatcher Process

The PIM notification dispatcher processes screen enables you to create or delete a PIM notification dispatcher process.

To create a PIM notification dispatcher process on the Wireless Server:

1. In the PIM notification dispatcher processes screen, enter the name for the PIM Notification Dispatcher process in the Process Name field.

2. Click Add. The new process appears as a hyperlink in the table.

> **Note:** You must configure the TCP/IP port number for the calendar listener after you create a PIM notification dispatcher process. For more information, see Section 3.2.2.

3.2.1.2 Deleting a PIM Notification Dispatcher Process

To delete a PIM notification dispatcher process:

1. Select the PIM notification dispatcher process

2. Click Delete.

Figure 3–3   The PIM Notification Dispatcher Process Screen

3.2.1.3 Starting and Stopping a PIM Notification Dispatcher Process

Wireless management designates the status of each process as started (running), stopped (suspended), or uninitialized (the process has never been run). You can start or stop a PIM notification dispatcher process by using the Start or Stop buttons in either the process or the detail screens for the PIM notification dispatcher processes. In addition, you can start all of the PIM Notification processes at once using the Start All and Stop All buttons on the Wireless Management's Server tab.

> **Note:**   For email applications, adding additional processes increases the throughput of notifications and may help to diminish backlogs. However, the calendar application, which uses only one port and one server, uses only one PIM notification dispatcher. It cannot take advantage of multiple PIM notification dispatcher processes; adding additional processes will not affect speed.

From the processes screen, you can start or stop a process by first selecting it and then by clicking Start or Stop.

From a process detail screen, you can also start or stop a process by clicking Stop or Start. When a process is stopped, the Start button appears; likewise, when a process is running, the Stop button appears.

Figure 3–4   The PIM Notification Dispatcher Process Detail Screen

3.2.2 Configuring Oracle9*i*AS Wireless for the PIM Notification Dispatcher

A PIM notification dispatcher listens on a TCP/IP socket for notifications sent by the calendar application. The calendar then connects, sends the notification, and then disconnects. To enable the calendar to connect to the PIM Notification Dispatcher (which in turn pushes the message to the Oracle9*i*AS Wireless transport layer) you must configure the TCP/IP port number for the calendar listener.

Upon installation, a PIM notification process is created with a pre-defined port number.

> **Note:**   You must also configure the calendar application to use the same port. For more information, see the calendar documentation for the Oracle Collaboration Suite.

You use the server-level Wireless management to configure the calendar listener port number, identity, and caching participation of a PIM notification dispatcher process. For information on accessing the Wireless management functions, see Chapter 10, "System Management Overview".

To configure a PIM Notification Dispatcher process:

1. From the Processes table of Wireless management's Server tab, click PIM Notification Dispatcher. The processes screen appears.

2. Drill down to the detail screen.

3. Click *Process Identity and Port*. The configuration screen appears.

4. In the Process and Identity screen, accept or edit the process name. (The name of the selected process usually appears in this field by default.) This is a required field.

5. Enable (or disable) the process by selecting or clearing the *Enabled Process* check box.

6. Check the *Participate in Cache Synchronization* check box to synchronize the cache of this process with others.

7. Enter the port number of the calender listener. This should be a port not in use, one in the range of 9000 - 9100.

8. Click Apply. If you enabled the process, then *true* appears next to the Enabled label on the process detail screen (and next to the process name in the processes screen). If you have disabled the process, then *false* appears.

> **Note:**   If you change the port number for a running PIM
> notification dispatcher process, you must stop the process and then
> start it again for the port number change to take effect. For more
> information on starting and stopping PIM notification dispatcher
> processes, see Section 3.2.1.3.

Figure 3–5   The Process Identity and Port Screen
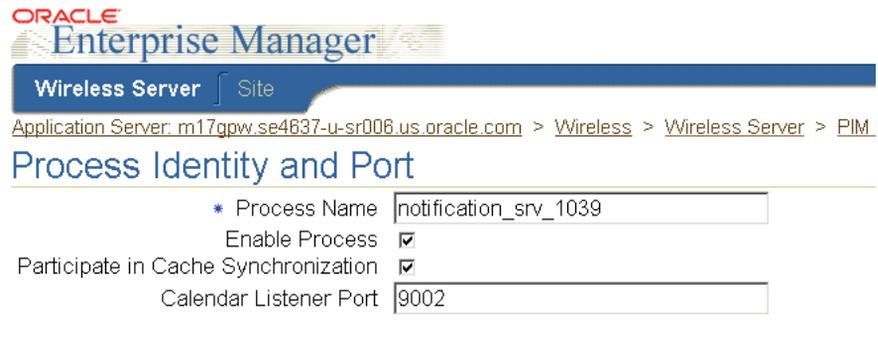
3.3 Managing Voice and Wireless Settings

The voice and wireless settings enable you to create, manage, and select contact
rules.

3.3.1 What is a Contact Rule?

A contact rule describes how you wish to receive calls and messages. For
example,you can set a contact rule for meetings, wherein you receive all
notifications on a cell phone. The Presence Server keeps track of your current
circumstances, such as *in a meeting* or *out of the office,* the devices available to you at
any time, and the way in which you wish to be notified.

Using the voice and wireless settings screens (accessed through Oracle
Collaboration Suite), you create a contact rule by first naming it (for example, *At
Field Office*) and then by adding the communication devices that are appropriate to
that contact rule. When creating a communication device, you enter the number or

address for the device, along with a nickname for the device, such as *My Mobile Phone*. You can choose devices from the following communication methods:

- voice

- fax

- email

- messaging

For example, when creating the *At Field Office* contact rule, you may want to receive calls at a device called *Field Office Phone*, email at *Corporate Office Email*, and faxes at *Field Office Fax*. When creating a contact rule, you specify the preferred method for receiving notifications. For the *At Field Office* contact rule, you could choose to receive notifications as email messages, which are sent to *Corporate Office Email*.

The Oracle Collaboration Suite provides you with three pre-defined contact rules, *At My Desk*, *At Meeting*, and *At Home*. You can edit these contact rules and rename them. However, each contact rule name must be unique; you cannot have two contact rules with the same name. In addition, you cannot share a contact rule with another user.

You access functions to create and manage contact rules by by clicking the Voice and Wireless button on Home page of the Oracle Collaboration Suite. If you are a new user, you must create an account in the Voice Access and Alert Settings page (see Section 3.3.2 for more information).

Figure 3–6   The Voice and Wireless Button

Voice & Wireless

3.3.2 Creating a Contact Rule

3.3.2.1 Voice Access and Alert Settings

Complete the following fields as detailed.

- **My mobile phone number is:** Enter the telephone number for your mobile telephone.

- Any valid telephone number is acceptable (for example, +1 650 506-8241 is the same as 16505068241).

- **My work phone number is:** Enter the telephone number for your workplace telephone.

- Any valid telephone number is acceptable (for example, +1 650 506-8241 is the same as 16505068241).

- **Choose a voice & wireless PIN:** Establish, and confirm a Voice Access PIN. The PIN must be at six to ten digits long. Digits only.

- **Alert me when I receive:** Choose the types of communications you want to be alerted about by checking one or more of these: Voicemails, Fax messages, Urgent messages, Messages from the following people. If you check Messages from the following people, then you must enter the names in the following field. List the first and last name of each person, separating the peoples' names with commas (for example: Jerry West, Johnny Weissmuller).

- **My voice & wireless inbox view:** Choose how you want messages displayed by clicking one of the radio buttons.

Click **Cancel** to discard all input information.

Click **Finish** to save your changes and go back to the Portal page.

Click **Advanced** to save your changes and go to the Advanced Voice & Wireless Settings page.

See Section 3.3.6 for information on creating a communications device.

> **Note:** You use the numbers you enter for *My Mobile Phone* and *Voice and Wireless PIN* to access contact rule using the Device Portal Access. You access the login page for the Device Portal Access through the following URL:
>
> http://hostname:7777/ptg/rm
>
> 7777 is the default port number for Oracle9*i*AS Wireless. The port number range is 7777 to 7877. To ensure that you are using the correct port number, check the port number for Oracle9*i*AS Wireless stored in [Oracle home]/install/portlist.ini.

3.3.2.2 Advanced Voice and Wireless Settings

This page enables you to manage your contact rules and contact points. Two tables on this page (My Contact Rules, and Contact Points) organize these items for your use.

- **How to Reach Me**

    - **Set Current:** Click the Set Current button to set the selected contact rule as your current contact rule.

    - **Edit:** Edit a contact rule by selecting the radio button of the contact rule you want to change, then click the Edit button.

    - **Delete:** Delete a contact rule by selecting the radio button of the contact rule you want to delete, then click the Delete button.

    - **Add:** Add a new contact rule by clicking the Add button.

- **My Communication Devices**

    - **Edit:** Edit a communication device by selecting the radio button of the communication device you want to change, then click the Edit button.

    - **Delete:** Delete a communication device by selecting the radio button of the communication device you want to delete, then click the Delete button.

    - **Add:** Add a new communication device by choosing the type of device from the drop-down list, then click the Add button.

Click **Back** to return to the Voice and Wireless Settings page.

Click **Finish** to return to the Portal home page.

3.3.3 Adding a Contact Rule

To add a Contact Rule, click the Add button in the How to Reach Me table. Complete the fields as detailed.

- **Contact Rule:** Enter a name for your contact rule (for example, *At My Desk*).

- **Call me at:** Enter the communication device on which you want to be telephoned (for example, My Mobile Phone). You can select Do not call me if you do not want to be notified through a phone call. Only communication devices that have a voice feature will be listed for selection.

- **Email me at:** Enter the communication device on which you want to be emailed (for example, My Email). You can select Do not email me if you do not want to be notified through email. Only communication devices that have an email feature will be listed for selection.

- **Fax me at:** Enter the communication device on which you want to receive faxes (for example, My Fax). You can select Do not fax me if you do not want to be

notified through a fax. Only communication devices that have a fax feature will be listed for selection.

- **Send me SMS at:** Enter the communication device on which you want to receive short messages (for example, My SMS). You can select Do not call me if you do not want to be notified through SMS. Only communication devices that have an SMS feature will be listed for selection.

- **The best way to reach me is:** Enter your preferred method of receiving notifications.

Ensure that the appropriate communication device is selected for the way you want to be notified, otherwise you will not be able to receive notification. For example, if you want to be notified through a telephone call, make sure that Call me at has a communication device selected.

> **Note:** Contact Rules must be created before they can be selected.

Click **Finish** after entering your information.

3.3.4 Editing a Contact Rule

To edit a Contact Rule, click the radio button of the contact rule you want to modify. Complete the fields as detailed.

- **Contact Rule:** Enter or change a name for your contact rule (for example, At My Desk).

- **Call me at:** Enter or change the communication device on which you want to be telephoned (for example, My Mobile Phone). You can select Do not call me if you do not want to be notified through a phone call. Only communication devices that have a voice feature will be listed for selection.

- **Email me at:** Enter or change the communication device on which you want to be emailed (for example, My Email). You can select Do not email me if you do not want to be notified through email. Only communication devices that have an email feature will be listed for selection.

- **Fax me at:** Enter or change the communication device on which you want to receive faxes (for example, My Fax). You can select Do not fax me if you do not want to be notified through a fax. Only communication devices that have a fax feature will be listed for selection.

- **Send me SMS at:** Enter or change the communication device on which you want to receive short messages (for example, My SMS). You can select Do not call me if you do not want to be notified through SMS. Only communication devices that have an SMS feature will be listed for selection.

- **The best way to reach me is:** Enter or change your preferred method of receiving notifications.

Ensure that the appropriate communication device is selected for the way you want to be notified, otherwise you will not be able to receive notification. For example, if you want to be notified through a telephone call, make sure that Call me at has a communication device selected.

> **Note:** Contact Points must be created before they can be selected.

3.3.5 Deleting a Contact Rule

To delete a contact rule, select the contact rule radio button in the Contact Rule table, then click Delete.

3.3.6 Adding a Communications Device

Communications devices are identified devices on which you can receive notifications. To create a communications device, click the Add button in the Communications Devices table. You can add email addresses, faxes, mobile telephones, pagers, PDAs, and telephones.

To add a communications device, select the type of contact point you want to add, then click the Add button. The appropriate Add page appears.

3.3.6.1 Add an Email Address

To add an email address, complete the fields as detailed.

- **Name:** Enter a name for your email (for example, *My Work Email*).

- **Email Address:** Enter the address for your email. (for example, *Bo.Diddley@harvard.org*).

- Click **Finish** after entering your information.

3.3.6.2 Add a Fax Number

To add a fax number, complete the fields as detailed.

- **Name:** Enter a name for your fax (for example, *My Work Fax*).

- **Fax Number:** Enter the telephone number for your fax. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- Click **Finish** after entering your information.

3.3.6.3 Add a Mobile Phone

To add a mobile telephone, complete the fields as detailed.

- **Name:** Enter a name for your mobile telephone (for example, *My Mobile Phone*).

- **Mobile Phone Number:** Enter the telephone number for your mobile telephone. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- **Email Address:** Add the email address for messages transmitted to this mobile telephone.

- Click **Finish** after entering your information.

3.3.6.4 Add a Pager

To add a pager, complete the fields as detailed.

- **Name:** Enter a name for your pager (for example, *My Pager*).

- **Pager Email Address:** Enter or change the email address for your pager. (for example, Bo.Diddley@harvard.org).

- Click **Finish** after entering your information.

3.3.6.5 Add a PDA

To add a PDA, complete the fields as detailed.

- **Name:** Enter a name for your PDA (for example, *My PDA*).

- **PDA Email Address:** Add the email address for messages transmitted to this PDA.

- **Email Address:** Add the email address for messages transmitted to this PDA.

- Click **Finish** after entering your information.

3.3.6.6 Add a Phone Number

To add a telephone number, complete the fields as detailed.

- **Name:** Enter a name for your telephone (for example, *My Princess Phone*).

- **Phone Number:** Enter the telephone number for your telephone. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- Click **Finish** after entering your information.

3.3.7 Editing a Communications Device

Edit communications devices by clicking the radio button of the communications point you want to edit. Then, click the Edit button. The Edit *Communications Device* (name depends on the type of contact point you select) page appears.

3.3.7.1 Edit Email Address

To edit an email address, complete the fields as detailed.

- **Name:** Enter or change a name for your email (for example, *My Work Email*).

- **Email Address:** Enter or change the email address for your email. (for example, *Bo.Diddley@harvard.org*).

- Click **Finish** after entering your information.

3.3.7.2 Edit Fax Number

To edit a fax number, complete the fields as detailed.

- **Name:** Enter or change a name for your fax (for example, *My Work Fax*).

- **Fax Number:** Enter the telephone number for your fax. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- Click **Finish** after entering your information.

3.3.7.3 Edit Mobile Phone

To edit a mobile telephone number, complete the fields as detailed.

- **Name:** Enter a name for your mobile telephone (for example, *My Mobile Phone*).

- **Mobile Phone Number:** Enter the telephone number for your mobile telephone. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- **Mobile Phone Email Address:** Enter or change the email address for your mobile phone.(for example, Bo.Diddley@harvard.org).

- Click **Finish** after entering your information.

3.3.7.4 Edit Pager

To edit a pager, complete the fields as detailed.

- **Name:** Enter or change a name for your pager (for example, *My Pager*).

- **Pager Email Address:** Enter or change the email address for your pager. (for example: Bo.Diddley@harvard.org).

- Click **Finish** after entering your information.

3.3.7.5 Edit PDA

To edit a PDA, complete the fields as detailed.

- **Name:** Enter or change a name for your PDA (for example, *My PDA*).

- **PDA Email Address:** Add or change the email address for messages transmitted to this PDA.

- Click **Finish** after entering your information.

3.3.7.6 Edit Phone Number

To edit a telephone number, complete the fields as detailed.

- **Name:** Enter or change the name for your telephone (for example, *My Princess Phone*).

- **Phone Number:** Enter or change the telephone number for your telephone. Any valid telephone number is acceptable (for example, *+1 650 506-8241* is the same as *16505068241*).

- Click **Finish** after entering your information.

3.3.8 Deleting a Communications Device

To delete a communications device, click the radio button next to the communications device you want to delete, then click the Delete button.

3.4 Managing Personal Contact Rules

You can select a contact rule from a Web-based interface, such as the home page of the Oracle Collaboration Suite or from a registered communications device.

3.4.1 Selecting a Contact Rule from a Web-Based User Interface

You can change your contact rules from the Home page of the Oracle Collaboration Suite by selecting a contact rule from the *Contact me* drop-down list and then by clicking Change, or from the Advanced page by selecting a contact rule followed by clicking Set Current. For more information, see Section 3.3.2.2.

Figure 3–7   Selecting a Contact Rule from the Oracle Collaboration Suite
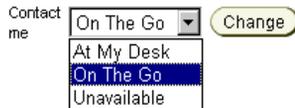
3.4.2 Selecting a Contact Rule from a Device

You can also select contact rules from a variety of devices, because Wireless XML enables the conversion of XML from any Oracle9*i*AS Wireless application into several device-specific markup languages. As a result, you can select contact rules from a WAP-enabled device or from a regular phone. In addition, asynchronous-enabled applications enable you to select contact rules from devices having such asynchronous messaging applications as SMS or email, but lacking Internet access. To change contact rules from these devices, you send a message to the ASK SMS or email address set by the system administrator.

From a device, such as a WAP-enabled mobile phone, you select a contact rule from a displayed list. When you change a contact rule, Wireless switches from one rule's settings (which controls how you are contacted) to those of another contact rule.

The following section describe the following:

- Section 3.4.2.1, "Selecting a Contact Rule from a Device"

- Section 3.4.2.2, "Selecting a Contact Rule from an SMS- or Email-Based Device"

- Section 3.4.2.3, "Selecting a Contact Rule Using a Voice Application"

3.4.2.1 Selecting a Contact Rule from a Device

A mobile device, such as a mobile phone, displays your contact rules as a list and notes your current contact rule with an asterisk (*). You select a new contact rule by using the device's navigation keys and then by selecting OK.

Figure 3–8   Selecting a Contact Rule from a Device

The confirmation screen appears, noting the new contact rule. Clicking OK returns you to the main menu.

Figure 3–9   The Confirmation Page (from a Device)
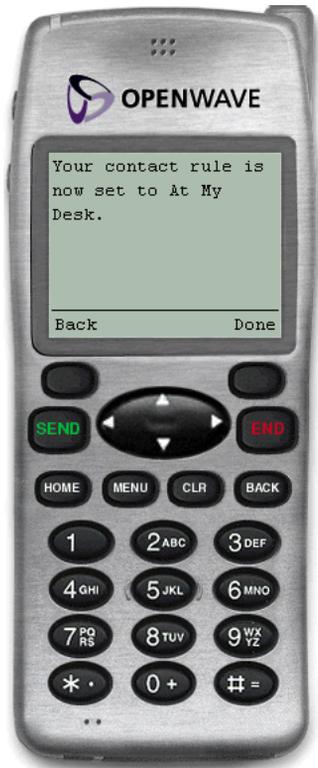
3.4.2.2 Selecting a Contact Rule from an SMS- or Email-Based Device

From devices using asynchronous applications, you can set your contact rules by sending commands as messages to the ASK SMS or email address. You can use messages to set your contact rules as follows:

Method 1

For this method, you change your contact rules by sending three separate messages as follows:

Message 1: Enter *cr* in the message subject line or body of the message. You then receive a message which prompts you for your mobile phone number and PIN number (For more information, see Section 3.3.2.1.)

Message 2: Enter your mobile phone number and PIN number in the subject line or body of the message. If you send this information in the body of an email, then you

must enter it on the same line. You then receive a message with a numbered list of contact rules.

Message 3: Enter the number of the new contact rule in the subject line or body of the message. For example, enter *2* if you wish to select *2. At My Desk* from the numbered list. You then receive a message confirming the contact rule change. You can then return to the main menu.

Method 2

Using this method, you can change your contact rule by sending two separate messages by combining the cr command with the exact name of the contact rule as follows:

Message 1: Enter *cr* followed by the name of the contact rule in the subject line or body of the message. For example, enter *cr "At My Desk"*. If there are spaces in the name of the contact rule, then you must enclose the entire name in quotation marks ("). The contact rule name is also case-sensitive. After you send this message, you then receive a message that prompts you to reply with your username and password.

Message 2: Enter your mobile phone number and PIN number in the subject line or body of the message. If you send this information in the body of an email, then you must enter it on the same line. After you send this message, you receive a reply confirming the contact rule change. You can then return to the main menu.

Method 3

You can also change your contact rule by sending a single message that combines the *cr* command, the name of the contact rule, and your username and password together in the subject line or body of your message. For example, you can select a new contact rule by entering all of the information in the subject line or body of a message as follows:

cr "At My Desk"; *16505555000 12345*

> **Note:** Use a semi-colon (;) to separate the *cr* and contact rule name command from the username and password.

After you send this message, you receive a reply confirming the contact rule change. You can then return to the main menu.

> **Note:** If the name of your contact rule contains spaces, then you must use enclose the entire name of the contact rule in quotation marks ("). The contact rule name is also case-sensitive.

3.4.2.3 Selecting a Contact Rule Using a Voice Application

After you dial in, do the following:

1. Enter your mobile phone number. See(Section 3.3.2.1 for more information).

2. Enter your PIN. Confirm your PIN number when prompted.

3. Say *Contact Rules* to launch the Contact Rules application. The system first announces your current contact rule and then a list of the available contact rules.

4. Say the name of the new contact rule. For example, say *At My Desk*. The system then replies, confirming the change and returns to the main menu.

4

Configuring Mobile Services for Voice and Wireless

This document describes the Wireless Mobile Services. The Wireless Mobile Services support wireless-enabling of the communications applications. Each section of this document presents a different topic. These sections include:

- Section 4.1, "What Must Be Configured?"

- Section 4.2, "Address Book"

- Section 4.3, "Calendar"

- Section 4.4, "Directory"

- Section 4.5, "Fax"

- Section 4.6, "Online Files"

- Section 4.7, "Instant Messaging"

- Section 4.8, "Mail"

- Section 4.9, "Short Messaging"

- Section 4.10, "Business Directory"

- Section 4.11, "Driving Directions"

- Section 4.12, "Location Picker"

- Section 4.13, "Maps"

4.1 What Must Be Configured?

You must configure Wireless mobile services to enable your communications applications for wireless access. The mobile services that must be configured depend on which of the Collaboration Suite applications you will deploy. All of the necessary libraries are shipped with Oracle Collaboration Suite. The following table lists the communications applications, and which of the wireless mobile services that support them. Here is a list of communications applications and their associated mobile services:

- Unified Messaging
  - fax
  - address book
  - directory
  - instant messaging
  - mail
  - short messaging
- Search
  - business directory
  - address book
  - directory
- Oracle 9iFS
  - document management
- Calendar
  - calendar

The voice and wireless components of the Oracle Collaboration Suite become fully functional after you configure the mobile services.

4.1.1 Configuring the Mobile Services Using the Content Manager

You use the edit functions of the Content Manager to configure the parameters of the mobile service. Some of the configuration parameters of a mobile service are read-only and therefore cannot be edited. See Section 8.2 for information relating to

accessing the Content Manager. For information on editing services, see
Section 8.3.2.2.

Figure 4–1   Editing the Configuration Parameters of a Mobile Service

4.1.2 Configuring Asynchronous-enabled Mobile Services

The address book mobile service includes four configuration parameters that
pertain to all asynchronous-enabled mobile services:

- Asynchronous Contact Separator

- Asynchronous Query OID

- Asynchronous Max Contacts Results

- Asynchronous Translate Commands

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

4.2 Address Book

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

Configuration Parameters

- Can user use different server settings?

Determines if the current application settings can be edited by the user.

- Valid Values: Boolean (true, false)
- Default Value: false

- Address Book Java Driver class

  The java driver that implements the Oracle Address Book backend.

  - Valid Values:

    oracle.panama.module.pim.addressbook.oracle.UMAddressBook for Oracle Collaboration Suite

    oracle.panama.module.pim.addressbook.oracle.OracleAddressBook for Oracle Calendar Server

    oracle.panama.module.pim.addressbook.exchange.ExchangeAddressBook for Microsoft Exchange Server

    oracle.panama.module.pim.addressbook.omaddressbook.OMAddressBook for preset address book (the data is stored in the database tables in the Oracle9iAS Wireless schema)

  - Default Value: oracle.panama.module.pim.addressbook.oracle.UMAddressBook

- 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)

  When connecting to the Oracle Calendar Server, enter the connect string to the Oracle Calendar Server database and is of the format:

  <username>:<password>:<hostname or IP>:<port where the database is listening>:<database SID>

  When connecting to the Microsoft Exchange server, enter the name or IP of the Exchange server

  - Default Value: localhost
  - Examples: oidserver.mycomp.com

- Address Book Server Port

The port number for the Address Book server. For the Collaboration Suite, enter the port number for the OID server.

- Valid Values: Any integer value

- Default Value: empty

- Examples: 4032, 389

- OID Administrator username

  User name for Administrator account on the OID Server. This is required for Oracle UM Address Book standalone configuration.

  - Valid Values: OID Administrator account username

  - Default Value: orcladmin

  - Examples: orcladmin

- OID Administrator Password

  Password for the OID administrator user (required for Oracle UM Address Book standalone configuration).

  - Valid Values: The password for OID administrator user

  - Default Value: Empty

  - Examples: welcome1

- Account Name

  If sharing login authentication information with the Calendar application, then specify the same string value as that used for the *Account Name* parameter for the Calendar application.

  - Valid Values: Any string

  - Default Value: OraAddressBookCalDomain

  - Examples: mydomain, sharedAccount

- Exchange Data URL

  This should point to the ASP page (AddressBook.asp) that fetches the data from the Exchange Server (required for MS Exchange configuration).

  - Valid Values: A URL pointing to AddressBook.asp on the MS IIS server

  - Default Value: empty

  - Examples:

http://myiis.mycomp.com/oracle/AddressBook.asp,
http://iis-server.abc.com/oracle/AddressBook.asp

- Path to ORACLE_HOME

  The complete system path to the ORACLE_HOME where the Wireless midtier is installed (required for Oracle UM integrated configuration).

  - Valid Values: A fully qualified path to ORACLE_HOME

  - Default Value: empty

  - Examples: /private/home/9ias-mid, C:\9iasmid

- Application Setup OMP URL

  The OMP reference used by the URL group.

  - Valid Values: The OMP URL to the "Application Setup"

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://oracle/applications/appsetup,
    omp://oracle/applications/otherappsetup

Asynchronous-Specific Configuration Parameters

- 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 the same time. To separate the contact names, the user may use such separator types, such as a comma (,), colon (:), or a semi-colon (;). For example: *john*,*doe*;*Jeremy* (three contacts).

  - Valid Values: A list of characters

  - Default Value: *;,

  - Examples: *;,.:

- Asynchronous Query OID

  A query is performed in the end-user's address book when the end-user searches for contacts in asynchronous mode. Setting this parameter to true enables the search to be performed in the Oracle Internet Directory (OID) as well as in the end-user's address book.

  - Valid Values: A boolean value (true, false)

  - Default Value: true

- Examples: true, false

- Asynchronous Max Contacts Results

  This parameter indicates the maximum number of contacts that will be explicitly returned to the end-user if a contact search returns multiple values. If the query returns more than the value defined in this parameter (for example, 10 contacts returned from a query when only five contacts have been specified), then a message asking for the end-user to narrow the search is returned.

  - Valid Values: An integer value

  - Default Value: 5

  - Examples: 5, 10, 19

- Asynchronous Translate Commands

  Enables (or disables) the translation of asynchronous commands. If true, then the asynchronous   commands are translated from the current language of the end-users. Setting   this parameter to true enables end-users to send asynchronous commands in their   current language. For example, users can enter the show command for the   calendar, cal show, in Portugese (cal mostrar) or in French (cal montrer).

  - Valid Values: 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 mobile services. These values do not affect the address book mobile service alone, but any asynchronous-enabled mobile service.

For the Address Book application to connect to MS Exchange Server, refer to Section 4.15.1.

4.3 Calendar

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

Configuration Parameters

- Can user use different server settings?

  Determines if the current application settings can be edited by the user.

  - Valid Values: A boolean value (true, false)

  - Default Value: false

- Calendar Java Driver class

  The java driver class that implements the Oracle calendar backend.

  - Valid Values:

    oracle.panama.module.pim.calendar.star.StarCalendarService for Oracle Collaboration Server

    oracle.panama.module.pim.calendar.oracle.OracleCalendarService for Oracle Calendar Server

    oracle.panama.module.pim.calendar.exchange.ExchangeCalendarService for Microsoft Exchange Server

    oracle.panama.module.pim.calendar.domino.DominoCalendarService for Lotus Domino Server

  - Default Value:
    oracle.panama.module.pim.calendar.star.StarCalendarService

- Calendar Server

  Calendar server name and port.

  - Valid Values:

    In Oracle Collaboration Suite mode, enter the name and port of the Oracle Collaboration Suite Calendar server. Separate both these entries with a colon (:). The port is where the "unieng" TCP/IP service is running on the Wireless Calendar Mid-Tier. This can found in /etc/services file.

    In Oracle Calendar mode, this value designates the connect string to the Oracle Calendar Server database in the following format:

<username>:<password>:<hostname or IP>:<port where the database is listening>:<database SID>

In Exchange mode, enter the name or IP address of the Exchange server.

In Lotus Domino mode, enter the name and port of the Lotus Domino server. Separate these names with a colon (:). The port is where the DIIOP and HTTP services are running on the Domino server.

- Default Value: localhost:5730

- Examples: cal-server.com:5730, oo_
  calsched:cal:myhost.mycompany.com:1521:mySID, exchg.mycomp.com,
  domino.abc.com

- Exchange Data URL

  This should point to the ASP page (Calendar.asp) that fetches the data from the Exchange Server (required for MS Exchange configuration).

  - Valid Values: A URL pointing to Calendar.asp on the MS IIS server

  - Default Value: /pim/Calendar.asp

  - Examples: http://mycomp.com/oracle/Calendar.asp,
    http://www.abc.com/oracle/Calendar.asp

- Application Setup OMPURL

  The OMP reference to used by the URL group.

  - Valid Values: The OMP URL to the "Application Setup"

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://oracle/applications/appsetup,
    omp://oracle/applications/otherappsetup

- Account Name

  If sharing login authentication information with the Address Book application, specify the same string value as that used for the *Account Name* parameter of the Address Book application

  - Valid Values: Any string

  - Default Value: OraAddressBookCalDomain

  - Examples: mydomain, sharedAccount

> **Note:** For the Calendar application to connect to MS Exchange or Lotus Domino Server, refer to Section 4.15.1.

4.4 Directory

The directory application enables users to access Oracle Internet Directory servers from any mobile device. The directory application is integrated with the mobile email application, enabling users to browse their corporate directory and then send an email to a particular contact, or to compose a recipient list from the directory.

Configuration Parameters

- Oracle Internet Directory (OID) Server

  OID Server name or an IP Address. For example, the server name could be *ldap.mydomain.com.*

  - Valid Values: The server name or IP address
  - Default Value: localhost
  - Examples: myLDAPserver.com, 123.123.1.1

- OID Server Port

  Port number for the OID server. For example, enter 389.

  - Valid Values: An integer value
  - Default Value: 389
  - Examples: 387, 390

- Administrator Login Access to OID

  If set to false, then access to OID is accomplished through a guest account. If true, then both the OID Administrator username and password must be specified.

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

- OID Administrator Username

Username for Administrator account in the OID Server, such as *orcladmin.*

- Valid Values: A string (username).

- Default Value: empty

- Examples: guest, ldapadmin

- OID Administrator Password

Password for the OID administrator user. For example: *welcome1.*

- Valid Values: A string (password).

- Default Value: empty

- Examples: welcome1, admin123

- Maximum Results Returned

- The maximum results returned to the user regardless of the query result set size.

- Valid Values: An integer value.

- Default Value: 200

- Examples: 100, 200

- Query Names

The system-assigned name to Internal Queries.

- Valid Values: A comma-delimited series of query names.

- Default Value: Q1

- Examples: Q1, myQuery

- Query Title

The captions displayed when doing queries.

- Valid Values: A comma-delimited series of query titles.

- Default Value: Search

- Examples: Search by Name, Search by Email

- OID Search Entry Point

The entry point in OID where the queries start.

- Valid Values: A string specifying the search entry point. For more information refer to RFC 2251.

- Default Value: empty

- Examples: dc=oracle, dc=com

- Search Scope

  - Defines the query search scope. The allowable scopes 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 that is specified as the *OID Search Entry Point*. For more information, refer to RFC 2251.

  - Valid Values: BASE, ONE, SUBTREE

  - Default Value: SUBTREE

  - Examples: BASE, ONE

- Query Visibility

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

  - Valid Values: Boolean value (true, false)

  - Default Value: true

  - Examples: false

- Query Filter Attributes

  Defines the query attributes that are used in the filter expression.

  - Valid Values: A comma-delimited string of attribute names

  - Default Value: givenname,sn,cn,orclmailemail,telephonenumber

  - Examples: givenname, sn, email

- Query Filter Expression

  Defines the query filter expression. Filter expressions should be built based on the specifications in RFC 2254.

  - Valid Values: A string filter expression.

  - Default Value:
    (&(|(|(|(givenname=*?*)(sn=*?*))(cn=*?*))(|(orclmailemail=*?*)(telephone number=*?*)))(objectclass=orcluserv2))

  - Examples: (cn=*?*)

- Query Filter Attribute Display Names

  Future Use Only

  - Valid Values: A comma-delimited string prompts for each of the filters.
  - Default Value: Enter a name for search, Enter a email for search, Enter telephone number
  - Examples: Enter an ID to search, Search

- Query Result List Attributes

  Defines the query attributes on the result list. Refer to Figure 4–2.

  - Valid Values: A comma-delimited string of attributes
  - Default Value:

    givenname,sn,telephonenumber,mail,homephone,facsimiletelephonenumbe r,mobile,street,l,st,postalcode,description,orclguid

  - Examples: givenname,sn,mail,telephonenumber

- Query Result List Attribute Display Names

  Defines the query attributes display name on the result list. Refer to the labels in Figure 4–2.

  - 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
  - Examples: First Name,Last Name,Email,Work Phone

Figure 4–2   The Details Page. The labels refer to Query List Attribute Display Names and the values are from Query Result List Attributes
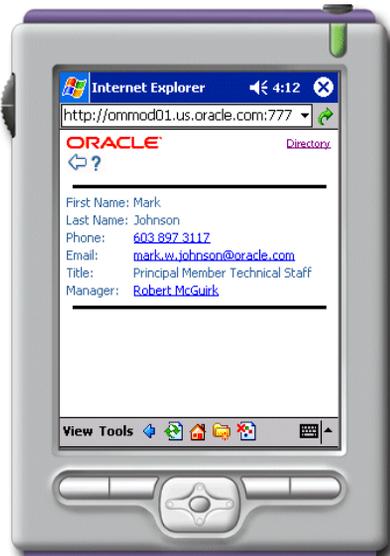
- Summary Results Attributes

  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 4–3.

  - Valid Values: A comma-delimited list of boolean values

  - Default Value:
    true,true,true,true,false,false,false,false,false,false,false,false,false

  - Examples: true, true, false, true

Figure 4–3   The Summary Results Page. The Summary Results Attributes define which values display
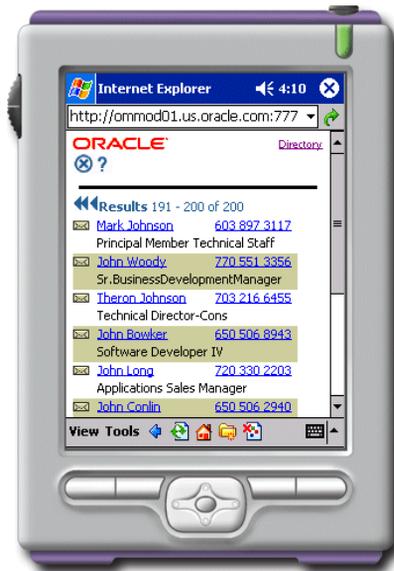
- Query Attributes Types

   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 that are linked in result query to 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

  - 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 Names

  - A system-assigned name to internal Links. Default to LINK1

  - Valid Values: String names. For example: LINK1

  - Default Value: LINK1

  - Examples: MANAGER, LINK2

- Query Link Name

  The query associated with current Link. Default to *Q1*.

  - Valid Values: String names of queries. For Example: Q1

  - Default Value: Q1

  - Examples: Q2, BYNAME

- 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 comma-delimited list of filter attributes that the Link Refer Attributes are bound to. For example, if the Link Refer Attribute is cn and the Bind attribute is givenname, then the value for cn will be used for givenname.

  - Valid Values: A comma delimited String of attributes

  - Default Value: cn

  - Examples: givenname,sn

- Link Attributes Display Name

  A comma-delimited list of the Query Result List Attributes that are displayed 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 true, this includes all other public attributes in the result of the query. If false, then only the *Query Result List* Attributes are displayed.

  - Valid Values: Boolean value (true, false)

  - Default Value: false

  - Examples: true

- Application Setup OMP URL

  The OMP reference used by the URL group.

  - Valid Values: An OMP URL

  - Default Value: omp://oracle/applications/appsetup

- Examples: omp://mysetup/services/appsetup

■ Use Voice LSS

Whether to use the large scale search for voice.

- Valid Values: A boolean value (true, false)

- Default Value: false

- Examples: true

4.5 Fax

The fax mobile service enables users to send a fax, check the status of a fax, forward or delete a fax from any wireless device. By combining with the Mail or Online Files services, it also supports faxing documents through mobile devices.

Requirements

This service requires third-party software components; it uses the RightFax Java API to connect to a RightFax server.

Table 4–1   Required Software for the Fax application

Name	Instructions	From Version(s)
RightFax Server (available from RightFax)	Install the RightFax server.	7.2
RightFax Integration Mobile Service (available from RightFax)	Install the Integration mobile service on fax server.	7.2
RightFax PFD mobile service (available from RightFax)	Install the PFD mobile service on the fax server.	7.2
RightFax Java API (available from RightFax)	Copy RFJavaInt.zip(Fax server's RightFax/Production/xml/java directory) to $ORACLE_HOME/wireless/lib on Solaris, to %ORACLE_HOME%\wireless\lib on NT. Include this zip file in the OC4J classpath by adding the following line to %ORACLE_HOME%\j2ee\OC4J_Wireless\config\application.xml. <library path="../../../wireless/lib/RFJava_api.zip"/>	7.2

Sample Cover Page

Since the fax mobile service uses a customized cover sheet file, you should use the sample cover page which is provided with Oracle9*i*AS Wireless. To use this cover page, you must have Microsoft Word 2000 installed on your RightFax server for 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 the FCS.doc to the directory RightFax\FCS on the machine on which you installed your 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. Highlight *Groups* under the appropriate server and 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

> **Note:** See the RightFax Administrator's Guide for detailed instructions on fax cover sheets. You can download the documentation from
>
> http://www.rightfax.com.

Configuration Parameters

- Fax server URL

The fax server HTTP URL. 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 or 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

- Examples: 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

- Examples: 20

- Fax Items per page

The number of faxes sent that are shown per screen in the Fax History.

- Valid Values: A non-negative integer

- Default Value: 9

- Examples: 9

- Debug

If true, then the log messages are written to the Oracle9*i*AS Wireless log file.

- Valid Values: A boolean value (true, false)

- Default Value: false

- Examples: true

- Query OID

If true, then it enables the retrieval of a recipient addresses from the Oracle Internet Directory (OID).

- Valid Values: A boolean value (true, false)

- Default Value: false

- Examples: true

- Download directory

  The directory where fax documents are temporarily stored in the Oracle9*i*AS Wireless server. Specify this directory for sending faxes with attached documents.

  - Valid Values: A path value

  - Default Value: /temp/fax

  - Examples: c:\\temp or /tmp/var

- Cover Page

  A cover page used when sending faxes. Default value is FCS.doc. The cover page document path 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 reference used by the URL group.

  - Valid Values: An OMP URL

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://oracle/applications/appsetup

4.6 Online Files

The Online Files application enables users to both attach and save files in their native formats. The Online Files application is also integrated with RightFax to enable document printing through faxes. Users can remotely select an attachment and send it by email to another mobile user, who can then view the document (Microsoft Office files) and print it to a nearby fax. This application works with any file servers that comply to World Wide Web Distributed Authoring and Versioning (WebDAV).

Configuration Parameters

- Allow Navigation

  Whether the user can navigate to any open service URLs. If true, then users can access any service URL that they want, as long as proper authentication credentials are presented. If false, then users can access only the service URLs which are specific for the parameter, *Service URLs.*

  - Valid Values: A boolean value (true, false)

  - Default Value: false

  - Examples: false

- Service URLs

  The HTTP URLs to WebDav file systems where users can upload and download files. This parameter applies only if *Allow Navigation* has been set to false.

  - Valid Values: WEBDAV service URLs

  - Default Value: http://webdav.mycompany.com/files

  - Examples: http://www.mywebdavdomain.com/fileuser

- Download Directory

  Specifies directory used to hold files for download or attachment. The path is local to the server holding the Online Files application.

  - Valid Values: A path value

  - Default Value: /tmp

  - Examples: c:\\temp or /tmp/var

- Proxy Host

  Enter the HTTP Proxy Host. For example, enter *proxy.mydomain.com*

  - Valid Values: URLs

  - Default Value:

  - Examples: proxy.mydomain.com

- Proxy Port

  Enter the HTTP Proxy Port.

  - Valid Values: A port number

- - Default Value:

  - Examples: 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

  - Examples: Authorized_Users

- Show Service URL?

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

  - Valid Values: yes, no

  - Default Value: no

  - Examples: no

- Application Setup OMP URL

  The OMP reference to the URL group.

  - Valid Values: OMP URLs

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://oracle/applications/appsetup

4.7 Instant Messaging

The instant messaging application provides presence management, enabling employees to exchange instant messages from their mobile devices. This application is integrated with Jabber Instant Messaging server and the MSN and Yahoo networks.

Required Software

The instant messaging application, which uses the Jabberbeans classes to connect to a Jabber Instant Messaging Server, requires the following third-party software.

Table 4–2   Third-Party Software for the Instant Messaging Application

Name	Instructions	Version(s)
Jabber Beans	Copy the latest jabberbeans.jar to $ORACLE_HOME/wireless/lib on Solaris, to %ORACLE_HOME%\wireless\lib on NT.Examples of ORACLE_HOME values: Solaris: ORACLE_HOME=/u01/iaswv20NT: ORACLE_HOME=d:\oracle\iaswv20	0.9.0-pre4
Jabber Server	Follow the Jabber server's installation guide.	1.4.1
Yahoo Transport Gateway	Optional. Follow the Jabber server's installation guide	0.8.0
MSN Transport Gateway	Optional. Follow the Jabber server's installation guide.	1.1.0

Configuration Parameters

- Jabber Server Name

  Server name where the Jabber Server is running.

  - Valid Values: The server name or IP address

  - Default Value: localhost

  - Examples: myJabber.company.org

- Yahoo! Messaging Transport

  The Yahoo! Instant Messaging transport, if any, configured on the Jabber Server used by the service.

  - Valid Values: A string identifier

  - Default Value: empty

  - Examples: yahoo.myJabber.company.org

- Yahoo Group Name

  The initial group name to assign to Yahoo! buddies which is acquired whenever the Yahoo! transport is configured.

  - Valid Values: A string value

  - Default Value: Yahoo

  - Examples: Yahoo Groups, Y!

- MSN Transport

  The MSN Instant Messaging transport, if any, configured on the Jabber Server used by the service.

  - Valid Values: A string identifier

  - Default Value: empty

  - Examples: msn.myJabber.company.org

- MSN Group

  The initial group name assigned to MSN buddies which are acquired whenever the MSN transport is configured.

  - Valid Values: A string value

  - Default Value: MSN

  - Examples: MSN Friends

- Refresh Time

  The refresh page timeout for some pages accessed by the service. This value is in milliseconds.

  - Valid Values: An integer value

  - Default Value: 20000

  - Examples: 50000

- Log Length

  The maximum number of messages displayed by the service.

  - Valid Values: An integer value

  - Default Value: 10

  - Examples: 5, 15

4.8 Mail

The Mail application enables users to access their email messages from any mobile device.

Configuration Parameters

- Can user use different server settings?

Mail

Whether the a user can edit such settings as those for server and domain.

- Valid Values: A boolean value (true, false)

- Default Value: false

- Examples: true, false

Note: For the Mail application to include inbox filters, enter the Oracle Internet Directory (OID) server and the port as Mail Server and Mail Server Port instead of the IMAP server and port. Also select esmail as the Mail protocol. For more information on Inbox Filters, see the documentation for Oracle Unified Messaging.

- Mail protocol

  The mail protocol supported by the mail server.

  - Valid Values: imap, pop3, esmail

  - Default Value: esmail

  - Examples: imap, pop3, esmail

- Incoming Mail Server Name

  Incoming email server name. If protocol is esmail, then this should point to the Oracle Internet Directory (OID) server.

  - Valid Values: A string value

  - Default Value: localhost

  - Examples: globalimap.mycomp.com, mailserver.foo.com

- Incoming Mail Server Port

  Incoming email server port. If the protocol is esmail, then this should point to the OID server.

  - Valid Values: An integer value

  - Default Value: 4032

  - Examples:143, 110, 4032. Usually, this value is 143 for imap, 110 for pop3 and 4032 for esmail.

- Outgoing Mail Server (SMTP)

  Outgoing Mail Server (SMTP) name or IP address.

  - Valid Values: A string value
  - Default Value: localhost
  - Examples: gsmtp.mycomp.com, 127.0.0.1

- Outgoing Mail Server (SMTP) Port

  Port number for the Outgoing Mail Server (SMTP).

  - Valid Values: A string value
  - Default Value: 25
  - Examples: 25

- OID Administrator username.

  The Username for the Administrator account in the OID Server. This parameter is only needed when the Mail application is being configured to connect to Oracle Internet Directory (OID) to retrieve Inbox Filters.

  - Valid Values: valid administrator account on the OID server
  - Default Value: orcladmin
  - Examples: orcladmin, administrator

- OID Administrator Password.

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

  - Valid Values: The password for the OID admin user
  - Default Value: empty value
  - Examples: welcome1, password

- Mail JDBC Driver Type

  Specify the Mail JDBC driver type to connect to the OID server. This parameter is only needed when the Mail application is being configured to connect to Oracle Internet Directory (OID) to retrieve Inbox Filters.

  - Valid Values: thin, oci
  - Default Value: thin

- Outgoing Mail Server (SMTP) Login

   When required, it specifies username for the outgoing server.

   - Valid Values: A string value

   - Default Value: empty

   - Examples: global.user, robert.smith

- Auto domain for email addresses

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

   - Valid Values: 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. It is specified in milliseconds.

- Valid Values: Any integer value

- Default Value: 2000

- Examples: 2000, 5000

■ Email Configuration Java Driver Class

A Java driver class used to load the email configuration. This parameter is provided only for backward compatibility.

- Valid Values: A valid class name

- Default Value: oracle.panama.module.pim.mail.util.Config

- Examples: oracle.panama.module.pim.mail.util.Config

■ Temporary directory

- Enter the temporary directory where the attachments are downloaded.

- Valid Values: Any valid folder on the Oracle9*i*AS Wireless mid-tier server.

- Default Value: /tmp

- Examples: /tmp, C:\Temp

■ Audio Temporary directory

Must be specified if allowing voice access and if replying to email as voice attachment. This directory needs to be accessible through the Web. It specifies the temporary directory where voice files are stored in the server holding the Email application. For convenience, specify the fully qualified path to the "audiotemp" directory on the Oracle9*i*AS Wireless mid-tier server.

- Valid Values:

  $ORACLE_HOME/OC4J_
  Wireless/j2ee/applications/modules/modules-web/pim/mail/audiotemp
  . Replace

  $ORACLE_HOME with the actual value. Or any web-reachable folder.

- Default Value: /modules/modules-web/pim/mail/audiotemp

- Examples:

  /home/private/9iasmid/OC4J_
  Wireless/j2ee/applications/modules/modules-web/pim/mail/audiotemp

C:\9iasmid\OC4J_
Wireless\j2ee\applications\modules\modules-web\pim\mail\audiotemp

- Audio temporary directory URL

  This value is mandatory for voice access and for replying to an email as a voice attachment. It specifies the HTTP URL that retrieves audio files sent in the email and points to the *Audio Temporary directory* defined in Section 4.8. If the default for the *Audio Temporary directory* has not changed, then the value for this parameter does not have to change; otherwise specify the URL for the folder defined earlier.

  - Valid Values: A URL pointing to the "Audio Temporary directory".

  - Default Value: /modules/pim/mail/audiotemp

  - Examples: /modules/pim/mail/audiotemp

- Encoding

  Enter the encoding to be used while sending an email. Use IANA character set names. 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: valid encoding

  - Default Value: UTF-8

  - Examples: UTF-8, ISO-8859-1

- Deleted messages folder name

  The name of the folder where the deleted messages need to be saved.

  - Valid Values: Any valid folder on the mail server

  - Default Value: empty

  - Examples: DeletedItems, Wastebasket

- Save the contents of the audio reply?

  Whether or not the contents of the audio reply should be saved in the *Sent Folder*.

  - Valid Values: A boolean value (true, false)

- Default Value: true

■ Application Setup OMP url

The OMP URL of the Application Setup Modulable Application.

- Valid Values: The OMP URL for the "Application Setup"

- Default Value: omp://oracle/applications/appsetup

- Examples: omp://oracle/applications/appsetup, omp://oracle/applications/myappsetup

4.9 Short Messaging

The short messaging application enables users to send messages through such mediums as voice, email, fax or SMS messaging. To send a short message, a user sends the service four parameters: the type of message to be sent (email, SMS, Voice, or Fax), the destination address of the message, the subject text, and 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 service does not require any third-party software components. It relies on Oracle9iAS Wireless transports to be configured. The short messaging application does not require scripts.

Configuration Parameters

■ Message Sender

Specifies the identity used for anonymous users when they send short messages. This field is ignored for non-anonymous users.

- Valid Values:

- 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 (Email, Fax, SMS and Voice) will be displayed regardless of whether or not they are configured. If set to *false*, then only configured delivery types will be shown to the user.

- Valid Values: A boolean value (true, false)

- Default Value: false

- Examples: true

- Application Setup OMP URL

  The OMP reference for the URL group.

  - Valid Values: An OMP URL.

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://myCompany/services/appsetup

4.10 Business Directory

The business directory application provides users with a complete business directory. This application is built on the Wireless Location Application Component API.

This application provides a "yellow pages" type interface to locate the addresses and phone numbers of registered businesses in a given radius. It has search capabilities for business names or categories. Browsing through categories is also enabled. If no location parameters are passed to this application, then the location application is invoked to obtain location data for the search. This application requires the Wireless business directory provider.

Table 4–3 Requirements for the Business Directory Application

Name	External Provider(s)	From
Business Directory Provider	otn.oracle.com	2.0

Configuration Parameters

- Web URL

  Reserved for Future Use

  - Valid Values: A valid URL

  - Default Value: localhost

  - Examples: localhost

- Records per page

  Specifies the number of business categories and result items shown per WML card. This parameter applies to WML devices only.

  - Valid Values: non-negative integer

- Default Value: 9

- Examples: 9

- Application Setup OMP URL

The OMP reference to the URL group.

- Valid Values: An OMP URL

- Default Value: omp://oracle/applications/appsetup

- Examples: omp://oracle/applications/appsetup

4.11 Driving Directions

The driving directions application allows a mobile application to provide users with driving directions between an originating address and a destination address. It links to the Location Picker application to enable users to select originating and destination addresses not provided by Driving Directions. The Driving Directions application also links with the Maps application for enhanced routing.

This application is built upon the Wireless Location Application Component API.

Table 4–4   Requirements for the Location Picker Application

Name	External Provider(s)	From
Routing Provider	otn.oracle.com	2.0

Configuration Parameters

- Web URL

Reserved for Future Use

- Valid Values: A valid URL

- Default Value: localhost

- Examples: localhost

- Records per page

- Specifies the number of business categories and result items shown per WML card. This parameter applies to WML devices only.

- Valid Values: A non-negative integer

- Default Value: 9
- Examples: 9

- Path for voice files

  Reserved for Future Use

  - Valid Values:
  - Default Value:
  - Examples:

- Application Setup OMP URL

  The OMP reference used by the URL group.

  - Valid Values: Omp URLs
  - Default Value: omp://oracle/applications/appsetup
  - Examples: omp://oracle/applications/appsetup

4.12 Location Picker

The Location Picker application enables users to pick and manage their frequently accessed locations. Using this application, a user can specify a location that can be used by another application, such as the driving directions application. This location can be the user's default location, the current location (if mobile positioning is enabled), a Locationmark selected by the user, a recent location used by the user, or a new location to be entered by the user.

The Location Picker application is used by other applications to acquire a location from the user. When used directly by the user, Location Picker provides management of the user's locationmarks and allows the user to set his "preferred" location, which is either the user's current location (when mobile positioning is available and on) or the user's default locationmarks.

Other location applications include Driving Directions, Maps, and Business Directory. These applications use the Location Picker to acquire location(s) from the user if the user does not have a "preferred" location or if the user specifically wants to change the location used for those applications.

This application integrates with positioning servers when available and is built upon the Oracle9iAS Wireless Location Application Component API

This service requires the Wireless geocoding provider only when the geocoding of addresses is needed and the Wireless mobile positioning provider only when the positioning feature is needed. The geocoding and mobile positioning are optional features.

Table 4–5   Requirements for the Location Picker Application

Name	External Provider(s)	From
Geocoding Provider	otn.oracle.com	2.0
Mobile positioning provider	otn.oracle.com	2.0

Configuration Parameters

- Web URL

  Reserved for Future Use

  - Valid Values: A valid URL

  - Default Value: localhost

  - Examples: localhost

- History stack size

  Specifies the maximum number of locations kept in the user's location history.

  - Valid Values: A non-negative integer

  - Default Value: 72

  - Examples: 72

- Records per page

  Specifies the number of business categories and result items shown per WML card. This parameter applies to WML devices only.

  - Valid Values: A non-negative integer

  - Default Value: 9

  - Examples: 9

4.13 Maps

The maps application provides broad and detailed maps for a given location, supports map tiling and image map transformation for different devices. This application integrates with the Driving Directions application and is built upon the Wireless Location Application Component API.

 Configuration Parameters

- Application Setup OMP URL

  The OMP reference to the URL group.

  - Valid Values: An OMP URL

  - Default Value: omp://oracle/applications/appsetup

  - Examples: omp://oracle/applications/appsetup

4.14 Applications Setup

Applications Setup defines how one application calls another. All of the Wireless and Voice applications can be uniquely identified by an attribute called the OMP URL. Each application uses an OMP URL to call a different application. Application Setup acts as a repository where each of the OMP URLs are registered. In turn, each application has a configuration parameter which tells the application where to find Applications Setup.

4.14.1 Registered URLs

The Application Setup includes the following OMP URLs.

- Address Book OMP URL

  Defines the address book OMP URL.

  - Valid Values: the OMP URL of the address book application

  - Default Value: omp://oracle/services/pim/addressbook

- Calendar OMP URL

  Defines the calendar OMP URL.

  - Valid Values: the OMP URL of the calendar application

  - Default Value: omp://oracle/services/pim/calendar

- Contact Rules OMP URL

Defines the contact rules OMP URL.

- Valid Values: the OMP URL of the contact rules application.

- Default Value: omp://oracle/services/presence/switcher

■ Directions OMP URL

Defines the direction OMP URL

- Valid Values: the OMP URL of the driving directions application

- Default Value: omp://oracle/services/location/directions

■ Directory OMP URL

Defines the directory OMP URL.

- Valid Values: the OMP URL of the directory application

- Default Value: omp://oracle/services/pim/directory

■ FormFiller OMP URL

Defines the formfiller OMP URL.

- Valid Values: the OMP URL of the formfiller application

- Default Value: omp://oracle/services/commerce/formfiller

■ Email OMP URL

Defines the email OMP URL.

- Valid Values: the OMP URL of the mail application

- Default Value: omp://oracle/services/pim/mail

■ Voice Main Menu OMP URL

Defines the voice main menu OMP URL.

- Valid Values: the OMP URL of the mainmenu application

- Default Value: omp://oracle/services/voice/mainmenu

■ Fax OMP URL

Defines the fax OMP URL.

- Valid Values: the OMP URL of the fax application

- Default Value: omp://oracle/services/pim/fax

■ Oracle 9iFS OMP URL

- - Defines Oracle 9iFS OMP URL.
    - Valid Values: the OMP URL of the Online Files (Oracle 9iFS) application
    - Default Value: omp://oracle/services/pim/ifs
- Instant Messaging OMP URL

  Defines the instant messaging OMP URL.
    - Valid Values: the OMP URL of the instant messaging application
    - Default Value: omp://oracle/services/pim/im
- Payment OMP URL

  Defines the Payment OMP URL.
    - Valid Values: the OMP URL of the payment application
    - Default Value: omp://oracle/services/commerce/payment
- Location Picker OMP URL

  Defines location picker OMP URL.
    - Valid Values: the OMP URL of the location picker application
    - Default Value: omp://oracle/services/location/picker
- Short Messaging OMP URL

  Defines the short messaging OMP URL.
    - Valid Values: the OMP URL of the short messaging application
    - Default Value: omp://oracle/services/pim/sm
- Tasks OMP URL

  Defines the tasks OMP URL.
    - Valid Values: the OMP URL of the tasks application
    - Default Value: omp://oracle/services/pim/tasks
- Translator OMP URL

  Defines the translator OMP URL.
    - Valid Values: the OMP URL of the translator application
    - Default Value: omp://oracle/services/commerce/translator
- Viewer OMP URL

Defines the viewer OMP URL.

- Valid Values: the OMP URL of the viewer application

- Default Value: omp://oracle/services/pim/viewer

- Voice Mail OMP URL

Defines the voice mail OMP URL

- Valid Values: the OMP URL of the voice mail application

- Default Value: omp://oracle/services/voice/mail

- Wallet OMP URL

Defines the wallet OMP URL.

- Valid Values: the OMP URL of the wallet application

- Default Value: omp://oracle/services/commerce/wallet

4.15 Configuring the Oracle9iAS Wireless PIM Applications to Connect to Microsoft Exchange and Lotus Domino Server

The Address Book, Calendar and Tasks applications can connect to non-Oracle collaboration servers, such as the Microsoft Exchange and Lotus Domino server.

For Wireless and Voice Applications to properly run against these servers, some additional setup is required beyond configuring the application-specific parameters.

> **Note:** The Mail application does not require additional software.

4.15.1 Configuring the Microsoft Exchange Server for Oracle9iAS Wireless PIM Applications

Configuring the Microsoft Exchange Server for Voice and Wireless PIM applications requires the following software:

Table 4–6   Required Software

Name	Instructions	From Version
Microsoft Exchange	Install the Microsoft Exchange Server.	5.5
MS IIS	Install the Microsoft Internet Information Server.	4.0
MS CDO Collaborative Data Objects	Available with the Microsoft Exchange SDK. The cdo.dll library must be installed on the IIS Server.	1.2.1

4.15.2 Configuring the 9ias Wireless PIM ASPs

To create the ASPs for the PIM Voice and Wireless applications:

1. Create a directory named *oracle* on the IIS server. For example, create *C:\inetpub\oracle.*

2. Copy the following files from Oracle9*i*AS Wireless mid-tier server to the *oracle* folder:

    $ORACLE_HOME/j2ee/OC4J_ Wireless/applications/modules/modules-web/pim/addressbook/asp/*

    $ORACLE_HOME/j2ee/OC4J_ Wireless/applications/modules/modules-web/pim/ calendar /asp/*

    $ORACLE_HOME/j2ee/OC4J_ Wireless/applications/modules/modules-web/pim/tasks/asp/*

3. Start the IIS manager and then right-click the default Web site.

4. Add a new virtual directory.

5. Name this virtual directory oracle.

6. Using the Properties dialog box for this folder, grant *Execute Permissions* for Scripts and Executables.

7. Select *Directory Security,* and then click *Edit* in the Anonymous Access pane.

8. Set the following values:

    ■   Anonymous Access: unchecked

- Basic authentication: checked

- Integrated Windows authentication: checked

4.15.3 Configuring the Lotus Domino for Oracle9iAS Wireless PIM Applications

Configuring Lotus Domino for the Voice and Wireless applications requires the following software:

Table 4–7   Required Software for Configuring Lotus Domino for PIM Applications

Name	Instructions	From Version
Lotus Domino Server	Install the Lotus Domino Server	5.5
Lotus Java SDK	Install Lotus Java SDK	5.0.5

Installing the Lotus Domino Toolkit creates a *DTJava* directory on the file system.

 To configure Lotus Domino:

1. Copy the DTJava/lib/NCSO.jar to $ORACLE_HOME/wireless/lib on Solaris, to %ORACLE_HOME%\wireless\lib on NT. Examples of Solaris and NT values for ORACLE_HOME are as follows:

   - For Solaris: ORACLE_HOME=/u01/iaswv904

   - For Windows NT: ORACLE_HOME=d:\oracle\iaswv904

2. Include this JAR file in the OC4J classpath by adding the following line to $ORACLE_HOME/j2ee/OC4J_Wireless/config/application.xml:

   <library path="../../../wireless/lib/NCSO.jar"/>

Ensure that you download *Lotus Domino Toolkit for Java/CORBA Release 5.0.8 Update* or *Lotus Domino Toolkit for Java/CORBA Release 5.0.5 Update Shipping*.

Note: Do not use version 2.x toolkit.

On the Domino server, the server tasks HTTP and DIIOP must be running. Ensure that the Domino server notes.ini file contains the following line:

 ServerTasks=<other tasks>,http,diiop 5.0.5

5

Globalization

This chapter includes the following sections:

5.1 Overview

Oracle9*i*AS Wireless supports multi-locale and multi-encoding. The Wireless server dynamically determines locale and request and response encoding based on the runtime context.

5.2 Determining a User's Locale

The Wireless Server 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 user's preferred locale is the language preference of a Wireless user, which i*s* set with the User Manager. For more information, see Section 5.2.3.

The Accept Language header is a HTTP protocol parameter which 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).

Site Locale is an instance-wide default locale of the Wireless Server. For more information, see Section 5.2.4.

5.2.1 After Login

After login, the Wireless Server respects the user's preferred locale.

5.2.2 Before Login

Before login, the Wireless Web Server (ptg/rm), aAsynchronous Server, Webtool and Device Portal Access each determine the appropriate locale of a user's device.

Table 5–1 illustrates how the Asynchronous Server, the Wireless Web Server, the Webtool and Device Portal Access determine the locale of a user. The numeric value indicates the preference for the detection methods in descending order.

Table 5–1   Locale Determination

Method	Asynchronous Server	Wireless web server (ptg/rm)	Webtool and Device Portal Access
HTTP parameter: PAlocale.	N/A	1	1
Locale of the registered user.	1	2	N/A
Accept-language http header	N/A	3	N/A
Site default locale	2	4	2

5.2.2.1 Wireless Web Server

The Wireless Web Server (ptg/rm) determines the locale of a user in the following order:

1. Use PAlocale (if present).
2. Use the user's preferred locale if the connecting user can be identified through the device id.
3. Use the Accept_Language HTTP header (if present).
4. Use the site default locale.

5.2.2.2 The Webtool and Device Portal Access

The Webtool and Device Portal Access determine the location of a user in the following order:

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

5.2.2.3 Asynchronous Server

The Asynchronous Server 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.

5.2.3 Setting the Locale for a User Profile

You can set a preferred location for a user when you create a user or edit a user profile. If the preferred location is not specified, then the default site locale is used. For more information, see Section 9.3.4 in Chapter 9, "Managing Users".

5.2.4 Setting the Site Locale

From the Site screen (accessed through the Oracle Enterprise Manager console), you can specify the both the default site locale and a list of locales that the site is intended to support. Use a java locale (such as en_US) for the default site locale and for the list of supported locales. For more information, see Section 12.4.2 in Chapter 12, "Server Configuration".

5.3 Languages Available for On-Line Help

Users can view the online help for the Wireless Webtool and the Device Portal Access in 29 languages. The site locale, configured through the System Manger, determines the display language.

In this release, the built-in labels and on-line help for the Wireless Webtool and the Wireless system management and monitoring functions display in nine languages.

The Device Portal Access (ptg/rm) can display the built-in labels in 29 different languages.

5.4 Determining the Encoding of a Logical Device

The content encoding of a logical device is used to transport of the result of the device type. The default encoding for all shipped logical devices is set to UTF-8. The encoding format of a logical device is that of the Internet Assigned Numbers Authority (IANA).

You use the Service Designer in the Webtool to update the logical device encoding appropriate to your country.

The following table illustrates how the encoding is determined

Table 5–2   Determining Encoding

Component	Factor
Wireless Web Server	The encoding of the requesting logical device.
Asynchronous Server	Determined by the corresponding transport driver.
Webtool and Device Portal Access	Encoding of the logical device called 'PAPZ'. The default encoding is UTF-8.
Module Service	Use UTF-8 for reading the request and writing the response.
Alert Message	Determined by the corresponding transport driver.

5.5 HttpAdapter – Based Service

To encode the request and response of a HttpAdapter-based service:

5.5.1 Encoding for the request of a HttpAdapter-based Service

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

5.5.2 Encoding for the response of a HttpAdapter-based Service

Wireless determines the encoding of the response of a HttpAdapter-based Service 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 service.

3. ISO-8859-1 (the default).

5.6 Driver Encoding

Each driver handles encoding individually.

5.7 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 5–3.

Table 5–3 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
Main Menu	ORACLE_HOME/wireless/marconi_voice/mainmenu/audio/en
Email	ORACLE_HOME/wireless/modules/common/voice/pim/mail/en
Address Book	ORACLE_HOME/wireless/modules/common/voice/pim/addressbook/en
Calendar	ORACLE_HOME/wireless/modules/common/voice/pim/calendar/en

Table 5–3   Location of the English Audio Files for Voice-Enabled Applications

Application	Location
LDAP	ORACLE_HOME/wireless/modules/common/voice/pim/ldap/en
IFS	ORACLE_HOME/wireless/modules/common/voice/pim/ifs/en

2. 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.

3. 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 5–4.

Table 5–4   Locale-Specific Subdirectories for Applications

Locale	Directory Name
Arabic	ar
Czech	cs
Danish	da
German	de
Greek	el
English	en
Engish-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

Table 5–4   Locale-Specific Subdirectories for Applications

Locale	Directory Name
Dutch	nl
Norwegian	no
Polish	pl
Portugese	pt
Portugese - Brazil	pt_BR
Romanian	ro
Russian	ru
Slovak	sk
Swedish	sv
Thai	th
Turkish	tr
Chinese	zh
Chinese-Taiwan	zh_TW

5.8 Rebranding the Oracle Logo Icon

The icon of the Oracle logo resides on the mid-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.

5.8.1 Changing the Logo File Name

To change the file name, you must edit the reference for the logo in the *portal.properties* file, which also resides on the mid-tier of the Oracle Collaboration Suite.

To edit the reference in *portal.properties* file

$ORACLE_
HOME/wireless/server/classes/messages/oracle/panama/module/common/por
tal.properties

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 Portugese, you must edit the property file *portal_pt_BR.properties*. Likewise, to edit the key for French, you must edit *portal_fr.properties.*

Part II

Wireless Tools Guide

6

Wireless Tools

This document describes the tools you use to get the most out of Oracle Collaboration Suite with Oracle9*i*AS Wireless. Each section of this document presents a different topic. These sections include:

- Section 6.1, "Overview"
- Section 6.2, "The Service Designer"
- Section 6.4, "The User Manager"

6.1 Overview

Wireless provides a set of Web-based tools to help you create, manage, and deliver mobile services. These tools include wizards for developing and managing repository objects, and utilities for managing the server and deploying Wireless. Wireless provides the following development tools:

- Service Designer
- Content Manager
- User Manager
- Device Portal Access

These tools are role-specific; users can only access tools associated with the roles that the User Administrator has assigned to them. For example, a user assigned to the Content Management Tool role can only access the Content Management Tool tool and a user with Content Developer privileges can only access the Service Designer.

Wireless provides the following user roles:

Table 6–1   Wireless User Roles

User Role	Description	Available Tools
Administrators	The Wireless administrator, a user who can access all of the webtools and manage the system from the Oracle Enterprise Manager console.	Service Designer Content Manager User Manager Device Portal Access
Designers	Users assigned the Designers role perform the following functions: ■ Create, modify, and delete adapters from the Wireless Repository. ■ Create, modify, delete, and test master services and master alerts. ■ Manage transformers for logical devices. ■ Develop applications using Mobile XML. ■ Develop, modify and delete data feeders. ■ Develop, modify and delete presets. ■ Develop location-based services ■ Develop, modify, and delete regions used for creating location-based services.	Service Designer
Organizers	Users assigned the Organizers role perform the following functions: ■ Manage service folders. ■ Create services based on master services. ■ Create alerts based on master alerts. ■ Deploy applications to groups. ■ Assign regions to location-based services.	Content Manager
System	Users assigned the System role manage the system.	Wireless systems management functions (through the Oracle Enterprise Manager console)

Table 6–1   Wireless User Roles

User Role	Description	Available Tools
Helpdesk	Users assigned the Helpdesk role perform the following functions: ■ Check user profiles and services. ■ Create new groups and users. ■ Manage user access privileges. ■ Assign different roles to a user.	User Manager
Consumer	Users assigned the consumer role are end users of Wireless services. End-users can customize their own services either from a desktop or from a device. Customization for end-users includes: ■ Create Logical Devices to receive alerts. ■ Set Presets ■ Reorder services. ■ Set Locationmarks.	Device Portal Access
Guest User	An unregistered user.	Device Portal Access

Users assigned to the Administrators, Designers, Organizers, System, and Helpdesk roles also have end-user privileges.

> **Note:**   For a full overview of Wireless, see *Oracle9iAS Developer's Guide.*

6.2 The Service Designer

You use the Service Designer to create and modify objects in the Wireless repository. These objects include:

Table 6–2   Objects in the Wireless Repository

Object Type	Description
Folder	You can use folders to group services. Folders make services available to end users. Every user has a "home" folder. This contains the services, usually referenced by an alias, that the user can access. A user can also access any service in a folder owned by a group to which the user belongs.

Object Type	Description
Master service	The master service object implements the service and invokes a specific adapter. You can associate a custom transformer with a master service. Custom transformers are service- and device-specific. They can be used by only one device and one master service.
Preset Definitions	Preset definitions, which are specifically associated with a service, enable users to personalize services by entering their own input parameters to an application by creating presets. When a user requests a service, a service loads the user-defined input parameters, (or presets). Typically, the service may list these presets for the user, who must select an item to execute the application.
Master Alert	A template for an alert service, that specifies the content data feeder for an alert and the type of trigger parameters used by the alert.
Data Feeder	A data feeder is a repository object that retrieves content from both internal and external content sources and converts that content into a standard XML format.
Adapter	Adapter objects represent the Wireless interface to content sources. Adapter objects have an attribute called `classes`. This attribute identifies the archive file that contains the actual Java implementation of the adapter.
Transformer	A transformer converts the content returned by the Wireless adapters. Transformer types include: ■ Result transformers, which convert Adapter Result content into SimpleResult content. ■ Device transformers, which convert SimpleResult content into the final target format. A device transformer can be either the default transformer for a logical device, or a custom transformer, which is used to render a specific master service for a specific logical device.
Logical Device	A logical device object associates a physical device or an abstract device, such as email, with a transformer.
Regions	Wireless uses regions to enable developers to assign a location to a service, making the service location-based, unique to a specified area.

The Service Designer provides a set of wizards for the creation of master services, master alerts, logical devices, and data feeds. The Service Designer's wizards present the creation of each of these components as a discrete task broken down into a series of steps. The Service Designer prompts you through each step, ensuring that you successfully create the component quickly and easily.

In addition to these wizards, the Service Designer includes a screen for testing and creating transformers. Transformers, in the form of XSLT stylesheets or Java classes, convert the content returned by Wireless adapters into the format best suited to a particular platform. Using the Service Designer, you can both test and create transformers. The tool enables you to view and edit adapter input parameters and the transformers of the source content. See the *Oracle9iAS Developer's Guide* for more information on Wireless Edition XML.

Using the Service Designer, you can create location-based master services, which are visible to users at specific locations. The Service Designer enables developers to create these services by assigning a location to a master service from the spatial data repository. The tool enables you to view a spacial object as a map image with its corresponding geometry. In addition, the tool enables you to access, view, and modify the data stored in the spatial database in the repository.

6.3 The Content Manager Tool

The Content Management Tool enables you to create services and alerts based on the master services and master alerts created by Content Developers. The Content Manager Tool tool enables you to assign services, alerts, and topics to each user group. Using the Content Manager Tool, you can organize the wireless portal in a business context appropriate to a user group. The Content Manager Tool provides you with wizards to ensure that you create services easily. See Chapter 8 for more information on the Content Manager Tool.

6.4 The User Manager

This tool enables you to perform such help desk functions as creating and modifying users and groups and assigning services to users and groups. See Chapter 9 for more information on the User Manager.

Manager enables you to centrally manage property files at both the server and site levels.

7

Managing Logical Devices

This chapter describes how Content Developers use the Service Designer to create and manage logical devices in the repository. Each section of this document presents a different topic. These sections include:

7.1 Overview of the Service Designer

The Service Designer is a Web-based interface that enables Content Developers to create a logical devices, repository objects that represent either a physical device, such as an Ericsson mobile phone, or an abstract device, such as an email server. Logical devices represent the interface between transformers and the target devices or applications.

In addition, the Server Designer enables developers to create the following repository objects. For more information on these objects, refer to the *Getting Started and System Guide* for Oracle9*i*AS Wireless.

Master Services

Master services provide the actual implementation of the service. They specify the adapter used for the service and any service-specific parameters. By mapping an adapter to device transformers, master services link Wireless content sources to delivery platforms. Each master service is based on one adapter. A master service creates its own instance of the adapter it uses. Therefore, several services can use the same type of adapter, and each can pass its own service-specific argument values.

Content Managers create services based on master services and assign them to user groups.

Asynchronous Agent Services

The Service Designer enables you to augment master services by making them accessible by protocols other than HTTP. For example, you could assign an asynchronous agent service for services accessed by users whose devices do not have a Web browser, but support two-way messaging or email.

With asynchronous agent-enables services, users can access Web content. For example, asynchronous agent services enable end users who subscribe to OracleMobile to retrieve such Web content as stock quotes, traffic reports, or horoscopes by sending a message to Ask@OracleMobile.com. The Ask listener running on the *i*AS Wireless Server intercepts this message, which can be either an email or a short message, routes the request to the correct service or application, and then sends the requested information back to the user.

Master Alerts

A master alert is a template for an alert, a notification service delivered to users based on the trigger conditions they set when subscribing to an alert service. Master alerts designate the data feeders used for an alert service as well as the trigger parameter definition, trigger condition definition and optionally input parameter definition for an alert service. In addition, the master alert presents a simple result XML message template.

An alert service can deliver alert messages which are drawn from data feeds on a determined value, or at a scheduled time.

The default delivery mechanism of the alert message is through the transport module. The alert engine may provide hooks to invoke a customized message delivery mechanism to handle the alert delivery event.

Data Feeder

A data feeder is a repository object that retrieves content from both internal and external content sources and then converts that content into a standard XML format. The data feeder mechanism then publishes the content to the alert engine, which formats and sends alert messages that use the content that the data feeder retrieved and rendered from the content source.

Preset Definitions

Presets enable users to personalize services by defining their own input parameters for an application. When a user requests a service, an adapter loads the user-defined input parameters, or presets. The service presents these presets as a list for the user, who must then select an item to execute the application. Wireless saves users presets on a table specific to each service.

Transformers

Transformers are Java programs or XSLT stylesheets that convert a document into either the target format or to another Wireless format. Transformers not only map source tags to target format tags, but they can also manipulate content. Because transformers can rearrange, filter, and add text, you can present content in the format, as well as the form factor that is best suited for the target device.

The Wireless initial repository includes transformers for several target formats, such as CHTML, HDML, HTML, MML, VoiceXML, VoxML, and WAP (WML). By modifying the provided transformers, or by creating new ones, you can target new device platforms and optimize content presentation for specific devices. Wireless publishes device transformation rule files so that anyone can create support for any type of device and markup language.

The transformer associated with a logical device is that device's default transformer. Default transformers are typically generalized for a markup format, but they can also be specific to a target device. Wireless uses the device's default transformer to convert any service targeted for that type of device, unless a custom device transformer overrides the default transformer. A custom device transformer enables you to control how a service appears on a specific device. While several devices can use a single default transformer, a custom transformer can be associated with only one master service and one device. The custom transformer optimizes the presentation of that service for a particular device and can only be used for that device.

When you create a transformer, you map the elements in the source content to the result format.

Adapters

An adapter is a Java application that retrieves data from an external source and renders it in Wireless XML. In the Oracle9*i*AS Wireless architecture, adapters constitute the interface between the Wireless server and the content source. When invoked by a master service, an adapter returns an XML object that contains the

service content. This XML object is processed by the core of the Wireless and then delivered to the user's device as a the response to the user's service request.

Regions
Wireless uses regions to enable developers to assign a location to a service, making the service location-based, unique to a specified area.

7.2 Logging into the Service Designer

Before using the Service Designer, you must first log in to the Webtool as follows:

1. Access the login page through the following URL:

    http://hostname:7777/webtool/login.uix

    > **Note:** 7777 is the default port number for Oracle9*i*AS Wireless. The port number range is 7777 to 7877. To ensure that you are using the correct port number, check the port number for Oracle9*i*AS Wireless stored in [Oracle home]/install/portlist.ini. For more information on port usage, see Oracle9*i* Application Server Installation Guide and the Oracle9*i* Application Server Administrator's Guide.

2. Enter your user name and then enter your password. If you are an administrator, enter *orcladmin* as your user name. (The password is set during installation, but can be changed with the User Manager.)

After you successfully login, the Service screen of the Service Designer appears with the Service Designer Tab selected. The Service Designer Tab contains the following subtabs:

-   Master Services
-   Data Feeders
-   Master Alerts
-   Data Feeders
-   Logical Devices
-   Preset Definitions
-   Transformers

- Adapters

- Regions

The Service Designer provides a tab for each of these repository objects. Each tab has a browsing screen, which enables you to search for an object, as well as access to functions for creating, editing and deleting, and testing objects.

Figure 7–1   The Browse Folder Screen of the Service Designer's Master Service Tab
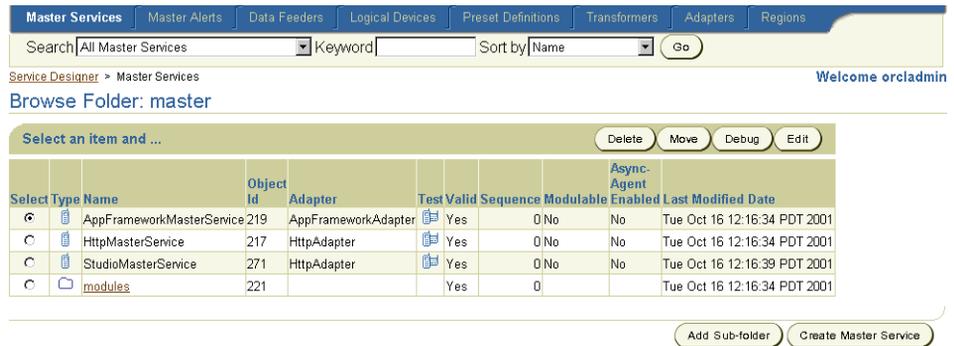
7.3 What is a Logical Device?

A logical device is an object in the Wireless repository that represents either a physical device, such as a Nokia mobile phone, or an abstract device, such as email. Logical devices represent the interface between Wireless transformers and the target devices or applications.

Wireless determines the type of device that is requesting a service from the HTTP header. A device agent identifies the user's device address, such as an email address or telephone number and device type. This information enables Wireless to deliver notifications to the user.

Wireless includes a default set of logical devices which represent several different device types and formats. If you wish to create a device, that is one not included in the default set, then you must use the Service Designer.

To access the functions to create a logical device, you click the Logical Devices tab. When you click the Logical Device tab, the Browse Logical Devices screen appears, displaying a list of logical devices in the repository. Using the Browse Logical Device screen, you can search for, create, delete, and edit the user agents of a logical device.

Figure 7–2   The Browse Logical Devices Screen

7.3.1 Searching for a Logical Device

From the Browse screen, you can search for logical devices using the Keyword field. You can sort your search results by name, user agents, or transformers.

To search for a logical device:

1. Select, if needed, one of the following search result sorting options:

    ■   Name

    ■   Transformers

    ■   User Agents

2. Enter the keyword for your search.

3. Click Go. The Search Results screen appears. To return to the Browse screen, click OK.

Figure 7–3   The Search Results Screen (for Logical Devices)

7.3.2 Creating a Logical Device

You create a logical device using the logical device creation wizard. The logical device creation wizard guides you through each step of creating a logical device. When you complete a screen, you move to the next screen in the sequence by clicking the Next button. Clicking the Back button takes you to the preceding screen in the sequence, allowing you to perform edits.

7.3.2.1 Step 1: Entering the Basic Information for the Logical Device

1. From the Browse Logical Devices screen, click Create Logical Device. The Basic Info. screen appears displaying the following parameters:

Table 7–1   Parameters of the Logical Device Creation Wizard Basic Information Screen

Parameter	Value
Name	The name of the logical device.
Description	An optional description of the logical device
Encoding	The logical device's content encoding, which is used to transport the result of the device type.
Preferred MIME Type	The MIME-type of the logical device. At runtime, if Wireless cannot detect a user agent HTTP header, the Wireless fails over to another device in the database that has the same MIME type.

Parameter	Value
Device Class	A Drop-down list of device types. The menu includes the following: ■ VOICE ■ MICRO_BROWSER ■ PDA_BROWSER ■ PC_BROWSER ■ MICRO_MESSENGER ■ MESSENGER
Prolog	Specifies the format of the prolog required by the device. The prolog frequently includes processing instructions and meta tags.

2. Enter the name of the logical device into the Name field. This name must be unique. For example, enter Email.

3. Enter, if needed, a desciption of the device.

4. Enter the content encoding parameters for the logical device. For example, enter UTF-8.

5. Enter the MIME type in the MIME field. For example, enter text∕html.

6. From the Device Class drop-down list, select the appropriate display size of the user's device.

7. Enter the prolog required by the device.

8. Click Next. The Transformers screen appears.

7.3.2.2 Step 2: Selecting the Appropriate Transformers

1. From the Transformer screen, select transformers appropriate to the MIME type of the logical device from Eligible Transformers to Selected Transformers using the Move functions (>>or >>). Use the Remove functions (<< or <<) to remove the transformers you do not wish to use from Selected Transformers.

2. Click Next.

7.3.2.3 Step 3: Adding User Agents

The User Agent screen enables you to assign a user agent to the logical device by selecting from a list of user agents, mechanisms that identify device type and address.

To add a user agent.

1. Enter the user agent name. For example, enter WIG Browser/1.1*

2. If needed, click Add Another Row to add another user agent.

3. Click Next. The Device Attributes screen appears, displaying the following parameters:

Table 7–2   Parameters of the Device Attributes Screen

Parameter	Value
Maximum Native Document Size	The maximum number of bytes that can be sent to the device. This is a guideline for caption lengths.
Display Properties	
Screen Width	Use this option to describe the width of the screen of the physical device in points.
Screen Height	Use this option to describe the height of the screen of the physical device in points.
Screen Columns	The screen size in characters. Use this option if you want to break text into pages.
Screen Rows	The screen size in characters. Use this option if you want to break text into pages.
Number of Softkeys	Allows users to map a hot link to a phone soft key.
Supports Cookie	
Color Capable	Select this check box to create a device that supports color.
Bits per Pixel	The number of bits of color or grayscale information per pixel.
Voice Capable	Select this check box to create a device that supports voice.
Image Capable	Select this check box for a device that supports images. Use the Move functions (> or >>) to select the preferred image formats from Available Formats. Use the Remove functions (< or <<) to remove the image formats you do not wish to use from Preferred Formats.

Parameter	Value
Video Capable	Select this check box for a device that supports video. Use the Move functions (> or >>) to select the preferred video formats from Available Formats. Use the Remove functions (< or <<) to remove the video formats you do not wish to use from Preferred Formats.
Streaming	Select this radio button for real-time video. You can only select this option if you have selected Video Capable.
Buffered	This option essentially acts as a time-delay, storing bits of incoming video data before playing them. Using this option ensures a smooth presentation, one in which users see all frames. You can only select this option if you have selected Video Capable.

7.3.2.4 Step 4: Setting the Device Attributes for the Logical Device

Complete the Device Attributes screen as follows:

1. Enter the Maximum Native Document Size.

2. Set the display properties as follows:

   a. Enter the points for the screen width.

   b. Enter the points for the screen height.

   c. Enter the number of screen columns.

   d. Enter the number of rows.

   e. Enter the number of softkeys that the end user can use to create short-cuts.

3. Select the Color Capable check box if the device supports color.

4. Enter the number of bits per pixel.

5. Select the Voice Capable check box if the device supports audio.

6. Select the Image Capable box if the device supports images.

7. Use the Move functions (> or >>) to select the preferred image formats from Available Formats. Use the Remove functions (< or <<) to remove the image formats you do not wish to use from Preferred Formats.

8. Select the Video Capable check box if the device supports video.

9. Select this check box for a device that supports video. Use the Move functions (>or >>) to select the preferred video formats from Available Formats. Use the

Remove functions (< or <<) to remove the video formats you do not wish to use from Preferred Formats.

10. Select the Streaming option for real-time video. You can only select this option if you have selected Video Capable.

11. Select the Buffered option for storing bits of incoming video data before playing them. Using this option ensures a smooth presentation, one in which users see all frames. You can only select this option if you have selected Video Capable.

12. Click Next. The User Agents screen appears.

7.3.2.5 Step 5: Creating the Login Page

The Login Page screen enables you to create the XSLT stylesheet that generates the login page on the device.

1. Provide a stylesheet using one of the following methods:

   a. Enter the XSLT stylesheet manually into the Login Page field.

   b. Copy the XSLT stylesheet from a text editor into the Login Page field.

   c. Import the XSLT stylesheet by clicking Import. In the Import screen, enter the name of the file in the Import File field and then click Import, or retrieve the file using the Browse function and the Upload window. After you select the file, Click Open. From the Import Screen, click Import.

2. Click Next. The Error Page screen appears.

7.3.2.6 Step 6: Creating the Error Page

The Error Page screen enables you to create an XSLT stylesheet that generates the error page for the device.

1. Provide a stylesheet using one of the following methods:

   a. Enter an XSLT stylesheet manually into the Login Page field.

   b. Copy an XSLT stylesheet from a text editor into the Login Page field.

   c. Import the XSLT stylesheet by clicking Import. In the Import screen, enter the name of the file in the Import File field and then click Import, or retrieve the file using the Browse function and the Upload window. After you select the file, Click Open. From the Import Screen, click Import.

2. Click Finish to complete the logical device.

7.3.3 Modifying a Logical Device

The Wireless Service Designer enables you to modify a logical device in the repository. To modify a logical device:

1. From the Browse Logical Device screen, select the logical device you wish to edit.

2. Click Edit. The Edit Logical Device screen appears. From the left menu, select the component of the logical device you wish to edit. For information on setting the values for the basic information of a logical device, see Section 7.3.2.1. See Section 7.3.2.2 for information on selecting transformers. See Section 7.3.2.4 for setting the device attributes. See Section 7.3.2.3 for selecting or adding user agents. For information on creating a login page, see Section 7.3.2.5. See Section 7.3.2.6 for information on creating the error page.

3. Click OK to commit your changes.

7.3.4 Deleting a Logical Device

To delete a logical device from the repository:

1. From the Browse Logical Device screen, select the logical device.

2. Click Delete.

8

Managing Wireless and Voice Applications

The Content Manager enables you to create and organize repository objects. Each section of this document presents a different topic. These sections include:

- Section 8.1, "Overview of the Content Manager"
- Section 8.2, "Logging Into the Content Manager"
- Section 8.3, "Configuring Mobile Service Parameters"

8.1 Overview of the Content Manager

The Content Manager enables you to edit services, including mobile services. These reusable services can be invoked as a normal service, or by another service to return a result to that service. Wireless provides several mobile services that are ready for deployment, including those for such Personal Information Management (PIM) tools as calendar, address book, fax, and mail.

For the Oracle Collaboration Suite, you mainly use the Content Manager to edit the input parameters of a mobile service. However, the Content Manager enables you to to create and manage the following repository objects. For more information, refer to the *Getting Started and System Guide* for Oracle9*i*AS Wireless.

Folders

Folders enable you to organize such objects as services and bookmarks. When you assign a folder to a user group, you make its subfolders, services and bookmarks within it accessible to users.

Services

A service inherits a master service or a mobile master service, enabling you to distribute service access to multiple users or groups. Services also enable you to

specialize master services, as you can set default parameter values that override values initially set for the master service in the Service Designer. This function provides such benefits as enabling you to localize services. For example, in order for a master service to deliver restaurant information for an entire city, its adapter takes a single parameter (a location), and returns a list of restaurants throughout the city. While the master service can specify a broad location, such as the city, you can create services based on a specific parameter, such as a district within that city. You can then distribute the services, as appropriate, to user groups that you assemble based on the users' locations.

Bookmarks

A bookmark gives the user quick access to an external resource, typically a Web page that delivers content in a format supported by the target device. End users can set bookmarks to external URLs at the Wireless Customization. The bookmark appears as a menu selection in the device-based customization tool. Wireless does not process the content of the URL target. The format of the target content must be supported by the user's device.

Alerts and Topics

An alert is a notification service delivered to users based on the trigger conditions they set when subscribing to an alert service. An alert inherits a master alert. Content managers create alerts from master alerts constructed using the Service Designer. Content Managers organize alerts by topics, containers that group alerts.

8.2 Logging Into the Content Manager

Before using the Content Manager, you must first log in to the Webtool as follows:

1. Access the login page through the following URL:

    http://hostname:7777/webtool/login.uix

    > **Note:** 7777 is the default port number for Oracle9*i*AS Wireless. The port number range is 7777 to 7877. To ensure that you are using the correct port number, check the port number for Oracle9*i*AS Wireless stored in [Oracle home]/install/portlist.ini. For more information on port usage, see Oracle9*i* Application Server Installation Guide and the Oracle9*i* Application Server Administrator's Guide.

2. Enter your user name and then enter your password. If you are an administrator, enter *orcladmin* as your user name. (The password is set during installation, but can be changed with the User Manager.)

> **Note:** You must be granted either the Administrator or Organizer roles to access the Content Manager.

8.3 Configuring Mobile Service Parameters

The Services tab of the Content Manager enables you to access the mobile services.

Clicking the Services tab displays the Service Browse screen. When you first access the service tab after logging into the tool the Service Browse screen displays the folder and services at the root level.

Using this screen, you can search for folders, services, mobile services, bookmarks, and asynchronous services. The screen also enables you to create a service based on an existing master service, as well as add folders and bookmarks. In addition, you use the Service Browse screen to delete, debug, move, and edit these objects.

Figure 8–1   The Service Browse Screen

8.3.1 Searching for Repository Objects

The Service Browse screen's search function enables you to search for and display the following repository objects:

■ Service

■ Module

■ Asynchronous Service

■ Bookmark

■ Folder

The search field, when used in conjunction with drop-down lists of search options, enables you to either narrow or broaden your searches. The results display as follows in the Search Result screen.

Table 8–1   Elements of the Search Result Section of the Services Screen

Element	Description
Name	The name of the folder or service. Clicking the name of a folder displays its subfolders.
Object ID	The Object ID stored in the database.
Full Path	The route to a repository object, with Services as the root. Each node on the route is displayed as a hyperlink. Clicking a hyperlink reveals a browse screen, showing the subfolders, services, and bookmarks organized under the folder. Using this browse screen, you can perform such functions as creating and deleting services, bookmarks, and folders.
Visible	If the column displays "true", the object is visible and therefore accessible to an end user. If "false", then the object is not visible.
Sequence	The order in which services and folders appear on output devices. By default, these appear in order by sequence number, then name. You can enter values in the sequence fields to rearrange the order in which the services and folder appear. By default, Wireless sorts services and folders in ascending order by sequence number, then by name.
Last Modified	The last time the folder or service was modified.

To find a repository object:

1. Enter the name of the object. Enter the full name of the object, or use a SQL Like clause pattern to return a partial match.

2. From the drop-down list box, select one of the following options to narrow or broaden your search:

   ■ Service

   ■ Module

   ■ Asynchronous Service

   ■ Bookmark

■ Folder

3. Select from among the following options to sort your search results by:

   ■ Name

   ■ Last Modified

4. Click Search. The Search Result screen appears, displaying the matches for your query.

> **Note:** In the Search field, you can find an object by entering a SQL `LIKE` clause pattern matching test (* or %). For example, entering Per% in the Search field returns all objects beginning with 'per'.

Figure 8–2   The Search Result Screen of the Content Manager Tool

8.3.2 Editing a Mobile Service

The Content Manager enables you to edit the basic information and parameters of a mobile service. For descriptions of the mobile service input parameter values, see Chapter 4, "Configuring Mobile Services for Voice and Wireless".

To edit a mobile service:

1. From the Service Browse screen, select the mobile service you wish to edit.

2. Click Edit. The General screen appears, which enables you to edit the basic information for a service.

Figure 8–3   Editing the Basic Information for a Mobile Service
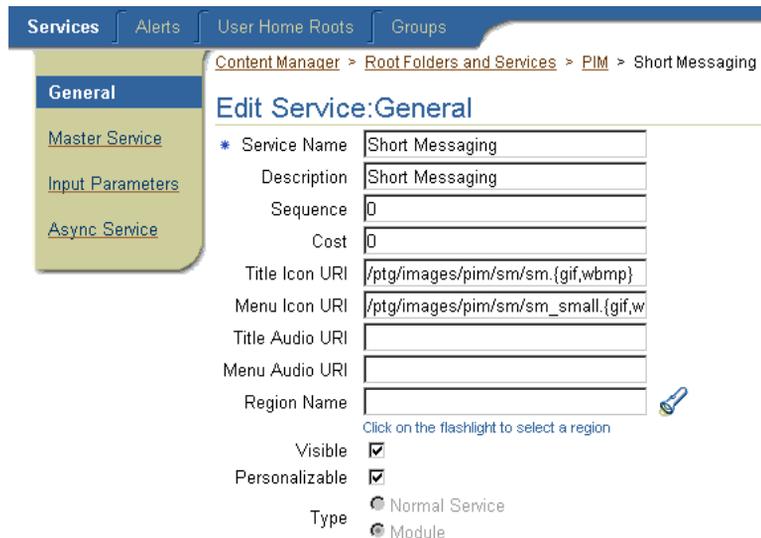
The General screen includes the following parameters.

Table 8-1 Parameters of the General Screen

Parameter	Value
Service Name	The name of the service. This is a required field.
Description	A description of the service.
Sequence	The order in which services and services appear on output devices. By default, these appear in order by sequence number, then name. You can enter values in the sequence fields to rearrange the order in which the services appear and then set parent folder renderer type as System, and the parent folder sorting option as Sequence Number. By default, Wireless sorts services and services in ascending order by sequence number, then by name.
Cost	The invocation cost to the user for accessing the service. If the service cost is not 0 (zero), then Wireless logs the service invocation in the **tx_panama.log** file.
Language	A drop-down list of display languages for the service. Users will not be able to access a services if their display language differs from that associated with this service.

Table 8-1 Parameters of the General Screen

Parameter	Value
Title Icon URI	The URI of an image used as the icon that appears on top of the screen when this service becomes the current service. You do not need to specify the format type in this URI, as Wireless selects the image format appropriate to the user's device.
Menu Icon URI	The URI of an image used as the icon that appears next to the service in a menu listing. You do not need to specify the format type in this URI, as Wireless selects the image format appropriate to the user's device.
Title Audio URI	The URI of the audio file (for example, a **.wav** file) read aloud by voice-reader software when users access a service. You do not need to specify the format type in this URI, as Wireless selects the audio file format appropriate to the user's device.
Menu Audio URI	The URI of the audio file (for example, a **.wav** file) read aloud by voice-reader software along with the service in a menu listing. You do not need to specify the format type in this URI, as Wireless selects the audio file format appropriate to the user's device.
Region Name	The area, such as a continent, country, or city, that is associated with the service. If you assign a region to a service, then users can only view that service and its contents when they are in the assigned region.
Visible	Selecting this check box makes the service visible to the end user. If you do not select this option, then then end users cannot see or access this service. You may want to set the services that are under construction as invisible to end users.
Personalizable	Selecting this option enables end users to customize their user views in the Wireless customization or on the device for reordering, hiding, or showing this service.
Type	Select Module to create a service that can be deployed as a mobile service; select Normal to create a service that is not a mobile service.

3. Edit the values as appropriate.

4. Click Apply to save your changes. Clicking Cancel clears your changes.

8.3.2.1 Editing the OMP URL for a Mobile Service

If the content developer designed the master service on which this service is based as a mobile service, then you can edit the OMP URL address of the mobile service called in the Master Service screen. All mobile services are identified by the OracleMobile protocol (OMP). You can also enter the URL for the configuration page of the mobile service. Clicking Apply saves your changes; clicking Cancel

returns the OMP URL and Module Configuration URL values to their original state. You cannot edit or select another master service from this screen.

Figure 8–1   Editing the URLs for Mobile Services
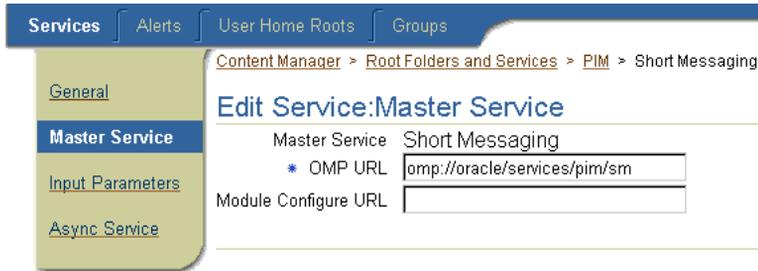
8.3.2.2 Editing the Input Parameters

The input parameters for the service are those set for the master service (and its adapter) on which you based your service. The parameters that you edit using this screen include those created by the Service Designer, as well as parameters that are specific to the adapter used by the master service. For example, if the mobile service that you edit is based on a master service using the HttpAdapter, then the parameters would include the following:

Table 8–2   Input Parameters for an HttpAdapter-Based Master Service

Parameter	Value
Application URL Address	The URL to the data source. If there is a query in the URL, then its characters must be properly URL- encoded. For example: "http://my.host.com:80/Hello.jsp?fn=First+Name&ln=Last+Name
Replace Relative URL	Whether the adapter should replace the relative URLs inside the result with absolute URLs. You should set this parameter to "false" only if you are sure that there will be no relative URLs inside the result. The default value is "true".
HTTP Method	The HTTP method used by the adapter to get the content of the URL. The methods are GET and POST; the default method is GET.
Input Encoding	The encoding scheme of the remote web server. 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.

The parameter values which the Service Designer set as default values are read-only in this screen and cannot be edited.

Editing the Parameters for a Mobile Service

For information on the PIM mobile service or location mobile service parameters, see Chapter 4, "Configuring Mobile Services for Voice and Wireless".

The address book mobile service includes four configuration parameters that pertain to all asynchronous-enabled mobile services:

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

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

After you have edited the input parameters, click Apply to save your changes. Clicking Cancel returns the input parameter values to their original values.

Figure 8–2   Editing Input Parameters

8.3.2.3 Editing the Asynchronous Agent Capabilities

Edit the values as follows:

- In the Short Name field, enter a short, easily referenced name for the service. This is a required field. End users use this name to invoke services through such means as email or SMS. Wireless checks to ensure that this name is unique.

- Enter a text delimiter in the Delimiter field. This delimiter separates the input arguments that users enter when invoking asynchronous services using such means as email or SMS. The space (" ") is the default delimiter.

- In the Help field, enter the command syntax or usage text. This text is returned to the user when the user issues an application help command to the Asynchronous Server.

- In the Delivery Address List section, enter the service address to which users send the service invocation messages. Enter this address in the format appropriate to the device types (SMS or email). For example, enter *stock@oraclemobile.com* as the service address for email. This is an optional parameter.

- In the Asynchronous Agent Argument List section, set the default value for each argument. Use the Move Up and Move Down to map the asynchronous agent arguments to the service input arguments.

Click Apply to save your changes; click Cancel to set the values back to their original state.

Figure 8–3   Editing Asynchronous Service Information

8.3.2.4 Configuring a Mobile Service

You can configure a mobile service by entering the URL of its configuration page in the Module Configure URL field of the Service Creation Wizard's Master Service screen. After you complete the creation of the service, you can access the configuration URL through the service editing screen.

To access a mobile service's configuration page:

1. Select the service.

2. Click Edit. The Service Editing screen appears.

3. From the left panel, select Master Service.

4. In the Master Service screen, click Configure. The configuration page appears.

8.3.2.5 Deleting a Mobile Service

To delete a service:

1. From the browse screen, select the mobile service you wish to delete.

2. Click Delete.

> **Note:**   You can access the functions for creating, editing, and deleting services by selecting a hyperlink in the Full Path column of the Search Result screen.

8.3.3 Testing a Mobile Service

The Content Manager enables you to test a mobile service and display it on a phone simulator.

To test a service:

1. From the Service Browse screen, select the mobile service you wish to test.

2. Click the telephone icon in the Run Services column that is located in the same row as the selected mobile service. The phone simulator appears, displaying the service.

> **Note:**   To test or debug an OC4J adapter service, you must copy the **.jsp** into the web-application/modules directory. For example, if the input parameter URL is *apps/myservice.jsp*, then **myservice.jsp** must be copied to .../wireless/j2ee/applications/webtool/webtool-web/modules/apps/

8.3.4 Debugging Services

The Content Manager enables you to simultaneously view a service on a phone simulator and in Wireless XML or device markup languages.

Transformers, in the form of XSLT stylesheets or Java classes, convert the content returned by Wireless adapters into the format best suited to a particular platform.

To test a service:

1. On the Browse Service screen, select a service.

2. Click Debug. The Debug Service screen appears.

3. Select from among the following output formats:

   - Adapter XML Result

     Selecting this result type enables you to see Wireless source content in the AdapterResult format, the intermediary format between the source and the target output device. Source content in the AdapterResult format must be converted into SimpleResult format before it can be delivered to a target device. If no text displays in the The Result panel, then no AdapterResult has been produced.

   - Wireless XML Result

     Selecting Wireless XML Result displays the source content in Wireless' SimpleResult format of the output that is returned by an adapter.

   - Device Result

     The DeviceTransformer drop-down menu lists the logical devices in the repository. Selecting a logical device enables you to see the final markup language for that device.

4. Click Set Parameters.

5. Click Run Service. The service appears on a phone simulator. The selected result appears in the Service Result window.

Setting the Display Length of the Logging File

The System Log section enables you to set the number of lines from the end of the server's system log file that you want to see.

To set the number of lines from the server: displays from the end of the system log.

1. Enter the number of lines from the end of the system log that you want to review:

2. Click Refresh Log. The specified number of lines from the end of the system log appear.

8.3.5 Moving Mobile Services

You can organize mobile services, folders, and bookmarks in a business context appropriate to a user group by using the Content Manager's Move function.

To move mobile services, folders, or bookmarks:

1. From the Service Browse screen, select the folder, service, or bookmark you want to move.

2. Click Move.

3. Select the new folder for the object. If necessary, click the folder to drill down to the appropriate subfolder. Wireless tracks your position in the hierarchy through the navigation path.

4. Click Move Here. The Content Manager displays the selected object in its new folder.

9

Managing Users

This document describes how you can create and modify Oracle9*i*AS Wireless users and user groups using the User Manager. Each section of this document presents a different topic. These sections include:

- Section 9.1, "Overview of the User Manager"

- Section 9.2, "Logging into the User Manager"

- Section 9.3, "Using the User Manager"

9.1 Overview of the User Manager

The User Manager is accessible to users granted the Administrator or Helpdesk roles. This tool enables you to perform such Helpdesk functions as creating and modifying users and groups and assigning services to users and groups.

User groups help you manage service access for multiple users. You can create user groups based on such considerations as subscription level, geographic location, or interests. Each user object represents a Oracle9*i*AS Wireless end user.

The name for the user object must be unique within Wireless. Users have an external identifier attribute. Using this ID, Wireless associates the user with an external provisioning system account. The value of the external ID, for example, may be a telephone number or user account number with an ID to an external repository.

9.1.1 Assigning User Roles

Wireless users can be assigned the following roles:

Table 9–1   Wireless User Roles

User Role	Description	Available Tools
Designers	Users assigned the Designer role perform the following functions:	Service Designer
	■ Create, modify, and delete and test master services and adapters.	
	■ Create, modify, delete, and test data feeders and master alerts.	
	■ Create, modify, and delete transformers for logical devices.	
	■ Develop location-based services.	
	■ Develop preset definitions.	
Organizers	Users assigned the Organizer role perform the following functions:	Content Manager
	■ Manage service folders.	
	■ Create services based on master services.	
	■ Create alerts based on master alerts.	
	■ Deploy applications to users and user groups.	
	■ Assign regions to location-based services.	
System	Users assigned the System role manage the system using the System Management Tool.	Wireless system management functions (through the Oracle Enterprise Manager console)

User Role	Description	Available Tools
Helpdesk	Users assigned the Help Desk role perform the following functions: ■ Manage users and groups. ■ Check user profiles and services. ■ Create new groups and users. ■ Manage user access privileges. ■ Assign different roles to a user. ■ View the services, alert, and asynchronous logs.	User Manager
End User	Users assigned the end user role are the consumers of Wireless services. End-users create their own accounts when they register with Wireless using the Wireless Customization. End users can also customize their own services either from a desktop or from a device. Customization for end-users includes: ■ Subscribe to alerts. ■ Create presets. ■ Manage user profiles. Every Wireless user is granted the Mobile Customer Role by default. This role is implicit to all users.	Device Portal Access

Wireless also allows anonymous users, those who do not register with Wireless but would like to try out the services as a guest. You can create an anonymous user account for each group. All unregistered users share the guest account to invoke services owned by the group. A guest user cannot personalize services.

9.1.1.1 Enabling Users to Access the Wireless Webtools

You must assign roles to users with the User Manager rather than with other general-purpose user management tools, such as DAS. Users created using DAS or other OID tools are provisioned in Wireless only when the created user accesses the Wireless portal, device portal, or any of the PC-based tools for the first time. These provisioned users do not have the assigned roles needed to access the Wireless webtools. For example, a user must have the *Designer* role to access the Service

Designer. If a user with no assigned roles tries to log in to a Wireless webtool, then Wireless displays the following Single Sign-On error:

Your session has timed out. Please log on again.

The user can successfully log in to the Wireless webtool (or other components) only after you assign the user a role. See Section 9.3.4 for information on creating a user and assigning user roles.

9.2 Logging into the User Manager

Before using the User Manager, you must first log in as follows:

1. Access the login page through the following URL:

   http://hostname:7777/webtool/login.uix

   > **Note:** 7777 is the default port number for Oracle9*i*AS Wireless. The port number range is 7777 to 7877. To ensure that you are using the correct port number, check the port number for Oracle9*i*AS Wireless stored in [Oracle home]/install/portlist.ini. For more information on port usage, see Oracle9*i* Application Server Installation Guide and the Oracle9*i* Application Server Administrator's Guide.

2. Enter your user name and then enter your password. If you are an administrator, enter *orcladmin* as your user name. (The password is set during installation, but can be changed with the User Manager.)

9.3 Using the User Manager

After you have successfully logged into the User Manager, the tool defaults to the User tab, displaying the Users screen.

Figure 9–1   The Search User Result Screen

The Search User Result screen enables you to search for users and as well as create and edit user profiles, and delete users.

9.3.1 Searching for Users

The Users subtab contains User Name, Display Name, and Group fields that enable you to find current Wireless users. The Search User Result's screen displays search results as follows:

Table 9–2   Elements Search User Result Screen

Label	Definition
User Name	The name of the user.
Display Name	The display name of the user.
Group Name	The group to which the user has been assigned.
Role Name	The role (or roles) assigned to the user. For information on user roles, see Section 9.1.1.

To find users:

1. Enter the user's name in the User Name field.

2. Enter the user's display name, if known, in the Display field.

3. From the drop-down list, select the group to which the user belongs.

4. Click the Search button. The list of users corresponding to the search criteria appear. To find all users belonging to a specific group, select the name of the group in the Group field and the click Search.

9.3.1.1 Refining Searches

You can narrow your searches by adding the display name of the user in the Display Name field and then by clicking Go.

You can broaden your search to display all current users by entering a wildcard (* or %) in the User Name field and then by clicking Go.

You can insert wildcards in place of characters. Wildcards can replace all of the characters from the current position to the end of the string. Use the question mark (?) to replace a single character.

The user administrator can display all users belonging to a group by selecting the group name.

9.3.2 Viewing User Information

The View Services button enables you to view and test the services belonging to a selected user. Using this button, you can browse the services, bookmarks, folders, and alerts created by a single user.

Selecting a user and then clicking the View Services button displays the following:

Table 9–3   User Information

Element	Description
Type	The type of objects created by the selected user.
Name	The display name of the folder, service, or bookmark.
Object ID	The Object ID (OID) of the service or module in the database.
Master Service	The master service on which the invoked the user's services are based.
Test	Clicking the phone icon enables you to view the service on a phone simulator.
Visible	If the column displays "true", the object is visible and therefore accessible to an end user. If "false", then the object is not visible.
Sequence	The customized order in which services and folders appear on output devices. By default, these appear in order by name.

Element	Description
Last Modified	The last time an object was modified.

9.3.3 Viewing Activity Logs

The User Manager enables you to view a user's activity within a specific time frame through activity logs that display the accessed asynchronous services, alerts, and services. In addition, these activity logs tell you if Wireless dispatched services successfully.

Figure 9–2   The Activity Log Buttons

View Async Log   View Alert Log   View Service Log

To view an activity log:

1.   Select a user.

2.   Select an activity log.

3.   Click Go. The activity statistics display.

The User Manager displays the following for asynchronous service statistics for a selected user:

Table 9–4   Asynchronous Log

Element	Description
Short Name	The name of the asynchronous service (for example, *ST* for a stock quote service).
ID	The OID of the asynchronous agent service in the database.
Device Address	The address of the user's device receiving the alert.
Server Address	The address of the asynchronous service.
Delivery Type	The delivery type for the asynchronous service (for example, SMS).
Receiving Time	The time the asynchronous agent engine received the request.
Error Description	A message describing how Wireless failed to respond to the asynchronous service.

The User Manager displays the following for alert statistics for a selected user:

Table 9–5   Alert Log Statistics

Element	Description
Alert Name	The name of the alert.
Alert ID	The OID of the alert in the database.
Device Address	The address of the user device receiving the alert.
Device Type	The type of logical device receiving the alert (for example, WAP-Push, SMS, or Email).
Dispatch Time	The time Wireless sent the message.
Message Status	Whether Wireless successfully sent the message. 0 indicates that Wireless successfully sent the message; 1 indicates that Wireless failed to send the message.

The User Manager displays the following for service statistics for a selected user:

Table 9–6   Service Log Statistics

Element	Description
Service Name	The name of the service
Service ID	The OID of the service in the database.
Service Type	The type of object (folder, bookmark, service, or local module) accessed by the user..
Invocation Time	The time the user accessed the service.
Invocation Status	Whether Wireless successfully executed the service. 0 indicates that Wireless successfully launched the service; 1 indicates that Wireless failed to launch the service.

9.3.3.1 Selecting a Time Frame

You can view the activity log for a specific period using the *From Date* and *To Date* fields. You can set starting and ending dates either by entering them in the fields in the *mm/dd/ yyyy* format, or by picking them from the calendars. Click Go after you have completed entering the date range.

> **Note:** . The default *From* date is midnight of the previous day. Both the *From* and *To* dates assume midnight of the selected day.

9.3.3.2 Printing an Activity Log

You can print an activity log by clicking Printable Page. This printed page contains text and has no headers or footers. Use the browser's Back button to navigate from the printed page.

9.3.4 Creating Users

The Create User screen (invoked by clicking the Create button) contains a set of parameters that administrators set to create and configure new users.

> **Note:** Most end users create their own user accounts through the self-registration in device portal access (http://hostname:7777/ptg/rm).

The Create User screen includes the following required parameters.

Table 9–7 Parameters for the Create User Screen

Parameter	Value
User Name	The name of the user. Note: this is case-sensitive.
Email Address	The the email address of the user.
Password	The user's password. Note: the password is case-sensitive.
Password Confirmation	The user's password entered again.
Group	The groups to which you can assign the user. Using the arrow keys, you can select (> or >>) or remove (< or <<) a user from a group.
Roles	The roles to which you can assign a user. Using the arrow keys, you can select (> or >>) or remove (< or <<) a user from a role. If you do not select a role, then the user has end-user privileges and cannot access any Wireless tool. A Helpdesk user can only create other Helpdesk users or end users.

In addition to the required fields, you can supplement the user information by adding additional employee profile information, a photograph of the user, the user's home address, public group assignment, and access to Oracle Reports and Forms-based applications.

To create a user:

1. From the User screen, select Create. The Create a New User screen appears.

2. Enter the user name in the User Name field. This is a required field.

3. Enter the user's email address in the Email Address field.

4. Enter a password for the user in the Password field. This is a required field.

5. Enter the password again in the Password Confirmation field. This is a required field.

6. Enter the additional information as needed.

7. Click Submit to complete the creation of the user. The new user appears in the user list in the Browse User screen.

9.3.5 Editing User Profiles

To edit a user's profile:

1. From the Users screen, select the user whose profile you wish to change.

2. Click Edit. The edit screen appears, displaying the current user profile information for the selected user.

3. Edit the values as needed. See Section 9.3.4 for information on creating a user profile.

4. Click Edit. The Users browse screen appears, displaying any changes pertinent to the labels in the Users screen (for example, the user name) visible.

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

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

1. From the Netscape tool bar, select Edit.

2. Select Preferences from the drop-down menu. The Preferences dialog appears.

3. From the Category tree, select Fonts to display the Fonts dialog.

4. In the Fonts dialog, select Unicode from the *For the Encoding* drop-down list.

5. From the *Variable Width Font* and *Fixed Width Font* drop-down lists, select the font that supports the preferred language. For example, if you select Chinese as your preferred language, you can select MS Song to view the page in Chinese.

9.3.6 Managing Groups

The User Manager enables you to create user groups that organize the user community. Once created, the Content Manager assigns services appropriate to these user groups. Groups (and the users who belong to them) do not own the objects assigned to them; they view them.

Selecting the Group tab displays the Group screen, which you use to create, edit and delete Wireless user groups. You can assign these groups to users. See Section 9.3.4 for more information on assigning users to groups.

9.3.6.1 Creating a Group

To create a new user group:

1. In the Create New Group section, enter the name of the group you want to create in the Group Name field.

2. Enter, if needed, a description of the group.

3. Click Create. The new group appears in the Group Name section.

9.3.6.2 Editing a Group Name

To edit a group name:

1. In the Create New Group section, select the group whose name or description you want to change.

2. Edit the group name or description as needed.

3. Click Apply.

9.3.6.3 Deleting a Group

To delete a group:

1. Select the radio box next to the group that you want to remove from the Wireless repository.

2. Click Delete.

Part III

System Management Guide

10

System Management Overview

This document describes system management functions. Each section of this document presents a different topic. These sections include:

- Section 10.1, "Overview of Voice and Wireless Management"

- Section 10.2, "Accessing Wireless System Management through OEM"

- Section 10.3, "Managing the Wireless Server"

- Section 10.4, "Managing Wireless Sites"

10.1 Overview of Voice and Wireless Management

The system management functions of Oracle9*i*AS Wireless enable you to centrally administer and configure Oracle9*i*AS Wireless. All the configuration data is stored in the database. In addition, you can monitor real-time performance data to assess system health and collect data to display historical trends.

You can manage Oracle9*i*AS Wireless from two views: the Wireless Server view and the Site view.

The Wireless Server view enables you to monitor and manage system performance for each server-level process and to start and stop the server processes both as a group and individually.

The Site view provides you with an overall view of all processes and their respective machines. The site view enables you to create a common configuration for these machines.

10.2 Accessing Wireless System Management through OEM

You access the system management and configuration functions for Wireless through the Oracle Enterprise Manager (OEM) console.

To access the Oracle Enterprise Manager console, you enter the following URL into a browser:

> http://Server:1810

> **Note:**   The default ports are 1810 and 1811. The port number range is 1812 to 1820. To ensure that you are using the correct port number, check the port number for Oracle9*i*AS Wireless stored in [Oracle home]/install/portlist.ini. For more information on port usage, see the installation guide for the Oracle9*i* Application Server and the *Oracle9i Application Server Administrator's Guide.*

Enter your user name and password. The Oracle9*i*AS Enterprise Manager Home Page appears. From the System Components table, select Wireless. The Wireless page appears and defaults to the Wireless Server tab.

10.2.1 Using the Oracle Enterprise Manager

You can use the Oracle Enterprise Manager for administering Wireless. Oracle Enterprise Manager provides a Web-based tool that enables you to perform some of the management tasks described in this book.

For more information about the Oracle Enterprise Manager, see *Oracle9i Application Server Administrator's Guide.*

10.2.1.1 Running Components

The following components must be running to enable wireless and voice access to the Oracle Collaboration Suite components:

Middle-Tier

- Web Cache

- Apache

- OC4J_Wireless

- OC4J_Portal

- Wireless

- Enterprise Manager Daemon (EMD)

Infra-Tier

- Metadata Repository

- Enterprise Manager Daemon (EMD)

- SSO

- SSO Replicator

10.2.1.2 Starting and Stopping Components from the Oracle Enterprise Manager

You can start these components from the Oracle Enterprise Manager:

1. Navigate to the Instance Home Page on the Enterprise Manager Web site.

2. In the General section of the Instance Home Page, click *Start All*, *Stop All*, or *Restart All*. In the System Components section, review the status of each component and confirm it was started or stopped.

See the *Oracle9i Application Server Administrator's Guide* for further information, such as starting and stopping components using commands and dependencies for starting and stopping components.

Figure 10–1 The Instance Home Page
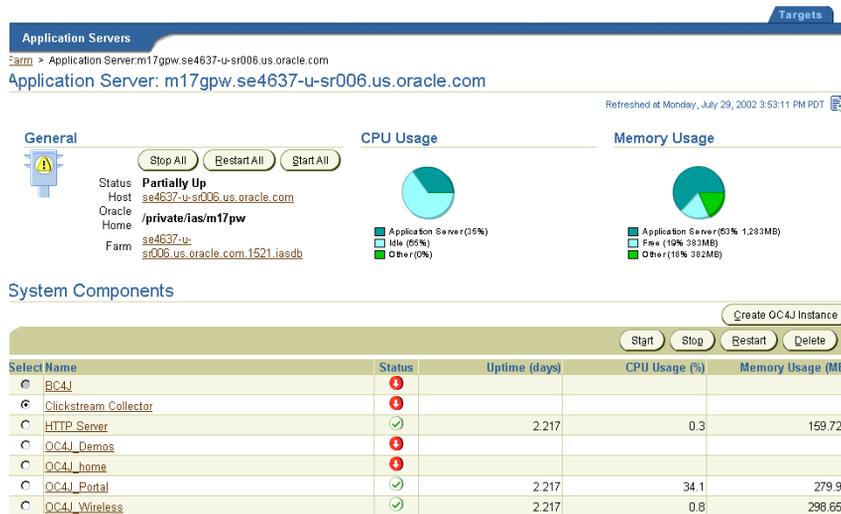
10.2.1.3 Starting and Stopping Wireless from the Oracle Enterprise Manager

To stop or start the Wireless:

1. Access the device portal page from a browser.

2. Click the link corresponding to the application server running the Wireless middle-tier.

3. Click the Wireless link.

4. Click *Start All.*

10.3 Managing the Wireless Server

You use the Wireless Server tab to view the performance of the server and the processes.

Figure 10–2   The Wireless Server Tab

The Wireless Server tab is divided into sections called General, Response and Load, Processes, and Administration.

The Response and Load section displays the overall performance of the Wireless Server. The Processes section includes a table that lists the following process types:

- Wireless Web Server
- Alert Engine
- Asynchronous Server
- Data Feeder
- Messaging Server
- Performance Monitor
- Industrial Device Portal

- PIM Notification Dispatcher

These process types, which represent the top-level of the Wireless server, display as hyperlinks in the Processes table; by clicking one, you drill down to screens that enable you to manage the processes themselves. For example, clicking the Data Feeder hyperlink in the Processes table enables you to navigate to the processes screen, which lists the current data feeder processes.

The processes screen includes a table that lists each processes by name and notes the current status for each process, such as started (running), stopped (suspended), or uninitialized (the process has never been run). The processes screen for the alert engine, data feeder, messaging server, and performance monitor process types also include columns that indicate if a process has been enabled, or if it participates in cache synchronization with other processes. In these columns, *true* indicates that the process has either been enabled or can participate in cache synchronization with other processes; a value of *false* indicates that the process has not been enabled or cannot participate in cache synchronization with other processes.

In addition to noting the status of a process, you can use the processes screen to perform such functions as adding, editing, deleting, or starting and stopping a selected a process.

> **Note:** In the Wireless Server tab, you can view all processes by clicking Expand All. Likewise, you can hide all the processes by clicking Collapse All. If you view and manage many processes, you can create a view that isolates these processes of one type by clicking Focus.

10.3.1 Accessing a Wireless Process

By selecting a process and clicking the View Details button (or by clicking the process itself, which is represented as hyperlink), you can drill down to a detail screen for the selected process. From the detail screen, you can start and stop the process, view its performance statistics, and configure it. A detail screen includes sections entitled General, Response and Load, Performance, and Administration.

Figure 10–3 The Processes Screen

From the General section, you can start or stop the selected performance monitor process by clicking the Start or Stop buttons. Next to the Current Status label, the General section displays the current state of the selected process, noting it as started stopped, or uninitialized. The General sections of the detail screens for the alert engine, data feeder, messaging server, and performance monitor process types include the Enabled label. If *true* displays next to this label, then the has been enabled; if *false* displays, then the process has not been enabled.

The Response and Load section of the detail screen lists the overall performance statistics for the selected process. The Performance section lists performance metrics types for the selected process. From the Administration section of the screen, you can configure and administer the selected process.

For information on starting and stopping the processes on the server, see Chapter 11, "Server Administration". For information on configuring the server-level processes, see Section 12.1 in Chapter 12, "Server Configuration". See Section 13.1 in Chapter 13, "Server Performance Monitoring" for information on viewing the performance metrics for a process on the server.

Figure 10–4   A Detail Screen for a Process

10.3.1.1 Navigating Through Wireless Management

Managing Wireless involves drilling down through the top-level screens, such as the Wireless Server tab or the Site tab (described in Section 10.2), to the detail and configuration screens for a selected process. This traversal displays as a navigation path at the top of each screen. For example, Figure 10–5 displays the navigation path from the Wireless Server tab to the detail screen for a data feeder process called *df1*. Each screen that you visit in this path displays as a hyperlink, enabling you to move back to any screen you have visited by clicking the hyperlink for that screen.

Figure 10–5   The Navigation Path

10.4 Managing Wireless Sites

The Site tab enables you to monitor and manage all the processes which run against a common database configuration. The site screen, invoked when you select the Site tab, displays overall site performance metrics in the Response and Load section. The Response and Load section includes overall performance statistics for the site-wide processes of the wireless web server.

Wireless Management provides you with current snapshots of the system performance metrics of the Wireless Web server, alert, and feed components that enable you to assess system health and performance. These individual metrics may not directly point to a fault in the system; however, building an abductive reasoning model from the data collected by these metrics enables you to diagnose the system's health.

The Site screen includes a Processes table that displays the site-wide process types. The individuals processes are listed under the process types. For each site-wide process, the table lists the name of the process, the machine on which it runs, and current status of the process (started, stopped, or uninitialized).

Like the Wireless Server screen, these process types are hyperlinks which give you access to detail screens that enable you to both configure a selected process and view its performance metrics. For more information on configuring the site-wide processes, see Section 12.2 in Chapter 12, "Server Configuration". See Section 13.2 in Chapter 13, "Server Performance Monitoring".

The Administration section of the screen enables you to configure such components as the proxy server, the JDBC connection pool, and runtime configuration (including session life time). In addition, you can upload and download repository objects and register providers. For more information, see Chapter 12, "Server Configuration".

> **Note:** In the Site tab, you can view all processes by clicking Expand All. Likewise, you can hide all the processes by clicking Collapse All. If you view and manage many processes, you can create a view that isolates these processes of one type by clicking Focus.

Figure 10–6   The Site Tab

11

Server Administration

This chapter describes how to manage the Wireless Server. Each section describes a separate topic. These sections include:

- Section 11.1, "Managing the Wireless Server"
- Section 11.2, "Viewing the Server Processes"
- Section 11.3, "Viewing Log Files"

11.1 Managing the Wireless Server

From the Wireless Server tab, you can start and stop Wireless processes. Start these processes at the same time using the Start All and Stop All buttons, or individually by clicking the start and stop buttons in either the processes or detail screens.

Figure 11–1   The Wireless Server Tab

11.2 Viewing the Server Processes

The process types, which are hyperlinks in the Processes table of the Wireless Server tab, represent the top-level of the Wireless server. By default, these Wireless processes display in an expanded mode, meaning that each node representation of the processes on the server appears in the Processes table. From an expanded view, you can see which processes are started (running), stopped (suspended), or uninitialized (the process has never been run).

Clicking the nodes enables you to drill down to the processes screens and the detail screens for a selected process. These screens, which display the current state of a selected process (started, stopped, or uninitialized), include buttons that enable you to start or stop a selected process. In addition, these screens enable you to create, edit, delete, and configure a process.

> **Note:**   Because it may take a few moments a process to start or stop, you must click the browser's Refresh button to get the current running status of a data feeder process.

See Section 10.3 in Chapter 10 for information on the processes or detail screens. For more information on creating, editing, deleting, and configuring processes, see Chapter 12, "Server Configuration".

Figure 11–2   Viewing a Wireless Server Process from the Processes Screen

Each section describes how to start or stop a Wireless process. These sections include:

- Section 11.2.1, "Starting and Stopping a Messaging Server Process"
- Section 11.2.2, "Starting and Stopping a Performance Monitor Process"
- Section 11.2.3, "Starting and Stopping a PIM Notification Dispatcher Process"

11.2.1 Starting and Stopping a Messaging Server Process

To start a messaging server process:

1. From the Wireless Server screen, click the Messaging Server hyperlink. The Messaging Server processes screen appears.
2. Select the messaging server process you wish to start.
3. Click the Start button. The Status section displays "Started".

To stop a messaging server process:

1. From the Wireless Server screen, click the Messaging Server hyperlink. The Messaging Server processes screen appears.

2. Select the Messaging server process you wish to stop from the Messaging Server Processes section.

3. Click the Stop button. The Status section displays "Stopped".

11.2.2 Starting and Stopping a Performance Monitor Process

To start an performance monitor process:

1. From the Wireless Server screen, click the Performance Monitor hyperlink. The Performance Monitor processes screen appears.

2. Select the performance monitor process you wish to start from the Performance Monitor Processes section.

3. Click the Start button. The Status section displays "Started".

To stop an performance monitor process:

1. From the Wireless Server screen, click the Performance Monitor hyperlink. The Performance Monitor processes screen appears.

2. Select the performance monitor process you wish to stop.

3. Click the Stop button. The Status section displays "Stopped".

11.2.3 Starting and Stopping a PIM Notification Dispatcher Process

To start a PIM notification dispatcher process:

1. From the Wireless Server screen, click the PIM Notification Dispatcher hyperlink. The PIM Notification Dispatcher processes screen appears.

2. Select the process you wish to start.

3. Click the Start button. The Status section displays "Started".

To stop a notification server process:

1. From the Wireless Server screen, click the PIM Notification Dispatcher hyperlink. The PIM Notification Dispatcher processes screen appears.

2. Select the process that you wish to stop.

3. Click the Stop button. The Status section displays "Stopped".

11.3 Viewing Log Files

The System Log Files screen, invoked by clicking System Log Files, displays all the files under the log directory on the Wireless Server machine. Wireless writes server error information to the files and directory specified in the configuration.

Figure 11–3   The System Log Files Screen

You can view a log file by clicking a file name link. (You can drill down to a subdirectory by clicking the link for that directory).

Figure 11–4   Viewing a System Log File
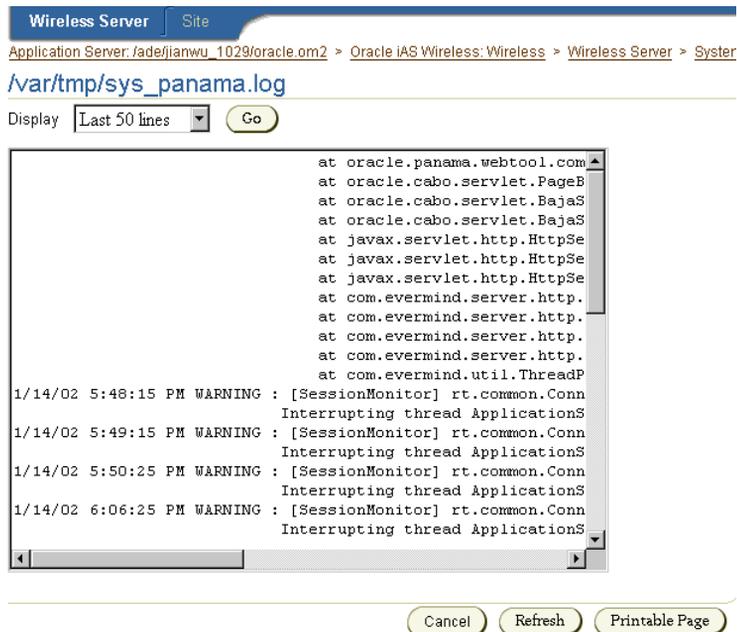
In addition to error messages, Wireless provides extensive runtime exception logging. When fatal exceptions occur, Wireless logs the exceptions and stack traces in the global log file.

Viewing and Printing Log Files

You can specify number of lines from the end of the log file to be displayed. You can also print a selected segment of the file as a text file by clicking Printable Page. The screen displays the segment of the log file to be printed. Use the browser's back button to navigate from this screen.

> **Note:**   You should have the log information available if you need to contact Oracle Support Services.

12

Server Configuration

This chapter describes how to configure the Wireless server at both the current host level and at the site level. Each section of this chapter describes a different topic. The topics include:

Section 12.1, "Server Configuration for the Current Host"

Section 12.2, "Configuring the Server for the Entire Site"

Section 12.3, "Other Configuration"

Section 12.4, "Administering the Site"

12.1 Server Configuration for the Current Host

From the Wireless server screen, you can manage and configure the processes in the Processes section. To access functions to manage and configure a process, you first click on a processes in the Processes section, and then drill down to the detail screen for that process. You can also start and stop a process from this screen and view both the performance metrics for the selected process. For more information on starting and stopping processes, see Chapter 11, "Server Administration". For more information on performance metrics, see Chapter 13, "Server Performance Monitoring".

You perform such management tasks as creating or deleting a process, through the processes screen. You can access this screen by clicking a process type in the Processes section of the Wireless Server tab.

You configure a process on the server using the detail screen, which you access by either drilling down from a selected process or by clicking the View Details button in the processes screen.

Figure 12–1   The Detail Screen for a Wireless Process on the Server

12.1.1 Managing Asynchronous Server Processes on the Server

The detail screen for an asynchronous server process on the server enables you to view the status of the selected asynchronous server process (stopped, started, or uninitialized) or the performance metrics for the selected process. For more information on asynchronous server process performance metrics, see Section 13.1.2 in Chapter 13, "Server Performance Monitoring".

12.1.2 Managing Messaging Server Processes on the Server

You can create or delete a messaging server process from the processes screen.

12.1.2.1 Creating a Messaging Server Process on the Wireless Server

To create an messaging server process on the Wireless Server:

1. In the Messaging Server screen, enter the name for the messaging server process in the Process Name field.

2. Click Add. The new messaging server process appears as a hyperlink in the Messaging Server Processes section of the screen.

12.1.2.2 Deleting a Messaging Server Process on the Wireless Server

To delete a messaging server process:

1. From the Wireless Server screen, click the Messaging Server hyperlink. The Messaging Server screen appears.

2. From the Messaging Server Processes section, select the messaging server process you wish to delete.

3. Click the Delete button.

12.1.3 Configuring a Messaging Server Process

From the messaging server process detail screen, you can perform the following configuration tasks:

- Section 12.1.3.1, "Configuring the Process Identity"

- Section 12.1.3.2, "Configuring the JDBC Connection Pool"

- Section 12.1.3.3, "Configuring the System Logging"

- Section 12.1.3.4, "Configuring the Driver Instance"

12.1.3.1 Configuring the Process Identity

To configure a process identity:

1. Enter the process name. This is a required field.

2. Select, or clear the Process Enabled check box.

3. Select Participate in Cache Synchronization to enable cache synchronization with other processes.

4. Click Apply. In the General Status section of the detail screen, the enabled status for the process displays as *true*. If you wish to prevent the process from participating in cache synchronization, the enables status displays as *false*.

12.1.3.2 Configuring the JDBC Connection Pool

To configure the connection pool:

1. In the overview screen, click JDBC Connection Pool. The JDBC Connection Pool screen appears.

2. Enter the following parameters in the JDBC Connection Pool screen:

   a. Enter the minimum number of connections for the JDBC connection pool. The default is 1.

   b. Enter the maximum number of connections for the JDBC connection pool. The default is 100.

   c. In the Connection Allocation Increment field, enter the number by which the allocation of new connections to the JDBC connection pool can be incremented. The default is 1.

3. Click Apply.

> **Note:** You configure the JDBC connection pool at either the site or the process level. If you do not specify the JDBC connection pool values at the process level, then the system uses the values set at the site level.

12.1.3.3 Configuring the System Logging

To configure the system logging:

1. Enter a name for the log file name pattern.

2. In the Maximum Log File Size field, enter the file size (in bytes).

3. Select a log level warning. The warning can contain any of the following: Warning, Error, or Notify.

4. Click Apply.

> **Note:** You configure the system logging at either the site or the process level. If you do not specify the logging values at the process level, then the system uses the values set at the site level.

12.1.3.4 Configuring the Driver Instance

The site configuration of the messaging server driver defines a driver and its parameters (that is, the driver definition). The server configuration selects a driver and assigns the parameter values.

To configure the driver instance for a messaging server process:

1. From a server process screen, click the Driver Instances Configuration hyperlink. The Driver Instances screen appears.

2. Select a driver.

3. Click Add Driver Instance, Delete, or Edit. To add a driver instance, see Section 12.1.3.5. To edit a driver instance, see Section 12.1.3.6. To delete a driver instance, see Section 12.1.3.7.

12.1.3.5 Adding a Driver Instance to a Messaging Server Process

You must create drivers for delivery type you use. To add a driver instance to a messaging server process:

1. From messaging server process screen, select the Driver Instances Configuration hyperlink. The Driver Instances screen appears.

2. In the Driver Instances screen, click Add Driver Instance. The Add Driver Instance screen appears.

3. Complete the Add Driver Instance screen as follows:

   a. Enter a name for the driver instance.

   b. Select from the available drivers, which are defined at the Site level.

4. Click Go.

   a. Enter the number of sending threads. This option appears if this driver is configured to send messages at the site level.

   b. Enter the number of receiving threads. This option appears if this driver is configured to receive messages at the site level.

   > **Note:** The site-level configuration for a driver dictates whether the driver can both send and receive threads. For more information, see Section 12.2.3

5. Enter the driver-specific parameters, which are defined for the selected driver at the site level.

6. Click Create.

> **Note:** The driver instance configuration applies only to the messaging server process.

12.1.3.6 Editing a Driver Instance

To edit a driver instance:

1. From a server process screen, click the Driver Instances hyperlink. The Driver Instances screen appears.

2. Select a driver.

3. Click Edit. The values for the selected driver appear.

4. Change the driver's values as needed. For more information, see Section 12.1.3.5.

5. Click Apply to commit your changes.

12.1.3.7 Deleting a Driver Instance

To delete a driver instance:

1. From the messaging server process screen, click the Driver Instance Configuration hyperlink. The Driver Instance screen appears.

2. From the drop-down list, select a driver.

3. Click Delete.

12.1.4 Managing Performance Monitor Processes on the Server

The Performance Monitor Processes screen enables you to create or delete a performance monitor process.

12.1.4.1 Creating a Performance Monitor Process on the Wireless Server

To create a performance monitor process on the Wireless Server:

1. In the Performance Monitor screen, enter the name for the performance monitor process in the Process Name field.

2. Click Create. The new performance monitor alert process appears as a hyperlink in the Performance Monitor Processes section of the screen.

> **Note:** You can have only one performance monitor process per host. Therefore, if one performance monitor process already exists, then the Create option does not appear.

12.1.4.2 Deleting a Performance Monitor Process on the Wireless Server

To delete a performance monitor process:

1. From the Wireless Server screen, click the Performance Monitor hyperlink. The Performance Monitor screen appears.

2. From the Performance Monitor Processes section, select the performance monitor process you wish to delete.

3. Click the Delete button.

12.1.5 Configuring a Performance Monitor Process

You can perform the following configuration tasks from the detail screen for a performance monitor process.

- Chapter 12.1.5.1, "Configuring the Process Identity"

- Chapter 12.1.5.2, "Configuring the JDBC Connection Pool"

- Chapter 12.1.5.3, "Configuring the Thread Pool"

12.1.5.1 Configuring the Process Identity

To configure a process identity:

1. Enter the process name. This is a required field.

2. Select, or clear the Process Enabled check box.

3. Select Participate in Cache Synchronization to enable cache synchronization with other processes.

4. Click Apply. In the General section of the detail screen, the enabled status for the process displays as *true*. If you wish to prevent the process from participating in cache synchronization, the enables status displays as *false*.

12.1.5.2 Configuring the JDBC Connection Pool

To configure the connection pool:

1.   In the Administration section of the detail screen, click JDBC Connection Pool. The JDBC Connection Pool screen appears.

2.   Enter the following parameters in the JDBC Connection Pool screen:

     a.   Enter the minimum number of connections for the JDBC connection pool. The default is 1.

     b.   Enter the maximum number of connections for the JDBC connection pool. The default is 100.

     c.   In the Connection Allocation Increment field, enter the number by which the allocation of new connections to the JDBC connection pool can be incremented. The default is 1.

3.   Click Apply.

12.1.5.3 Configuring the Thread Pool

To configure the thread pool:

1.   Enter the number of threads. This is the number of threads that the performance monitor process uses to collect performance data and write to the data base. For more information, see Chapter 14, "Activity and System Logging".

2.   Click Apply.

12.1.6 Managing PIM Notification Dispatcher Processes on the Server

The PIM notification dispatcher processes screen enables you to create or delete a notification server process.

12.1.6.1 Creating a PIM Notification Dispatcher Process on the Wireless Server

To create a PIM notification dispatcher process on the Wireless Server:

1.   In the processes screen, enter the name for the PIM notification dispatcher process in the Process Name field.

2.   Click Create. The new process appears as a hyperlink in the table.

> **Note:** You must configure the TCP/IP port number for the calendar listener after you create a PIM notification dispatcher process. For more information, see Section 12.1.6.3.

12.1.6.2 Deleting a PIM Notification Dispatcher Process

To delete a PIM notification dispatcher process:

1. Select the PIM notification dispatcher process

2. Click Delete.

12.1.6.3 Configuring a PIM Notification Dispatcher Process on the Wireless Server

You configure a PIM notification dispatcher through the *Process Identity and Port* screen, accessed by clicking the hyperlink in the Administration section of the detail screen. Using this screen, you can enable the selected PIM notification dispatcher process and synchronize its caching with other processes. In addition, you set the TCP/IP port number for the calendar listener used by a PIM notification dispatcher processes. The process listens on a TCP/IP socket for notifications sent by the calendar application. The calendar then connects, sends the notification, and then disconnects. To enable the calendar to connect to the PIM Notification Dispatcher (which in turn pushes the message to the Oracle9*i*AS Wireless transport layer) you must configure the TCP/IP port number for the calendar listener.

To configure a PIM notification dispatcher process:

1. Enter the process name. This is a required field.

2. Enable (or disable) the process by selecting or clearing the Enabled Process check box.

3. Check the Participate in Cache Synchronization check box to synchronize the cache of this process with others.

4. Enter the port number of the calender listener. This should be a port not in use, one in the range of 9000 - 9100.

5. Click Apply. If you enabled the process, then *true* appears next to the Enabled label on the process detail screen. If you disabled the process, then *false* appears in the process detail screen.

12.2 Configuring the Server for the Entire Site

You use the Site tab to configure components across the entire site.

From the Processes section, you can configure the processes for the site. Clicking a process invokes a detail screen, from which you can access both performance data and configuration functions.

12.2.1 Configuring the Site Processes of the Wireless Web Server

From the Administration section of the Wireless Web Server's detail screen, you can perform the following tasks:

- Section 12.2.1.1, "Configuring the Process Attributes"
- Section 12.2.1.2, "Configuring Folders"
- Section 12.2.1.3, "Configuring the Applications Image Directory"
- Section 12.2.1.4, "Configuring Events and Listeners"
- Section 12.2.1.5, "Configuring Hooks"

12.2.1.1 Configuring the Process Attributes

To configure the process attributes, select (or clear) the Participate in Cache Synchronization check box and then click Apply.

12.2.1.2 Configuring Folders

To configure the folder sorting order and display:

1. Designate the sorting order for folders on the output devices by using the arrows to select (> or >>) or remove (< or <<). The settings include:

    a. ORDER_NAME_ASC (This is the default setting.)

    b. ORDER_NAME_ DESC

    c. ORDER_SEQNO_ASC

    d. ORDER_SEQNO_DESC

    e. ORDER_DATE_ASC

    f. ORDER_DATE_DESC

> **Note:** The ascending (ASC) and descending (DESC) sorting orders cannot be selected for the same property. For example, you cannot select both ORDER_NAME_ASC and ORDER_NAME_DESC.

2. Enter the control number of services displayed under a folder at one time in the Display Service Size under a Folder field.

3. From the list box, select from among the following options, which dictate the order for the services in the user home folder for the default sorter hook:

   - `USER_ORDER_FIRST`

   - `GROUP_ORDER_SECOND`

   - `USE_ORDER_SERVICES`

4. Enter, as needed, the URIs for the sound and image files for the following folder display and sound components:

   - Generic Title Icon

   - Home Icon

   - Help Icon

   - Login Icon

   - Logoff Icon

   - Register Icon

   - User Info Icon

   - User Profile Icon

   - Customize Service Icon

   - Global Preset Icon

   - Setup Icon

   - Top Bar Image

   - Bottom Bar Image

   - Generic Title Audio

   - Home Audio

   - Help Audio

- Logoff Audio

- Register Audio

- Setup Audio

- Setup Audio

- Top Bar Audio

- Bottom Bar Audio

5. Click Apply. The Wireless Web Server screen reappears.

12.2.1.3 Configuring the Applications Image Directory

To configure the applications image directory, enter the directory containing the system image files.

12.2.1.4 Configuring Events and Listeners

Next, you configure the request, session, and response events using the Event and Listener screen. This screen, invoked by clicking the Event and Listeners hyperlink on the Wireless Web Server screen, displays event options and available listeners. Using this screen, you enable or disable event generation by selecting from among the event options and listeners. You also use the screen to add or remove a listener.

The Event and Listener screen includes the following configuration options. When you select the check box for one of these options, you enable it. If you do not select a check box, then the option is disabled, the default setting.

Table 12–1 Request, Session, and Response Event Options

Option	Definition
Request Event	
Enable 'before request' Event	Declares a request event to be "just received".
Enable 'after request' Event	Declares a request event as "request object has been released".
Enable 'transform begin' Event	Declares an request event to be "before the transformation".
Enable 'request begin' Event	Declares a request event to"begin being processed".

Option	Definition
Enable 'service begin' Event	Declares a request event to be "before the adapter is invoked".
Enable 'transform end' Event	Declares a request event to be "transformation complete".
Enable 'request end' Event	Declares a request event to be "request has been completely processed".
Enable 'service end' Event	Declares a request event to be "adapter execution complete".
Enable 'request error' Event	Declares a request event to be "error occurs during request processing."
Session Event	
Enable 'before session' Event	Declares a session event to be "before session starts".
Enable 'session authentication' Event	Declares a session event to be "session has been authenticated".
Enable "session begin" Event	Declares a session event to be "session has been validated".
Enable 'session end' Event	Declares a session event to be "session has expired (implicitly and explicitly)".
Enable 'after session' Event	Declares a session event to be "session object has been released".
Response Event	
Enable 'response error' Event	Declares a response event to be "error in response" object.

Adding a New Listener

To add a new listener:

1. Click Add Another Row.

2. Enter the name of the listener class For example, enter
   `oracle.panama.rt.event.Listener`.

3. Select the row.

4. Click Apply.

Deleting a Listener

To delete a listener:

1. Select a listener.

2. Click Delete.

Configuring the Request Event

1. In the Request Event section, select from among the following options:

   - Enable 'before request' Event

   - Enable 'after request' Event

   - Enable 'transform begin' Event

   - Enable 'request begin' Event

   - Enable 'service begin' Event

   - Enable 'transform end' Event

   - Enable 'request end' Event

   - Enable 'service end' Event

   - Enable 'request error' Event

2. Click Apply

3. Select a runtime listener.

4. Click Apply.

Configuring the Session Event

1. Select from among the following options

   - Enable 'before session' Event

   - Enable 'session end' Event

   - Enable 'session begin' Event

   - Enable 'session authentication' Event.

   - Enable 'after session' Event

2. Click Apply.

3. Select, add, or delete a listener.

4. Click Apply.

Configuring the Response Event

To configure the response event:

1. Select the Enable 'Response Error' Event option.

2. Click Apply.

3. Select, add, or delete a listener.

4. Click Apply.

5. Click Done. The Wireless Web Server screen reappears.

12.2.1.5 Configuring Hooks

You can select, or change the hook implementation class for a selected hook using the Hooks screen.

The screen includes the following hooks:

Table 12–2   Hooks Listed in the Hooks Screen

Hook	Description
`wireless.http.locator.sig non.pages.hook.class`	The hook to generate the sign-on page on the device. The default is `oracle.mwa.core.omap.panama.MWASignOnPage`.
`wireless.http.locator.cal ler.location.hook.class`	Declares the hook for which acquires the user's current location. The default is `oracle.panama.rt.common.LocAcq`.
`wireless.http.locator.ser vice.visibility.hook.clas s`	Declares the hook to check for the show or hide status when Wireless starts. The default is `oracle.panama.rt.common.ServiceVisiblity`.
`wireless.http.locator.lis tener.registration.hook.c lass`	Declares the hook for the event registration listener. The default is `oracle.panama.rt.common.ListenerRegistrat ion`.
`wireless.http.home.folder .sorter.hook.class`	Declares the hook for sorting a user's home folder contents. The default is `oracle.panama.rt.common.HomeFolderSorter`.
`wireless.http.locator.mob ile.id.hook.class`	Declares a hook to acquire a mobile ID. The default is `oracle.panama.rt.common.MobileIdHookImpl`.

Hook	Description
`wireless.http.locator.pre .processor.hook.class`	Declares a hook to be invoked before device transformation.
`wireless.http.locator.aut horization.hook.class`	Declares the hook for user service authorization. The default is `oracle.panama.rt.common.Authorizer`.
`wireless.http.locator.pos t.processor.hook.class`	Declares a hook to be invoked after device transformation.
`wireless.http.locator.dev ice.identifcation.hook.cl ass`	Declares the hook for identifying a logical device. The default is `oracle.panama.rt.hook.DeviceModels`.
`wireless.http.locator.loc ation.service.visibility. hook.class`	Declares the hook to show or hide the contents of a folder based on its current location. The Default is `oracle.panama.rt.hook.Folder.RendererPoli cy`.
`wireless.http.locator.fol der.render.hook.class`	Hook for a folder renderer. The default value is `oracle.panama.rt.common.FolderRenderer`.
`wireless.http.locator.ses sion.id.hook.class`	Declares a hook for generating the session ID. The default is `oracle.panama.rt.common.SessionIDGenerato r`.
`wireless.http.locator.aut hentication.hook.class`	Declares the hook for user authentication. The default is `oracle.mwa.core.omap.panama.OMAPAuthentic ation`.
`wireless.http.locator.use ragent.class`	Default implementation of the device recognition class. The default is `oracle.panama.core.xform.UserAgentImpl`.
wireless.http.locator.normalizead dress.hook.class	The hook for storing the address field of the DeviceAddress in normalized form, which is used to look up objects and to send the address by the transport. For example, the normalized form of an email delivery type can be lower-case letters, making the normalized form of Scott.Tiger@Oracle.com into scott.tiger@oracle.com. The normalized form of the SMS delivery type could be all non-numeric characters. For example, the normalized form for (650) 555-5000 is 6505555000. If some carriers have a space between the area code, then the normalized address logic converts the phone number to 650 555 5000.

12.2.2 Configuring Site-Wide Processes of the Asynchronous Server

From the Asynchronous Server detail screen, you can perform the following tasks:

- Section 12.2.2.1, "Configuring the Asynchronous Server Process Attributes"
- Section 12.2.2.2, "Configuring the Asynchronous Server"
- Section 12.2.2.3, "Configuring the Working Threads for the Asynchronous Server"
- Section 12.2.2.4, "Configuring the Messaging Server Client for the Asynchronous Server"

12.2.2.1 Configuring the Asynchronous Server Process Attributes

To configure the process attributes:

1. Select Participate in Cache Synchronization to enable cache synchronization with other processes.

2. Click Apply.

12.2.2.2 Configuring the Asynchronous Server

To configure the asynchronous server for the Wireless site:

1. From the Processes section of the Site Screen, select Asynchronous Server. The Asynchronous Server screen appears.

2. Select Asynchronous Server Configuration to access the Asynchronous Server Configuration screen.

3. Complete the Command Format section of the Asynchronous Server Configuration screen as follows:

   a. Enter the Help command. The default value is *!h.*

   b. Enter the application Help command. the default value is *help.*

   c. Enter the Escape command. The default value is *!e.*

   d. Enter the Stop command. The default value is *!s.*

   e. Enter the Login command. The default value is *!l.*

   f. Enter the Logoff command. The default value is *!o.*

   g. Enter a text delimiter for the command line.

4. Complete the Site-Wide Addresses section. You can enter both of the following addresses:

    a. Enter the site email address (for example, ask@oraclemobile.com).

    b. Enter the SMS address for the site.

5. Enter the short name of the default service. If the asynchronous request does not specify which service to invoke, then the Asynchronous Server invokes this default service. The Asynchronous Server invokes Help if there is no default service has been set.

6. Click Apply.

Note: These are site-wide addresses for the specific asynchronous request.

12.2.2.3 Configuring the Working Threads for the Asynchronous Server

To set the number of working threads for the asynchronous server:

1. In the Number of Working Threads field, enter the number of threads that the asynchronous server uses to invoke services. The default is 10.

2. Click Apply.

12.2.2.4 Configuring the Messaging Server Client for the Asynchronous Server

The Messaging Server Client includes the following parameters:

Table 12–3   Parameters of the Messaging Server Client

Parameter	Value
Thread Pool Size	The total number of threads created by the transport for this client. The transport uses these threads to retrieve received messages and status reports for this client. Wireless uses the number of threads set at the site-level configuration as the default value if you do not set the thread pool size at the node level. The transport ignores this setting if the client neither receives status reports nor has any registered end-points at which to receive messages.

Parameter	Value
Number of Queues	The number of queues. The transport creates this value only if this client receives status reports or messages. The transport supports only one queue per client; the transport creates only one queue per client even if you specify more than one queue per client. The transport ignores this setting if the client neither receives status reports nor has any registered end-points at which to receive messages.
Recipient Chunk Size	The number of recipients that receive messages in one send call by the client. If the number of recipients is too big, then the transport may send recipients messages on a chunk-by-chunk basis. In such cases, some may receive messages while the transport processes other recipients. As a result, some recipients get messages earlier than others. Sending messages chunk-by-chunk can improve performance. The chunk size cannot be more than 500; the transport uses a 500 chunk size even if the chunk size is set at greater than 500.
Carrier Finder Hook Class Name	Wireless uses this hook to find the carrier name from a phone number. The carrier name is then used by the driver finder to find a proper driver to send a message to this phone number. Use this hook for situations where there are several carrier-specific drivers, as using a carrier's driver with a phone number of that carrier improves performance. If you do not specify the carrier finder hook class name at the node level, then Wireless uses the one set at the site level. If you do not specify the carrier finder hook class name at the site level, then the driver finder cannot find an appropriate driver because it does not have the carrier information. If you do not specify the carrier finder driver hook class at either the site or node level, then Wireless uses the transport's default driver finder.
Driver Finder Hook Class Name	The name of the hook that the transport uses to find an appropriate driver to send a message to a given destination. The driver finder hook uses such criteria as delivery type, cost, or speed to assign a driver. If you do not specify the hook at either the node or site level, then Wireless uses the transport's default driver finder.
■ Pre-Send Hook ■ Post-Send Hook ■ Pre-Receive Hook ■ Post-Receive Hook	These hooks can be called before or after sending a message (the pre-send and post-send hooks) or before or after receiving a message (the pre-receive and post-receive hooks). These hooks, which are in the same category, are called in the sequence in which they are specified. You can use these hooks to enable special client functions, such as checking or filtering, rather than having to implement an application on top of the transport.

To configure the messaging server client for the asynchronous server and alert engine process:

1. Enter the number of processing threads in the Thread Pool field.

2. Enter the number of queues. Wireless supports one queue per process type.

3. Enter the number of message recipients in the Recipient Chunk Size field. The chunk size cannot be more than 500; the transport uses 500 even if you set this value at greater than 500.

4. Enter the carrier finder hook class.

5. Enter the driver finder hook class.

6. Click Apply.

7. Select, if needed, the Java classes for pre-send hooks, post-send hooks, pre-receive hooks, and post-receive hooks.

8. Click Done.

> **Note:**   Wireless uses the values set at the site-level configuration as the default value if there are no values set specifically for the asynchronous server.

Adding a Hook Class

To add another hook:

1. Click Add Another Row.

2. Enter the Java class for the hook.

3. Select the row.

4. Click Apply.

Deleting a Hook

To delete a hook:

1. Select the hook you wish to delete.

2. Click Delete.

12.2.3 Configuring the Site Processes of the Messaging Server

You can perform the following tasks from the detail screen of a messaging server process:

- Section 12.2.3.1, "Setting the Default Configuration for the Messaging Server"
- Section 12.2.3.2, "Configuring the Messaging Server Drivers for the Site"

12.2.3.1 Setting the Default Configuration for the Messaging Server

Clicking the Messaging Server Configuration hyperlink invokes the Messaging Server Configuration screen, which enables you set the default configuration for the messaging server.

To set the default configuration for the messaging server:

1. Enter the GSM smart message encoder class.
2. Enter the default number of queues for the driver. For example, enter 1.
3. Enter the default number of sending threads for the driver.
4. Enter the default number of receiving threads for the driver.
5. Enter the number of send retry times.
6. Click Apply.

12.2.3.2 Configuring the Messaging Server Drivers for the Site

Message Server Drivers screen, invoked by clicking the Messaging Server Drivers in the Messaging Server detail screen, enables you to define a driver and its parameters. From this screen, you can add, delete, or edit the messaging server drivers for the site

Adding a Messaging Server Driver

To add a messaging server driver:

1. From the Messaging Server Drivers screen, click Add Driver. The Add Driver screen appears. This is a required step.
2. Enter a name for the driver (for example, EmailDriver). This is a required step.
3. From the drop-down menu, select one of the following delivery categories:
   - Wap-Push
   - SMS

- Voice

- Email

- Fax

- Two-Way Pager

- One-Way Pager

This is required step.

4. Enter the protocols for the driver. Use a comma (,) to separate your entries. You can select all protocols by entering an asterisk (*) or by leaving the field clear.

5. Enter the carriers. Use a comma (,) to separate your entries.

6. From the drop-down list, select a speed level.

7. From the drop-down list, select a cost level.

8. From the drop-down, select SEND, RECEIVE, or BOTH for capability.

9. Enter the number of message queues.

10. Complete the Default Encoding and Locales section as follows:

    a. Enter the content encoding method. For example, enter UTF-8. Use a comma (,) to separate multiple methods.

    b. Select a local from the drop-down list.

11. Complete the driver class and parameters as follows. This is a required step.

    a. Enter the driver class. For example, enter
    `Oracle.panama.messaging.transport.driver.email.EmailDriver`.

    b. Add or delete a driver class parameter as needed.

12. Click Apply. The Messaging Server Driver screen reappears.

Editing a Messaging Server Driver

To edit a messaging server driver:

1. From the Messaging Server Driver screen, use the select the driver you wish to edit.

2. Click Edit.

3. The Edit Driver screen appears, displaying the values for the selected driver.

4. Edit the values as needed.

5. Select, add, or delete the driver class parameters as needed.

6. Click Apply. The Messaging Server Drivers screen reappears.

Deleting a Messaging Server Driver

To delete a messaging server driver:

1. From the Messaging Server Driver screen, select the driver you wish to delete.

2. Click Delete.

12.2.4 Configuring the Site-Wide Processes of the Performance Monitor

Clicking the Performance Monitor hyperlink on the site screen enables you to access the Performance Monitor Configuration screen. This screen enables you to configure the performance monitor.

The performance monitor of a Wireless process must point to a database schema to log the performance information.

The Performance Monitor Configuration Screen includes the following parameters:

Table 12–4   Parameters of the Performance Monitor Configuration Screen

Parameter	Description
Basic Configuration	
Enable Performance Logging	Selecting this check box enables performance logging.
Delimiter for logged name/value pair	The delimiter for the logged name/value pairs. The default delimiter is #%=%#. This is a required parameter.
Delimiter for logger records	The delimiter for the logged records. The default is ~#$. This is a required parameter.
Wakeup Frequency (minute)	The number of minutes after which the logger thread wakes up to check for any new files in the process directory. The default is one minute. This is a required parameter.
Close Frequency (second)	The number of seconds to close a file. The default is 300. This is required parameter.
Batch Size for Performance logging	The batch size for the performance logging. The default is 15. This is a required parameter.

Parameter	Description
JDBC Driver	By default, a repository connection is used for performance monitoring. The values (if specified in this screen,) are used to specify a database other than the repository. These values must match the values in **targets.xml**.
Driver Type	Select one of the following from the drop-down menu: ■ THIN -- Thin JDBC driver ■ V7 -- Orcale7 OCI driver ■ V8 -- Oracle database version 8.x OCI driver
User Name	The name of the database user.
Password	The password of the database user.
Host Name	The host name of the log database (for example, ptgserver-sun.us.oracle.com).
Port Number	The port of the database listener. The default is 1521.
SID	The server identifier (SID) of the log database.

To configure the performance logger:

1. Complete the Basic Configuration section of the Performance Monitor Configuration screen as follows:

   a. Select the Enable performance Logging check box to enable logging to the database.

   b. Enter the delimiter for the logged name/value pair. The default delimiter is #%=%#.

   c. Enter the delimiter for the logged records. The default delimiter is ~#$.

   d. Enter the interval, in minutes, in which logger thread wakes up to check for any new files in the process directory. The default is one minute.

   e. Enter the interval, in seconds, for closing a file.

   f. Enter the batch size for the database logging. The default is 15.

2. Complete the JDBC Driver section if the performance data is stored in a different database other than the repository. To complete the JDBC Driver section:

   a. From the drop-down list, select one of the following JDBC driver types:

- THIN (Thin JDBC driver)

- V7 (Oracle database version 7 OCI driver)

- V8 (Oracle database version 8.x OCI driver)

   b. Enter the name of the database user.

   c. Enter the password of the database user.

   d. Enter the host name of the log database.

   e. Enter the port number.

   f. Enter the server ID.

3. Click Apply. The Site screen reappears.

> **Note:** You can specify a database other than the repository
> database to store the performance data.

12.3 Other Configuration

This section describes the following configuration tasks:

- Section 12.3.1, "Configuring the Logging Directory"

- Section 12.3.2, "Setting the Process Debug Flag"

12.3.1 Configuring the Logging Directory

From the Wireless Server tab (the top screen used for managing the Wireless sever processes), you can designate the location for the system logging and view the system log files.

To configure the logging directory:

1. Click the Logging Directory link to invoke the logging screen.

2. Enter the name of the logging directory.

3. Click Apply.

12.3.2 Setting the Process Debug Flag

From the detail screen of a Wireless Web Server process, you can turn the process debug flag on or off:

1. Select the Switch Debug Flag hyperlink.

2. Select, or clear the Turn On Debug Flag check box.

3. Click Apply.

> **Note:** This configuration is not persistent; it is a runtime flag for Wireless Web Server processes.

12.4 Administering the Site

The Administration section of the Site screen enables you to perform the following functions:

- Section 12.4.1, "Configuring the Proxy Server"
- Section 12.4.2, "Configuring the Wireless Site Locale"
- Section 12.4.3, "Configuring the System Logging"
- Section 12.4.4, "Configuring the Runtime"
- Section 12.4.5, "Configuring Devices"
- Section 12.4.6, "Configuring the Site Processes of the WebCache Server"
- Section 12.4.7, "Configuring the WAP Provisioning"
- Section 12.4.8, "Configuring the URLs for the Wireless Web Server"
- Section 12.4.9, "Configuring the Messaging Server Client"
- Section 12.4.10, "Configuring the Wireless JDBC Connection Pool"
- Section 12.4.11, "Configuring User Provisioning"
- Section 12.4.12, "Configuring the Secure Sockets Layer (SSL)"
- Section 12.4.13, "Configuring the Object Cache Synchronization"
- Section 12.4.14, "Configuring Oracle Applications"
- Section 12.4.15, "Refreshing the WebCache"

12.4.1 Configuring the Proxy Server

The Proxy Server screen, invoked by selecting Proxy Server in the Administration section of the Site screen, enables you to configure the proxy properties used by Wireless when either HTTP or FTP protocols are required. If Wireless does not use

an HTTP or FTP proxy server, then you do not have to configure the proxy sever properties.

To configure the proxy servers:

1. In the HTTP Proxy server section of the Proxy Server screen, select the Use check box if Wireless uses an HTTP proxy server.

2. Enter the name of the HTTP proxy host. For example, enter `www-proxy.us.oracle.com.`

3. Enter the proxy port number for the HTTP proxy server.

4. Enter the exception addresses. The default setting is `localhost|127.0.0.1.` Do not use a proxy for these host addresses. Separate your entries with a pipe bar (`|`).

5. In the FTP Proxy server section of the Proxy Server screen, select the Use check box if the Wireless uses an FTP proxy server. If you do not select this check box, then Wireless ignores the settings for both the FTP host and port.

6. Enter the name of the FTP proxy host.

7. Enter the FTP proxy server port number.

8. In the Authentication section of the Proxy Server screen, select the Use check box if the Wireless FTP proxy server requires authentication. Do not select this check box if you do not wish the FTP proxy server to require authentication.

9. Enter the authentication user name. This is a required parameter if the FTP proxy server requires authentication.

10. Enter the authentication password. This is a required parameter if the FTP proxy server requires authentication.

12.4.2 Configuring the Wireless Site Locale

The Site Locale screen, invoked by selecting the Site Locale hyperlink in the Site screen, enables you to configure the language, country and time zone for the site.

To configure the site locale:

1. Select the language for the site locale from the drop-down list. This list contains all of the supported locales.

2. Select the time zone for the site from the drop-down list.

3. Click Apply. The Site screen reappears.

Add a Supported Locale to the Site

To add a supported locale:

1. Select a locale from the drop-down list. This list contains all of the available locales.

2. Click Add. The new locale appears in the list of supported locales for Device Portal Access and Webtool.

Delete a Supported Locale from the Site

To delete a supported locale:

1. Select the appropriate locale from the list of supported locales.

2. Click Delete.

12.4.3 Configuring the System Logging

To configure the system logging:

1. Enter a name for the log file name pattern. The default is `sys_panama.log`.

2. In the Maximum Log File Size field, enter the maximum number of bytes in the same file. The default is 10000.

3. Select a log level. The log can contain any of the following: Warning, Error, or Notify. The default is Warning, Error.

4. Click Apply. The Site screen reappears.

12.4.4 Configuring the Runtime

To configure the runtime:

1. In the Runtime Session Expiration Time field, enter the time-to-live attribute of a session. The default is 600.

2. Enter the time required for the session monitor to check an open session. The default is 60.

3. In the Cache Object Life Time field, enter the time-to-live, in seconds, of a persistent object. After this time, Wireless reconstructs the object. The default is 600.

4. Enter the time required for the cache monitor to check the cache in the Cache Object Check Interval field. If the time is set to -1, Wireless does not invoke the cache monitor and the cache is not cleared. The default is 60.

5. Enter the number of seconds for the maximum execution time for threads. The default is 60. Wireless interrupts the threads for the request that take longer than this allotted time and returns an error.

6. Click Apply. The Site screen reappears.

12.4.5 Configuring Devices

The Device-Related Configuration screen enables you to add, edit, or delete HTTP header names that can contain information on the device ID.

1. Select from among the following options in the Wireless Web Server Menu setup section:

   a. Enable Login

   b. Enable Logout

   c. Enable User Info.

   d. Enable Service Customization

   e. Enable Global Preset

   f. Enable User Profile

   g. Enable Self-Registration

   h. Enable Home

   i. Enable Help. You must enter the URL of the help files if you select Enable Help.

2. Click Apply.

3. Complete the Device ID section of the screen as follows:

   a. Select a header name.

   b. Click Apply.

4. Click Done.

Adding Header for Device IDs

To add a header name for subscription IDs:

1. In the Device ID section, click Add Another Row. A new row appears.

2. Enter the header name containing the subscription ID information.

3. Select the row.

4. Click Apply.

5. Click Done.

12.4.5.1 Deleting a Header Names

To delete a header name or cookie name:

1. Select the header.

2. Click Delete.

3. Click Done.

12.4.6 Configuring the Site Processes of the WebCache Server

WebCache is a Wireless component that accelerates site performance by caching the content transformation performed by Oracle9*i*AS Wireless.

Wireless performs transformations at two levels. At the first level of transformation, Wireless converts the adapter result, which is obtained as a result of the adapter pulling content from an external data source. The runtime adapters convert this into SimpleResult XML. Wireless performs a second transformation (that is, content transformation) when converting the SimpleResult XML into a device-specific markup language.

The WebCache configuration screen enables you to set the cache policy and includes the following parameters.

Table 12–5   Parameters of the WebCache Configuration Screen

Parameter	Value
Enable WebCache	Selecting this check box enables caching.
WebCache Server URL	The URL of the WebCache server.
Webcache Invalidation Port	The port in the Webcache machine to which the invalidation messages are sent.
Webcache Invalidation Password	The invalidation password for WebCache.
Webcache Timeout (second)	The interval (in seconds) after which the Webcache times out.

To configure the Web Cache:

1. In the Basic Configuration section of the screen, perform the following:

   a. Enable caching by selecting the Enable WebCache check box. Clearing the check box disables caching

   b. Enter the URL of the WebCache server.

   c. Enter the WebCache invalidation port.

   d. Enter the WebCache invalidation password.

   e. Enter the number of seconds for the timeout.

2. Click Apply. The Site screen reappears. If you do not wish to save your entries, click Cancel.

12.4.7 Configuring the WAP Provisioning

You can create, edit, and delete WAP profiles using the Profile screen, which you access by selecting the WAP Provisioning hyperlink. The Profile screen displays a list of current WAP profiles. You can also add a WAP profile by defining the following parameters:

Table 12–6   WAP Profile Parameters

Parameter	Value
WAP Profile Name	The name of the WAP profile. You can name the profile for the WAP provider.
WAP Bearers	A list of the transport technologies.
GSM/CSD	Circuit-Switched Data (CSD) over a GSM (Global System for Mobile communication) network. This is the basic transfer protocol in GSM phones.
GSM/SMS	Short-Messaging Service over a GSM (Global System for Mobile communication) network. Select this store-and-forward technology to enable alphanumeric messaging between mobile phones and such other platforms as email or voice mail.
GSM/USSD	Unstructured Supplementary Service Data (USSD) over a GSM (Global System for Mobile communication) network. USSD is both session- and transaction-oriented.

Parameter	Value
GPRS	General Packet Radio Service (GPRS). Select this bearer technology to use WAP on a per-transaction basis. GPRS enables services to be on at all times; a GPRS customer does not have to invoke a service to receive content.
WAP Gateway Proxy	The address of the WAP proxy server. For GSM/CSD, it is an IP address. For GSM/SMS, this is service or phone number. For GSM/USSD, this is either an IP address or an MSISDN number. This is a required field.
Port	The port number. The default port numbers are: ■ 9200 (connection-less) ■ 9201 (connection-oriented) ■ 9202 (secure and connection-less) ■ 9203 (secure and connection-oriented)
Secure Wap Session	Select if you want to enable WTLS (Wireless Transport Layer Security).
Phone Model	The brand and model of the wireless phone.
Home Page	The home page of the ISP provider accessed by the WAP user.
GSM/CSD Parameters	
Call Type	A drop-down list of the call types (analog or ISDN) used for the connection.
Call Speed	The call speed of the connection.
Authentication Type	Select one of the following protocols used for user authentication: ■ PAP (Password Authentication Protocol) ■ CHAP (Challenge Handshake Authentication Protocol) .
ISP Name	The name of the internet service provider.
ISP Login Name	The user name.
ISP Login Password	The user's password.
GSM/SMS Parameters	
SMSC Address	The number of the SMSC (Short Message Service Center).
USSD Parameters	
Proxy Type	The phone number or IP address of the WAP provider.

Parameter	Value
USSD Service Code	The USSD code (for example, *555*), that precedes the destination number.
Timeout	The time, in seconds, after which the session expires.

12.4.7.1 Adding a WAP Profile

To add a WAP Profile:

1. From the Profiles screen, select Add Profile.

2. Complete the Add Profile screen as follows:

   a. Enter the WAP profile name.

   b. Using the Bearers drop-down list, select from among the available transport types

   ■ GSM/CSD

   ■ GSM/SMS

   ■ GSM/USSD

   ■ GPRS

3. Enter the WAP gateway proxy. This is a required field.

4. Click Go. Complete the following parameters appropriate to the selected transport type.

   ■ Enter one of the following port numbers:

      – 9200 (connection-less)

      – 9201 (connection-oriented)

      – 9202 (secure and connection-less)

      – 9203 (secure and connection-oriented)

   a. Select the Secure WAP Session check box if you want to enable WTLS (Wireless Transport Layer Security). Selecting this option overrides port numbers 9200 and 9201.

   b. Enter the brand name and model of the phone.

    c. In the Access field, enter an access point for GPRS (for example, wap.us.companyname.com). If you selected GMS, enter a telephone number.

GSM/CSD Parameters

    a. Select a call type from the drop-down menu:

- Analog

- ISDN

    b. Select from the following user authentication types:

- PAP (Password Authentication Protocol)

- CHAP (Challenge Handshake Authentication Protocol)

    c. Enter the ISP login name.

    d. Enter the ISP password.

    e. Enter home page URL of the service provider.

GSM/CMS Parameters

    a. Enter the address for the (SMSC) Short Messaging Service Center.

    b. Enter the time out, in seconds.

GSM/USSD Parameters

    a. Enter the proxy type. For example, enter a phone number or IP address of a WAP provider.

    b. Enter the USSD service code.

    c. Enter the timeout, in seconds, after which the session expires.

5. Click Create.

12.4.7.2 Editing a WAP Profile

To edit a WAP profile:

1. Select the WAP profile that you want to edit.

2. Click Edit. The Edit screen appears, with its fields populated by the values set for the selected WAP profile.

3. Edit the values as needed. See Section 12.4.7.1 for information on entering values.

4. Click Apply to confirm your changes to the WAP Profile.

12.4.7.3 Deleting a WAP Profile

To delete a WAP Profile:

1. Select the WAP profile that you want to delete.

2. Click Delete.

12.4.8 Configuring the URLs for the Wireless Web Server

To configure the URLs for the Wireless Web Server

1. Enter the Wireless Web Server's URL in HTTP mode. The default setting is http://localhost:7777/ptg/rm.

2. Enter the Wireless Web Server's URL in HTTPS mode. The default setting is https://localhost:7777/ptg/rm.

3. Enter the Asynchronous Server HTTP URL. The default setting is http://localhost:7777/async.

4. Enter the Wireless Webtool URL in HTTP mode. The default setting is http://localhost:7777/webtool/login.uix. You must configure this URL before you can use the Repository Download and Upload Utility and WebCache Refresh.

5. Enter the HTTP Adapter URL prefix. The default setting is http://localhost:7777.

   This is the URL prefix for the remote **.jsp** page that is invoked by the HttpAdapter. Entering the URL prefix enables the sever to automatically attach this prefix to a **.jsp** entered in the Input Parameters screen of the Master Service Creation Wizard. You need only enter the **.jsp**.

   For example, a remote **.jsp**, **myAPP.jsp**, has the following URL:

   http://remotehost:port/apps/myApp.jsp

   The URL prefix is http://remotehost:port/apps/. You enter only **myApp.jsp** as the default value in the Input Parameters screen of the Master Service Creation Wizard. Wireless automatically attaches the prefix to the **.jsp**.

6. Click Apply.

12.4.9 Configuring the Messaging Server Client

The Messaging Server Client includes the following parameters:

Table 12–7   Parameters of the Messaging Server Client

Parameter	Value
Thread Pool Size	The total number of threads created by the transport for this client. The transport uses these threads to retrieve received messages and status reports for this client. The transport ignores this setting if the client neither receives status reports nor has any registered end-points at which to receive messages.
Number of Queues	The number of queues. The transport creates this value only if this client receives status reports or messages. The transport supports only one queue per client; the transport creates only one queue per client even if you specify more than one queue per client. The number set at the site-level configuration is the default value if you do nor specify any value here. The transport ignores this setting if the client neither receives status reports nor has any registered end-points at which to receive messages.
Recipient Chunk Size	The number of recipients that receive messages in one send call by the client. If the number of recipients is too big, then the transport may send recipients messages on a chunk-by-chunk basis. In such cases, some may receive messages while the transport processes other recipients. As a result, some recipients get messages earlier than others. Sending messages chunk-by-chunk can improve performance. The chunk size cannot be more than 500; the transport uses a 500 chunk size even if the chunk size is set at greater than 500. .
Carrier Finder Hook Class Name	Wireless uses this hook to find the carrier name from a phone number. The carrier name is then used by the driver finder to find a proper driver to send a message to this phone number. Use this hook for situations where there are several carrier-specific drivers, as using a carrier's driver with a phone number of that carrier improves performance. If you do not specify the carrier finder hook class name at the node level, then Wireless uses the one set at the site level. If you do not specify the carrier finder hook class name at the site level, then the driver finder cannot find an appropriate driver because it does not have the carrier information. If you do not specify the carrier finder driver hook class at either the site or node level, then Wireless uses the transport's default driver finder.

Parameter	Value
Driver Finder Hook Class Name	The name of the hook that the transport uses to find an appropriate driver to send a message to a given destination. The driver finder hook uses such criteria as delivery type, cost, or speed to assign a driver. If you do not specify the driver finder hook class name at the node level, then Wireless uses the driver finder hook specified at the server-level configuration.
■ Pre-Send Hook ■ Post-Send Hook ■ Pre-Receive Hook ■ Post-Receive Hook	These hooks can be called before or after sending a message (the pre-send and post-send hooks) or before or after receiving a message (the pre-receive and post-receive hooks). These hooks, which are in the same category, are called in the sequence in which they are specified. You can use these hooks to enable special client functions, such as checking or filtering, rather than having to implement an application on top of the transport.

To configure the messaging server client for the asynchronous server and alert engine process:

1. Enter the number of processing threads in the Thread Pool field.

2. Enter the number of queues. Wireless supports one queue per process type.

3. Enter the number of message recipients in the Recipient Chunk Size field. The chunk size cannot be more than 500; the transport uses 500 even if you set this value at greater than 500.

4. Enter the carrier finder hook class.

5. Enter the driver finder hook class.

6. Click Apply.

> **Note:** Wireless uses the values set at the site level as the default values if no values are set at the node level.

7. Select, if needed, the Java classes for pre-send hooks, post-send hooks, pre-receive hooks, and post-receive hooks.

8. Click Done.

12.4.9.1 Adding a Hook Class

To add another hook:

1. Click Add Another Row.

2. Enter the Java class for the hook.

3. Select the row.

4. Click Apply.

12.4.9.2 Deleting a Hook

To delete a hook:

1. Select the hook you wish to delete.

2. Click Delete.

12.4.10 Configuring the Wireless JDBC Connection Pool

The JDBC Connection Pool screen, invoked by selecting the JDBC Connection Pool hyperlink in the Site screen, enables you to configure the JDBC connection for the site. If no JDBC connection pool values are set at the server level, then the values set at the site level become the default values for the server level

To configure the JDBC connection:

1. Enter the minimum number of connections for the JDBC connection pool. The default is 1.

2. Enter the maximum number of connections for the JDBC connection pool. The default is 100.

3. In the Connection Allocation Increment field, enter the number by which the allocation of new connections to the JDBC connection pool can be incremented. The default is 1.

4. Click Apply. The site screen reappears.

12.4.11 Configuring User Provisioning

The User Provisioning screen enables you to set the properties used by the Provisioning adapter, which enables you to integrate your repository with an existing provisioning system.

To set the properties for the provisioning adapter:

1. Enter the name of the parent folder for the user's home folder. A new subfolder is created for every new user. The default is /Users Home.

2. From the drop-down list, select the default groups to which the user belongs. The default is Users. (You can select or de-select groups using Control + click).

> **Note:** A virtual user is a user who accesses a Wireless site, but does not register. When such a user accesses a Wireless site, Wireless detects the user and creates a virtual user account for that user.

3. Select Disclose User Location to enable the users' location to be disclosed to a third-party application

4. Select Disclose User Identity to enable the users' identities to be disclosed to a third party application.

5. Complete the Virtual User Provisioning Section as follows.

6. Enter the parent folder for the home for virtual users.

   a. Select the groups to which the virtual users belong. You can select or de-select groups by using Control+left click.

   b. Select Enable Virtual User to enable a virtual user to create an account

7. Click Apply. The Site screen reappears.

12.4.12 Configuring the Secure Sockets Layer (SSL)

The SSL Configuration screen enables you to configure your security certificates as either Base64 or PKCS#7-formatted certificate files to enable use of the HTTPS protocol.

12.4.12.1 Adding a Base64 Certificate File

To add a Base64 Certificate file:

1. In the Base64 Certificate Files Section, click Add another row:

2. Enter the absolute file name. All Base64 certificate files are bounded at the beginning with '--BEGIN CERTIFICATE--' and at the end with '--END CERTIFICATE--'.

3. Click Apply.

12.4.12.2 Adding a PKCS#7-Formatted Certificate File

To add a PKCS#7-formatted Certificate file:

1. In the PKCS#7-Formatted Certificate Files Section, click Add another row:

2. Enter the absolute file name.

3. Click Apply.

12.4.12.3 Editing a Certificate File

To edit a certificate file:

1. Select the certificate file.

2. Change the file name as needed.

3. Click Apply.

12.4.12.4 Deleting a Certificate File

To delete a certificate file:

1. Select the certificate file.

2. Click Delete.

> **Note:**   You must configure the Secure Sockets Layer to use HTTPS
> in the HttpAdapter.

12.4.13 Configuring the Object Cache Synchronization

The Object Cache screen enables you to configure the thread pool that handles the
cache synchronization messages.

To configure the Object Cache Synchronization:

1. Enter the minimum number of threads in the thread pool.

2. Enter the maximum number of threads in the thread pool.

3. Enter the timeout, in minutes, for the threads in the thread pool.

4. Click Apply.

12.4.14 Configuring Oracle Applications

The Oracle Applications configuration screen, invoked by selecting Oracle Applications in the Administration enables you to configure the Oracle Application properties used by Wireless. If Wireless is not running Oracle Applications, then you do not have to configure the Oracle Applications properties.

Figure 12–2   Applications Configuration

To configure Oracle Applications:

1. Enter the name of the log file for Oracle Applications to use in the Log File Name Field.

2. Enter the max size (in bytes) that the log file can reach in the Max Log File Size Field.

3. If the log should be rotated after reaching the max file size, click on Enable Log Rotation?.

4. Enter the location of the DBC Folder in the DBC Folder Field.

5. Enter the name of the DBC File in the DBC File Name Field.

6. Enter the number of initial Application's database connections in the Initial Pool Size Field.

7. Enter the location of APPL_TOP in the APPL_TOP Field.

8. Enter the comma-delimited list of **.jar** or **.zip** files that should be in the Classpath of the Wireless Server into the Applications Classpath Field.

12.4.15 Refreshing the WebCache

From the Utilities section of the site screen, you can perform the following WebCache-related tasks:

- Section 12.4.15.1, "Refreshing the WebCache for Master Services"
- Section 12.4.15.2, "Refreshing the WebCache for Logical Devices"

12.4.15.1 Refreshing the WebCache for Master Services

This utility enables you to explicitly purge the pages of a selected master service. For example, you would use this utility if you wish to clear stale content from a master service at a time other than that one set programmatically with the Service Designer.

To purge and refresh the pages for a selected master service:

1. Select a master service.

2. Click Refresh Content.

12.4.15.2 Refreshing the WebCache for Logical Devices

Using this utility, you can explicitly purge the pages of a specific logical device from the WebCache.

To purge and refresh the pages of a selected logical device:

1. Select a device.

2. Click Refresh Content.

13

Server Performance Monitoring

This chapter describes server- and site-level performance monitoring and includes the following sections:

- Section 13.1, "Server Performance Monitoring for the Current Host"
- Section 13.2, "Server-Side Performance Monitoring for the Site"

13.1 Server Performance Monitoring for the Current Host

From the Wireless page accessed through OEM, you can monitor real-time performance data to assess system health and collect data to display historical trends.

The Response and Load section of the Wireless Server tab displays the following Wireless statistics, which are an overview of the process performance metrics:

- Number of Active Sessions
- Average Response Time (second)
- Average Session Duration (second)
- Total Number of Alerts Sent Today
- Total Number of Data Downloads Today
- Average Download Time Today (second/batch)
- Total Number of Messages Sent Today
- Number of Messages Received Today

Figure 13–1   The Response and Load Section of the Wireless Server Tab
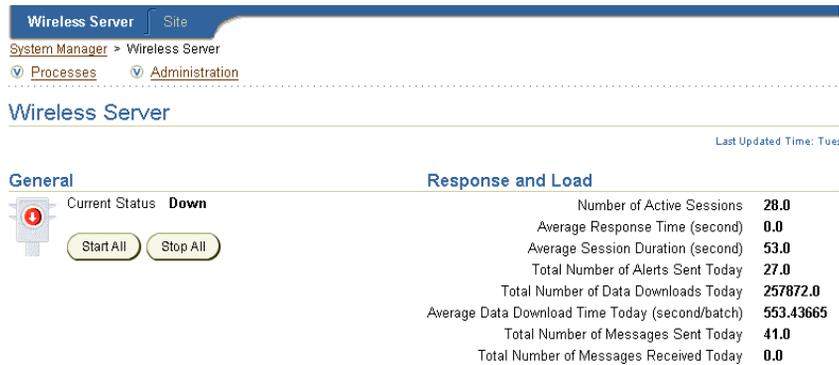
You can view the performance metrics of a Wireless Server process using the detail screen. The Response and Load section of the detail screen lists the overall performance for the selected process. The Performance section of the screen lists the individual metrics.

Figure 13–2   A Detail Screen for a Wireless Server Process

13.1.1 Viewing the Performance Data Metrics for a Wireless Web Server Process

The Response and Load section of the screen displays the overall performance the selected Wireless Web Server process for the following categories:

- Number of Active Users
- Average Response Time (second)
- Average Session Duration (second)

The Performance section of a Wireless Web Server process detail screen includes the following:

Average Response Time

A view of the process measured against the following:

- Average response time of the invoked services.
- The percentage of time spent for such service actions as adaptation time, transformation time, and other processes. You can use this to diagnose the service bottlenecks.
- Service Invocations per minute for the sample period. You can use this to identify the activity of the system over the past sample period.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Average Response Time for Service

The process measured against the average service response time for sample period. You can use this to study the performance of the services in each process over the sample period.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Service Error

A view of the process to the number of service errors.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Session Error

A view that maps the session ID by session errors. It is also a view of the process to the service errors per second sampled over a finite period. You can use this metric to identify such problems as improper configuration or other external factors which cause services to fail in one process more frequently than others.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Session Duration

A view that maps the session ID of the process by login duration.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Session Service

A view that maps the session ID of the process to the number of invoked services for that session.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

Services per User

A view of the user of the process measured against the number of times the services were invoked on a per-user basis. You can use this to categorize active users.

See Section 13.1.1.1 for information on selecting a specific time period for this metric.

13.1.1.1 Selecting the Sample Period for the Performance Data

For these sample metrics, you can select the sample time period, from the last five minutes to the last seven days.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go. When you have finished viewing the statistics, Click OK to return to the detail screen.

Current Sessions

A view of the runtime sessions and users for a Wireless web server process. Wireless records each service invocation request and each successful user session. The Current Sessions screen includes the following:

Table 13–1   Elements of the Current Sessions Screen

Element	Description
Session ID	The identifier for the active session.
Login User Name	The user name.
Login User ID	The OID for the user.
Last Access Time	The last time the user accessed the session.

When you have finished viewing the statistics, Click OK to return to the detail screen.

Current Threads

A view the of the active threads, separated by groups for a wireless web server process. The Current Threads screen displays the threads as follows:

Table 13–2   The Runtime Threads

Object	Description
Name	The name of the thread.
Description	A description of the thread.
IsInterrupted	If "false", then the thread is not interrupted. If "true", then the thread has been interrupted.
IsAlive	If "true", then the thread is active. If "false", then the thread has been started and is not yet terminated.

When you have finished viewing the statistics, click OK to return to the detail screen.

Java Runtime Information

A view of Java runtime information such as Java version and classpath for a wireless web server process.

13.1.2 Viewing the Performance Metrics of Asynchronous Server Processes

From the detail screen, you can view the number of messages received today in the Response and Load section.

The Performance section of the screen lists the following performance metrics:

Received Message Count by Hour Today

The number of messages received on an hourly basis for today.

Average Message Queue Size Today

The average size of the message queue on an hourly basis for today.

Average Message Queued Duration Today

The average time a message stayed in the message queue on an hourly bases for today.

Average Service Processing Time Today

The average service invocation time on an hourly basis for today.

Average Message Response Time Today

The average time a message stayed on the asynchronous server on an hourly basis for today.

Service Access Count Today

The number of times that each service was accessed today.

Error Count Today

The number of errors on an hourly basis for today.

13.1.2.1 Viewing the Messaging Server Performance Metrics

For each of the Messaging Server Performance metrics, Wireless displays performance by client process name and delivery type (for example, SMS). The performance metrics include:

Average Sending Response Time

The average time of a sending method. On the client side, a sending method is called to send a message. This time is the period from when the method is called to the time the method returns. When the method returns, the message is saved in a database persistently, but is not delivered.

Total Number of Sending Requests

This is the total time the sending method is called by the client process. The sending method can be called once to send a message to a set of destinations.

Total Number of Sending Requests Sent

The total number of successful calls, where a message is delivered to a proper gateway and its receipt is acknowledged. The client process can call the sending method many times to send many messages. Some of these requests fail, as in the case where a destination cannot be reached. Other requests could be undergoing processing.

Total Number of Sending Requests Failed

The total number of all calls that are known to have failed.

Average Receiving Process Time

The performance of the listener in terms of the time taken by the `onMessage` call-back.

13.1.2.2 Selecting the Sample Period for the Performance Data

For these sample metrics, you can select the sample time period of activity, from the previous day or the last 30 days.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go.

13.1.3 Viewing Performance Metrics for a Messaging Server Process

The Performance Section of the screen displays the following performance metrics:

Average Sending Process Time

The Average Sending Process screen displays the performance of a driver in terms of the time taken by the sending method of the driver. The screen measures driver performance by delivery type (for example, SMS), process time (the time taken by a driver to send a message to the proper gateway), dequeue time, and driver process time. When you measure the performance of the transport system, you can deduct the process time, because the transport system is waiting while the driver sends a message. If the driver is fast, then the system does not wait long.

Average Receiving Response Time

Once a transport driver receives a message, the message is passed to the transport system by an `onMessage` method. The response time is the time taken by the `onMessage` method. Once the `onMessage` returns, the received message is saved in a database for dispatching.

Total Number of Received Messages

The total number of times the transport drivers call the `onMessage` call-back method.

Total Number of Received Messages Dispatched

The total number of received messages which are dispatched to, and are accepted by, listeners. Among received messages, some may be in processing. Others may not have been dispatched to listeners, or listeners may have failed to process dispatched messages.

Total Number of Received Messages Dispatch Failed

The total number of received messages which failed to dispatch to a listener.

13.1.3.1 Selecting the Sample Period for the Performance Data

For these sample metrics, you can select the sample time period of activity, from the previous day or the last 30 days.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go.

13.2 Server-Side Performance Monitoring for the Site

The Site tab, displays overall site performance metrics in the Response and Load section. The Response and Load section includes overall performance statistics for the site-wide processes of the wireless web server, which include:

- Number of Active Sessions
- Average Response Time (second)
- Average Session Duration (second)
- Total Number of Alerts Sent Today
- Total Number of Data Downloads Today
- Average Data Download Time Today (second/batch)
- Total Number of Messages Sent Today
- Total Number of Messages Received Today

Using the system metrics for the performance of the runtime, alert, and feed components, you can assess system health and performance. These individual metrics may not directly point to a fault in the system; however, building an abductive reasoning model from the data collected by these metrics enables you to form a diagnosis of the system's health.

Figure 13–3   The Response and Load Section of the Site Tab

You view the performance metrics for a site-wide process using the detail screen, which you invoke by drilling down from a process type in the Processes table of the Site tab.

Figure 13–4   A Detail Screen for a Site-Wide Process

13.2.1 Viewing the Performance Metrics for the Site-Wide Processes of the Wireless Web Server

The Response and Load section lists the following overall performance metrics:

- Number of Active Sessions
- Average Response Time (second)
- Average Session Duration (second)

The Performance section lists the following:

Average Response Time
A view of overall service performance for the system, showing the process name to the average response time of the invoked services over a specified time period.

Service Response Time
The service response time statistics are a class of statistics for the average response time for each service that was invoked across processes. The service response time

statistics are grouped by service names and process IDs. If the response time exceeds a configurable threshold value, then the Oracle Performance Manager generates a warning or an error. You can use this metric to study the performance of the services in each process over the sample period.

Average Session Duration

A view of the process name to the average session duration. This metric, when sampled at different times of the day, can be used to estimate both the peak user hours and slow user hours.

Session Error

Session error statistics are a class of statistics that represent the number of errors for each session. For session duration statistics, the data is grouped by process IDs.

Service Error

Service error statistics are a class of statistics that represent the number of services which have runtime errors. The service error data is grouped by process IDs.

Session Duration

Session duration statistics are a class of statistics that present the duration of each session. The data is grouped by process IDs. The duration of each session is computed using the login time and the expiry time (or the current time if the session is still operational). Session duration statistics are presented as table.

Session Service

Session service statistics is a class of statistics that represent the number of services invoked during each session. The data is grouped by process IDs.

User Count

A view of the process name to the number of active users. This metric can be used for new user redirection to manage the user loads in each process.

Service per User

The service per user statistics are a class of statistics that presents the number of services invoked by a specific user across processes. The user service statistics data is grouped by user name and by process IDs.

13.2.1.1 Selecting the Sample Period for the Performance Data

For these sample metrics, you can select the sample time period, from the last five minutes to the last seven days.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go.

13.2.2 Viewing the Site Performance Metrics of Asynchronous Server

The Response and Load section displays the following performance statistics for the alert server processes:

- Total Number of Messages Received Today

- Average Message Response Time Today (second)

- Total Number of Errors Today

From the Performance section of the Asynchronous Server screen, you can view the following performance metrics:

Received Message Count Today

The number of messages received today (grouped by process name).

Received Message Count by Hour Today

The number of messages received on an hourly basis for today.

Average Message Queue Size Today

The average size of the message queue for today.

Average Message Queued Duration Today

The average time a message stayed in the message queue on an hourly basis for today.

Average Service Processing Time Today

The service invocation time on an hourly basis for today.

Average Message Response Time Today

The average time a message stayed on the server on an hourly basis for today.

Service Access Count Today

The number of times each services was accessed today.

User Access Count Today

The number of messages issued by each user device.

Error Count Today

The number of errors on an hourly basis for today.

13.2.3 Viewing the Site-Wide Performance Metrics for a Messaging Server Process

The Response and Load section of the detail screen lists the following overall performance metrics:

- Total Number of Messages Sent Today

- Total Number of Messages Received Today

The Performance section lists the server-side and client-side Performance Metrics for the Messaging Server

From a messaging server process screen, you can access the following views of the performance of the selected messaging server process on the server. For each of these metrics, the Client Send Performance screen displays performance by client process name and delivery type (for example, SMS). For the Average Sending Response Time, the screen displays the performance for each client process name and the delivery type by response time and enqueue time.

The Server-Side section of the Messaging Server screen includes the following metrics:

Average Sending Processing Time

The Average Sending Process screen displays the performance of a driver in terms of the time taken by the sending method of the driver. The screen measures driver performance by delivery type (for example, SMS), process time (the time taken by a driver to send a message to the proper gateway), dequeue time, and driver process time. When you measure the performance of the transport system, you can deduct the process time, because the transport system is waiting while the driver sends a message. A fast driver reduces waiting time.

Average Receiving Response Time

Once a transport driver receives a message, the message is passed to the transport system by an `onMessage` method. The response time is the time taken by the `onMessage` method. Once the `onMessage` returns, the received message is saved in a database for dispatching.

Total Number of Received Messages

The total number of times the transport drivers call the `onMessage` call-back method.

Total Number of Received Messages Dispatched

The total number of received messages which are dispatched to, and are accepted by, listeners. Among received messages, some messages may be in processing. Others may not have been dispatched to listeners, or listeners may have failed to process dispatched messages.

Total Number of Received Messages Dispatch Failed

The total number of received messages which failed to dispatch to a listener.

Average Sending Response Time

The average time of a sending method. On the client side, a sending method is called to send a message. This time is the period from when the method is called to the time the method returns. When the method returns, the message is saved in a database persistently, but is not delivered.

Total Number of Sending Requests

This is the total time the sending method is called by the client process. The sending method can be called once to send a message to a set of destinations.

Total Number of Sending Requests Sent

The total number of successful calls, where a message is delivered to a proper gateway and its receipt is acknowledged. The client process can call the sending method many times to send many messages. Some of these requests can fail; for example, a destination cannot be reached. Other requests could be undergoing processing.

Total Number of Sending Requests Failed

The total number of all calls that are known to have failed.

Average Receiving Process Time

The performance of the listener in terms of the time taken by the `onMessage` call-back.

13.2.3.1 Selecting the Sample Period for the Performance Data

For these sample metrics, you can select the sample time period of activity, from the previous day or the last 30 days.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go.

13.2.4 Viewing Site Performance

You can view the overall performance by servers on the site by clicking the Summary hyperlink in the Performance section of the Site screen. For each server on the site, the Site screen displays Wireless Web Server process performance by the number of active users and average session duration in seconds.

13.2.4.1 Selecting the Sample Period for the Performance Data

You can select the sample time period of activity, from seven days ago to the last five minutes.

To set a sample period:

1. Select a sample period from the drop-down list.

2. Click Go.

14

Activity and System Logging

14.1 Activity and System Logging Overview

The Oracle9*i*AS Wireless Performance Manager provides system administrators with information on the running status of Wireless Web Server, alert engine, message gateway server, data feed engine, and the asynchronous server. The Performance Manager also provides statistical information, enabling system administrators to study past performance and historical data to perform future trend analysis.

Wireless integrates with the OEM (Oracle Enterprise Manager) framework to provide a web-based monitoring tool which displays metrics for diagnosis based on the data logged.

14.1.1 Overview of Activity Logger Internals

The Activity Logger provides the common logging framework used by the runtime components. Database logging is handled asynchronously because the runtime logging on the database carries a huge overhead. The runtime data is generated as files, which are less expensive. The data thus generated is picked up by the Performance Logger framework and written onto the database. In this way, database logging is handled asynchronously without impacting the runtime performance of the respective servers.

For the Wireless web server, the logging process is handled in the callback of the different events, which are generated (that is, the session begin and end). These events are enabled by default for logging purposes. If the administrator chooses not to generate the logging, then there is a provision to turn off the Wireless web server logging. When this happens, the callbacks do not generate log files. For other modules, such as the Alert Engine, Asynchronous Server, and Transport Server,

logging into the files occurs when the corresponding request is fulfilled. The Data Feeder logs the runtime data directly to the database in batches.

Figure 14–1   Performance Logger Interactions
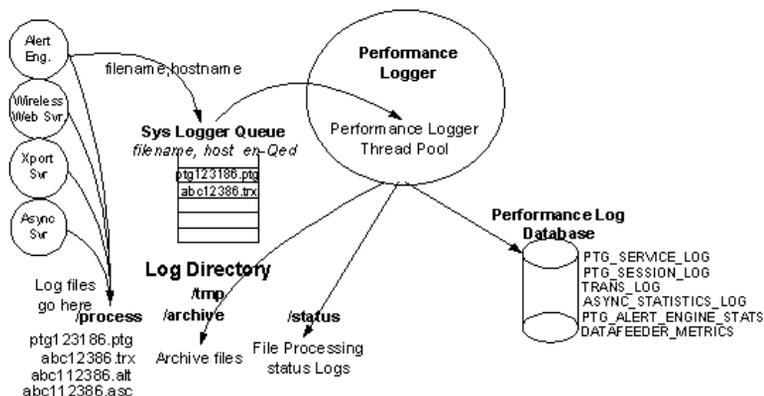
The generated log files follow a common directory structure, which can be configured using the system management functions at the node (process) level. The top level Logging Directory is specified here, the Logger Framework, which all modules use, creates sub-directories: *process, status and archive*. At runtime, the log files generated by the different modules have distinct file suffixes. These files are stored in the *process* directory and the file names and the machine name are enqueued into a *'SYS_LOGGER_QUEUE'*. The file can be made available for processing based on a configurable file size. Additionally, Wireless supports log file aging by which the log file is automatically made available for processing after a fixed time. This ensures that the skew introduced by the asynchronous nature of the logging process is reduced. The log file age (also known as close frequency) can be configured using the system management functions for the site-level configuration of the Performance Logger.

The modules (which generate these log files with distinct suffixes), provide a Database Log File Handler Class, which processes these files. The handler classes are created by extending a common abstract class, which provides the connection and directory and file information. The handler to suffix mapping is pre-seeded in Wireless during installation.

Starting Performance Logger starts up multiple threads, each containing an instance of the different handlers. Each logger thread dequeues the filenames belonging to

the local machine, inspects the file suffix and delegates it to the corresponding handler class for further processing.

The administrator can control the number of Performance Logger threads using the system management functions for the process-level configuration.

For details regarding the Performance Monitor configuration see Section 12.1.5 in Chapter 12, "Server Configuration".

14.1.2 Activity **Log Table Description**

> **Note:**   Since these tables tend to grow during the life of the servers, the administrator may choose to purge the data off these tables periodically.

PTG_SERVICE_LOG

Table 14–1   Service Activity Log

Column Name	Description
Service_id	The Object Identifier for the invoked service.
Service_name	The name of the invoked service.
ptg_instance_id	The unique identifier identifying the instance.
final_service_id	The Object Identifier of the final service (that is, master service folder).
final_service_name	The name of the final service.
session_id	The Session Identifier of the Session in whose context the service is invoked.
bookmark	The service bookmark.
service_type	The type of service.
invocation_hour	The hour when the service was invoked.
invocation_time	The date when the service was invoked.
response_time	The response time for the service.
request_status	The status of the request. Non-zero values indicate the error number.

Table 14–1   Service Activity Log

Column Name	Description
error_description	The error message (if there was an error while invoking the service).
user_id	The Object Identifier for the user.
user_name	The name of the user.
remote_address	Gateway IP address and host name.
host_id	Host IP address and name.
logical_device	The Logical Device from where the Service was invoked.
external_user_id	The external user id of the which forwarded this request.
external_user_name	The external user name of the which forwarded this request.
adapter_type	The type of the adapter which is servicing this request (not logged currently).
adapter_time	Time taken by the adapter to service this request.
transformation_time	Time taken by the transformer to service this request.
timestamp	Logged event timestamp (generated by trigger).

Table 14–2   DATAFEEDER_METRICS

Column Name	Description
HOST_NAME	The host name of this data feeder.
INSTANCE_NAME	The instance name of this data feeder.
FEED_NAME	The name of this data feeder.
UPDATE_DATE	The date and time of this batch run.
ACTUAL_BATCHTIME	The actual time spent on this batch.
DOWNLOADED_ROWS	The publishing rate (data rows stored).
ERROR_DESCRIPTION	Errors encountered for this batch for future use.

PTG_ALERT_ENGINE_STATS

Table 14–3 Alert Server Activity Log

Column Name	Description
host_name	The host name of the machine this alert server instance is running on.
instance_name	The alert instance name.
malert_name	The name of the master alert service which generates this alert message.
malert_oid	The Object Identifier of the master alert service which generates this alert message.
subscriber_name	The name of the subscriber to receive this alert message.
device_address	The device address this alert message is delivered to.
device_oid	The device address object identifier.
device_type	The type of the device.
message_id	The message id generated by the message gateway for this alert message.
message_length	The length of this alert message.
message_status	The dispatch status of this alert message.
dispatch_time	The time stamp of this alert message being dispatched to the message gateway.
error_description	The error message - if there was an error while dispatching this alert message.

ASYNC_STATISTICS_LOG

Table 14–4 Asynchronous Service Activity Log

Column Name	Description
host	Name of the host where the asynchronous server is running.
instance_id	The unique id to identify an instance of the asynchronous server.
source_addr	The source address of the received message.

Table 14–4   Asynchronous Service Activity Log

Column Name	Description
dest_addr	The destination address of the received message.
delivery_type	The network delivery type of the message. The possible values are: ■ WAP-Push ■ SMS ■ Voice ■ Email ■ Fax ■ Two-Way Pager ■ One-way Pager
encoding	The character encoding for the message.
queue_size	The number of messages waiting in the queue when the message is received.
msg_rcv_time	The message received time.
msg_rcv_hour	The message received hour.
start_execute_time	The time to start invoking the service requested from the message.
end_execute_time	The time to finish the service invocation.
error_description	The error description on failure of the service invocation.
service_id	The ID of the service the user is requesting to access.
async_name	The asynchronous short name of the service the user is requesting to access.
message_size	The size of the message.
timestamp	Time when the message is logged into the database

TRANS_LOG

Table 14–5   Message Gateway Activity Log

Column Name	Description
MESSAGE_ID	The message id assigned by the transport, which is unique for every message.
MESSAGE_TYPE	The type of the message, which can be 'R' for received message, 'S' for message to send.
DELIVERY_TYPE	The delivery type, which can be:
	■ Wap-Push
	■ SMS
	■ Voice
	■ Email
	■ Fax
	■ Two-Way Pager
	■ One-Way Pager
REQUEST_INSTANCE_ HOST	The transport instance host on which the message is accepted. For a sending message, this is the host of the client; for a received message, this is the host of the driver.
REQUEST_INSTANCE_ID	The Wireless instance id on which the message is accepted. For a sending message, this is the instance id of the client. For a received message, this is the host of the transport server that the driver is on.
REQUEST_BEGIN_TIME	The time the message is to be accepted. For sending message, it is the time the send method is called. For a received message, it is the time the onMessage method is called. All time is Java system time.
REQUEST_END_TIME	The time the message is accepted. For a sending message, it is the time the send method returned. For received message, it is the time the onMessage method returned.
HANDLE_INSTANCE_ HOST	The host name on which the message is dequeued to a process. For a sending message, it is the host on which the driver ran. For received message, it is the host on which the driver ran.
HANDLE_INSTANCE_ID	The Wireless instance id on which the message is dequeued to process.
HANDLE_BEGIN_TIME	The time the dequeue method to be called.

Table 14–5   Message Gateway Activity Log

Column Name	Description
HANDLE_END_TIME	The time the message is processed. For sending message, the message is sent. For received message, the message is processed by the listener.
ENQUEUE_BEGIN_TIME	The time the enqueue call started.
ENQUEUE_END_TIME	The time enqueue call returned.
DEQUEUE_BEGIN_TIME	The time the dequeue call started.
DEQUEUE_END_TIME	The time the dequeue call returned.
PROCESS_STATUS_ CODE	The status code of the message processing, which can be: unknown failed succeeded ignored
PROCESS_BEGIN_TIME	The time the processing call was called. For sending message, the driver's send method was called. For received message, the listener's `onMessage` method was called.
PROCESS_END_TIME	The time the processing call returned. For sending message, the driver's send method returned. For received message, the listener's `onMessage` method returned.

System Logging

The System Logger logs the runtime debug log information generated by the runtime processes. The Wireless server generates log information, which is stored in the log file. The different levels of logging and the log file size can be configured as follows:

To configure the System Log file using Wireless Management at either the site or process level:

1. Enter a name for the log file name pattern. The default is **sys_panama.log**.

    This pattern enables you to identify the log file generated by the different server processes. Currently, the only supported pattern is *<filename>{0}.log*. For example, *sys_panama{0}.log* would generate a file with a name *sys_panama<timestamp in long>.log*. Using this pattern enables administrators to identify log files pertaining to the different server processes based on their start timestamp. The setting of the pattern is optional. The default log file name is **sys_panama.log**

    At the Wireless server or host level, the log directory may be specified using Wireless Management. The default log directory is the default temp directory

for that operating system (typically *c:\temp* for windows and */var/tmp* on UNIX).

2. In the Maximum Log File Size field, enter the maximum number of log file size (in bytes).

3. Select a log level. The log can contain any of the following: Warning, Error, or Notify. The default is Warning, Error, and Notify.

4. Click Apply.

Note: The System Log file configuration can be unique to each instance of the server. It defaults to the site level configuration if nothing is specified at the instance level.

A

Frequently Asked Questions

This document addresses the following frequently asked questions (FAQs) and includes the following sections:

- Section A.1, "Wireless Server -- General"
- Section A.2, "Tools"
- Section A.3, "The Messaging Server"
- Section A.4, "The Asynchronous Server"
- Section A.5, "Interaction with Other iAS Components"

A.1 Wireless Server -- General

This section includes the following:

- Section A.1.1, "How can I view sys_panama.log?"
- Section A.1.2, "How can I stop a process?"
- Section A.1.3, "I modified the Wireless Server configuration through OEM, why did it not take effect?"
- Section A.1.4, "How do I change the context path for an OC4J application?"

A.1.1 How can I view sys_panama.log?

You can view **sys_panama.log** from the following two places:

- From the Webtool's Service Designer or Content Manager:
    1. Select a master service or a service.

   2. Click on Debug button. The Debug Service screen appears, displaying the sys_panama.log in the System Log text pane. You can specify the number of lines to be displayed from the end of the log, and then click Refresh Log button.

■ From OEM:

   1. Drill down to the Wireless Server. In the Runtime section of the Wireless Server tab, click System Log File. The System Log Files screen appears.

   2. Locate the sys_panama.log, click on View Log File icon. The sys_panama.log displays in the text area. Select the line number option from the drop-down list, and click the View button.

A.1.2 How can I stop a process?

To stop a non-servlet process:

1. Login into OEM and drill down to the Wireless Server.

2. From the Wireless Server tab, click process type in the Processes section. The processes screen appears.

3. Select the process row and click the Stop button.

To stop a servlet process:

1. Login into OEM, drill down to OC4J page.

2. Select the product group row and then click the Stop button.

A.1.3 I modified the Wireless Server configuration through OEM, why did it not take effect?

You must restart the process for the new configuration values to take effect.

A.1.4 How do I change the context path for an OC4J application?

To change the context path, perform the following:

1. Change the mounting point in $ORACLE_HOME/j2ee/Apache/Apache/conf/mod_oc4j.conf.

    For example, change

    Oc4jMount /customization OC4J_portal

    Oc4jMount /customization/* OC4J_portal

to

Oc4jMount /personalization OC4J_portal

Oc4jMount /personalization/* OC4J_portal

2. Change the SSO-protected URL in $ORACLE_
HOME/j2ee/Apache/Apache/conf/wireless_sso.conf

For example, change

/customization/Login.jsp

to

/personalization/Login.jsp

3. Change the application name in $ORACLE_HOME/j2ee/OC4J_
portal/config/server.xml and default-web-site.xml.

For example, in **server.xml**, change

<application name="customization" path="$ORACLE_HOME/j2ee/OC4J_
portal/applications/customization.ear" auto-start="true" />

to

<application name="personalization" path="$ORACLE_
HOME/j2ee/OC4J_portal/applications/customization.ear"
auto-start="true" />

4. In **default-web-site.xml**, change

<web-app application="customization" name="portal-web"
root="/customization" />

to

<web-app application="personalization" name="portal-web"
root="/personalization" />

A.2 Tools

This section includes the following:

A.2.1 Why are some images (such as buttons and tabs), not generated correctly on the UNIX platform?

On the UNIX platform, the X server is used for the dynamically generated images. Therefore, you must set the DISPLAY environment variable before you start the wireless server processes.

If the X server is running on the same machine, then you need to log in to the console of this UNIX machine and then enter 'xhost + ' to allow the accesses to the X server. You next set the DISPLAY environment variable by either of the following methods:

■ Modify $ORACLE_HOME/opmn/conf/opmn.xml. In the body of the `<OC4J>` element, add `<prop home = "DISPLAY" value = "0.0"/>`.

■ Before starting the opmn process, enter *setenv DISPLAY 0.0* in the same shell.

If the X server is running on a remote machine, you must log in to the console to the remote machine. Enter 'xhost + ' to allow the accesses to the X server. Then set the DISPLAY environment variable using either of the following methods:

■ Modify $ORACLE_HOME/opmn/conf/opmn.xml. In the body of the `<OC4J>` element, add `<prop home = "DISPLAY" value = "remotemachine:0.0"/>`.

■ Before starting opmn processes, enter *setenv DISPLAY remotemachine:0.0* in the same shell.

A.2.2 Why are the images broken when I test a master service or a service with the Web-based Wireless PDA simulator?

Because the The image_src is a relative URL path under Wireless Web Server, the Wireless Web Server must be running in order to retrieve these device images. You can start the Wireless Web Server from the OC4J page of OEM.

A.2.3 After the user locale is changed, some Images In the Webtool or Wireless Customization are not generated in the correct language and display as Squares. How do I fix this?

Check your jdk/jre/lib/fonts/ directory to see whether the following five files exist.

- ALBANWTJ.TTF

- ALBANWTK.TTF

- ALBANWTS.TTF

- ALBANWTS.TTF

- ALBANWTT.TTF

- ALBANYWT.TTF.

The default jdk installed by IAS should include these files.

A.2.4 My Netscape version is 4.7 or lower, when I tried to view Webtool or Wireless Customization with certain user-preferred locale, the labels display as squares. Should I change my browser setting?

Yes. This problem only happens with Netscape 4.7 or lower version. Internet Explorer handles it gracefully.

1. From the Netscape tool bar, select Edit.

2. Select Preferences from the drop-down menu. The Preferences dialog appears.

3. From the Category tree, select Fonts to display the Fonts dialog.

4. In the Fonts dialog, select Unicode from the *For the Encoding* drop-down list.

5. From the *Variable Width Font* and *Fixed Width Font* drop-down lists, select the font that supports the preferred language. For example, if the preferred locale is zh_CN, you may select MS Song for viewing the page in Chinese.

A.3 The Messaging Server

This section includes the following:

- Section A.3.1, "How do I configure a transport driver?"

A.3.1 How do I configure a transport driver?

There are two major steps in configuring a transport driver:

1. Configuring the Driver Metadata.

2. Configuring the Driver Instance.

Step 1: Configuring the Driver Metadata

To configure the driver metadata:

1. Using Webtool, select the Site tab of Wireless system management (accessed through the Oracle Enterprise Manager console).

2. Click Messaging Server. The detail screen for the site-level Messaging Server processes appears.

3. In the Configuration section, click Messaging Server Drivers to invoke the Messaging Server Drivers screen.

4. Click Add Driver.

5. In the Add Driver screen, specify the following values:

    ■   Driver Name

    ■   Delivery Category

    ■   Capability

    ■   Driver Class

    ■   Driver Class Parameters.

6. Click Create.

> **Note:**   The driver class must be in the classpath when you start the messaging server process. The Webtool does not check this at this point and only discovers an incorrect driver class at runtime. To find out which attributes the driver expects, you must consult with an administrator or driver developer. You must provide enough information so that the driver runs properly.

Step 2: Configuring a Driver Instance

You configure the driver instance after you configure the driver metadata.

To configure a driver instance:

1. Select the Wireless Server tab.

2. Click Messaging Server in the Processes section. The Messaging Server Processes screen appears.

3. Click the messaging server process to which you want to add a driver instance.

4. The detail screen for the selected messaging server process appears. In the Configuration section, click Driver Instance Configuration. The Driver Instances screen appears.

5. Click Add Driver Instance to invoke the Add Driver Instance screen.

6. Enter a driver instance name.

7. Select the driver name you just created at the Site level from the drop-down list.

8. Click Go. The attributes for the selected driver appear.

9. Enter the appropriate values.

10. Click OK to complete the new driver instance.

A.3.2 Why am I unable to send messages even through the Webtool says that the transport Is up?

There can be several reasons why you cannot send a message, even though the status of the transport appears to be up.

Make sure your transport server is really up. If you cannot find a process such as "runpanamaserver MESSAGING_SERVER_INSTANCE", where MESSAGING_ SERVER_INSTANCE is your instance name, then your server is not up. Bring the sever up by clicking Start.

If your server is up, check the **sys_panama.log** file for any fatal exception thrown by a related driver. If the **sys_panama.log** contains such a fatal exception, then a problem occurred that caused the driver to become disabled. Resolve that problem and then restart your messaging server.

If the **sys_panama.log** file did not contain a fatal exception thrown by a related driver, then make sure that the driver is not a newly added driver. If it is a newly added driver, then restart both the transport server and your client.

If you still cannot send messages, then check with your service provider (for SMS, contact your SMSC). In addition, check your mail server and voice gateway to see if they are functioning properly. If the mail server and voice gateway are functioning properly, but you are still unable to send messages, contact Oracle9*i*AS Wireless support.

A.4 The Asynchronous Server

This section includes the following:

A.4.1 What is ASK (Asynchronous Server Kernel)?

The Asynchronous Server Kernel (ASK) enables customers to access wireless services using asynchronous messaging like SMS, Email or 2-way pagers. This means that your applications can be used by the vast majority of mobile devices that are capable to send SMS messages but are not internet-enabled. You ask for the service by sending a short message. You then receive a message in reply. You can now interactively run the same applications through asynchronous devices that you ran from synchronous devices (such as WAP phones, PDAs, or browsers).

A.4.2 What is an ASK site-wide address and the service short name?

The site-wide address is the entry point to the ASK. This address can be either an an e-mail address or a SMS phone number. The ASK receives and processes messages delivered to these addresses.

The service short name is a site-wide unique name that identifies an ASK service. End users send a message to the site-wide address with service short name in the message body to invoke the corresponding service.

> **Note:** The service short name is case-sensitive for this release; it will not be case-sensitive in subsequent releases.

A.4.3 What Is the ASK service-specific address?

For each ASK-enabled (asynchronous-enabled) service, users can optionally define a service-specific address to identify a service. The service-specific address is another way to locate a service from the asynchronous server.

> **Note:** The service-specific address cannot be the same as the site-wide address and must be unique among services.

To invoke a service through the service-specific address, users send a message to the service-specific address. Users enter all of the parameter values for the service in the body of this message. For example, when users invoke a stock service, they send a message to a service-specific address, *stock@oraclemobile.com*, with a stock symbol (for example, *ORCL*), in the message body.

A.4.4 What are the preliminary requirements for the ASK?

The ASK does not deal directly with different communication networks. It instead relies upon the messaging server to handle the network protocol detail and perform both the message sending and receiving. Assigning the ASK site-wide and service-specific addresses registers the addresses to the messaging server so that the message will be routed to the ASK whenever the messaging server receives messages addressed to the ASK. Therefore, you must add ASK site-wide and service-specific addresses to the corresponding driver instance configuration of messaging server. For example, you add the email account addresses into the Email driver instance to enable the email driver to constantly poll the messages from the

mail server. See Section 12.1.3.4 in Chapter 12, "Server Configuration" for information on configuring the messaging server drivers.

A.4.5 How do I add the ASK site-wide address?

You use the Wireless system management (accessed through the Oracle Enterprise Manager console) to add the ASK site-wide address.

To add the ASK site-wide address:

1. Select the Site tab. The Site screen appears.

2. In the Processes section, click Asynchronous Server. The Asynchronous Server screen appears.

3. Click the Asynchronous Server Configuration link in the Administration section.

4. In the Site-Wide Addresses section of the Asynchronous Server Configuration screen, you assign the site-wide address to both the SMS and Email delivery networks. You must restart the asynchronous server for the changes to take effect. See Section 12.2.2.2 in Chapter 12, "Server Configuration" for information on the Asynchronous Server Configuration screen.

A.4.6 How do I create an ASK-enabled service?

You use the Master Service Creation Wizard of the Service Designer and the Service Creation Wizard of the Content Manager to create an Ask-enabled service.

Using the Master Service Creation Wizard

When you reach Step 6 of the Master Service Creation Wizard, Creating an Asynchronous-Agent Service, check the Asynchronous-Agent Enabled check box. To ensure that the ASK can properly map the parameter names to their appropriate values, you must add the parameters which require user input in the same order that they appear on the command line.

Using the Service Creation Wizard

Using the Content Manager, you create a service based on the asynchronous enabled master service by selecting an asynchronous-enabled master service in Step 2 of the Service Creation Wizard. When you reach Step 4, Assigning the Asynchronous Agent to the Service, you assign a site-wide unique short name to the service. This name enables end users to identify the ASK service. To invoke this service, end users send a message to the site-wide address to the service short name

with the parameter values in the subject line or message body. For example, to access a stock service, an end user sends a message to the site-wide address, *ask@oraclemobile.com*, and includes the service short name, *stk*, and the parameter value, *orcl*, in either the subject line or the body of the message.

In addition, you can optionally assign a service-specific address to the service so that the user can invoke the service by sending a message to the service-specific address instead of site-wide address. Because the service-specific address identifies a service, users do not need to include the service short name in the message. For example, if you create a stock service that has a service-specific address, such as *stock@oraclemobile.com*, then users need only include a parameter (the ticker symbol *ORCL*, for example) in the subject line or body of their message.

A.4.7 How do I invoke an ASK-enabled service through an asynchronous device?

To invoke an ASK-enabled service through an asynchronous device, send a message to the ASK site-wide address with the subject line or message body containing the short name and the required parameter values. For example, to invoke a traffic service that provides traffic information about a particular segment of a highway, send a message with *tr sfo 101n* in either the subject line or message body. This service (*tr*) expects the first parameter to be the city (*sfo*) and the second parameter to be the highway (*101n*). Each of these parameters is separated by a blank space.

A.4.8 Does ASK support user sessions?

The ASK supports user sessions. The Ask creates a user session upon receipt of the first user request and binds the subsequent request from the same device to the same session unless the session expires. The session life time, which can be configured, has the default value of 600 seconds, the same as the default value for Wireless runtime session expiration.

The ASK also supports MobileXML tags. These tags, such as `SimpleMenu` and `SimpleForm`, enable complex applications which require conversational interaction, which the ASK enables by storing all of the menu and form states in the backend user session. Each menu message received by the user has a number prefix for each menu item. Users select these menu items by replying with the menu number in the message body.

The form message requests user-supplied input for each parameter. Users reply with a message containing the parameter values separated by delimiter, such as default delimiter, a blank space (" "). If a user decides to invoke another service rather than respond to the form message, then the user must issue an escape form

command (default value is !e) before issuing any other commands. The escape form command prevents the ASK from interpreting the service short name as a parameter value for the form.

A.4.9 Why do I get a username and password form challenge from the ASK?

The Ask challenges the username and password for several reasons, including:

- A non-registered user is attempting to request a service which is not a public service and therefore cannot be accessed by the Guest group. Anonymous users can only access public services.

- A registered user who issues the request to a non-public service from a device which is not yet added to the user profile. The user an reply a message with the Wireless user name and password to access those authorized services.

- The application issues a form challenge. In this case, the user responds to the challenge by providing the username and password for that particular application.

Note: Users must issue an escape from command (default value is *!e*) if they want to invoke another service rather than respond to the form challenge. Because the escape from command clears the form state, the ASK does not interpret user commands for another service as parameter values for the form.

A.4.10 What do I check if no response was received after a request message was issued to the site-wide address of the Asynchronous Server?

The asynchronous server and messaging server are the main Wireless components involved with message delivery and service invocation. Do the following if no response was ever received after a request message was issued to the site-wide address of the Asynchronous Server:

1. Verify that the message destination address is the same as the asynchronous site-wide address. You can find out the site-wide asynchronous server address by clicking the Asynchronous Server Configuration hyperlink in the Site screen.

2. Verify that the asynchronous site-wide address has been properly configured in the corresponding driver instance of the messaging server. Check the **sys_panama.log** to see if there is any exception thrown from the corresponding driver, either during the startup phase or during the sending and receiving phases. Often, when a message has not been delivered from the messaging

server to the Asynchronous Server, the log line *fail to enqueue a received message* appears in **sys_panama log**. Typically, the failure to deliver a message from the messaging server to the asynchronous server is caused by one of the following:

- The asynchronous server has not been restarted after the site-wide address was added or modified.

- The asynchronous site-wide address given in the asynchronous server configuration is different from the one configured in the messaging server driver instance.

- The asynchronous server is not up.

3. Check if there are any inactive messaging server driver instances configured for the network (Email or SMS) to which the message is sent. There could be more than one driver instance that supports the network type that you are currently testing. Having more than one driver instance supporting the same network type is for load balancing. The issue is introduced if the message is routed to an inactive driver instance. For example, the outgoing emails can be routed to either a PushDriver or an EmailDriver driver instance based on the criteria set in each driver. Even though the PushDriver and the EmailDriver support the Email network type, the PushDriver may not be configured to point to a valid URL, preventing the outgoing mails sent to that driver instance from being delivered.

   To check this, do the following:

   a. From the Site tab, click Messaging Server.

   b. From the Messaging Server process table, click each process link to locate the driver instance supported by the messaging server process. Check if there are more than one driver which support the network type that you are currently testing. Make sure that all of the drivers are configured and started properly to deliver messages. Remove the unused drivers. To verify the driver configuration:

      – From the Wireless Server tab, click Messaging Server in the Processes section.

      – Click a message server process. The detail screen for that process appears.

      – In the Configuration section of the screen, click Driver Configuration Instances.

A.5 Interaction with Other *i*AS Components

This section includes the following:

- Section A.5.1, "What should I configure if the hostname or port number of my Apache server has changed?"

A.5.1 What should I configure if the hostname or port number of my Apache server has changed?

1. Modify **opmn.xml** to point to the hostname and port number where the OC4J instance is running.

2. Reconfigure WebCache Server. For more information, refer to the WebCache Server configuration documentation.

3. Reconfigure Oracle Portal. For more information, refer to the Oracle Portal Server configuration documentation.

4. Reconfigure OEM. For more information, refer to the OEM configuration document.

5. Rerun the script $ORACLE_HOME/wireless/sample/portalRegistrar.sh (or portalRegistrar.bat) to re-register the Wireless Web Server URL.

6. Register the Webtool provider and the Customization provider with Oracle Portal.

7. Login into OEM, drill down to Wireless Server.

8. Select the Site tab and then click the URL Configuration in the Configuration section.

9. Enter the URL values for each filed and then click OK.

10. Click Register Oracle Portal Provider for Wireless Webtool.

11. Enter the appropriate values and click OK.

12. Click Register Oracle Portal Provider for Device Portal Access.

13. Enter the appropriate values and then click OK.

> **Note:** You should always install Apache with Oracle Universal Installer, so that both the OPMN and SSO are installed automatically.

Glossary

adapter

A dynamically loaded Java class that acquires content from an external source, such as a Web site or a database, and converts the content into Mobile XML.

Adapter Result format

A general, user interface-independent content format. Content in Adapter Result format requires conversion to Simple Result format before it can be converted to the final target format.

Asynchronous-enabled service

Also known as an ASK (Asynchronous Server Kernel) service. An asynchronous-enabled service enables customers to access wireless services using asynchronous messaging like SMS, email or 2-way pagers. As a result, users can access wireless services even if they use devices that are not Internet-enabled.

Content Manager

The visual interface for creating Wireless services. For Oracle Collaboration Suite, you use the Content Manager to edit the input parameters of the mobile services.

core

The Wireless component that manages the Wireless repository and service requests.

daemon

A background process that performs a specified operation in response to certain events or at specified times.

Device Portal Access

A Web-based interface that end users access to select services and configure their device portal.

device transformer

A transformer that converts content from Simple Result format into the target format.

DOM Interface

Document Object Model. The interface that allows programs and scripts to access and transform processed XML documents.

DTD

Document Type Definition. A file in an XML document that defines how the application presenting the document should interpret the XML document.

end user

A person who accesses a Wireless service from a client device.

Enterprise Manager Daemon (EMD)

The Enterprise Manager Daemon handles the different components metrics and displays them in a component specific HTML page. An EMD is installed with Oracle9*i* Application Server.

filtering

The process of transforming content by replacing existing markup tags with tags that represent another format.

HDML

Handheld Device Markup Language. A reduced version of HTML designed to enable wireless pagers, cellular phones, and other handheld devices to access Web page content.

IANA

Internet Assigned Numbers Authority. An organization responsible for assigning new Internet-wide IP Addresses to ISPs.

IMAP

Interactive Mail Access Protocol. A hierarchical mail storage and retrieval structure.

HTML

HyperText Markup Language. The document format that defines the page layout, fonts, and graphic elements, as well as the hypertext links to other documents on the Web.

HttpAdapter

The HttpAdapter fetches the Mobile XML content from the external HTTP/HTTPS URLs. It acts as a proxy browser (which understands Mobile XML) on behalf of the mobile device.

JNDI

Java Naming and Directory Interface. A set of APIs that provide directory and naming functionality to Java applications.

JSP

JavaServer Pages. A technology based on Java servlets which separates the functions of Web page layout and content generation. JavaServer Pages technology enables the creation of server-generated Web pages that incorporate dynamic content.

LDAP

Lightweight Directory Access Protocol. Protocols for accessing directories. The LDAP protocols support TCP/IP.

logical device

An object that describes either a physical device, such as a cellular phone, or an application, such as email. There is a default device transformer for each logical device.

master service

The core implementation of a service. The master service object invokes a specific adapter, and identifies the transformer used to convert content for the target device.

MIME

Multipurpose Internet Mail Extensions. A mail type that defines the message structure for different 8-bit character sets and multi-part messages.

mobile service

A preconfigured service that can be called from a device by a mobile user, or from another application.

Mobile XML

A set of DTDs and XML document conventions used by the Wireless to define content and internal objects.

PIM

Personal Information Management. Wireless includes preconfigured PIM mobile services, such as calendar, address book, and directory.

repository

An Oracle9*i* database which stores all of the Wireless objects, such as users, groups, adapters, and services.

request

A query to initiate a desired Wireless service. Requests are submitted on behalf of end-users to the Wireless server.

request manager

The Wireless component that processes requests for services. The request manager authenticates the user, submits the request to the 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.

result transformer

A transformer that converts content from Adapter Result format into Simple Result format.

RMI

Remote Method Invocation. A standard for creating and calling remote objects. RMI allows Java components stored in a network to be run remotely.

sample repository

The initial Wireless repository, which includes pre-built objects such as transformers, adapters, and logical devices.\

service

A core object used in a Wireless server to represent a unit of information requested by, and delivered to, a Wireless client. An end user typically sees a service as a menu item on a device or as a link on a Web page.

Service Designer

The visual interface for creating and managing Wireless users, user groups, adapters, transformers, and master services.

Simple Result format

A content format that contains abstract user interface elements such as text items, menus, forms, and tables.

source format

The original format of content retrieved from an external data source by a Wireless adapter. For example, the source format of Web page content is HTML.

SQL adapter

An adapter that retrieves and adapts content from any JDBC-enabled data source.

stylesheet

An XSLT (eXtensible Stylesheet Language Transformations) instance that implements content presentation for XML documents. Wireless transformers can be either XSLT stylesheets or Java programs.

target format

The format required to deliver data to a specific type of client device.

Thin HTML

A minimal version of HTML implemented by a transformer in the starter Wireless repository. Thin HTML does not include support for frames, JavaScript, or other advanced features.

transformer

A Wireless object that converts content returned by the Wireless adapters. Result transformers convert Adapter Result documents into Simple Result documents. Device transformers convert Simple Result documents into the target format.

TTML

Tagged Text Mark-up Language. A lightweight version of HTML suitable for most PDAs.

user agent

An object that associates an end user with a device type.

user group

A 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.

WAP

Wireless Application Protocol. A wireless standard from Motorola, Ericsson, and Nokia for providing cellular phones with access to email and text-based Web pages. WAP uses Wireless Markup Language (WML).

Web Integration adapter

An adapter that retrieves and adapts Web content using WIDL files to map the source content to Wireless XML.

WebDAV

World Wide Web Distributed Authoring and Versioning. A set of extensions to the HTTP protocol that enable remote users to collaboratively manage files with one-another on the Internet.

WIDL

Web Interface Definition Language. A metadata language that defines interfaces to Web-based data and services. WIDL enables automatic and structured Web access by compatible applications.

WIDL file

A file written in Web Interface Definition Language that associates input and output parameters with the source content that you want to make available in a Wireless service.

WML

Wireless Markup Language. A markup language optimized for the delivery of content to wireless devices.

XML

eXtensible Markup Language. A flexible markup language that allows tags to be defined by the content developer. Tags for virtually any data item can be created and used in specific applications, allowing Web pages to function like database records.

XSLT

Extensible Stylesheet Language Transformations. A language for transforming one XML DTD into another XML DTD.

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