Oracle® Field Service/Wireless

Implementation Guide

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1 Introduction

1.1 Field Service/Wireless Overview

Field Service Wireless enables the field representatives to wirelessly access data directly through the enterprise database.

Field Service Wireless is a solution for field service representatives on tethered mobile devices. This means that the device has a continuous connection to the CRM enterprise applications. Field service representatives connect to this application by choosing a URL on their mobile device's Web Browser. After completing the required login, they can access real time information from the enterprise database. The field service engineers can accept the tasks and inquiries at the customer site using the WAP-enabled devices.

Oracle Field Service / Wireless can be deployed over any protocols including WML, HDML, Tiny HTML. This solution works over any wireless standard such as CDMA, CDPD, GSM, GPRS, HSCSD, TDMA. It uses Oracle9i Application Server Wireless Edition to transform XML data from Oracle Application database to the appropriate markup language of the mobile devices.

1.1.1 Field Service/Wireless Features

The Oracle Field Service / Wireless application includes the following features:

- Ability to search on the following:
  - Service request
  - Task number

        - Parts, based on part number and part description, subinventory, and quantity
        - Date
    - Ability to view and update tasks, including:
        - Check the scheduled start time
        - Update the status
        - Debrief to report on labor and expenses for the task
        - Capture Counter reading
    - Ability to manage customer information, including:
        - View the address
        - View the contact information
        - Send e-mail to the contact person
        - Call the contact person by telephone
        - Customer name
    - Ability to view service request information including:
        - Serial number
        - Product number
        - Contract details
    - Ability to view route directions
    - Ability to view contract details including:
        - Contract number
        - Date fixed
        - Other contractual elements such as cost of labor and parts covered
    - Ability to transfer parts and manage spare parts

2 Technology, Requirements, and Performance

Field Service / Wireless enables read and write functions to the enterprise database through wireless connection between mobile device, WAP Gateway and the 9iAS wireless edition.

The following components are involved:

- Enterprise Database: This is the enterprise data that field service engineer will access through mobile device.
- Applications Web Server: This is the http server used for enterprise applications.
- Oracle 9iAS Wireless Edition: This server is used to transform XML to any markup language (WML, HDML, VoxML). The 9iAS Wireless Edition is also called the Portal-to-Go server.
- WAP Gateway: This translates the data from the internet protocol (HTTP) to the wireless protocol (WAP) and vice versa. Note that this is not the same as Oracle CRM Gateway for Mobile Devices.
- WAP enabled mobile device: This device is capable of displaying Web pages in WML browser.

2.1 Architectural Overview

Field Service / Wireless uses Java Server Pages (JSP) and its functions are defined by Java beans.

- **Presentation Layer**: The look and feel of the application is created by generating Mobile XML. This is fed to Oracle 9i Application Server, which transforms the XML into appropriate markup language depending on the device.
- **Control Layer**: The flow of the application is controlled by a series of Java Server Pages.
- **Application Logic** : All the Business APIs are written in PL / SQL. They are accessed using Java Beans. If the data can be accessed using database views, no PL / SQL is required and data is fetched directly from the applications database.

2.2 Minimum Software Requirement

The following software is required to run the Field Service / Wireless application:

- Oracle Applications 11.5.6

- Oracle 9iAS Wireless Edition 1022 + Portal To Go 1113 Patch (Software is available for SUN Solaris, Windows NT, HP UX, IBM AIX, Linux, and Compaq).
- Oracle 8.1.6 or higher database required for repository for Oracle 9iAS

2.3 Minimum Hardware Requirements

The 9iAS Wireless Edition Server requires this hardware:

- 300Mhz CPU
- 256Mb RAM
- 2GB Hard Disk

2.3.1 Hosting Option

Telephone companies have a wireless network in place for cell phone users and provide wireless carrier services. The telephone companies also provide end users with a Wireless Portal to access the web and other content. Under this alternative, the telephone company completely operates and maintains the gateways and Oracle9iAS Wireless Edition. There are also specialized Wireless Portal provider which can provide individual telephone companies or enterprises hosting services for their gateways and Oracle9iAS Wireless Edition. These are often referred to as wireless application service providers (WASPs). OracleMobile.com is one such WASP that can host the wireless infrastructure and give value-added services such as consulting and security to corporations and enhance end user experience.

2.3.2 In House Option

Using the in-house option, corporations can run Oracle9iAS Wireless Edition infrastructure themselves. In this situation, the corporations have to deploy and maintain their own infrastructure. The corporations also need to have their own firewall-based security infrastructure in place.

3 Dependency Requirements and Verification

3.1 Mandatory Dependencies

Field Service 11.5.6 must be implemented and running.

Oracle 9iAS Wireless Edition should be at the PtG 1113 patch level. The following patches need to be applied:

- Patch 1821463 (PtG1111)
- Patch 1808639 (PtG1112)
- Patch 1927214 (PtG1113)

3.2 Conditional Dependencies

To use the Directions module of Field Service Wireless you must follow the procedures in this section.

3.2.1 Configure JServ's jserv.properties

To configure the jserv properties, you must modify the CLASSPATH. Make sure the following files exist in the appropriate directories.

For NT:

- wrapper.classpath=%PANAMA_NEW_HOME%\lib\MapQuestX.jar
- wrapper.classpath=%PANAMA_NEW_HOME%\lib\MQJavaCore.jar
- wrapper.classpath=%PANAMA_NEW_HOME%\lib\ RoutingJServerClient.jar

For Unix:

- wrapper.classpath=$PANAMA_NEW_HOME/lib/MapQuestX.jar
- wrapper.classpath=$PANAMA_NEW_HOME/lib/MQJavaCore.jar
- wrapper.classpath=$PANAMA_NEW_HOME/lib/ RoutingJServerClient.jar

3.2.2 Modify the spatial properties (for NT)

The spatial properties file is located in this directory:

%PANAMA_NEW_HOME%\server\classes\oracle\panama\spatial

Make sure that the paths to all the XML files are correct and valid. This path is valid, for example:

C:/Oracle/panama/server/classes/oracle/panam/spatial/geocoder/Geocoders.xml

This path is not valid, however:

C:\Oracle/panama/server/classes/oracle/panam/spatial/geocoder/Geocoders.xml

3.2.3 Modify the Routers.xml

The Routers.xml file is located in this directory:

%PANAMA_NEW_HOME%\server\classes\oracle\panama\spatial\router

Make sure your provider is at the top of the file and has the appropriate attributes, that is, UserName and UserPassword.

3.3 Installation and Dependency Verification

To verify the installation and dependencies, review the logs of all installations that have errors.

4 Implementation Overview

This document provides descriptions of the setup and configuration tasks required to implement the application successfully. This topic group tells how to set up a user for the wireless option.

Topics covered are:

- Process Description
  - Implementation Task Sequence
- Implementation Tasks
  - Setting up the User with Wireless Responsibility
  - Setting up the Profile Options for the Wireless User
  - Setting the Profile Options for the Task Summary Display Screen, Date Format
  - Setting up the System for Route Directions
  - Setting up the E-mail Server

4.1 Process Description

Before setting up Field Service / Wireless, you must install and fully implement these Oracle applications or components:

- Oracle Field Service
- Oracle's 9i Application Server Wireless Edition

For information regarding the installation and implementation of these applications and components, see the appropriate documentation for each product.

The implementation tasks described here are tasks that are necessary to use the additional functionality included with Field Service / Wireless.

4.2 Implementation Task Sequence

Complete the following implementation steps in sequential order.

Step	Required	Step Title
1.	Yes	Confirm setup Oracle Field Service
2.	Yes	Confirm setup Oracle's 9i Application Server Wireless Edition 1.0.2.2.
3.	Yes	Confirm setup of Field Service / Wireless

5 Implementation Tasks

5.1 Step 1: Confirm Setup of Oracle Field Service

Make sure Oracle Field Service is fully implemented and set up as described in *Oracle Field Service Implementation Guide*.

5.2 Step 2: Confirm Setup Oracle's 9i Application Server Wireless Edition

Make sure you set up Oracle's 9i Application Server Wireless Edition 1.0.2.2.0 or above, as described in *Oracle's 9i Application Server Wireless Edition Installation Guide*. Ensure that all the steps have been reviewed and completed as necessary.

5.3 Step 3: Set up Field Service/Wireless

Make sure that the Field Service / Wireless has been correctly set up. This setup involves the following tasks:

- Setting up the User with Wireless Responsibility
- Setting up the Profile Options for the Wireless User
- Setting the Profile Options for the Task Summary Display Screen, Date Format
- Setting up the System for Route Directions
- Setting up the E-mail Server

5.3.1 Setting up the User with Wireless Responsibility

Use this procedure to assign wireless responsibility to the applications user. The profile options for the Field Service / Wireless user are set up once per user.

Prerequisites

The user must be created in the database before you can assign Field Service / Wireless responsibility.

Steps

1. Log in to the Oracle applications with system administrator responsibility.
2. Navigate to **Security > User > Define**.

3. Enter a valid username, that is, one that is already in the database.
4. On the Responsibilities tab, enter the following new responsibility: **Field Service Wireless User, JTF Default User Responsibility**.
5. Choose **File > Save**.

5.3.2 Setting up the Profile Options for the Wireless User

Use this procedure to assign profile options to the wireless applications user.

Prerequisites

The user must be created in the database, and must have Field Service / Wireless responsibility.

Steps

1. Log in to the Oracle applications with system administrator responsibility.
2. Navigate to **Profile > System**. The **Find System Profile Values** screen appears.
3. In the **Profile** field, enter: **JTF%** and choose **Find**.
4. Enter values for the profile options shown in this section.

Options

You can set these options in any sequence.

Option	Description
JTFW_PROFILE_DEFAULT_ WIRELESS_ RESPONSIBILITY	Stores the default wireless responsibility ID for the user. Set at the User level. The default wireless responsibility is the wireless responsibility with which the user is logged in. Set to 22730 to set the wireless responsibility.
JTF_PROFILE_DEFAULT_ APPLICATION	Stores the default application ID for the user. Set at the User level. The default application ID is the application to which the user is directed after login. Set to 513 to set a Field Service application.

Option	Description
JTF_PROFILE_DEFAULT_RESPONSIBILITY	Stores the default responsibility ID for the user. Set at the User level. The default responsibility is the responsibility with which the user is logged in. Set to 21685 for a Field Service representative.

5.3.3 Setting the Profile Options for the Task Summary Display Screen, Date Format

Use this procedure to set up the profile options for the task summary display screen, date format.

The profile options for the Task Summary Display Screen, and Date Format are set up at the system level but they can be overriden at user level.

Prerequisites

The user must be created in the database, and must have Field Service / Wireless responsibility.

Steps

1. Log in to the Oracle applications with system administrator responsibility.
2. Navigate to **Profile > System**. The **Find System Profile Values** screen appears.
3. In the **Profile** field, enter: **CSFW%** and choose **Find**.
4. Enter values for the profile options shown in this section.

Options

You can set these options in any sequence.

Option	Description
CSFW: DATE FORMAT	Stores the date format mask. This option can be set at the site level but can be overwritten by the user. Valid date formats are: ■ DD / MM / YYYY ■ DD-MM-YYYY ■ MM / DD / YYYY ■ MM-DD-YYYY ■ YYYY / MM / DD ■ YYYY-MM-DD ■ DD / MM / YY ■ DD-MM-YY ■ MM / DD / YY ■ MM-DD-YY ■ YY / MM / DD ■ YY-MM-DD
CSFW: TASK DISPLAY1	This profile is used together with CSFW: TASK DISPLAY2 to display any two values on the Task Summary screen. The options chosen here determine what the field service engineers see when they start the Field Service / Wireless application. The options to choose from are: ■ TASK_NUMBER ■ SCHEDULE START TIME ■ CUSTOMER NAME ■ CUSTOMER ADDRESS
CSFW: TASK DISPLAY2	This profile is used together with CSFW: TASK DISPLAY1 to display any two values on the Task Summary screen. The options chosen here determine what the field service engineers see when they start the Field Service / Wireless application. The options to choose from are: ■ TASK_NUMBER ■ SCHEDULE START TIME ■ CUSTOMER NAME ■ CUSTOMER ADDRESS ■

Option	Description
CSFW: TASK MAX	This displays the number of tasks that should be displayed on the task summary screen. It will be determined by the size of the display. You can enter any valid number 1 and above.

5.3.4 Setting up the System for Route Directions

Use this procedure to set up the profile options so that the Field Service / Wireless user can access route directions.

The route directions are set up only once for the system.

Prerequisites

None.

Steps

1. Perform the following steps to copy the file csfwTextRouter.jsp:
    1. You need to copy the file csfwTextRouter.jsp to the Portal-to-Go server and make it accessible through http. The skeleton file for routing is available at:

       $CSF_TOP / html / csfwTextRouter.jsp
    2. Copy the skeleton file csfwTextRouter.jsp to the following location:

       E:\ORANT\panama\server\portal\WEB-INF\jsp
    3. Make it accesible at:

       http: / / ptg-pc.us.oracle.com / portal / WEB-INF / jsp / csfwText Router.jsp

Example:

E:\ORANT\ :	$ORACLE_HOME
E:\ORANT\pnama :	$PANAMA_HOME
ptg-pc.us.oracle.com:80	Name of the host machine where the Oracle 9i Application Server Wireless Edition is installed
crm.us.oracle.com:1335	Name of the Self Service CRM Application Server

2. Following this example, set the CSFW: Router Location profile option to:

ptg-pc.us.oracle.com/portal/WEB-INF/jsp.

3. Set the CSFW: Return Location to the CRM Application server where all the jsp files reside, for example: crm.us.oracle.com:1335/OA_HTML.
4. Perform the following steps to change the spatial property:
    1. Open the following file:

       $PANAMA_HOME/server/classes/oracle/panama/spatial/spatial.properties
    2. Edit the paths for XML files listed in this file.
    3. Save the file in the same directory as:

       spatial.properties
5. Perform the following steps to make changes in the file router.xml:
    1. This file is in the following directory:

       $PANAMA_HOME/server/classes/oracle/panama/spatial/router/
    2. Edit this file to set the username and password for your provider.
6. Bounce the Apache server that points to:

   9iASwe

5.3.5 Setting up the E-mail Server

Use this procedure to set up the profile option for the e-mail server.

The e-mail server is set up only once for the system.

Prerequisites

None.

Steps

1. Log in to the Oracle applications with system administrator responsibility.
2. Navigate to **Profile > System**. The **Find System Profile Values** screen appears.
3. In the **Profile** field, enter: **JTFW%** and choose **Find**.
4. Enter values for the profile option shown in this section.

Option

Option	Description
JTFW: SMTP SERVER	Set this profile option to your SMTP server.

5.4 Set up Portal-to-Go Master Service to Point to Self Service CRM Applications

Prerequisites

None.

Steps

5.4.1 Log into Service Designer.

1. Start the Service Designer on 9iAS Wireless Edition (Portal to Go Server).
2. Log into the 9iAS Wireless Edition as Administrator/manager.

5.4.2 Create Master Service

1. Click on Master Service and then on the Master Service Creation Wizard.
2. Create or Select an existing Service Folder under Master Service.
3. Enter the name of the Master Service and click on **Valid** and **Visible**.
4. Click on **URL Adapter** and enter the Data Source URL:

   http://webserver:port/OA_HTML/jtfwlgnm.jsp

5.4.3 Create Service Group

1. Right-click on **Groups** and enter the name of the group.
2. Add the Service Folder created previously to this group.

5.4.4 Assign New Service Group to Field Service Users

1. Log into the 9iAS Wireless Edition Portal as:

   http://webserver:port/portal/Login.jsp

2. Create the users and assign them to the group created previously.

6 Verifying the Implementation

6.1 Field Service/Wireless Implementation Verification Tasks

6.1.1 Verify User Login

When you have installed the Field Service / Wireless, you can verify the user login as follows:

1. Type in the URL for the Portal to Go Server (Oracle 9iAS Wireless Server) and click on the Field Service URL Adapter Service.
2. Type in the applications login and password and make sure that you can see the menu.

6.1.2 Verify Task Detail Information Card

To verify the task detail information card, perform these steps:

1. Create a service request using the Field Service Core Application and assign a task to the Field Service for the wireless user for today.
2. Log in to the Wireless application and check whether the task is properly assigned to the wireless user.
3. Click on Today's Task and verify the display of the summary screen in accordance with the profile setting for TASK DISPLAY.
4. Click on Customer Information and verify that you can send an e-mail, assuming that an SMTP server is available.

6.1.3 Verify Directions

If Directions are implemented, you can verify that the function works correctly as follows:

1. Log in to the Applications and click on Direction.
2. Click on Other and type in a starting and ending address that you know are correct.
3. Verify the Directions text.

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