

Oracle Utilities Mobile Workforce Management

CE Mobile Workstation User's Guide

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Chapter 1

Logon and Navigation

This document describes screens and functions relating to logon, logoff, and navigation in the Oracle Utilities Mobile Workforce Management CE Mobile Workstation Application. Topics include:

- **CE Mobile Station Logon**
- **Change Password**
- **Main Navigation**
- **CE Mobile Station Logoff**

CE Mobile Station Logon

Function/Process Description

The CE Mobile Station (CEMS) Logon function enables the CEMS user to log onto the Oracle Utilities Mobile Workforce Management CE Mobile Station application. The Logon screen is shown in the following figure:

The screenshot shows a mobile application interface for logging in. It features a red 'O' logo on the left side. The form contains the following fields and controls:

- User Id:** MWMBASE
- Password:** (empty field)
- Vehicle Id:** MWMTRKD
- Odometer Reading:** 1
- Override?:**
- Communications Type:** Online Offline

At the bottom of the form are three buttons: **OK**, **Clear**, and **Cancel**. Below the buttons is a copyright notice: [Copyright © 1994-2008, Oracle.](#)

When you click OK, the logon information is sent to the Oracle Utilities Mobile Workforce Management Server Application for validation.

Note: If the Communication Type of Offline is selected, the logon data will not be sent to the Server for validation and the Main Navigation screen is immediately displayed. The user will not be able to receive data from or send data to the Mobility Server Application. Any data that needs to be sent will be

queued on the mobile device until the user logs on with a Communications Type of Wired or Wireless.

Use the Clear button to clear the data on the screen so you can re-enter it.

Use the Cancel button to cancel the logon function. If the logon function is cancelled, the user id and password fields are cleared and the CEMS function terminates with a prompt.

Validation Process

The Server validates the following at logon:

- The user id/password is valid and cannot be currently logged on to an Oracle Utilities Mobile Workforce Management application.
- The user's access level must be Service Representative (3). Only users with this access level can log onto the CEMS application.
- The Vehicle Id must be valid and not currently in use by another crew.
- Depending on your configuration, the Server validates that the user is assigned to a crew (Person To Crew Association) or that the vehicle is assigned to a crew (Vehicle To Crew Association) or both. See the **Validation** section for more information.

A progress bar is displayed while the logon information is sent to the Server for validation. The length of the progress bar is based on the value of the number of seconds to wait for logon reply (NumSecsForLogonReply) parameter in the Station.ini file located on the CE device. If the progress bar times out, the Ok button is re-enabled and the user can try sending the logon information again.

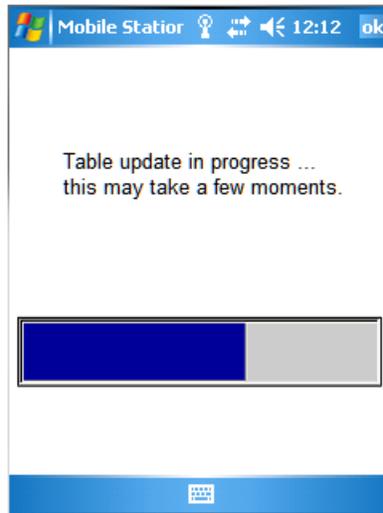
After the validation process is complete, the Server generates a reply transaction and sends it back to the mobile. The reply transaction contains a return code indicating the validation results.

If the return code indicates the logon was unsuccessful, an error message is displayed on the CEMS desktop stating the reason for the logon failure. If any of the logon information is invalid, an error message is displayed and the user should re-enter the data.

If the return code indicates the logon was successful, the CEMS application will continue the logon process (see the next section).

Table Download

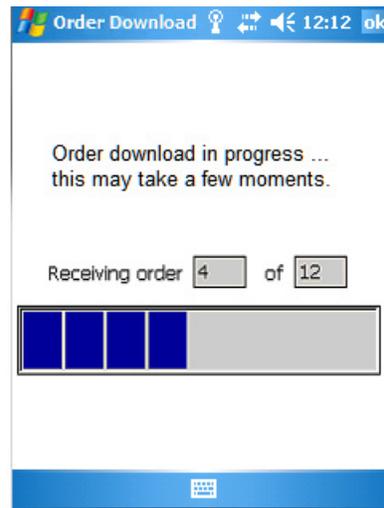
The reply transaction also contains a list of the current version numbers of the validation/decode tables from the Server Application. The CEMS application compares the Server Application version numbers against its own version numbers. If any of the versions are different, the CEMS application creates transactions requesting the updated tables. Since the updated tables can affect processing in the CEMS application, the crew will not be able to perform any processing until the requested tables have been received. A table download progress screen is displayed on the desktop, as shown in the following figure.



The length of the progress bar is based on the number of tables requested. The progress screen is dismissed when all requested tables have been received. If the tables have not been received within the time specified by the NumSecsForTableUpdate parameter in the Station.ini file (usually around 300 secs) a message stating that “all tables were not downloaded and processing may be affected” is displayed on the user’s desktop.

Order Download

After successful logon and table download, the application downloads orders to the mobile. The reply transaction from the Server contains a count of the number of orders ready to dispatch to the crew. The crew will not be able to perform any processing until the orders to be dispatched have been received. The application displays the order download progress screen (see the following figure), which shows the number of orders to be dispatched and a current count of the orders received.



The length of the progress bar is based on the number of orders to be dispatched. The progress screen is dismissed when all orders have been received. If the orders have not been received within the time specified by the NumSecsInitialOrderDispatch parameter in the Station.ini file (usually around 300 secs) a message stating that all orders were not received is displayed on the user’s handheld.

After orders have been successfully downloaded, the CEMS Main Navigation screen is displayed, as described later in this guide.

Data Fields

Data fields for the Logon screen are:

Field Name	Description
User ID	The Id of the primary user logging on.
Password	The password of the primary user logging on. As a security measure, the password will be displayed as asterisks when entered.
Vehicle ID	The id of the vehicle the user is using. This field is initially populated with the vehicle id from the last logon. This value can be overridden
Odometer Reading	The beginning odometer reading for the vehicle. This field is initially populated with the ending odometer from the last logoff. This value can be overridden.
Override	Indicates if the odometer reading should not be validated. This occurs when the previous ending odometer reading that was entered was incorrect.
Comms Type (LAN/ EDACS/ Offline or Auto)	Indicates the type of communications to be used to communicate with the Server Application. Wired indicates the communications will be through the LAN, but is sometimes used for WLAN and GPRS. Wireless indicates the communications will be through the radio system and therefore has restrictions. Offline indicates there will be no communications between the mobile device and the Server Application. These 3 choices are modifiable via settings in the Station.ini file. The Auto-detect choice will display and connect via the current connectivity available. This is configurable though custom code modules.

Interfaces

The Communications Type choices displayed on the Logon screen are entirely configurable via the Station.ini file by the parameters “Wired”, “Wireless”, and “Offline”. The left-most choice will display the string corresponding to the “Wired” parameter and the CE will use Wired functionality when logged on that way. The middle choice will display the string corresponding to the “Wireless” parameter and the CE will use a restricted Wireless functionality when logged on that way. The right-most choice will display the string corresponding to the “Offline” parameter and the CE will use Offline functionality when logged on that way. Should any of these parameters be empty or missing in the Station.ini, that choice will not appear on the screen. If all three of these are empty or missing, the application enters auto-detect mode and can detect connectivity conditions at any given moment and will perform the appropriate logon. This can be helpful to prevent failed login attempts in situations where the device may be out of range.

Note that there is also a special EDACS parameter in the Station.ini file to specify custom EDACS driver implementation, which is independent of the Comms Type choice. This independence is necessary since some configurations will not use the Wireless option, but will consider all communications (even wireless) as performing Wired functionality. One reason for this is that some users may not typically dock their devices and so are always wireless and must be able to perform wired functions. Basic restrictions when in Wireless mode are designed to minimize wireless traffic with the understanding that major data transfers will occur in a docked Wired mode only. These restrictions include not performing table downloads during the logon process and not uploading order completions during the logoff process.

If LAN (Wired), EDACS, or other wireless mode is selected, the CEMS logon data entered on this screen is sent to the Server, which validates and processes the data. The Server generates a reply

message and sends it back to the CEMS. If any of the data is invalid, an error code is returned to the CEMS in the reply message.

If the logon is successful, the logon data is sent to the Router for routing to any external applications. The Server sends notification to all appropriate logged-on Dispatch Station (DS) users that the crew has logged on. The Server also writes a message to the Audit list box and log stating that the user has logged on.

If Offline is selected or detected via auto-detect at logon, there is no external interfacing with the Server during the logon process.

Validation

The crew must enter a User ID, password, vehicle ID, odometer reading, and communication type (non auto-detect). If the odometer reading is less than the odometer reading from the last logoff, an error message is displayed on the screen. The user can override this validation by checking the override checkbox.

If LAN (Wired), EDACS, or other wireless mode is selected, the Server Application validates the user id, password, and vehicle id. The user must be a valid user in the personnel table and cannot be currently logged on anywhere. The vehicle id must be a valid vehicle in the vehicle table and cannot be in use by another crew.

If the personnel to crew association (PersonToCrewAssociation) parameter in the DHTSVINI configuration table of the Server Application is 'TRUE', the Server Application will validate that the user is assigned to a crew. The logged on user will be used to determine the crew id. If the vehicle to crew association (VehicleToCrewAssociation) parameter in DHTSVINI is 'TRUE', the Server Application will validate that the vehicle is assigned to a crew. The vehicle will be used to determine the crew id. If both these parameters are 'TRUE', the user and vehicle MUST be assigned to the same crew.

Data Updates

If Wired or Wireless is selected, the sign on (logon) time will be stored in the Personnel database table (DHTPERS) for the user. A record will be inserted into the Logon table (DHTLOGON) for the user. The computer name and odometer reading will be stored in the Vehicle database table (DHTVEHCL).

Change Password

Function/Process Description

If the FORCE_PWD_CHG_FLAG has been set to true in the DHTPERS table, the user is forced to change their password the next time they log on to CE Mobile Workstation. The Change Password dialog, shown below, is displayed automatically after table and order download is complete: .

The user must enter their current and new password, and then re-enter their new password in the Verify New field to ensure the new password was entered correctly. If the password change is successful, a confirmation dialog appears. The user must use their new password the next time they log onto the CE Mobile Workstation application.

The old passwords are kept in a password history database table. The user cannot change their password to any password that already exists in the password history table. The number of historical passwords that are kept is specified in the number of passwords to maintain in history (PW_HIST_KEPT) record on the miscellaneous database table. This value can be maintained using the Table Maintenance subsystem.

Data Fields

Data fields are described below:

Field Name	Description
Current	The user's current password.
New	The user's desired new password.
Verify New	The user's desired new password.

Interfaces

The change password request transaction will be sent to the Server. The Server will validate the change password request and send a reply back to the CE Mobile Workstation. The password must be successfully changed before the dialog will be dismissed.

Validation

The user must enter all three fields. The length of the password fields must be between 5 and 8 alphanumeric characters. The value in the Verify New Password field must be the same as the value in the New Password field. The user cannot change the password to any value in the Password History database table.

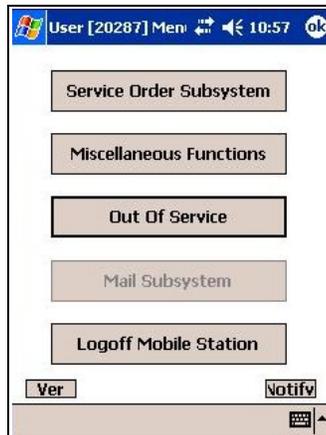
Data Updates

The Server application will update the appropriate record in the Personnel database table with the new password and the date/time the password was changed. A new record will be inserted into the Password History database table and the oldest record in the table will be deleted.

Main Navigation

Function/Process Description

The main navigation window (see following figure) is the initial screen displayed to the user when they successfully log onto the CE Mobile Station application.



There are five buttons on the screen. They are used to access the functions of the CE Mobile Station application. These buttons are described below:

Button	Description
Service Order Subsystem	This button is used to access the Service Order Subsystem. When selected, the Order List is displayed. Refer to the Service Order Subsystem function later in this document.
Miscellaneous Functions	This button is used to access the Miscellaneous Functions subsystem. When selected, the Miscellaneous Functions menu is displayed. Refer to Miscellaneous Functions subsystem functions later in this document.
Out of Service	This button is used to access the Out of Service function. When selected, the Out of Service screen is displayed. Refer to the Out Of Service function later in this document.
Mail Subsystem	This button is used to access the Mail Subsystem. This button will be disabled if the disable mail subsystem (Disable_Mail) CEMS.ini parameter is 'TRUE'; otherwise the button is enabled. When selected, the Mail List is displayed. Refer to the Mail Subsystem function later in this document.
Logoff Mobile Station	This button is used to access the Logoff function. When selected, the Logoff screen is displayed. Refer to the CE Mobile Station Logoff function later in this document.
User Notification	This button is used to access the User Notification screen. The CEMS User Notification function is used to display notification messages to the logged-on crew.

Version Info	This button is used to access the Version Information screen. The CEMS Version Information function is used to obtain version information for the CE application version.
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Data Fields

None

Interfaces

None

Validation

None

Data Updates

None

CE Mobile Station Logoff

Function/Process Description

The CEMS Logoff function enables the FSR to discontinue the execution of field orders and log off the Oracle Utilities Mobile Workforce Management CEMS application. This function is accessible by selecting the Logoff Mobile Station button on the Main Navigation screen. The Logoff screen is shown in the following figure:

The Ok button validates the entered data and sends the logoff information to the Server. Once the CEMS application has sent the logoff information, the CEMS Logon screen is displayed if the end of shift checkbox is not checked. If the user checks the End of Shift checkbox, the Time Sheet Summary screen is displayed. The Cancel button will cancel the logoff function and return the Main Navigation screen.

If the 'End of Shift?' check box is checked, a message will popup confirming "Selecting End of Shift Will Return ALL Open Orders Back to Dispatch. Are you sure Logoff End of Shift?". Selecting No will bring the FSR back to the Mobile Station Logoff Screen. Selecting Yes will delete all worked orders from the mobile unit. All mail messages and open orders will be deleted from the mobile unit. Additionally, the Server Application will automatically unassign all open orders currently assigned to the crew.

If the crew has worked orders that have not been successfully processed by the Server, a message stating 'All completion information has not been sent' will be displayed on the CEMS Logoff screen. The user can view those completed orders that have not been processed on the Worked Order list in the Field Order subsystem. Orders that have not been processed will have a question mark to the right of the order type. If the value of the allow crew to logoff from mobile with pending completions (AllowLogoffWithPendingCompletions) parameter is 'TRUE', the crew will be able to complete the logoff process even if all completion information has not been sent to the Server Application (this will be the default value). If the parameter is 'FALSE', the crew will not be able to complete the logoff process until the Server Application has processed all completion information. If the crew does logoff with unsent completion information, the information that has not been sent to the Server Application will not be deleted. The CEMS application will attempt to send any completion information to the Server Application the next time the crew logs on.

Data Fields

Data fields for the Logoff screen are:

Field Name	Description
Beginning Odometer	The beginning odometer reading. This field is pre-filled with the odometer entered when the CEMS was logged on. This value can be modified.
Ending Odometer	To be filled with the current odometer reading on the vehicle.
Override	Indicates if the ending odometer reading should not be validated.
End of shift	Indicates the crew is logged off at the end of their shift. This will cause clean up to be done on the mobile.

Interfaces

The CE Mobile Logoff data entered on this screen is sent to the Server Application. Notification that the crew has logged off is sent to the appropriate logged-on DS users and the Router. The Server Application writes a message to the Audit list box and log stating that the crew has logged off. The logoff terminates the AVL processing for the vehicle.

If the end of shift flag in the logoff data is 'TRUE', the Server Application will unassign all orders that are assigned to the crew. A field order status transaction for each updated field order is sent to the appropriate logged-on DS users and the Router. The Server Application will generate a mail message stating that the crew logged off end of shift. The mail message will contain a list of the field orders that have been unassigned. The mail message will be sent to the appropriate logged-on DS users.

Validation

The Ending Odometer reading must be the same or greater than the Beginning Odometer reading if the Override checkbox is unchecked.

Chapter 2

Service Order Subsystem

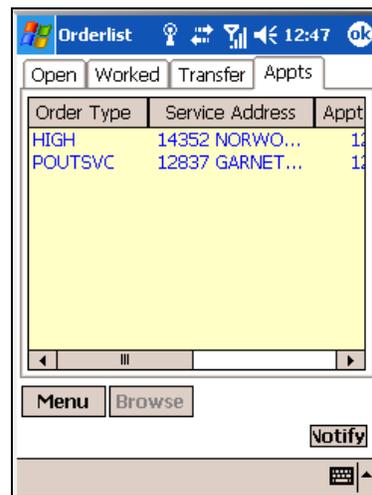
This section describes the screens and functions in the Service Order subsystem. Topics include:

- **Appointments View**
- **Open, Worked, and Transfer Views**
- **Field Order Enroute Custom Screen**
- **Emergency Order Acknowledgment**
- **Meter Set Change Screen**
- **Complete Order Screen**
- **POU/BREAK Screen**
- **Miscellaneous Functions Screen**

Appointments View

Function/Process Description

The Appointment Orders view (following figure) displays all orders that have a defined appointment window.



These appointment times will be set by the scheduler and will be dynamically populated when the user enters the screen. Appointments will only be shown for open (un-worked) orders.

The Appointment Orders screen has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation screen is displayed.
Browse	This button is enabled when one order is selected in the Appointment orders list. It is used to view the enroute preview screen and details of a selected order in browse mode. The Browse button, or selection of an order, will display the Enroute screen without setting the status of the order to enroute. There are two options from the Browse Enroute screen, the user can Cancel or Browse. If Cancel is selected, the Open Order Lists will be presented.

Data Fields

The values and widths are configurable through the database table DHTCEINI. The parameters in the table are under the “Appts Field Order Component” section and are “COL_DISPLAY_#” for the column values and “COL_WIDTH_#” for the column widths. Additionally, the column headers are configured by the “Default Appts Field Order Display” section’s “column#” parameters.

The default settings for these fields that will be presented to the FSR in the Appointments view are:

Data Field	Column Width	Description
Order Type	80 chars	The two-character order type abbreviation
Service Address	110 chars	The order’s service address
Appt Start Time	80 chars	The start time for the appointment
Appt Finish Time	80 chars	The end time for the appointment
Order #	110 chars	The unique Oracle Utilities Mobile Workforce Management order number

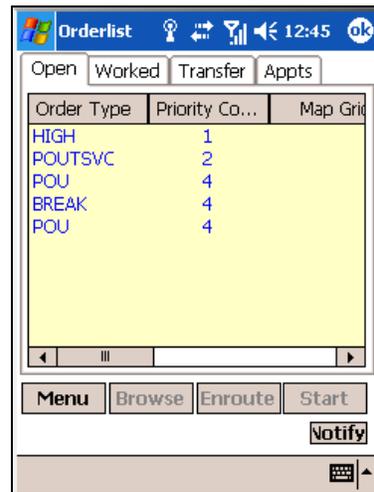
Sorting is configurable via the “Default Appts Field Order Sort” parameters in the DHTCEINI configuration table. The usual configuration is primary sort on Appt Start Time ascending, and secondarily on Appt Finish Time ascending.

Open, Worked, and Transfer Views

Function/Process Description

Open Orders View

The Open tab view (following figure) displays all open orders that have been dispatched to the MDT.

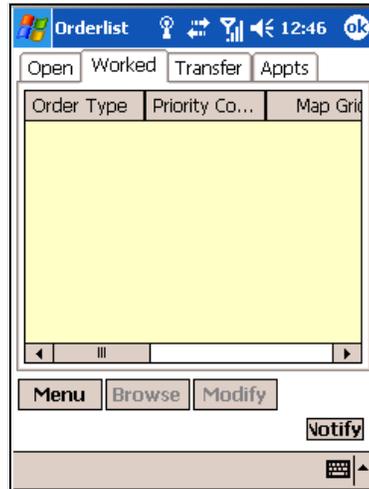


The Open tab has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation screen is displayed, exiting the Order Subsystem.
Browse	This button is enabled when an order is selected in the Orders list. It is used to view the enroute preview screen and details of a selected order in browse mode. Orders can also be browsed by selecting the desired order in the list. The Browse button, or selection of an order, will display the Enroute screen without changing the status of the order to enroute. There are two options from the Browse Enroute screen, the user can Cancel or Browse. If Cancel is selected, the Open Order Lists will be presented. Pressing Browse will display the initial field order screen in browse mode.
Enroute	This button is enabled when an order is selected in the Orders list. It is used to go Enroute to the service address. An Enroute order status update is sent to the Server (if not Offline). If Offline, the transaction is queued for processing when back online.
Start	This button is enabled when a BREAK is selected in the Orders list. It is used to go Onsite to the BREAK. An Onsite order status update is sent to the Server (if not Offline). If Offline, the transaction is queued for processing when back online.
User Notification	This button is used to access the User Notification screen. The CEMS User Notification function is used to display notification messages to the logged-on crew.

Worked Orders View

The Worked Orders view (following figure) displays the dispatched orders that have been worked on the CEMS.



As orders are worked, they will be moved from the Open orders list to the Worked order list. Orders will remain in the list once the MMW Server has received them. Users can browse a worked order. Orders that have been cancelled will be moved to the Worked Order list and will display a lower case (“x”) to the right of the order type.

The Worked screen has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation screen is displayed, exiting the Order Subsystem.
Browse	This button is enabled when an order is selected in the Worked orders list. It is used to view the enroute preview screen and details of a selected order in browse mode. The Browse button, or selection of an order, will display the Enroute screen without setting the status of the order to enroute. There are two options from the Browse Enroute screen, the user can Cancel or Browse. If Cancel is selected, the Open Order Lists will be presented.
Modify	The Modify button is enabled when an order is selected, unless the order has been completed. When selected, the user can open and modify a worked order. The changes will be captured and sent to the Server Application for order closeout with the updated information (if not Offline). If Offline, the transaction is queued for processing when back online.
User Notification	This button is used to access the User Notification screen. The CEMS User Notification function is used to display notification messages to the logged-on crew.

Transfer Orders View

The TransferOrders screen (see the following figure) displays all open work. From this screen, the FSR can select one or more orders to transfer back to the Oracle Utilities Mobile Workforce Management dispatcher. A transfer reason description is required to transfer orders back to the dispatcher. The transfer reason is selected via the Transfer combo box. The transfer occurs when the Transfer button is selected.



Orders are considered “transferred” when acknowledgement is received on the CEMS from the Server application. Once acknowledged, the orders will be removed from the CEMS open orders list and displayed on the dispatcher’s workstation as unassigned orders. The dispatcher will receive a system generated message stating which orders were returned, the reason, and by who.

The Transfer screen has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation menu screen is displayed, exiting the orders list.
Browse	This button is enabled when one order is selected in the Transfer orders list. It is used to view the enroute preview screen and details of a selected order in browse mode. The Browse button, or selection of an order, will display the Enroute screen without setting the status of the order to enroute. There are two options from the Browse Enroute screen, the user can Cancel or Browse. If Cancel is selected, the Open Order Lists will be presented.
Transfer	The transfer button will send the selected order(s) back to the dispatcher. The transfer transaction is sent to the Server for processing (if not Offline). If Offline, the transaction is queued for processing when back online.

Data Fields

This screen under the Open, Worked, and Transfer tabs contains columns of order data with values and widths configurable through the database table DHTCEINI. The parameters in the table are under the “Field Order Component” section and are “COL_DISPLAY_#” for the column values and “COL_WIDTH_#” for the column widths. Additionally, the column headers are configured by the “Default Field Order Display” section’s “column#” parameters.

The default column settings are shown below:

Data Field	Column Width	Description
Order Type	80 chars	The two-character order type abbreviation
PRI	80 chars	The dispatch priority of the order. The dispatcher controls this priority level
Grid #	90 chars	The GPS or other location tracking number
Service Address	110 chars	The order's service address
Order #	110 chars	The unique Oracle Utilities Mobile Workforce Management order number

Sorting is configurable via the “Default Field Order Sort” parameters in the DHTCEINI configuration table. The usual configuration is primary sort on Priority (PRI) ascending (Priority 0 is highest priority), and secondarily on Order # ascending.

Horizontal and vertical scroll bars will be presented when the order and address field lengths deem necessary. Custom column widths can be configured to reduce scrolling if possible.

Interfaces

The field orders are stored on the CE Mobile Station. When the field order list is displayed, the field order is read in from the CEMS storage for display.

Validation

As described above, some of the buttons are enabled only when a field order is highlighted in the Order list.

More than one field order cannot be highlighted in the Open or Worked list.

Multiple orders may be selected in the Transfer Order screen, and a transfer reason is required.

Data Updates

None

Field Order Enroute Custom Screen

Function/Process Description

The Enroute To Order screen (following figure) displays pertinent information needed by the FSR for timely arrival to the appropriate service address.

The screenshot shows a mobile application window titled "TT - Enroute to". The interface includes a header bar with a Windows logo, the title, and system icons for signal strength, battery, and time (11:17). Below the header, there is a text input field containing "Tom Pruitt". A list box below it shows "789 Gaines Totem". Further down, there are two text input fields: "Bridemart, WI" and "70773". Below these are four more text input fields: "Map:" (empty), "Prem:" (580783139), "Need:" (2006/02/0), and "Stat:" (A). Below these are two more text input fields: "SMRI:" (N) and "Loc:" (GARAGE). There are two dropdown menus: the first is labeled "ENTER WEST" and the second is labeled "DOG IN YARD". Below the dropdowns is a text input field containing "5/12 NO ACCESS PROBLEM". At the bottom of the screen, there are four buttons: "Browse", "Cancel", "Onsite", and "Notify".

This screen is displayed when the 'Enroute' or 'Browse' button on the Open Orders view is pressed. This is a custom defined screen and part of the CECustomScreensDll.

The Enroute screen as the following buttons:

Button	Description
Browse	This button is used to view the appropriate onsite user-defined screen and details of order processing in browse mode. This mode displays the onsite screen data as read-only and does not send a "onsite" status update of the order to the Server.
Cancel	This button returns to the Orders list. If chosen while this screen is in Browse mode, no other action occurs. If chosen while this screen is not in Browse mode, a "cancel-enroute" status is sent to the Server to cancel the previous "enroute" status that was set to the Server when the screen was opened (if not Offline). If Offline, the transaction is queued for processing when back online.
Onsite	This button is used to go Onsite indicating arrival at the service address. When pressed an "onsite" order status update is sent to the Server and the appropriate onsite user-defined screen (see User-Defined Screens below) is displayed to enable processing and completion of the order (if not Offline). If Offline, the transaction is queued for processing when back online.

Data Fields

The Enroute custom screen default configuration is as follows:

Field Name	Description
Customer Name	Customer's name on the order DHTFOCMN.CUSTOMER_NAME
Service Address 1	This field represents the street address and suite number for the service order. DHTFOEXT.CUST_ADDR_1 DHTFOEXT.CUST_ADDR_2
Service Address 2	This field represents the Town and State/Province for the service order. DHTFOEXT.CUST_ADDR_3
Zip/Postal Code	The service order zip/postal code DHTFOCMN.ZIP_CODE
Map Grid	The map grid where the service order is located DHTFOCMN.GRID_NUMBER
Premise	The premise of the order DHTFOCMN.ACCOUNT_NUMBER
Need	The date the order was scheduled to be worked DHTFOSCH.EARLY_START_DTTM
Status	Defines if the customer service is active or inactive Abbreviation Only (A or I) DHTFOEXT.SERVICE_STATUS
SMRI	The SMRI flag determines if special meter reading instructions exist. "Y" if SPECIAL_INSTR is populated "N" if SPECIAL_INSTR is null DHTFOMTR.SPECIAL_INSTR
Loc	Defines the meter location from the code DHTFOMTR.METER_LOCATION_CD
Meter Reading Instructions - 1	Defines the meter reading instruction description (1) DHTFOMTR.MTR_RD_INSTR_CD_1
Meter Reading Instructions - 2	Defines the meter reading instruction description (2) DHTFOMTR.MTR_RD_INSTR_CD_2 _READ_INST_2
CSR Comments	Defines the first 30 characters of the CSR Comments DHTFOEXT.ORDER_REMARKS_1

Interfaces

The enroute time will be stored with the order on the CEMS and sent to the Server in the enroute transaction. If the application is communicating in a 'Wired' or 'Wireless' mode, the transaction will be sent to the Oracle Utilities Mobile Workforce Management Database Application (Oracle Utilities Mobile Workforce Management Server) for processing. If the application is communicating in an 'Offline' mode, the transaction will be stored and uploaded when the CEMS is logged on with a wireless or wired communication mode. The Server will update the database

and send notification of the enroute time and status to the appropriate logged-on Dispatch Station (DS) users in a field order status message. The Server will also send the field order status message to the Router for routing to any external applications. The Server writes a message to the Audit list box and log stating that the crew has gone enroute to the field order.

If the Onsite button is pressed, the onsite time will be stored with the order on the CEMS and sent to the Server Application in the Onsite transaction. If the application is communicating in a 'Wired' or 'Wireless' mode, the transaction will be sent to the Oracle Utilities Mobile Workforce Management Database Application (Oracle Utilities Mobile Workforce Management Server Application) for processing. If the application is communicating in an 'Offline' mode, the transaction will be stored and uploaded when the CEMS is logged on with a wireless or wired communication mode. The Server will update the database and send notification of the onsite time and status to the appropriate logged-on DS users in a field order status message. The Server will also send the field order status message to the Router for routing to any external applications. The Server writes a message to the Audit list box and log stating that the crew has gone onsite to the field order.

Validation

There is no data validation performed for this screen. This screen is read-only.

Data Updates

When the Server processes the enroute transaction, the enroute time is stored in the field order scheduling database table (DHTFOSCH). The tracking status of the order is changed to 'E' in the field order scheduling database table. The current field order number, dispatch time of the current field order, and enroute time of the current field order in the Crew database table (DHTCREW) is updated.

When the Server processes the Onsite transaction, the onsite time is stored in the field order scheduling database table (DHTFOSCH). The tracking status of the order is changed to 'P' in the field order scheduling database table. The current field order number, dispatch time of the current field order, enroute time of the current field order, and the onsite time of the current field order in the Crew database table (DHTCREW) is updated.

Emergency Order Acknowledgment

Function/Process Description

The CEMS Emergency Order Acknowledgement function forces the user to manually acknowledge the receipt of an emergency order. When an emergency order (Priority 1 or 2) is received in the mobile device, the Emergency Order screen (see the following figure) is displayed on top of any current screen.

The user must close this screen before they continue with their current processing. If the user fails to acknowledge this screen within the specified time limit, the screen is automatically dismissed.

The time limit for this screen is specified in the logon reply transaction sent from the Server Application during logon. The field above the OK button displays the countdown timer. The screen will remain displayed on the screen until the timer expires (e.g. counts down to zero). If the timer expires, the emergency order is considered “undispatched” and not kept on the mobile device. The default timeout will be set to 300 seconds. When the Server detects the timer has expired before receiving an acknowledgement, the tracking status of the order will be reset to “A” (assigned) and the appropriate DW user will be notified that the order was not manually acknowledged by the crew.

If the user presses the OK button before the time expires, an emergency order acknowledgment transaction is sent to the Server for processing. The time the user manually acknowledged the order is stored in the database with the field order and its tracking status is changed to “K” (acknowledged). Notification is sent to all appropriate logged on DS users and the Router indicating the order has been manually acknowledged. A message stating ‘the order was manually acknowledged’ will be displayed in the Audit list on the Server application.

Data Fields

Data fields for the Emergency Order Acknowledgement screen are:

Field Name	Description
Order Number	Order number assigned by the external application (e.g. work tracking, CSS, etc.).
Order Type	The order type code of this order.
Customer Address	Customer’s service address on the order. This field includes the customer’s service address, city, and state.

Field Name	Description
Comments	Comments (order Comments) associated with the order.
Countdown	Displays the time remaining until expiration of dialog.

Interfaces

The emergency order acknowledgment transaction is sent to the Server Application for processing. The database is updated and notification that the crew manually acknowledged the order is sent to the appropriate logged-on DW users and the Router. The Server Application writes a message to the audit list box and log stating that the crew has manually acknowledged the order.

If the timer expires before the user manually acknowledges the emergency order, the order is deleted from the mobile device. When the Server Application detects that no acknowledgment has been received before the timer has expired, the order's tracking status is reset to "assign" and notification is sent to the appropriate logged-on DW users.

Validation

None

Data Updates

If the order is manually acknowledged, the tracking status is set to "K" and the Mobile Emergency Ack Time is updated on the field order scheduling database table (DHTFOSCH) for the appropriate field order.

If the order is NOT manually acknowledged, the tracking status is reset to "A" on the DHTFOSCH table for the appropriate field order.

User-Defined Screens

The CEMS Application contains a method for implementing user-defined screens using special screen definition (*.DEF) files. These screens can be defined during initial system setup and can also be modified after deployment. User-defined screens are most often employed for the specialized processes of order fulfillment. This includes Meter Read Data, Meter Set-Change Data, Customer Information, Meter Information, Service Order Completion Data, etc. The corresponding *.def files for these screens must be included in the “Screens” directory of the CEMS Application directory structure. Two examples of these screens follow, the Meter Set-Change and Order Completion screens, which are included as base examples of user-defined screens in the CEScreens directory with the filenames NP-SETCHANGE1.def and PC-DETAIL1.def. These examples are only to demonstrate typical applications of the user-defined screens.

Meter Set Change Screen

The Meter Set Change screen is a user-defined screen. A sample is shown in the following figure.

The Meter Set Change screen has the following buttons:

Button	Description
Cmpl	This button is used to finish the meter set-change data collection process and proceed to the Completion user-defined screen.
Cancel	This button returns to the Orders list. If chosen while this screen is in Browse mode, no other action occurs. If chosen while this screen is not in Browse mode, a “cancel-enroute” and “cancel-onsite” status is sent to the Server to cancel the previous “enroute” status which was set to the Server when the Enroute screen was opened and the “onsite” status which was set to the Server when the Set-change (Onsite) screen was opened. If currently Offline however, these transactions are queued for later processing when back online.

Data Fields

Data fields for the Meter Set Change user-defined screen are:

Field Name	Description
New Meter #	The meter number of the newly installed meter.
Serial #	The serial number of the newly installed meter.
Mtr Loc	The meter location lookup selection from the DHTMTRLO table.
Mtr Type	The meter type lookup selection from the custom table for meter types.
Meter Read	The meter reading.
Demand Read	The demand meter reading. Read only for certain meter types.

Interfaces

The screen data is populated from order files and table (*.tbl) files on the CE Device which have been retrieved from the Server Application. The *.def file scripts determine what data is displayed and how to process and validate the data, and what to save to the CE device or submit to the Server when the screen is closed.

Validation

Validation is performed via the user-defined screen scripting. In this example validation is not enforced.

Data Updates

None

Complete Order Screen

Function/Process Description

The Complete Order screen is a user-defined screen. A sample screen is shown in the following figure.

This screen has the following buttons:

Button	Description
OK	This button is used to complete the order and send the order completion transaction to the Server (if not Offline). If Offline, the transaction is queued for processing when back online. The application will now return to the Order List screen.
Meter	This button returns to the Set-change meter screen list allowing for adjustments to the reading information to be made before order completion.
Cancel	This button is used to Cancel the order completion process and return to the Order List screen. If chosen while this screen is not in Browse mode, a prompt is displayed to assure that the user intends to cancel. If “yes” is chosen at the prompt, a “cancel-enroute” and “cancel-onsite” status is sent to the Server to cancel the previous “enroute” status which was set to the Server when the Enroute screen was opened and the “onsite” status which was set to the Server when the Set-change (Onsite) screen was opened. If currently Offline however, these transactions are queued for later processing when back online.

Data Fields

Data fields for the Complete Order user-defined screen are:

Field Name	Description
Complete/ Incomplete Radio	The completion status indicator.
Incomplete Reason	The reason for the incomplete order based on the lookup from DHTREASN table.
Standard Remarks	The standard completion remarks lookup selection from the DHTCREMK table.
Remarks	Additional remarks for the order completion.
Review Req By	Checkbox identifying whether Supervisor review is required based on the DHTFOCMN.SUPERVISOR_REVIEW field of the order.
Billable	Indicates whether the order is billable.
Tampering	Checkbox indicating tampering is evident.
Review Required Description	The description for the Review Required based on the lookup from DHTRVWQ table.

Interfaces

The screen data is populated from order files and table (*.tbl) files on the CE Device which have been retrieved from the Server Application. The *.def file scripts determine what data is displayed and how to process and validate the data, and what to save to the CE device or submit to the Server when the screen is closed.

Validation

Validation is performed via the user-defined screen scripting. In this example validation is not enforced.

Data Updates

None

POU/BREAK Screen

Function/Process Description

The POU/BREAK screen is a user-defined screen. A sample screen is shown in the following figure:

The POU/BREAK user-defined screen has the following buttons:

Button	Description
Complete	This button is used to complete the order and send the order completion transaction to the Server (if not Offline). If Offline, the transaction is queued for processing when back online. The application will now return to the Order List screen.
Cancel	This button is used to Cancel the order completion process and return to the Order List screen. If chosen while this screen is not in Browse mode, a prompt is displayed to assure that the user intends to cancel. If “yes” is chosen at the prompt, a “cancel-enroute” and “cancel-onsite” status is sent to the Server to cancel the previous “enroute” status which was set to the Server when the Enroute screen was opened and the “onsite” status which was set to the Server when the Set-change (Onsite) screen was opened. If currently Offline however, these transactions are queued for later processing when back online.

Data Fields

Data fields for the POU/BREAK screen are:

Field Name	Description
Schedule From	The schedule from date time of the POU/BREAEK.
Schedule End	The schedule end date time of the POU/BREAEK.
Address	The address of the POU/BREAEK.
Remarks	Additional remarks for the POU/BREAEK.

Interfaces

The screen data is populated from order files and table (*.tbl) files on the CE Device which have been retrieved from the Server Application. The *.def file scripts determine what data is displayed and how to process and validate the data, and what to save to the CE device or submit to the Server when the screen is closed.

Validation

None

Data Updates

None

Miscellaneous Functions Screen

This is a user-defined screen and part of the CECustomScreensDll. By default it contains tabs for Meter Counts and Order Counts.

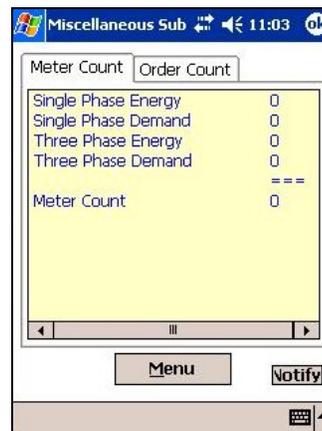
The Miscellaneous Functions screen has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation screen is displayed.
Notify	The Notify button is always enabled. When pressed, the CE Mobile Station User Notification screen is displayed.

Meter Count Tab

Function/Process Description

The Meter Count screen (see the following figure) will provide a total and itemized count of meters required for the open orders that have been downloaded to the CEMS.



The counts will be dynamically calculated from the open orders list based on the custom configuration needed.

Data Fields

Data fields for the Meter Count tab are:

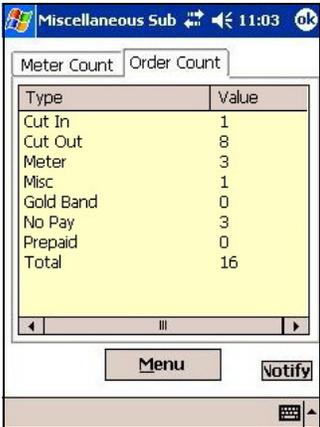
Field	Description
Meter Count	This field displays the total number of meters required for all open orders related to meters
Single Phase Energy	This field contains the custom configured meter count for the orders downloaded to the CEMS. This example uses single-phase energy as the meter type.
Single Phase Demand	This field contains the custom configured meter count for the orders downloaded to the CEMS. This example uses single-phase demand as the meter type.

Field	Description
Three Phase Energy	This field contains the custom configured meter count for the orders downloaded to the CEMS. This example uses three-phase energy as the meter type
Three Phase Demand	This field contains the custom configured meter count for the orders downloaded to the CEMS. This example uses three-phase demand as the meter type

Order Count Tab

Function/Process Description

The Order Count screen (see the following figure) will provide a total and itemized count of open orders downloaded to the CEMS.



Type	Value
Cut In	1
Cut Out	8
Meter	3
Misc	1
Gold Band	0
No Pay	3
Prepaid	0
Total	16

The counts are calculated from the open orders on the CEMS. This list is dynamic, allowing FSR's to view current counts throughout the day. The counts will be dynamically calculated from the open orders list based on the custom configuration needed.

Chapter 3

Mail Subsystem

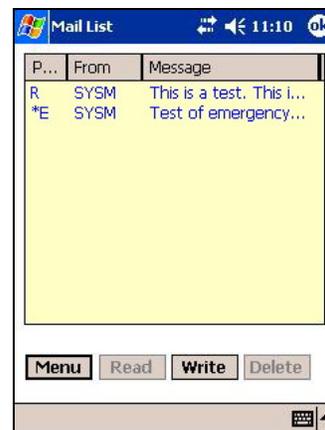
This section describes the screens in the Mail subsystem. Topics include:

- **Mail List**
- **Read Mail**
- **Reply Mail**
- **Write Mail**
- **Emergency Mail Acknowledgment**

Mail List

Function/Process Description

The Mail subsystem is used to send free-form messages to dispatchers and read messages that have been received. The Mail list (see following figure) provides a tabular display of mail messages.



The Mail list is capable of displaying all the undeleted mail messages that have been received by the logged on user. Once a mail message has been deleted, it is no longer available for display in the mail list. Mail messages that have not been read will be indicated with an asterisk (*).

The user can read a mail message by double clicking on the selected message in the list. The mail message will be displayed on the Read Mail screen.

The Mail list has the following buttons:

Button	Description
Menu	The Menu button is always enabled. When pressed, the CE Mobile Station Main Navigation screen is displayed.
Read	The Read button is enabled when a mail message is selected in the mail list. When pressed, the Read Mail screen is displayed. Refer to the Read Mail function later in this document.
Write	The Write button is always enabled. When pressed, the Write Mail screen is displayed. Refer to the Write Mail function later in this document.
Delete	The Delete button is enabled when a mail message is selected in the mail list. When pressed, a message box is displayed asking the user to confirm that the selected mail message should be deleted. If the user selects 'Yes', the mail message is removed from the mail list and an update mail message transaction is sent to the Server Application for processing.

Data Fields

This screen contains columns of mail data:

- Priority with Read Status Indicator
- From
- Message

Interfaces

The mail messages are retrieved via the Server connection and stored internally in the CEMS application. When the mail list is displayed, the appropriate records and columns are shown.

When a mail message is deleted, an update mail message transaction is sent to the Server Application for processing. The Server Application will update the Delete flag in the database for the specified message.

Validation

None

Data Updates

All the data in this list is read-only, so no data is updated. All updates to the mail database tables are performed by the Server Application application.

Read Mail

Function/Process Description

The Read Mail function provides the CEMS user the ability to view mail messages. This function is accessible by selecting the Read Mail button on the Mail List or by double clicking on a mail message in the mail list.

All data on the Read Mail screen (see the following figure) is read-only and cannot be modified.



The Read Mail screen has three buttons at the bottom of the screen.

Button	Description
Mail List	The Mail List button is used to close the Read Mail screen. When pressed, the user is returned to the mail list.
Reply	The Reply button allows the user to reply to the mail message. When pressed, the mail message is displayed in the Reply Mail screen. Refer to the Reply Mail function later in this document for more details.
Delete	The Delete button is always enabled when the Read Mail screen is displayed. When pressed, a message box is displayed asking the user to confirm that the mail message should be deleted. If the user selects 'Yes', the mail message is deleted from the mobile's MDT, removed from the mail list, and an update mail message transaction is sent to the Mobility Server Application to indicate the mail message has been deleted.

Data Fields

Data fields for the Read Mail screen are:

Field Name	Description
Date/Time	The date/time the mail message was sent
From Id	The id of the sender of the mail message
Priority	Indicate the priority of the mail message. 'E' for emergency and 'R' for regular.
Message text	The mail message text

Interfaces

The CEMS application will retrieve the mail message from the server and store it locally. It will read the mail data directly from the local storage. An update mail message transaction indicating the message was read is generated and sent to the Server Application for processing. The Server Application will forward the update mail message transaction to the sender of the mail message if the message originated from the DS application.

Validation

None

Data Updates

The Server Application will update the Read Status of the mail message on the database to “read” status.

Reply Mail

Function/Process Description

The Reply Mail function provides the CEMS user the ability to reply to a mail message that they have received. This function is accessible by selecting the Reply button on the Read Mail screen.



The Reply Mail screen has the following buttons:

Button	Description
Mail List	The Mail List button is used to close the Reply Mail screen. When pressed, the user is returned to the mail list.
Send	The Send button will cause the composed mail message to be sent to the recipient. The application will generate a mail message transaction and send it to the Server Application for processing. The new mail message will not be stored on the CEMS local storage.

Data Fields

Data fields for the Reply Mail screen are:

Field Name	Description
To	
My Dispatchers	Disabled for Reply Mail
All Dispatchers	Disabled for Reply Mail
Selected User	The id of the user that is to be the recipient of the mail message.
Priority	Indicates the priority of the mail message.
Mail Message	The mail message text. This field is pre-filled with the text from the original message. The user can add text. If more room is needed for the message, the user can delete part of the original message.

Interfaces

A mail message transaction is generated and sent to the Server Application for processing for the specified recipient. The Server Application will add the new mail message to the database and forward the mail message transaction to the recipient of the mail message if they are currently logged on.

Validation

None

Data Updates

The Mobility Server Application will add the new mail message to the database.

Write Mail

Function/Process Description

The Write Mail function provides the CEMS user the ability to write/send mail messages. This function is accessible by selecting the Write Mail button on the subsystem toolbar. The Write Mail screen is shown in the following figure:



When a user writes a mail message, they have several options for specifying the recipient. They can select:

My Dispatchers - All logged on DS Users monitoring the Crew's service area

All Dispatchers - All logged on DS Users

Selected User - The single user identified by the ID in the Selected User field

The Write Mail screen has the following buttons:

Button	Description
Mail List	The Mail List button is used to cancel the Write Mail function. When pressed, the user is returned to the mail list.
Send	The Send button will cause the composed mail message to be sent to the recipient. The application will generate a mail message transaction and send it to the Server Application for processing. Mail messages written in the MS application are not saved on the CEMS local storage and do not appear in the mail list.

Data Fields

Data fields for the Write Mail screen are:

Field Name	Description
To	
My Dispatchers	Indicates a copy of the mail message is to be sent to all dispatchers monitoring this crew.
All Dispatchers	Indicates a copy of the mail message is to be sent to all logged on DS users.

Field Name	Description
Selected User	The id of the user that is to be the recipient of the mail message.
Priority	Indicates the priority of the mail message.
Mail Message	The mail message text

Interfaces

A mail message transaction is generated and sent to the Server Application for processing for the specified recipient. If the selected recipient is My Dispatchers or All Dispatchers, one mail message transaction is sent to the Server Application and the Server Application will create a mail message for each recipient. The Server Application will add the new mail message to the database and forward the mail message transaction to the recipient(s) of the mail message if they are currently logged on.

Validation

The user must select a recipient of the mail message and enter message text.

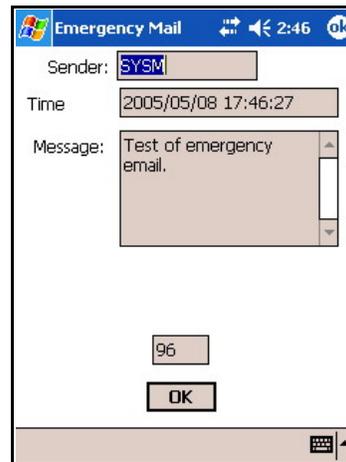
Data Updates

The Server Application will add the new mail message(s) to the database.

Emergency Mail Acknowledgment

Function/Process Description

The CEMS Emergency Mail Acknowledgement function requests the user to manually acknowledge the receipt of an emergency mail message. When an emergency mail message is received in the mobile device, this screen is displayed on top of any current screen.



The user must close this screen before they continue with their current processing. If the user fails to acknowledge this screen within the specified time limit, the screen is automatically dismissed.

The time limit for this screen is specified in the logon reply transaction sent from the Server Application during logon. The field above the OK button displays the countdown timer. The screen will remain displayed on the screen until the timer expires (e.g. counts down to zero). If the timer expires, the emergency mail message remains on the mobile device. The default timeout value will be set to 300 seconds. When the Server Application detects that no acknowledgement has been received before the timer has expired, the sender of the mail message will be notified that the mail message was not manually acknowledged.

If the user presses the OK button before the time expires, an emergency mail acknowledgment transaction is sent to the Server Application for processing. The processing for the emergency mail acknowledgment transaction is to stop the Server Application from waiting for the manual acknowledgement.

Data Fields

Data fields for the Emergency Mail Acknowledgement screen are:

Field Name	Description
Sender	The id of the user that sent the emergency message.
Time Sent	The date/time the emergency message was sent.
Message	The text of the emergency message.
Countdown	Displays the time remaining until expiration of dialog.

Interfaces

The emergency mail acknowledgment transaction is sent to the Server Application for processing. The only processing is to stop the Server Application from waiting for the manual acknowledgment.

If the timer expires before the user manually acknowledges the emergency mail message, the mail message remains on the mobile device. When the Server Application detects that the timer has expired, the sender of the mail message is notified that the crew did not manually acknowledge the message.

Validation

None

Data Updates

None

Chapter 4

Miscellaneous Functions

This section describes the remaining screens in the CE Mobile Workstation application. Topics include:

- **Out Of Service**
- **Time Sheet Summary**
- **User Notifications**
- **Version Information**

Out Of Service

Function/Process Description

This function enables a CEMS user to go out of service. This function is accessed via the Out of Service button on the Main Navigation screen. The Out of Service is shown in the following figure:

R...	Description
TRAI	TRAINING DUTIES
LEAV	VACATION
CO...	COMMITTEE W...

Other Rsn:

Location:

Minutes:

Return to Service

Out Until:

Password:

A user goes out of service when they will be unavailable to work orders for some length of time or to account for their time when not working their dispatched orders. The function is also used to track a user's time in a non-wireless environment while working orders called in by the dispatcher or in a wireless environment while working orders that are not included in SPS. Notification is sent to the Server Application indicating the crew is out of service. The notification will include the location where the crew is out of service and the estimated time the crew will return to service. The crew in the crew status list on the DS application will be updated to Out of Service.

While the crew is out of service, the CEMS application is effectively 'locked up'. The application can still receive orders and acknowledge orders, but no other mobile functions can be performed until the crew returns to service. However, it is not wise to dispatch an emergency order to a crew that is out of service, since they are probably not in the vehicle to acknowledge the order.

The user must enter their password to return to service. When the crew returns to service, notification is sent to the Server Application indicating the crew has returned to service. The out of service screen is dismissed and the previous screen is displayed.

An entry is created in the Time Entry list each time a crew goes out of service for display on the Time Sheet Summary screen at logoff. The entry will contain the first four characters of the Reason, the first 10 characters of the Other Reason, and the length of time the crew was out of service.

Data Fields

Data fields for the Out of Service screen are:

Field Name	Description
Reason	The reason the crew is going out of service. This list is populated with the available out of service reasons from the reasons validation table (DHTREASN) using the type of 'B'.
Other Rsn	Reason text associated with the out of service reason. If the Reason of 'Other' is selected, something in the Other Rsn field must be entered.
Location	The location where the crew is going to be while out of service.
Minutes	The number of minutes the crew expects to be out of service.
Out until	The time the crew expects to return to service. This is a read-only field whose value is calculated as current time + minutes.
Password	The user's password. The field is required for the crew to return to service.

Interfaces

When the CEMS goes 'out of service', a message is generated and sent to the Server Application for processing. The Server Application will update the database tables. The Server Application will send notification to all appropriate DS users. The Server Application writes a message to the Audit list box and log stating that the crew has gone out of service.

The CEMS application is effectively 'locked' up until the user returns to service. When the user returns to service, a message is generated and sent to the Server Application for processing. The Server Application will update the database tables. The Server Application will send notification to all appropriate DS users. The Server Application writes a message to the Audit list box and log stating that the crew has returned to service.

An entry is created in the Time Entry list when the crew returns to service for display on the Time Sheet Summary screen at logoff. The entry will contain the first four characters of the Reason text, the first ten characters of the Other Reason, and the length of time the crew was out of service.

Validation

The user must enter the number of minutes the crew is estimated to be out of service. If 'Other' is selected as the reason for being out of service, the user must enter Other Reason text; otherwise

Other Reason is optional. The user must enter password to return to service. The password must be the same password used at logon.

Data Updates

When the Out of Service transaction is received, the Server Application will update the out of service database table (DHTBREAK) with the reason, location, and estimated duration. The crew in the crew database table (DHTCREW) will be updated to indicate that the crew is out of service.

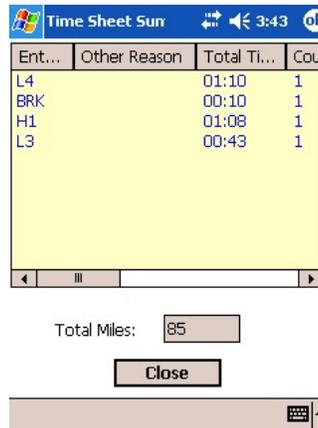
Then the Return to Service transaction is received, the Server Application will update the out of service database table (DHTBREAK) with the actual duration the crew was out of service. The crew in the crew database table (DHTCREW) will be updated to indicate that the crew has returned to service.

The sign-off time will be stored in the Personnel database table (DHTPERS) for the primary user and, if needed, the additional user. The records for the primary user and, if needed, the additional user will be deleted from the Logon database table (DHTLOGON). The odometer reading will be stored in the Vehicle database table (DHTVEHCL). Based on the value of the End of Shift flag in the logoff data, the Server Application might automatically unassign all open orders assigned to the crew.

Time Sheet Summary

Function/Process Description

The CEMS Time Sheet Summary function displays the user's time in a summary format. This screen (see following figure) allows the user to accurately fill out their manual time sheet.



The entries will display alphabetically by type. This screen is automatically displayed when the user logs off end of shift.

All time associated to working orders will be accumulated by order type and a single total will be displayed for each order type worked. In addition, to the total time, a count of the orders of each type will be displayed.

Each out of service entry will display separately on the Time Sheet Summary. They will not be totaled together.

The Time Sheet Summary will display the total miles driven during the user's shift. This is calculated by subtracting the beginning odometer reading from the ending odometer reading.

When the Time Sheet Summary screen is closed, the CEMS Logon screen is displayed.

Data Fields

Data fields for the Time Sheet Summary screen are:

Field Name	Description
Time Entry List	This list box displays the time entries in alphabetical sequence. The columns are: Entry Type, Other Reason, Total Time, and Count. All entries with the same entry (order) type will be totaled in one line with the total time and count of orders. Each out of service entry is listed individually.
Total Miles	The total miles driven during the user's shift.

Interfaces

The Time Entry data collected during the user's shift is sent to the Server Application when this screen is closed. The Server Application stores the time entry data in the database. The Time Entry data can be used for reporting purposes later if desired. This information is not sent to any external application for additional processing.

Validation

None

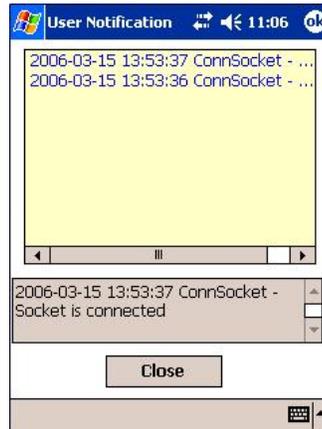
Data Updates

The time entry data will be stored in the Time Entry database table (DHTCRWTM) for the crew logging off.

User Notifications

Function/Process Description

The CEMS User Notification function is used to display notification messages to the logged-on crew. The User Notification function uses a generic notification screen that displays strings of message text. A sample screen is shown in the following figure.



A variety of messages can be displayed, including order update, order cancelled, order removed by dispatcher, and new order or mail received. As long as the screen is displayed, new messages can be added to the list. Only one User Notification screen will be displayed at one time.

This screen is displayed on top of any current screen. The user must close this screen by pressing the OK button before they continue with their current processing. This screen has no additional functionality.

Data Fields

Data fields for the User Notification screen are:

Field Name	Description
Message List	The list of User Notification messages sorted by time ascending. The list specifies the date and time of each message.
Message	The text of the message

Interfaces

User notification messages are displayed when specific events happen. They are:

A new order is received on the mobile unit, other than the initial download of order

A new mail message is received.

An order has been cancelled by the dispatcher or an external application

An order, which has already been dispatched, to the mobile device is updated.

An order has been reassigned by the dispatcher

Validation

None

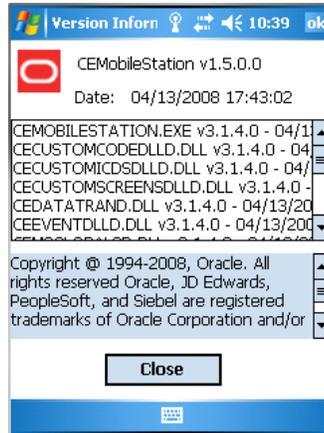
Data Updates

None

Version Information

Function/Process Description

The CEMS Version Information function is used to display Oracle Utilities Mobile Workforce Management CE Mobile Station version information to the logged-on crew. The Version Information function uses a generic information screen (see following figure) that displays a list of the modules employed by the application and the date for each module. Also displayed is the copyright notice and release date. This information is helpful in diagnosing problems and determining if the user has the correctly installed application modules. Only one Version Information screen will be displayed at one time.



This screen is displayed on top of any current screen. The user must close this screen by pressing the OK button before they continue with their current processing. This screen has no additional functionality.

Data Fields

Data fields for the Version Information screen are:

Field Name	Description
Version List	The list of modules and their corresponding dates sorted by name ascending.
Release Date	The release date of the Oracle Utilities Mobile Workforce Management CE Mobile Station Application.

Interfaces

None

Validation

None

Data Updates

None