



# Operation and Configuration Guide

**oMM**



**SIERRA**  
WIRELESS®

oMG-ED-121006  
4.6  
October 7, 2014

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## Document History

Version	Date	Updates
4.6	October 6, 2014	Updated for oMM 2.13
4.5	August 5 2014	Converted to SWI Template



# Contents

<b>1. INTRODUCTION .....</b>	<b>9</b>
1.1. Who Should Read This Guide.....	9
1.2. What is the oMM.....	9
1.3. Supported oMGs .....	9
1.4. Supported Browsers.....	9
1.5. Version: oMM .....	10
1.6. Related Publications.....	10
<b>2. OVERVIEW .....</b>	<b>11</b>
2.1. Logging In.....	11
2.2. General Layout.....	11
2.3. Tabs.....	12
2.4. Option Tabs.....	12
2.5. Gateway Tree.....	14
2.5.1. Filter Box .....	15
2.5.1.1. Gateway Tree Filter Options .....	16
2.5.2. Groups and Sub-Groups .....	17
2.5.3. Changing Gateway Details.....	17
2.6. Main Display: Filtering and Options.....	18
2.6.1. Filter Text Field .....	18
2.6.2. Time Period.....	19
2.6.3. Nominal Events .....	19
<b>3. MAIN TABS.....</b>	<b>20</b>
3.1. Dashboard.....	20
3.1.1. Dashboard: List View .....	21
3.1.1.1. Parameters .....	22
3.1.2. List View: Color Coding.....	22
3.1.3. List View: Sorting .....	23
3.1.4. Dashboard: Graph View.....	23
3.1.5. Dashboard: Threshold View.....	24
3.2. Events Tab .....	25
3.3. Map Tab .....	25
3.3.1. Navigating Within the Map .....	27
3.3.2. Filtering Gateways .....	28
3.4. Stats Tab .....	29
3.4.1. Views.....	30
3.5. Total Reach Tab.....	31
3.6. Config Tab.....	32
3.6.1. Tracker .....	32
Tracker configuration fields .....	32
3.6.2. Copy.....	33

3.6.3.	Upload .....	34
3.6.4.	Deploy .....	35
3.6.5.	WAN WiFi Security and VPN Security .....	36
3.6.5.1.	oMG PSK Rotation Requirements .....	36
3.6.5.2.	Deploying PSK Rotation through the oMM.....	36
3.6.5.3.	CSV File Information .....	37
3.7.	Admin Tab .....	40
3.7.1.	Gateways .....	41
3.7.2.	Users .....	42
3.7.3.	Stats .....	43
3.7.4.	Groups.....	44
3.7.5.	Thresholds.....	45
3.7.6.	Zones .....	48
3.7.7.	Sessions.....	52
3.7.8.	Remote Sessions .....	53
3.7.9.	User Activity .....	53
3.7.10.	DNS Servers .....	54
3.7.11.	Debug.....	55
<b>4.</b>	<b>OPTIONAL PACKAGES .....</b>	<b>56</b>
4.1.	Tracker .....	56
4.2.	Nav .....	57
4.2.1.	Nav Panel Overview.....	57
4.2.2.	Dispatching.....	58
4.2.3.	Send Message .....	59
4.2.4.	Message List .....	60
4.3.	Telemetry.....	61
4.4.	Asset Manager .....	62
<b>5.</b>	<b>REPORTS .....</b>	<b>64</b>
5.1.	Saved Templates .....	64
5.2.	Generated Reports.....	65



## List of Figures

Figure 1- oMM Login Screen.....	11
Figure 2 - General layout of the oMM .....	12
Figure 3 - oMM Tabs.....	12
Figure 4 - Option Tabs .....	12
Figure 5 - Menu items under Options Tab .....	12
Figure 6 - Gateway Tree .....	15
Figure 7 - Filter Box in Gateway Tree .....	16
Figure 8 - Filter Options .....	16
Figure 9 - Group Context Menu .....	17
Figure 10 - Gateway Context Menu .....	18
Figure 12 - View of Main Tabs .....	20
Figure 13 - Dashboard Buttons .....	20
Figure 14 - List View .....	20
Figure 15 - Graph View .....	21
Figure 16 - Threshold View .....	21
Figure 17 - List View Showing Various Parameters .....	22
Figure 18 - Color Coded Icons.....	22
Figure 19 - Column Headings with Arrow Indicating Sort Order.....	23
Figure 20 - Graph View.....	23
Figure 21 - Clicking Reset to return to multi graph view .....	23
Figure 22 - Stats Tab .....	24
Figure 23 - Values Exceeding Thresholds .....	24
Figure 24 - Additional Threshold Details.....	25
Figure 25 - Events tab.....	25
Figure 26 - Map Tab.....	26
Figure 27 - Gateway Marker Popup.....	26
Figure 28 - Google Map Controls.....	27
Figure 29 - Map Level Detail with Terrain Enabled.....	28
Figure 30 - Satellite Level Detail with Sub Options Enabled .....	28
Figure 31 - Map filter fields.....	28
Figure 32 - Stats Tab .....	29
Figure 33 - Stats Tab View Buttons .....	30
Figure 34 - Data Sorted by Temperature .....	30
Figure 35 - Selecting a Time Period for Data Display.....	30
Figure 36 - Total Reach Tab .....	31
Figure 37 - Tracker Panel .....	32
Figure 38 - Filtering by Gateway .....	33

Figure 39 - Copy Panel .....	33
Figure 40 - Selecting configuration files to copy .....	34
Figure 41 - Upload Tab .....	34
Figure 42 - Deploy Panel .....	35
Figure 43 - The Seven Deployment Function Buttons .....	36
Figure 44 - Gateways Tab.....	41
Figure 45 - Users Panel .....	42
Figure 46 - New User Screen.....	43
Figure 47 - Adding a Stat .....	44
Figure 48 - Groups in the Gateway Tree .....	44
Figure 49 - Group Administration Screen .....	45
Figure 50 - Thresholds Panel.....	46
Figure 51 - Zones Panel.....	48
Figure 52 - Zone Configuration Screen.....	49
Figure 53 - Map Area Controls.....	49
Figure 54 - Map Bounding Box .....	50
Figure 55 - Dragging a point on the bounding box .....	50
Figure 56 - Adding more points to the bounding box.....	51
Figure 57 - Raw Latitude/Longitude Pairs Used to Define a Zone .....	52
Figure 58 - Sessions Panel.....	53
Figure 59 - Remote Sessions Panel .....	53
Figure 60 - User Activity Panel.....	54
Figure 61 - Panel Listing DNS Servers .....	54
Figure 62 - Add or Edit DNS Server Panel .....	54
Figure 63 - Tracker Tab Plotting Locations.....	56
Figure 64 - Tracker Tab Options.....	56
Figure 65 - Navigator Panel .....	57
Figure 66 - Gateway Selection List .....	58
Figure 67 - Adding a New Destination .....	58
Figure 68 - Deleting a Destination .....	59
Figure 69 - Send Message Panel .....	59
Figure 70 - Displaying the Send Message Panel.....	59
Figure 71 - Message List.....	60
Figure 72 - Displaying the Message List Panel.....	60
Figure 73 - Text Message Screen.....	61
Figure 74 - Telemetry Tab.....	61
Figure 75 - Assets Tab.....	62
Figure 76 - Screen for Adding/Editing an Asset.....	63
Figure 77 - Toggling the Show Advanced Config Button.....	64

Figure 78 - Menu to Show or Hide the Show Advanced Config Button.....	64
Figure 79 - Additional Report Functions .....	64
Figure 80 - List of Saved Templates .....	65
Figure 81 - List of Generated Reports .....	65



## List of Tables

Table 1 - Sample Excel Data .....	30
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# 1. Introduction

This document provides instructions for using the oMM user interface, reports and optional applications. The oMM can be hosted by Sierra Wireless or purchased as a standalone server appliance. Note that the hosted version offers fewer administrative functions.

## 1.1. Who Should Read This Guide

oMM users typically include fleet dispatch operators, fleet managers, IT support staff and vehicle maintenance staff.

## 1.2. What is the oMM

The oMM is a powerful browser-based software application that enables users to configure, monitor, and analyze oMGs and associated applications/accessories (such as Asset Manager Wi Fi tags).

Each oMG collects operational data in a log (e.g. connection status, data transmitted/received, temperature of the unit, voltage of the vehicle, GPS location data, etc.). The data logs from the gateways are transmitted over a wireless data network to an oMM server. The oMM uses these data logs to present current and historical activity.

The oMM is highly configurable to enable great flexibility between customer situations. Business intelligence-style data presentation and reporting enable users to leverage the large amount of data available from the gateways.

The oMM is available both as a "hosted" version which is hosted by Sierra Wireless servers, and as a standalone appliance which can be purchased and administered by a customer.

In this document an oMG is often just referred to as a gateway. The gateway hardware is typically installed in a vehicle but it can also be installed in offices or depots to take further advantage of the system's capabilities. Note: since a gateway is often installed in a vehicle, the term is often also used in place of the word "vehicle".

## 1.3. Supported oMGs

oMM 2.13 has been tested with:

- oMG 3.9
- oMG 3.8 pre-releases
- oMG 3.7.3 with opt:8.8100.v3.sdk3-20111019.1
- oMG 2.8.7

## 1.4. Supported Browsers

oMM 2.13 has been tested on IE 9.0.

The oMM application requires the use of browser "cookies". Ensure that this option is enabled on your browser before logging into the oMM.

## 1.5. Version: oMM

The version is displayed on the login page, under the user name and password fields.

Version	Details
oMM 2.13	October 8, 2014

## 1.6. Related Publications

APP-ED-101101 - onBoard Tracker User Guide	Provides information for the Tracker application.
oMM-ED-081002 - onBoard Total Reach User Guide	Provides information for the Total Reach application.
oMG-ED-100801 - Four Port oMG Telemetry Configuration Guide	Provides information for the Telemetry application.
APP-ED-110301 Asset Manager Configuration and User Guide R1.6	Provides information for asset tags and the Asset Manager.
oMM-ED 101001 onBoard Nav Operation and Configuration Guide	Provides information for the Nav application.
APP-ED-101102 onBoard Passenger WiFi App Config Guide	Provides information for the passenger WiFi (aka "web portal") application.
oMG-ED-121006 oMG Operation and Configuration Guide for R3 3.9	Provides information about operating the oMG.
oMM-ED-130604 - oMM User Guide 2.12.pdf	Provides information about operating the oMM.

All related documentation is available from the Knowledge Base:

<http://kbase.inmotiontechnology.com>.



## 2. Overview

The oMM enforces security by requiring each user to login with a name and password. When purchased as a standalone appliance, an administrator user account is provided which can be used to grant permissions to other users. Once logged in, users are presented with a sophisticated web user interface consisting of a hierarchy of gateways, graphical icons and links. The following sub-sections describe these features in more detail.

### 2.1. Logging In

A user name and password is sent to customers for their first log in. To change this password, or to add more users, contact Support.

To safeguard your login credentials, ensure that your browser does not store your user name and password unless you are confident that no one can access your computer.

Note that the version of the oMM is shown below the login fields.



Figure 1- oMM Login Screen

### 2.2. General Layout

The main user interface used throughout the oMM consists of the following key features:

**Gateway Tree:** displays a hierarchical view of the gateways and groups of gateways currently managed by the oMM.

**Filter Field and Nav Icons:** provides tools for filtering the list of gateways and refreshing the list.

**Main Tabs:** displays the available views for both built-in applications/features and any optional applications which are installed.

**Option Tabs:** provides tools for filtering items and information.

**User Name:** displays the name of the user currently logged into the oMM.

These features are described in more detail in the following sub-sections.

The Dashboard view, shown below, is the default view.

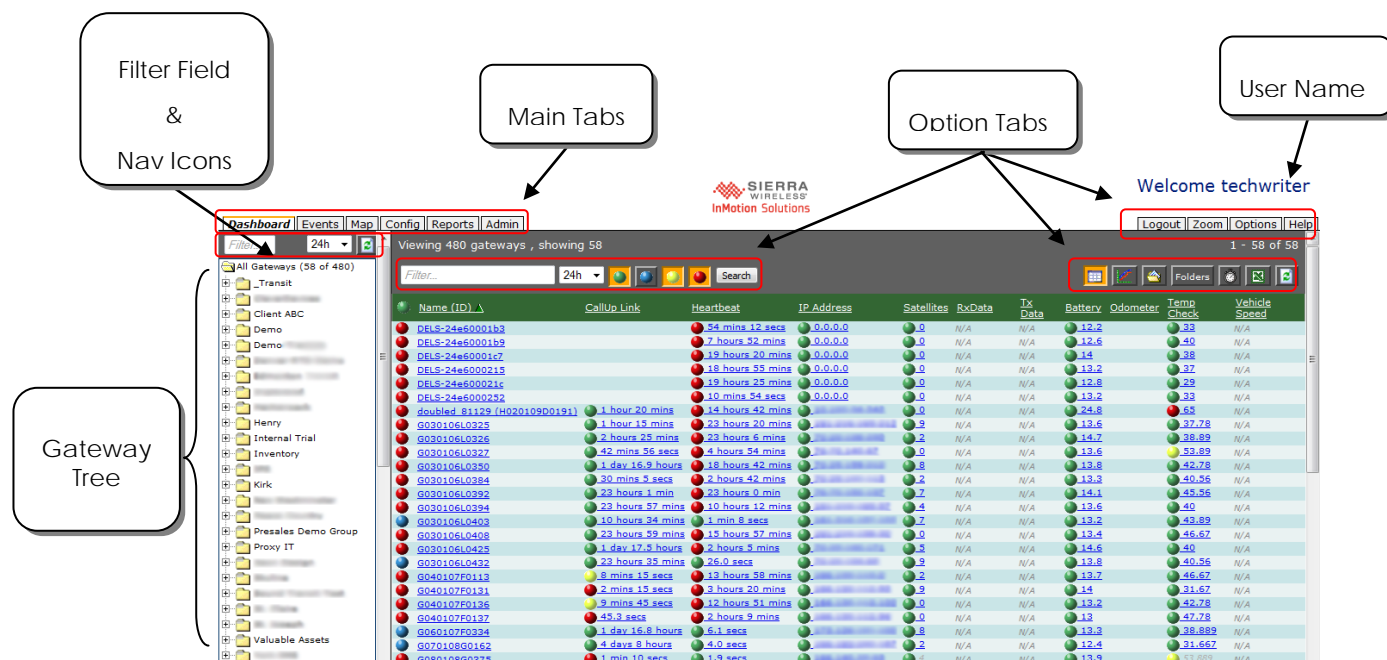


Figure 2 - General layout of the oMM

## 2.3. Tabs

The main tabs located at the top left of the screen, are used to select different presentations of available information.

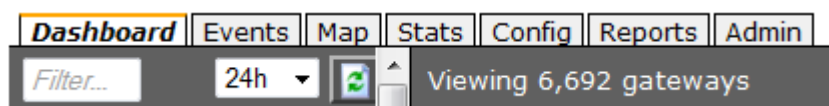


Figure 3 - oMM Tabs

For more details for the individual tabs, see Section 3 - Main Tabs.

## 2.4. Option Tabs

The option tabs located at the top right of the screen, are used to select one of the following actions:

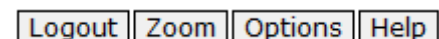


Figure 4 - Option Tabs

**Logout:** logs the current user out of the oMM and displays the login screen.

**Zoom:** hides/shows the navigation tree and heading information (oMM title, Sierra Wireless Logo and currently logged in user) to provide additional screen real-estate for use by the current view.

**Options:** display menus for configuring maps, showing/hiding advanced report options by default (same as clicking *Show Advanced Config* on a report's configuration screen), and setting preferences.

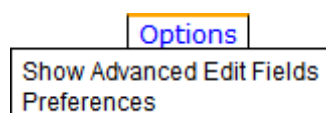


Figure 5 - Menu items under Options Tab

**Show advanced edit fields:** Provides the ability to display advanced edit fields primarily in report set up.

**Preferences:** Select to modify the user preferences, including *Dashboard* items. Some or all of the following settings are available for modification depending on your user security level:

- *Identification parameters:*
  - **Name\*:** enter the new user name
  - **Email:** enter the email address to associate with the user.
  - **Customer group:** use the drop-down menu to select the group for which the ID is being created.
  - **Password & Confirm:** enter the password in both fields. Used when the oMM performs authentication.
  - **Remote Authentication:** will be available for selection when a Customer Group is selected which has been configured with LDAP authentication (see *LDAP* in Section 3.7.4 for more information). Enabling this field will hide the *Password* and *Confirm* fields and will authenticate using the LDAP authentication configuration which has been configured for the Customer Group.
  - **Expiry:** if an expiry date is required for the ID, click in the expiry field and a calendar will open. Select the expiry date for the ID.
- *Privileges:*
  - **oMM:** select the privilege - None, Read or Read/Write.
  - **Tabs:** select the tabs for which the user will have access. Note that the tabs available depend upon the optional packages purchased.
  - **Reports:** select which reports will be available to the user.
  - **Stats:** check **All** to enable Stats (default).
- *Preferences:*
  - **Measurement units\*:** select Imperial (default) or Metric.
  - **Position Format:** select the GPS coordinate format to use for reports: decimal degrees (default) (e.g. 49.206052, -122.91309), or degrees-minutes-decimal minutes (e.g. 49:012.363 N, 122:054.785 W).
  - **Format CSV output values same as HTML:** forces the exported Excel output to be in the same format as specified by the Position Format option. When this option is not selected, the format outputted to CSV will default to decimal degrees.
  - **Dashboard Timespan:** specifies the default timespan for which to display items in the dashboard.
  - **Tracker refresh\*:** enter the refresh rate, in seconds, for the tracker refresh.
  - **Dashboard refresh\*:** enter the refresh rate, in seconds, for the dashboard refresh.
  - **Oldest report\*:** enter the number, in days, for the oldest report available.
  - **Max concurrent logins:** enter the number of maximum concurrent login connections. By default, there are no restrictions (blank implies no restrictions).

- **Restricted IP:** limits logins from a range of IP addresses.
  - **Maximum threshold emails per day:** enter the maximum number of threshold emails the user will receive per day (blank implies unlimited).
  - **Nav Stop List:** determines the order that the Nav stops are displayed (only available when the Nav package has been purchased).
  - **Time zone:** use the drop-down to change the time zone for the user. The default is the server's time zone.
  - **Dashboard items:** specifies the dashboard items available to the user. Deselect to create a custom list of items to be made available. For default items see Section 3.1.1.1 - Parameters.
  - **Telemetry Dashboard:** limits the telemetry stats available to the user. Deselect to create a custom list of items to be made available.
- Click **Save** to create the user ID.

Users can be deleted from the gateway by clicking in the checkbox next to the user label and then on **Delete**.

\* denotes a required field

**Help:** opens the online help feature for the oMM.

## 2.5. Gateway Tree

The gateway tree located on the left side of the screen, allows users to select vehicle groups, sub-groups and individual gateways. The look and feel is similar to traditional file management systems with folders and files.

Click on the group/sub-group/individual gateway to select it. This selection will remain active when toggling between the main tabs (e.g. Dashboard to Map). Additionally, when running reports, the gateway field is automatically populated and can be changed by clicking on another group/sub-group/gateway. Multiple items can be selected by holding down the Control (Ctrl) key while clicking.

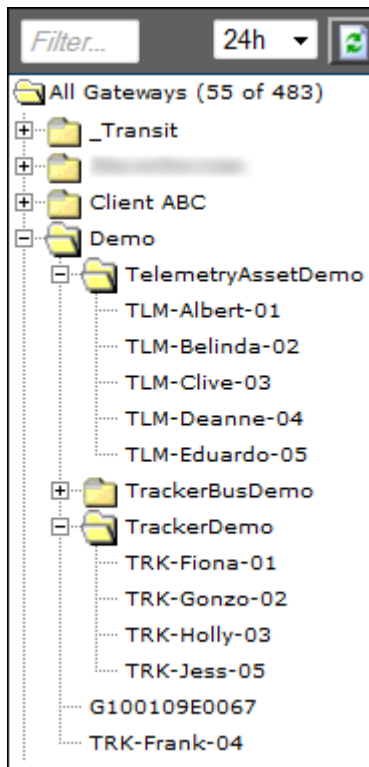


Figure 6 - Gateway Tree

### 2.5.1. Filter Box

The *Filter* field for the gateway tree allows users to enter the full or partial name of a gateway, or any other data label the gateway may have including all *Dashboard* items displayed (e.g. IP address, Callup Link, Battery, etc.).

The image on the left shows the list of gateways displayed when nothing is entered in the *Filter* field (i.e. show all gateways). The image on the right shows only gateway names containing "H0". The *Filter* field is not case sensitive. After entering or changing a value in the filter field, the refresh button to the right of the time dropdown can be clicked to refresh the list. Alternatively the list will refresh on its own after a few seconds.

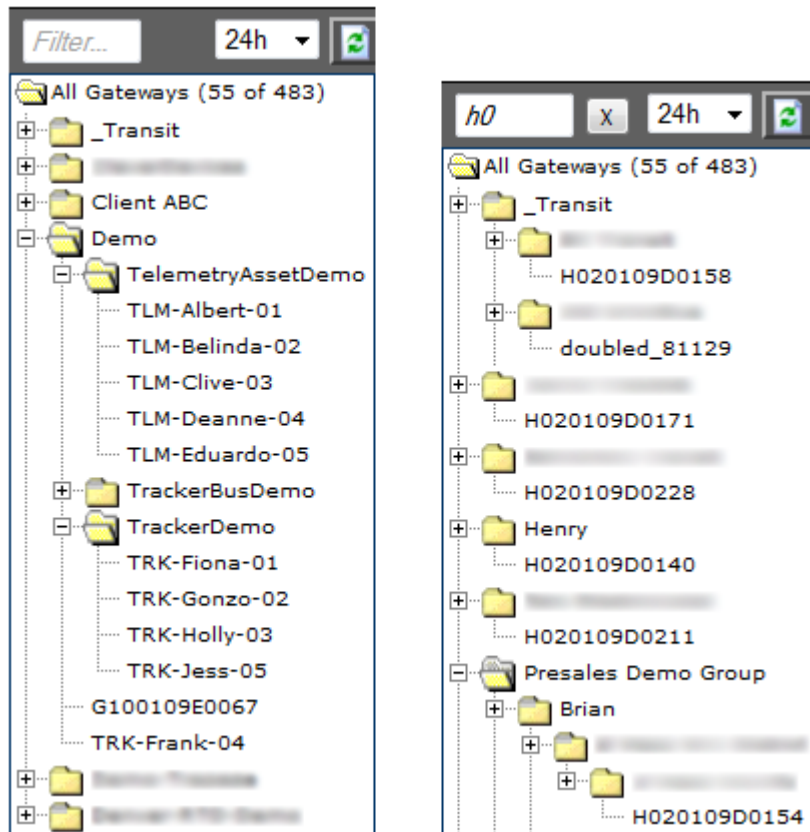


Figure 7 - Filter Box in Gateway Tree

Text in the *Filter* field can be deleted, by clicking on the **X** icon which appears to the right of the field when text has been entered.

### 2.5.1.1. Gateway Tree Filter Options

To the right of the filter field are two options:

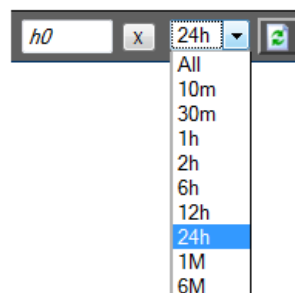


Figure 8 - Filter Options

**Time Dropdown:** click on the drop-down menu to limit the gateways displayed to those which have actively reported data during time period selected. The default value is *24h*.

**Refresh:** click to show the latest available list of gateways/groups. This button must be clicked when entering or changing the filter text or when a new oMG has been deployed.



## 2.5.2. Groups and Sub-Groups

Groups allow gateways to be categorized and grouped together for organizational purposes. For example, different groups could be created to organize fleets for different departments. Sub-groups can be created under other groups for additional sub categorization.

To manage groups and sub-groups in the gateway tree, right-click on a group name and select one of the options listed below:

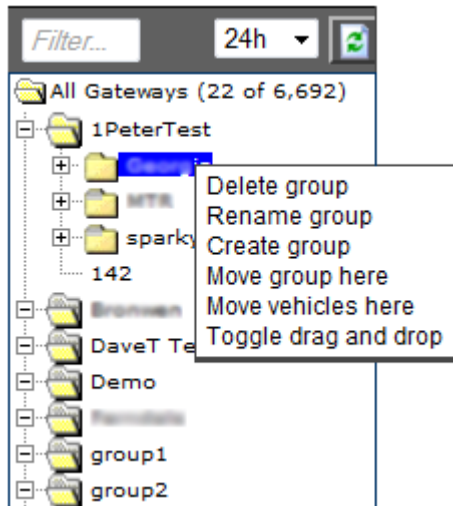


Figure 9 - Group Context Menu

**Delete group:** select to delete a particular group.

**Rename group:** select to rename a group.

**Create group:** select to create a group of gateways.

**Move group here:** select to move a group to a particular group.

**Move vehicle here:** click on a vehicle to select it. Right-click on a group and select this option to move the vehicle to the group.

**Toggle drag and drop:** allows users to easily move (drag and drop) gateways. Note that care must be taken when enabling this option.

## 2.5.3. Changing Gateway Details

When setting up a fleet of gateways, several fields exist to help identify and group each gateway. To change these details, right click on a gateway and select one of the options listed below:

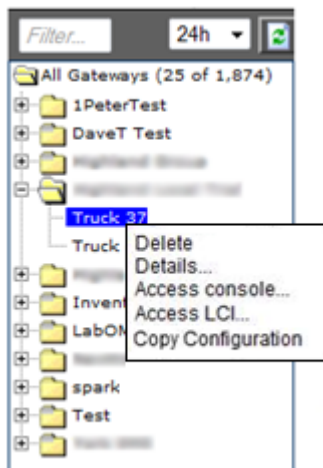


Figure 10 - Gateway Context Menu

**Delete:** select to delete a particular gateway.

**Details:** opens the *Add or Edit Gateway* panel in a new browser. Users can update oMG details. For more information about the options available in this panel, see Section 3.7.1.

**Access Console:** provides SSH (shell) access to the selected gateway. The URL and port are provided which can be copied and pasted for use when connecting using a 3<sup>rd</sup> party SSH application. A button is also provided in the popup window which allows for shell access in the browser using a Java applet.

**Access LCI:** remotely connect to the gateway's Local Configuration Interface (LCI) screens.

**Force Reboot:** forces the gateway to be rebooted.

**Copy today's log files:** forces today's log files to be copied to the oMM for browsing. Useful for browsing the latest files, because log files are normally only copied every 24 hours.

**Browse log files:** displays the logs available for the gateway.

**Copy Configuration:** copies the configuration files from one gateway to another.

## 2.6. Main Display: Filtering and Options

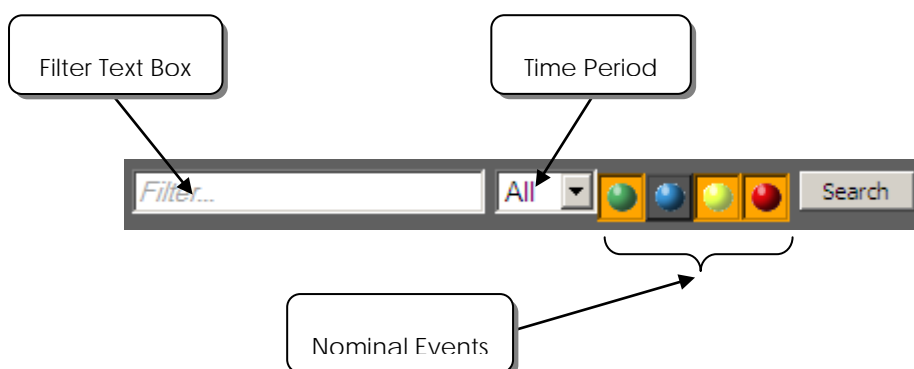


Figure 11 - Location of Filter and Option Fields

### 2.6.1. Filter Text Field

Filters gateways by name or group name. In addition to selecting a group of gateways from the gateway tree, the Filter Text field allows users to further filter selections by entering part or all of the gateway or gateway group name.

Once the filter text has been entered or changed, click on **Search** to initiate the search request.

### 2.6.2. Time Period

Select a time period from the drop down list. Only gateways which have reported data to the oMM (over a WAN) within the selected time period will be displayed on the map. This allows users to quickly find and manage only those gateways which are active.

### 2.6.3. Nominal Events

Nominal events include any event where a threshold is exceeded. See Section 3.7.5 - *Thresholds* for further details.

Use the nominal events icons to display the gateways for the defined thresholds.

The colored circles are defined as follows:

- **Green:** operating normally within the thresholds
- **Blue:** no data available
- **Yellow:** warning level threshold exceeded
- **Red:** error level threshold exceeded

The *Default* setting has the *Green*, *Yellow*, and *Red* events on for all gateways.



## 3. Main Tabs

Located at the top left of the screen, the main tabs are used to navigate through the various presentations of the information available in the oMM. Click on a tab to select the view.

The tabs available depend upon the purchased options and the overall configuration of the system. The main tabs cannot be altered by individual users. However, administrators can add and remove tabs (go to **Admin > Users**) if they own their own appliances. Clients using hosted services from Sierra Wireless do not have the *Admin > Users* option.

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*Note:* the order of tabs is specified by oMM administrators for each user.

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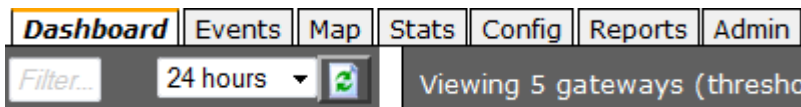


Figure 12 - View of Main Tabs

### 3.1. Dashboard

The *Dashboard* provides the main management view of the fleet. There are three views available: *List*, *Graph*, and *Threshold*.

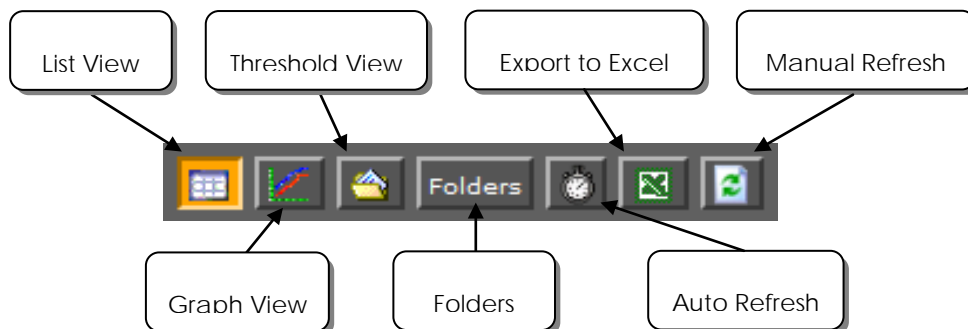


Figure 13 - Dashboard Buttons

**List View:** the *List* view is the default view for the dashboard. Each parameter is presented in columns, with each gateway appearing as a single row.

Name (ID)	Heartbeat	CallUp Link	IP Address	Battery	Software	SW Update	Tracker test	Temp Check
G010101G0001	1 sec	9 hours 8 mins	192.168.1.1	13.8	2.8.5.2-20101203.1	0	●	91.0 F
G010101G0002	28.8 secs	8 mins 49 secs	192.168.1.2	14	2.8.5.2-20101203.1	0	●	77.0 F

Figure 14 - List View

**Graph View:** The *Graph* view displays the same parameters as the List view but represented in graphical form. Gateways are represented on the Y axis, with the parameter value on the X axis.

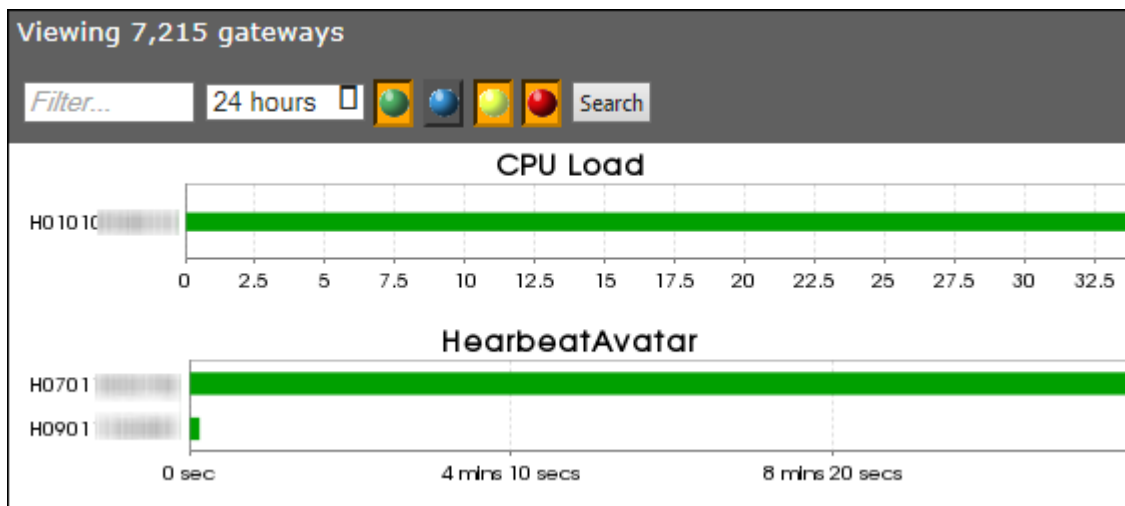


Figure 15 - Graph View

**Threshold View:** the *Threshold* view provides a summary for each parameter, including:

- totals of each threshold status for the group of gateways selected.
- a minimum value for each parameter for the group of gateways selected.
- a maximum value for each parameter for the group of gateways selected.

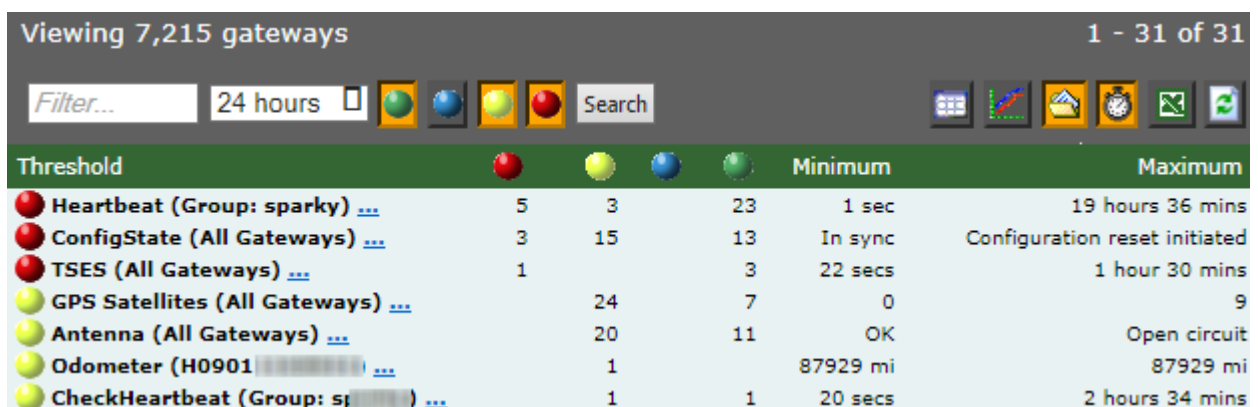


Figure 16 - Threshold View

This view is beneficial because it provides a quick view of the parameters that are out of threshold. The list of statistics displayed on the dashboard is also configured through **Admin > Thresholds**.

**Folders:** click to enable the *Folder* view to group individual gateways in their respective group. Note: the *Folders* button is only available in *List* view and only when a folder is selected which contains sub-folders.





**Auto-refresh:** clock icon. When enabled, the browser page is automatically updated (default is 30 seconds).

**Refresh:** manually refresh the oMM with the latest gateway information.

### 3.1.1. Dashboard: List View

The *List* view is the default view for the dashboard. Each parameter is presented in columns, with each gateway appearing as a single row.

Viewing 5 gateways in group: "All Gateways > Avatar"

Filter... 24 hours     Search






	Name (ID) ▲	A Software	Antenna	CallUpTime	FIPS	GPS Fix	Hea
	H07	3.10.0-20140130.1	 Open circuit	0 sec	1	81 days 20 hours	1 mi
	H09	3.10.0-20140221.1	 Open circuit	52 mins 1 sec	1	254 days 17 hours	20.4

Figure 17 - List View Showing Various Parameters

### 3.1.1.1. Parameters

The *Dashboard* items are made available by creating thresholds (see Section 3.7.5 - *Thresholds* for more information). These are listed as parameters in the column headings, and descriptions for each row's fields can be displayed by hovering the mouse over them.

The default parameters are:

**Name (ID):** displays the gateway's serial number. If a name was given to the gateway during set-up, this field will display the name along with the serial number in brackets.

**CallUP Link:** the amount of time the call is up for the WAN connection.

**Heartbeat:** the time since the gateway last sent data to the server. The format is HH:MM:SS.

**IP Address:** the IP (Internet Protocol) address assigned to the most recent Internet connection made by the gateway.

**Battery:** the voltage level of the vehicle's battery supplying power to the gateway. The gateway has a built-in voltage meter which monitors voltage and shuts down the unit if voltage levels are too low or too high. Note that voltage readings are subject to cable length and will always be slightly lower than the voltage measured at the source.

**GPS Fix:** the time since the oMG last reported its latitude/longitude coordinates.

**Satellites:** the gateway is equipped with a 12-channel GPS receiver. The number shown is the number of GPS satellites from which the gateway is currently receiving signals.

**Temp Check:** the temperature of the gateway, measured in Celsius (°C). The gateway has a built-in temperature sensor.

### 3.1.2. List View: Color Coding

Color coded icons indicate the status of parameter values in relation to their defined thresholds:

- **Green:** operating normally, within thresholds
- **Yellow:** warning level threshold exceeded
- **Red:** error level threshold exceeded
- **Blue:** no data available

Note that the colored icon next to the name/serial number in the gateway list panel indicates the overall health of the gateway. The color will be based on the worst case threshold value from amongst the gateways thresholds displayed on the Dashboard.











	H824 (001010000011)	100.101.0.10	 00:44	 13.3	 5:27:05	 3.2
	H825 (001010000011)	100.101.0.10	 02:18	 10.7	 14:09:45	 3.18

Figure 18 - Color Coded Icons

For example, the threshold for the 12V battery in a vehicle is typically set up to generate a warning threshold (yellow) for voltages less than 10.8V or greater than 14.7V. The error threshold (red) is set for voltages less than 10.5V or greater than 15.0V. If all other parameters are within the thresholds set

(i.e. green) but the battery falls at 10.7V, then the colored icon next to Battery will be yellow. A yellow icon will also be present next to the gateway name/serial number. Note that voltage readings are subject to cable length and will always be slightly lower than the voltage measured at the source.

### 3.1.3. List View: Sorting

Data displayed in the list view columns can be sorted by clicking on the column header. The triangle indicates which column is being sorted. When the triangle is pointing up, data is in ascending order and when pointing down, it is in descending order. By default, rows are sorted by the Name (ID) column.

Name (ID) ▲	CallUp Link	Heartbeat	IP Address	Battery	Satellites
-------------	-------------	-----------	------------	---------	------------

Figure 19 - Column Headings with Arrow Indicating Sort Order

### 3.1.4. Dashboard: Graph View

The *Graph* view displays the same parameters as the List view but in graphical form. Gateways are represented on the Y axis, with the parameter value on the X axis.

Values within defined thresholds appear green. Any values that are outside of defined thresholds appear as yellow (warning state) or red (error state).

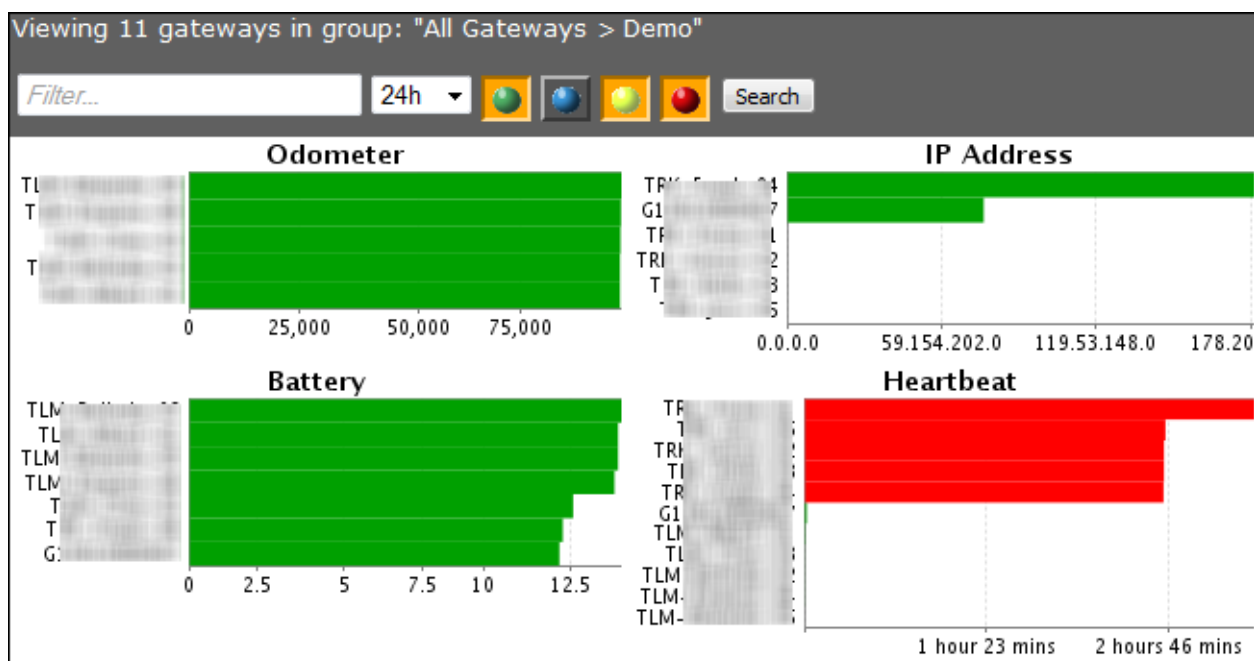


Figure 20 - Graph View

To enlarge a graph, click on the bars within the graph. To return to the multi-graph view, click on **Reset** as shown here:

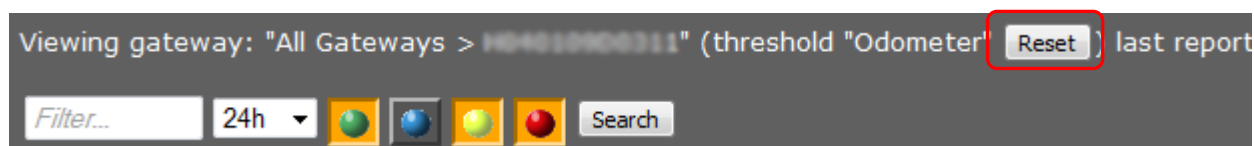


Figure 21 - Clicking Reset to return to multi graph view

Some graphs can provide even greater detail. For further details for a single gateway, click on a bar or data point within the graph. A new browser window/tab will open, displaying the Stats for the gateway.

The image below shows greater detail for *ReportIdleTime* for a single gateway. For more information, see Section 3.4 - *Stats Tab* for more information.

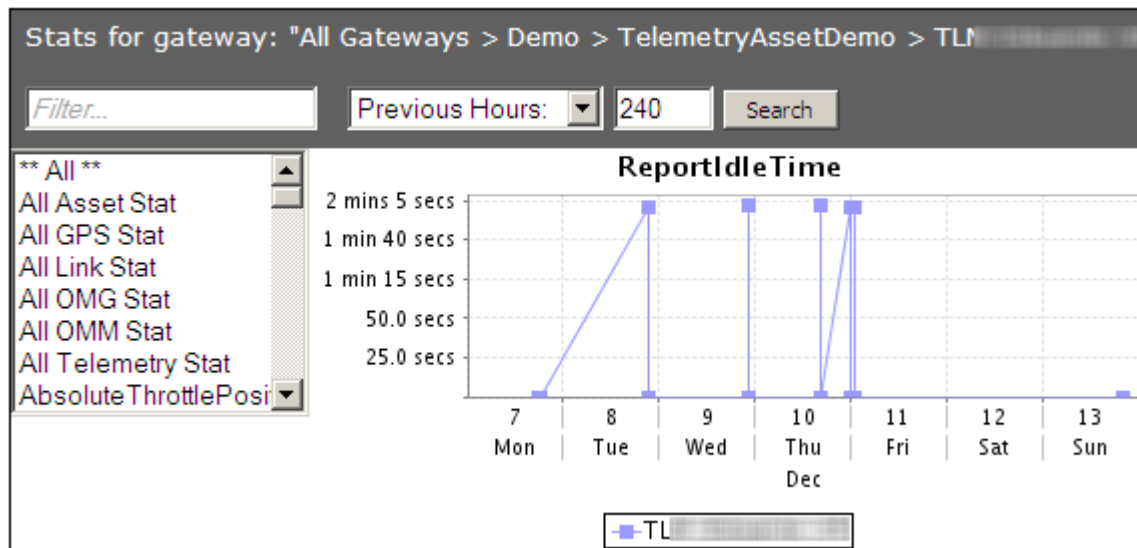


Figure 22 - Stats Tab

**Note:** Readonly distinguishes items that can be modified from those that cannot and is present when a user has Read only privileges (i.e. no Write or edit privileges).

### 3.1.5. Dashboard: Threshold View

The Threshold view provides a summary for each parameter, including:

- totals of each threshold status for the group of gateways selected.
- a minimum value for each parameter for the group of gateways selected.
- a maximum value for each parameter for the group of gateways selected.

This view is beneficial because it provides a quick view of the parameters that are out of a threshold.

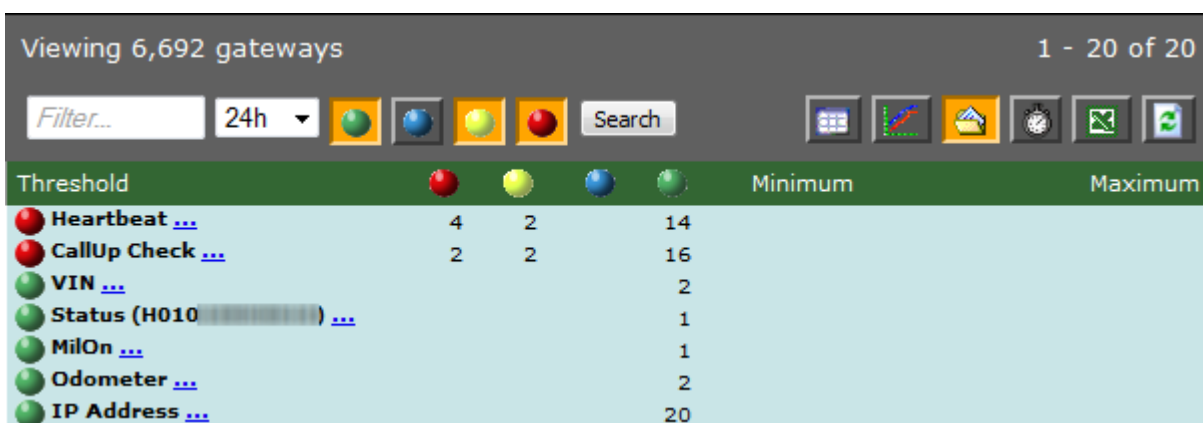


Figure 23 - Values Exceeding Thresholds

To display additional information about the status of the gateways, click on a numeric value in a column.



Threshold					Minimum	Maximum
CallUp Link ...	2	1	5	3		
TRK-...	TRK-				TR-	-02
TRK-...	TLM-I				TLI	e-04 1 hour 42 mins
TLM-...: 45.0 secs	TLM-				G100	

Figure 24 - Additional Threshold Details

To see how a particular parameter is configured, click on the ellipsis (...) beside the parameter name to open the *Edit Threshold* panel. This will open the panel in a new browser window and allow parameter changes to be saved (for more information see Section 3.7.5 - *Thresholds*).

## 3.2. Events Tab

Gateways record a wide variety of information and diagnostics about their usage, and report this information as “events”.

The *Events* tab provides a quick way to view events received by the oMM for a specific time period. For advanced users, this feature is useful for testing or troubleshooting gateways.

Figure 25 - Events tab

To view events:

- select a group, sub-group or individual gateways from the gateway tree.
- enter text in the *Filter* field to help narrow the scope of the search.
- use the time range drop-down box to select the time period for which to display the data. The options are *All*, *Previous Hours*, *Previous Days*, *Previous Months* and *Range*. Enter the numerical information in the corresponding box. The above image shows data from the previous 1 hour. Click on **Search** to call up the data.

The data can be sorted by clicking on the column header.

Click on the Excel icon to export the list of events to Excel.

## 3.3. Map Tab

The *Map* tab provides a geographical view of a fleet using Google Maps. Use the gateway tree to select the group, sub-group or individual gateway to view on the map. Each gateway is shown at a location on the map according to the most recent location data transmitted.

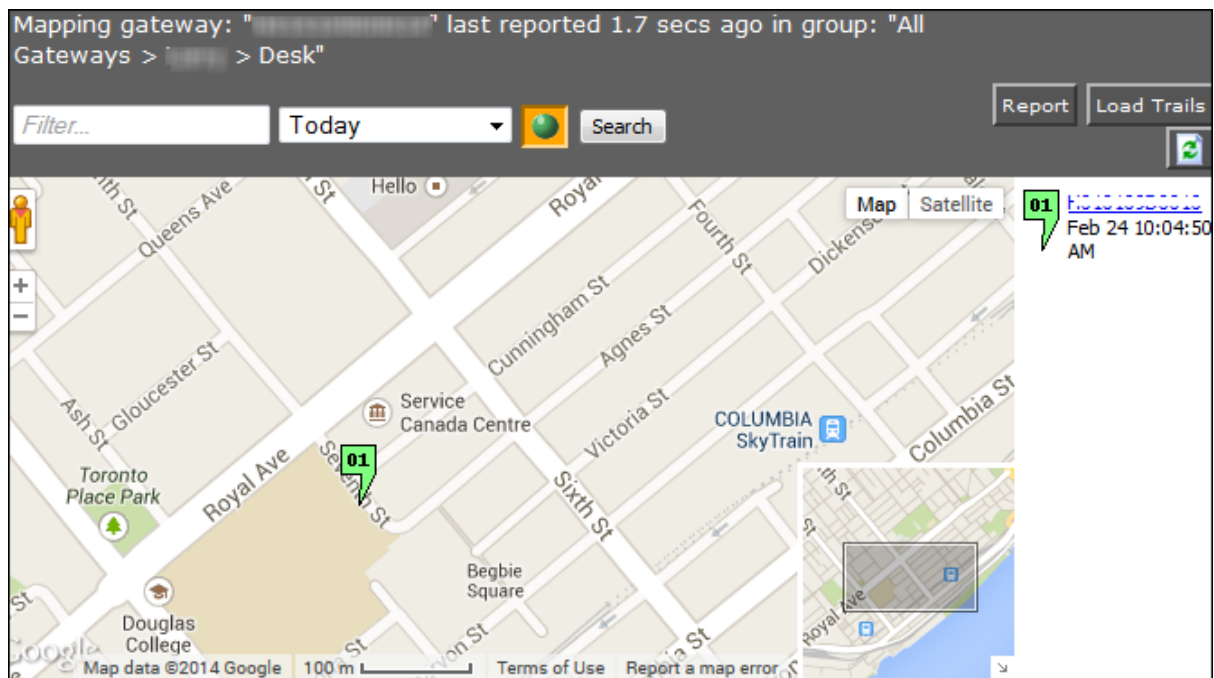


Figure 26 - Map Tab

Gateways are identified using numerical markers, with a list of details by gateway shown to the right of the map. The colour of the marker corresponds to the threshold colour next to the gateway's name/serial number shown in the Dashboard. If a gateway has no issues it will be shown with a green marker, otherwise it will be shown in yellow if it has warnings or red if it has errors. To obtain detailed event information, click on a gateway marker on the map to show the information pop-up:

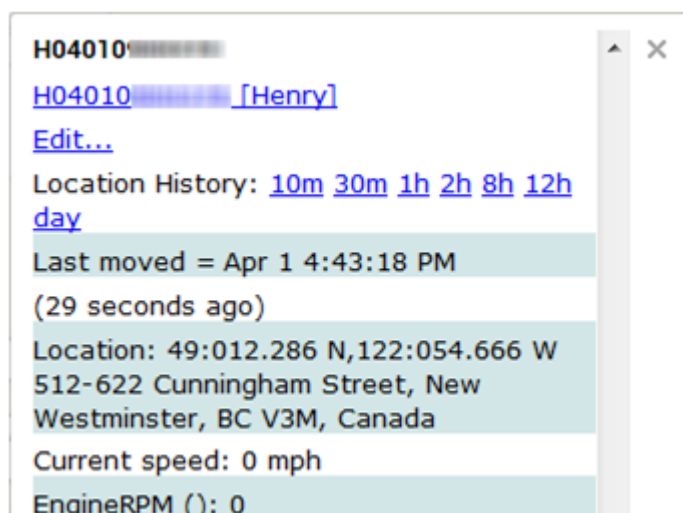


Figure 27 - Gateway Marker Pop-up

The pop-up displays the following primary information:

**Gateway ESN:** the serial number assigned to the oMG.

**Gateway ESN Hyperlink:** when clicked, the map will zoom into the marker and also filter out any other markers. Doing so allows the user to focus solely on the current marker. Note that for informational purposes, the hyperlink text also contains the name of the tree folder (surrounded by “[” and “]” characters) in which the unit is contained (e.g. in the screenshot above, the unit is contained within a folder called “SJ oMGs”).

**Location History:** clicking on one of the time periods draws a path on the map showing where the unit travelled during that time frame in the past (e.g. clicking on *10m* will show where the unit has been travelling for the last 10 minutes). Note that the unit must have been travelling within selected time period. If the unit has been idle (e.g. for the last two days) then clicking on some or all of the time periods will not display a path.

**Last Moved:** the date and time that movement of the vehicle was last detected.

**Location:** the current location of the unit including both the GPS coordinates and address.

**Current Speed:** the current speed of the vehicle.

**EngineRPM:** the current engine speed (RPM).

**Threshold information:** displays the specific threshold name and values which are responsible for the color of the marker (e.g. in the screenshot above, the marker is red due to an idle time of greater than 10 minutes). Therefore the popup displays *ReportIdleTime* along with the value which has exceeded that threshold's error condition.

Click on the gateway name in the list to the right of the map, to center the map for a single gateway.

Click on **Load Trails** to show the path travelled by the vehicle.

Click on **Report** to generate a Gateway Trips report corresponding to the map.

Click on the **Refresh** button to refresh the map.

### 3.3.1. Navigating Within the Map

The oMM uses Google Maps for all map related screens which can be navigated as follows:

- Zoom in or out using the scroll button of your mouse. Hold the mouse pointer over the map location you wish to remain centered.
- Pan in any direction by clicking and holding the left button of your mouse, and dragging the map.
- To zoom using the map controls, use the (+) and (-) icons (shown in Figure 28) to zoom in and out.
- To pan using the map controls, press one of the four arrows in the white circle:



Figure 28 - Google Map Controls



### Additional Controls:

Click on **Map** or **Satellite** to display the respective map detail.

When displaying map level detail, hovering the mouse over *Map* will display a *Terrain* dropdown which when enabled, overlays the map with terrain features:



Figure 29 - Map Level Detail with Terrain Enabled

Note that the Terrain dropdown will only be available when the map isn't zoomed in too far. Also, when the *Terrain* option is enabled, the level to which the map can be zoomed in to, will be limited.

When displaying satellite level detail, hovering the mouse over *Satellite* will display the following two options:

- **45°**: when enabled, displays buildings and other features from a 45° degree, perspective view, at lower (i.e. closer) zoom levels.
- **Labels**: when enabled, displays map labels such as street names.



Figure 30 - Satellite Level Detail with Sub Options Enabled

## 3.3.2. Filtering Gateways

The map view provides a number of options for filtering which gateways are displayed on the map:

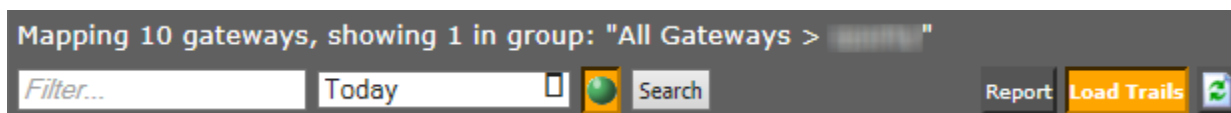


Figure 31 - Map filter fields

**Filter field**: similar to the filter in the gateway tree. Enter part of the name (or other gateway labeling data) in the box to limit the gateways displayed.

**Time dropdown**: a time period can be specified when viewing the map to show where the selected gateways were located within that time period. The location(s) shown are based on when the gateways last reported data over the WAN to the oMM within the specified time period. To specify a time period, select the desired time period from the dropdown, enter the time range (if applicable) and click **Search**.

The following options are available from the dropdown:

- **All:** displays the last known location(s) of the selected gateways.
- **Today:** displays the last known location(s) of the selected gateways for the current day.
- **Last Hours:** displays the last known location(s) of the selected gateways within the last number of specified hours. Selecting this option displays an edit field where the value can be entered.
- **Previous Days:** displays the last known location(s) of the selected gateways within the last number of specified days. Selecting this option displays an edit field where the value can be entered.
- **Previous Months:** displays the last known location(s) of the selected gateways within the last number of specified months. Selecting this option displays an edit field where the value can be entered.
- **Range:** displays the last known location(s) of the selected gateways within the specified date range. Selecting this option displays two edit fields in which the start and end of the range can be specified. Clicking in these fields displays a date chooser widget. Alternatively the date can be manually typed in.

**Nominal Events:** represented by the green circle icon. When selected, shows all gateways, including those operating within threshold limits (green). When de-selected, only gateways in warning (yellow) or error (red) state are visible.

**Search:** when clicked, searches for the selected gateways over the specified time period.

**Report:** displays the *Gateways Trip* report for the selected gateways over the specified time period. For more information see the oMM Reports guide.

**Load Trails:** displays lines showing where the gateways travelled during the specified period.

**Manual Refresh:** refreshes the page to show the latest information.

## 3.4. Stats Tab

The *Stats* tab provides a high level of detail about all aspects of a gateway's operations and is recommended for advanced users only.

The screenshot shows the 'Stats' tab selected in the top navigation bar. The interface includes a sidebar with a tree view of gateway groups, a main header with filters and a refresh button, and a table of statistics for 683 gateways.

**Stats for 683 gateways**

Label ▲	Gateway	Date
<a href="#">AbsoluteLoadValue</a>		Aug 13 3:03:32 PM
<a href="#">AbsoluteLoadValue</a>		Aug 13 5:31:06 AM
<a href="#">AbsoluteLoadValue</a>		Jul 18 10:23:27 AM
<a href="#">AbsoluteLoadValue</a>		Jul 1 11:14:01 AM
<a href="#">AbsoluteLoadValue</a>		Jun 7 2:34:22 AM
<a href="#">AbsoluteLoadValue</a>		May 16 12:56:59 PM
<a href="#">AbsoluteLoadValue</a>		2012/12/10 07:27
<a href="#">AbsoluteLoadValue</a>		2012/12/05 23:41
<a href="#">AbsoluteLoadValue</a>		2012/10/26 10:57
<a href="#">AbsoluteLoadValue</a>		2012/09/10 16:32

Figure 32 - Stats Tab

Parameter (statistic) names are listed in the list view on the left of the screen. Results are displayed for the gateway(s) selected - group, sub-group or single gateway. Double click on items in the list view to filter the corresponding stats (or alternatively, single click an item and then click **Search**). For example, filtering by *All GPS* will display all stats belonging to that type. Filtering by *All* will display each parameter reported.

### 3.4.1. Views

The user may choose from several different views of the data found in the Stats tab:

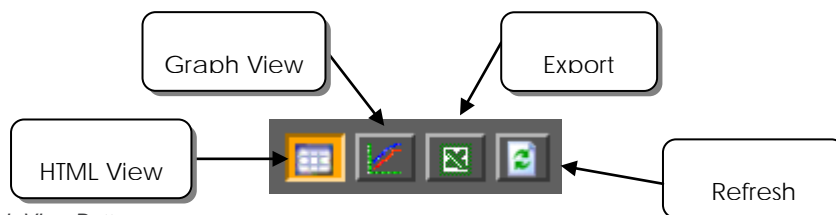


Figure 33 - Stats Tab View Buttons

**HTML:** list of data in columns. Data may be sorted by clicking the column header.

**Graph:** provides a graphical view of the data.

**Export:** export the data to Excel.

**Refresh:** manually refresh the information.

For the default view (HTML), the results are sorted by date, with the most recent at the top of the list. However, data may be sorted by clicking on column headers. In the example below, data is sorted by temperature values, in descending order. This is denoted by the downward pointing triangle. Clicking on the column header a second time will sort the data in ascending order, and the triangle will point upwards.

Date	Gateway	Stat	Value ▾
2009/03/29 02:10:38	A080	Temperature	33.889
2009/03/27 04:19:53	A080	Temperature	31.67
2009/03/28 04:29:54	A080	Temperature	31.67
2009/03/29 04:33:53	A080	Temperature	31.67
2009/03/27 04:16:00	A080	Temperature	31.667
2009/03/28 03:56:48	A080	Temperature	31.667
2009/03/29 03:56:51	A080	Temperature	31.667
2009/03/26 04:32:16	A080	Temperature	28.89

Figure 34 - Data Sorted by Temperature

Use the drop-down box to select the time period for which to display the data. The options are Latest, Previous Hours, Previous Days, Previous Months and Range. Enter the numerical information in the corresponding box. The image below shows the time period for the previous 2 hours. Click on **Search** to call up the data.

Figure 35 - Selecting a Time Period for Data Display

The example below shows a sample of data exported to Excel:

**Table 1 - Sample Excel Data**

Date	Stat	Gateway	Value
3/21/2009 5:05	Link1-TotalrxBytes	H078	740,069
3/19/2009 17:01	Link1-TotalrxBytes	H078	2,050,218

Date	Stat	Gateway	Value
3/19/2009 16:37	Link1-TotalrxBytes	H078	1,996,618
3/19/2009 16:11	Link1-TotalrxBytes	H078	1,937,808
3/19/2009 15:47	Link1-TotalrxBytes	H078	1,878,855
3/19/2009 15:03	Link1-TotalrxBytes	H078	1,803,895
3/19/2009 14:41	Link1-TotalrxBytes	H078	1,752,574
3/19/2009 14:13	Link1-TotalrxBytes	H078	1,700,738

## 3.5. Total Reach Tab

Allows users of the oMM to remotely access one or more devices (e.g. laptops, handhelds, etc.) in an oMG LAN or Vehicle Area Network (VAN) via the oMM.

To use *Total Reach*:

1. Click on the **Total Reach** tab.
2. Select a gateway in the tree.
3. Click on the radio button to the left of the desired device in the list to connect to (see Figure 36 below).
4. Click the button corresponding to the type of connection to use (e.g. VNC):

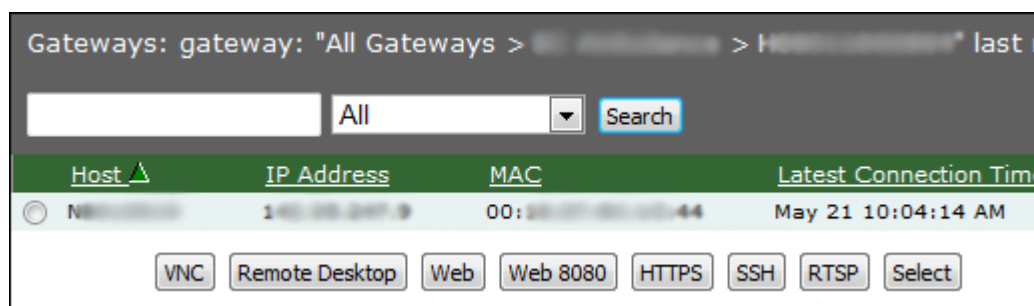


Figure 36 - Total Reach Tab

---

**Note:** to connect to multiple devices, you must select each individually and click the desired connection button for each.

---

Total Reach provides the following methods of remote access:

**VNC:** runs a VNC (Virtual Network Computing) session to connect to a VNC server on a host (e.g. laptop) connecting to an oMG.

**Remote Desktop:** provides access using the RDP protocol. Devices need to have remote desktop enabled.

**Web:** provides access via the browser to web services/interfaces made available by the device on port 80 (e.g. a device configuration screen).

**Web 8080:** provides access via the browser to web services/interfaces made available by the device on (alternate) port 8080.

**HTTPS:** provides secure access via the browser to web services/interfaces made available by the device on port 443

**SSH:** provides a **Java based SSH window for running SSH commands on the device.**

**RTSP:** uses *Real Time Streaming Protocol* to view streaming media. (e.g. if there is a camera hooked up, the video content can be viewed).

**Select:** provides access via the browser to web services/interfaces made available by the device on a particular port. Clicking Select will allow you to first select the port on which to access and then display the available web service/interface.

Note that oMM users must be granted Total Reach privileges by the oMM administrator in order to use Total Reach. Also, additional software (e.g. VNC software) may need to be installed on each device connected to the oMG for which remote access is to be enabled.

For more information see the *onBoard Total Reach User Guide*.

## 3.6. Config Tab

The *Config* tab provides access to the *Tracker*, *Copy*, *Upload*, *Deploy*, *WiFi Security Import/Export*, and *VPN Security Import/Export* panels which are used for managing oMG configuration remotely.

### 3.6.1. Tracker

The *Tracker* panel allows you to inspect and configure the GPS TAIP forwarding groups for the Tracker feature (for more information about Tracker see Section 4.1 - **Tracker**). Using GPS TAIP, gateways can send GPS information at a much higher frequency than via the normal event stream.

**Tracker Config**

Existing Group:  (will reload once selected)

IP Address\*:  (number format only)

Listener Port\*:  (firewall needs to be opened)

Gateway	TAIP Vehicle ID	Message Format	Send Interval	
TRK-Group-001	<input type="text" value="0001"/>	<input type="checkbox"/> LN <input checked="" type="checkbox"/> PV	<input type="text" value="30.0"/>	out of sync
TRK-Group-002	<input type="text" value="0002"/>	<input type="checkbox"/> LN <input checked="" type="checkbox"/> PV	<input type="text" value="30.0"/>	out of sync
TRK-Group-003	<input type="text" value="0003"/>	<input type="checkbox"/> LN <input checked="" type="checkbox"/> PV	<input type="text" value="30.0"/>	out of sync
TRK-Group-005	<input type="text" value="0005"/>	<input type="checkbox"/> LN <input checked="" type="checkbox"/> PV	<input type="text" value="30.0"/>	out of sync
Add: Group: 1 Ma <input type="button" value="Filter"/> ( gateway: "New-Template")	<input type="text"/>	<input type="checkbox"/> LN <input type="checkbox"/> PV	<input type="text"/>	out of sync

Figure 37 - Tracker Panel

### Tracker configuration fields

- **Existing Group:** displays the names of the gateway groups to configure TAIP for. The name consists of the IP address and listener port followed by the number of gateways (in brackets) within that group.
- **IP Address & Listener Port:** the IP address and port where you want to send the TAIP data (i.e. the address of the oMM and port that has been opened in the firewall).

Below the main configuration options, the following fields are presented for the list of gateways which are part of the group:

- **Gateway:** the name of the gateway.
- **TAIP Vehicle ID:** a 4-digit number used to identify the gateway within the group. Numbers must be manually entered and failure to do so will show "Duplicate" beside blank TAIP Vehicle ID fields.
- **Message Format:** the type of TAIP response message format to use – LN or PV.



- **Send Interval:** the frequency (in seconds) at which to send messages. Note: "Out of sync" will be displayed if the gateway is using a different configuration than that defined on the oMM.

### Adding a group:

Select **\*\* New \*\*** from the Existing Group dropdown, enter an IP address and port. Click **Apply** to create the group.

To add a gateway to the group, select a gateway from the Gateway Tree and click **Apply**. Note: individual gateways cannot currently be removed from the group.

To find a specific gateway to add, click **Filter** and enter a search string to filter by. A drop down will appear with gateways matching that filter:

Figure 38 - Filtering by Gateway

To further refine the search, enter values for one or more of the following fields which correspond to the information stored for gateways (Note: the search will be invoked after clicking on another field):

- **Version pattern:** filters on version numbering information (e.g. r3)
- **Name pattern:** filters on the gateway names and ESNs
- **Customer, Contact, Location:** filters on customer name, contact information, or location
- **Notes:** filters on the notes entered for the gateways
- **Reporting Within:** filters on those gateways which have reported within the specified number of days
- **Matching vehicles:** shows the gateways found as a result of the filter. From this list a gateway can then be selected.

To delete a group, click **Delete** and then click **OK** on the confirmation popup.

## 3.6.2. Copy

The *Copy* panel is used to copy the configuration file from an oMG to be used as a *template* for other oMGs.

Figure 39 - Copy Panel

### Copying the oMG configuration file:

- **Source\***: the oMG from which the configuration files are being copied.
- **Copy config to\***: the oMG to which the files are to be copied to. Enter the oMG's ESN, alias or locate it in the *Gateway Tree*.

---

*Note:* users can enter more than one oMG in this field for mass configuration.

---

- **Configuration Files** options:
  - **All files**: enabled by default, this will display all files with a checkmark beside each. Clicking *Copy* will therefore copy all files to the oMG.
  - To copy specific files from the source oMG, uncheck **All Files** to deselect all files and place a checkmark beside each file to copy:

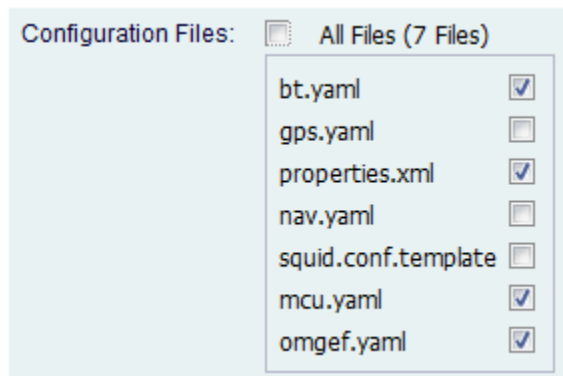


Figure 40 - Selecting configuration files to copy

- **Skip version check**: by default, configuration files can only be copied to oMGs running the same software version. Version check therefore verifies that both the source and destination gateways have the same software version and ensures compatible configuration files. To override this restriction, enable this option.
- **Copy**: click to copy the file(s); this opens the *Deploy* panel.

---

*Note:* this panel is also available by locating the source oMG in the *Gateway Tree*, right-clicking on it and selecting **Copy Configuration**.

---

\* denotes a required field

## 3.6.3. Upload

The *Upload* tab is used to apply saved configuration file(s) to the oMGs.

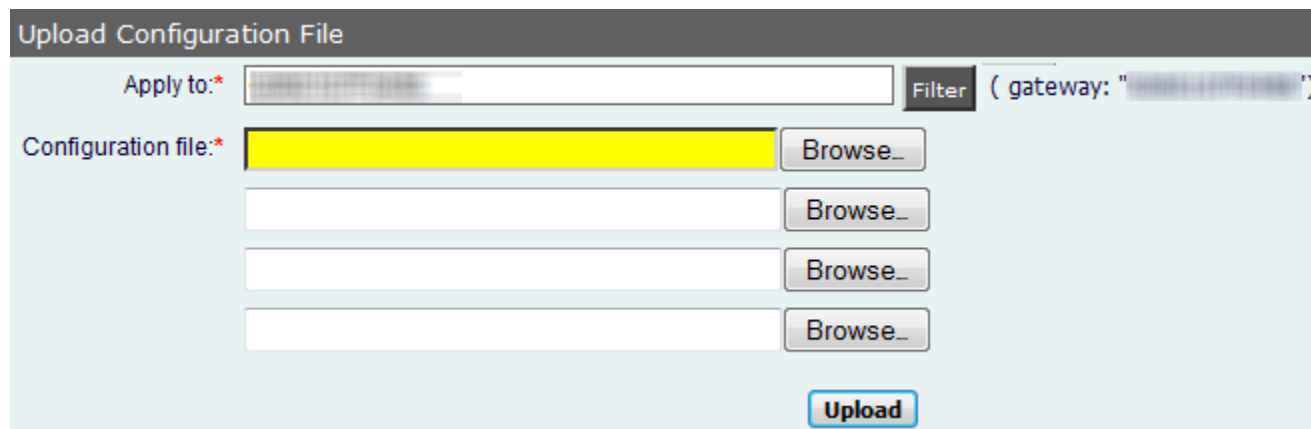


Figure 41 - Upload Tab

Uploading the configuration file:

- **Apply to\***: the oMG to which the file(s) will be copied to. Enter the oMG's ESN or alias, or locate it in the Gateway Tree.
- **Configuration file\***: click on **Browse** to locate the appropriate file(s) to copy. Up to four files can be uploaded at a time, by locating a file for each of the four Configuration File fields provided.
- Click on **Upload** to upload the file.

### 3.6.4. Deploy

The *Deploy* panel aids administrators during mass configuration deployment of their oMGs. The deploy feature maintains current oMG configurations and stores them on the oMM. This allows administrators to easily copy configurations from one oMG to another, to a group of oMGs or to an entire fleet.

Deploying Configuration for 3 gateways, showing 3 (next sync is at 11:00 AM)

Filter...

All

Search revision comments

Search file contents

<input type="checkbox"/>	Gateway	Files	Remote enabled	Modify Time	State	Heartbeat	Software Version
<input type="checkbox"/>	<a href="#">Bob's Truck - Rev 7</a>	33 Files...	true	Jun 9 9:49:05 AM	<a href="#">In sync</a>	1 sec	3.8.0-20130515.1
<input type="checkbox"/>	<a href="#">P5</a>	23 Files...	true	Apr 23 3:27:24 PM	<a href="#">In sync</a>	1 sec	3.7.3.8-20130404.1
<input type="checkbox"/>	<a href="#">Unit 006</a>	24 Files...	true	Apr 12 8:24:52 AM	<a href="#">In sync</a>	1 sec	3.7.3.8-20130404.1

Revert

Force

Apply

Hold

Copy

Upload

Figure 42 - Deploy Panel

The list of oMGs displayed can be filtered by using the following filter fields:

- **Filter edit box**: filters the list on part or all of an oMG name.
- **Range dropdown**: can be used to select a date/time range of previous deployments to filter on. Selecting an option from the dropdown will display a field where the range can be input.
- **Search revision comments**: filters the list to include only those units which participated in a deployment where the specified comment was attached. Revision comments are used for identifying units which participate in PSK rotations (see Section 3.6.5.2 - *Deploying PSK Rotation through the oMM for more information*).
- **Search file contents**: filters the list based on the contents of script files. This is useful for filtering on script content where specific changes (e.g. additions) have been made and uploaded to oMGs.

Information is provided in five columns:

- **Gateway**: lists the oMGs connected to the oMM. The list is based on those oMGs which are organized under the folder (and its subfolders) currently selected in the Gateway tree.
- **# of Files**: indicates the number of configured files.
- **Files**: when clicked, displays links to the individual files, each of which can be clicked on to edit the content.
- **Remote Enabled**: indicates if the oMG is accessible remotely to verify if a deploy action was performed.
  - *True* = Yes, an action was performed
  - *False* = No action was performed
- **Modify Time**: the date and time when the oMG's configuration was last modified.
- **State**: using green, yellow and red circle icons, this information allows administrators to see the state of each oMG's configuration:
  - **In sync**: the configuration is synchronized with the oMM.
  - **Awaiting rollback**: the configuration is waiting to be rolled back from that on the oMM.
  - **Awaiting rollforward**: the configuration is waiting to be rolled forward to that on the oMM.

- **Conflict:** the config on the oMM and on the oMG have both been modified. To manually resolve this, choose the desired configuration to use, and overwrite the other configuration with it.
- **Software Version:** the current software version of the gateway listed.

There are seven functions for deployment:

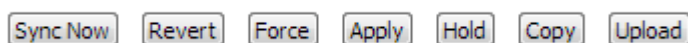


Figure 43 - The Seven Deployment Function Buttons

- **Sync Now:** use this function to force synchronization between the oMG and the oMM. Always ensure that the configuration is in sync before making any changes to configuration files or pushing a new configuration to the oMG. Note: this button is only available when a single oMG is selected. To select a single oMG click on an oMG's gateway link in the Deploy list, or select the oMG in the Gateway Tree.
- **Revert:** pulls the oMG copy of the configuration into the oMM regardless of the Sync State.
- **Force:** pushes the oMM copy of the configuration out to the oMG regardless of the Sync State.
- **Apply:** applies changes made on the oMM to the oMG.
- **Hold:** cancels all changes pending synchronization.
- **Copy:** copies configuration files from one oMG to another or to a group of oMGs.
- **Upload:** applies configuration files that have been previously backed up to a PC.

### 3.6.5. WAN WiFi Security and VPN Security

In order to minimize intrusion opportunities when using pre-shared keys, it's common for fleet operators to change or "rotate" login credentials on a regular basis. oMM 2.9 and above in combination with oMG 3.8 and above, support the "rotation" of PSK credentials for WiFi WAN access points and for VPNs.

WiFi PSK rotation works by switching between access point profiles, each of which contains different PSK credentials. VPN PSK rotation works by switching between the primary and secondary PSK credentials defined for the VPN at the specified activation dates.

The *WiFi Security* and *VPN Security* menus under the *Config* tab allow fleet operators to easily deploy PSK rotation changes to a fleet of configured oMG's.

---

*Note:*      *WEP encryption is not supported for credential rotation.*

---

oMM 2.11 and above also includes WLAN export which allows fleet operators to provision LAN access point configurations and perform PSK rotation for WLAN's.

#### 3.6.5.1. oMG PSK Rotation Requirements

In order to use PSK rotation deployment on the oMM, the fleet's oMG's must already be configured with PSK rotation information:

- For WiFi WAN PSK rotation, at least two WiFi access point profiles need to exist on the oMG's for which rotation is to be used, and those profiles must be assigned to at least one WAN link.
- For VPN PSK credential rotation, the VPN's primary and secondary auth ID's, pre-shared keys, and activation dates need to be configured on the oMG's for which rotation is to be used.

These items are configured by accessing the oMG's LCI screen. For more information see the oMG Operation and Configuration Guide.

#### 3.6.5.2. Deploying PSK Rotation through the oMM

Rotation deployment is accomplished by exporting the configuration of one or more oMG's to a CSV file, modifying the settings in that CSV file using third party spreadsheet software (e.g. Microsoft

Excel), re-importing the CSV file back into the oMM and deploying the settings to the fleet of oMG's. Information about the CSV file is available below in Section 3.6.5.3 - *CSV File Information*.

The detailed steps to accomplish this PSK rotation deployment are as follows:

1. Select the oMGs in the Gateway Tree whose credentials are to be updated.
2. Navigate to **Config->WAN WiFi Security->Export**, **Config->VPN Security->Export** or **Config->WLAN WiFi Settings->Export** to access the export screen for the respective PSK credentials.
3. Click **Export** and then save the CSV file when prompted.
4. Modify the credentials in the CSV file using spreadsheet software and then save the CSV. For information about the CSV file format and requirements see Section 3.6.5.3 - *CSV File Information* below.
5. Navigate to **Config->WiFi Security->Import**, **Config->VPN Security->Import** or **Config->WLAN WiFi Settings Security->Import** to access the import screen for the respective PSK credentials.
6. Click **Browse**, locate the modified CSV file and click **Import**. The credentials will be imported to the oMM and checked for any errors which will be displayed. If no errors were found, proceed to the next step.

---

*Note:* configuration settings will be deployed to all oMG's which are both selected in the Gateway Tree and are listed in the CSV file. Be sure to verify which oMG's will be updated before moving onto the next step, by checking that each oMG listed in the CSV is also selected in the Gateway Tree.

---

7. Enter a descriptive comment in the *Deploy Comment* field if desired. Attaching a comment to a deployment allows for gateways participating in deployments to be easily identified on the *Config->Deploy* page via the *Search revision comments* field (as described in Section 3.6.4).
8. Click **Show Gateways** (optional) to show the gateways that will be affected by the import operation.
9. Click **Deploy Configuration**. The configuration deployment screen will be shown and all units targeted for deployment will transition to a *File generating* state and then a *File pending* state.
10. Click **Apply** to perform the deployment. Once the sync cycle completes the state will change to *In Sync* for each affected oMG, assuming that the oMG is online during the sync cycle.

When exporting a long PSK containing all numerics (e.g. 776677667766776677667766776677) using Excel 2010, Excel will automatically convert the value to the "General" format (e.g., "7.76678E+25"). When saving back to csv, the value will be saved as "7.76678E+25" instead of the original number.

To properly edit a file with these kinds of values you must use a text editor. This ensures that the PSK values remain in their proper numeric format.

Once PSK rotation has been successfully deployed, each affected oMG will automatically "rotate" WiFi access points and/or log into a VPN using the appropriate credentials as described at the start of this section.

### 3.6.5.3. CSV File Information

The content of the CSV files includes a number of comments at the start of the file each of which is preceded by a "#" character to denote that it's a comment. The comments provide hints and information about how the files should be modified/edited. This is followed by one "header row" containing the column names, and then one or more rows of data as specified below.

#### 3.6.5.3.1. WAN CSV

The WAN WiFi CSV file contains the following information:

**ESN:** the ESN of the oMG for which the settings apply to/should be applied to.

**WiFiNetworkName:** the name of the WiFi access point profile that the settings are for.

**SSID:** the SSID of the access point.

**PSKKey:** the PSK passphrase for the access point.

**PSK:** the pre-shared key for the access point.

The following is a sample of a .CSV file for WIFI configuration:

# This CSV file contains a header line followed by the data lines representing the selected ESNs and their WIFI configuration.				
# The header line identifies the fields that are needed to configure the WIFI networks for an ESN.				
# For Import to work: the header must be complete and match the data lines that follow.				
# Each line must have the ESN followed by one or more WIFI networks.				
# Each WIFI network is defined by a set of fields: WiFiNetworkName SSID PSKKey PSK				
# You should only update the PSK field. If any other field is modified: Import will not work.				
# The fields in a WIFI network must be positioned in the exact order without any additional field in the set.				
#				
ESN	WiFiNetworkName	SSID	PSKKey	PSK
H111111 G0021	Test-WPA2-PSK-AES(N)	Test-WPA2- PSK-AES(N)	mypassphrase	zzbbffddeeff112233445566ff
H111111 G0765	Test-WPA2-PSK-AES(N)	Test-WPA2- PSK-AES(N)	mypassphrase	aabbffddeeff112233445566ff

The following rules must be adhered to when modifying and deploying WAN WiFi CSV files:

- There must be one "header row" containing a contiguous set of columns with the following names: ESN, WiFiNetworkName, SSID, PSKKey, PSK.
- A valid value for each column must be specified for each data row.
- Each ESN specified must be for a valid oMG connected to the oMM.
- Each selected oMG must have a corresponding row in the CSV.
- The configuration of each selected oMG must be in sync with the configuration on the oMM.
- Each WiFiNetworkName value in the CSV must be unique (i.e. different configurations for the same WiFiNetworkName are forbidden).
- Duplicate rows (i.e. rows with same values for each column) are forbidden. However, if duplicate rows are found, the last instance will be used.
- The PSKKey value must contain a hex or passphrase and must match that configured on the specified oMG. Note that this value is automatically derived based on the PSK entered on the oMG.
- The PSK must be either a hexadecimal value 64 bytes in length, or between 8 and 63 ASCII characters in length depending on the value of PSKKey.
- The PSKKey, and SSID must match those configured for the specified WiFi access point profiles on the specified oMG(s).
- Each oMG must be remotely configurable.
- Each WiFiNetworkName listed in the CSV must be configured as an access point profile for the specified oMG. Likewise, each access point profile configured on each oMG must be listed in the CSV.

### 3.6.5.3.2. VPN CSV

The VPN CSV contains the following information:

**ESN:** the ESN of the oMG for which the settings apply to/should be applied to.

**VPNTunnelName:** the friendly name of the IPSec VPN profile.

**AuthID\_1:** the primary Auth ID value for the VPN profile.

**Password\_1:** the primary authorization password for the VPN profile.



**ActivationTime\_1:** the activation date/time for the primary authorization credentials. The validation time must be in format of YYYY-MM-DD-Thh:mmzone (e.g. 2013-07-25T03:00Z).

**AuthID\_2:** the secondary Auth ID value for the VPN profile.

**Password\_2:** the secondary authorization password for the VPN profile.

**ActivationTime\_2:** the activation date/time for the secondary authorization credentials. The validation time must be in format of YYYY-MM-DD-Thh:mmzone (e.g. 2013-07-25T03:00Z).

The following is a sample of a .CSV file for VPN configuration:

# This CSV file contains a header line followed by the data lines representing the selected ESNs and their VPN configuration.							
# The header line identifies the fields that are needed to configure the VPN for an ESN.							
# For Import to work: the header must be complete and match the data lines that follow.							
# Each line must have the ESN followed by one or more VPNs.							
# Each VPN is defined by a set of fields: VPNTunnelName AuthID_1 Password_1 ActivationTime_1 AuthID_2 Password_2 ActivationTime_2							
# You should only update the password and/or the activation time fields. If any other field is modified: Import will not work.							
# ActivationTime_1 and ActivationTime_2 are optional fields: can be left blank.							
# The fields in a VPN must be positioned in the exact order without any additional field in the set.							
# If the VPN does not have a secondary pre-shared key: you can leave these fields blank: AuthID_2 Password_2 ActivationTime_2							
# For import to work: the above 3 fields must be all blank (or all populated).							
ESN	VPNTunnelName	AuthID_1	Password_1	ActivationTime_1	AuthID_2	Password_2	ActivationTime_2
H111111G3111	testvpn	\$IP	1234567	2013-12-12T09:32Z	\$IP2	1234567	2013-12-13T09:32Z

The following rules must be adhered to when modifying and deploying VPN CSV files:

- There must be one "header row" containing a contiguous set of columns with the following names: ESN, VPNTunnelName, AuthID1, Password1, ActivationTime1, AuthID2, Password2, ActivationTime2.
- Each oMG must be remotely configurable.
- Each selected oMG must have a corresponding row in the CSV.
- Each tunnel name must be configured on each selected oMG.
- Each configuration field must be configured on the selected oMGs.
- Values in the CSV (e.g. AuthID's) must be present and must match those on the selected oMGs.
- Tunnel names must be unique.
- Each selected oMG must be in sync with the oMM.
- Each VPN profile must exist on the selected oMGs, and each VPN profile from each selected oMG must be in the CSV.
- The validation times must be in format of YYYY-MM-DD-Thh:mmzone (e.g. 2013-07-25T03:00Z).
- Duplicate rows (i.e. rows with same values for each column) are forbidden. However, if duplicate rows are found, the last instance will be used.

### 3.6.5.3.3. WLAN CSV

The WLAN WiFi CSV contains the following information. Note that the information (excluding the ESN) is store both for the physical WLAN and the three virtual BSSID's.

**ESN:** the ESN of the oMG for which the settings apply to/should be applied to. Note: this field cannot be changed via the .csv file.

**WLANDeviceName:** the friendly name of the WLAN profile. Note: this field cannot be changed via the .csv file.

**Channel:** the WiFi channel (i.e. centre frequency) within the spectrum to be used.

**NetworkType:** the version of the 802.11 protocol to be used by this access point (either 802.11b/g or 802.11n).

**Mimo:** if set to "y", multiple WAN antennas are enabled for Multiple Input Multiple Output (MIMO) operation. If set to "n", MIMO is disabled.

**SecondaryChannel:** the channel which is combined with the primary channel to provide a 40 MHz channel instead of a 20 MHz channel.

**LanSegment\_x:** the name of the LAN segment assigned to the access point.

**IsAutoSSID\_x:** if set to "y", the SSID (Service Set Identifier) field for the WLAN has been auto generated by the oMG. If set to "n", the SSID was manually entered.

**SSID\_x:** the SSID. Can be auto generated or manually entered as indicated by *IsAutoSSID* above. Note: this field cannot be changed via the .csv file.

**IsBroadcastSSID\_x:** if set to "y", the WiFi device broadcasts its SSID. If set to "n", the SSID is not broadcasted.

**EnableWMM\_x:** if set to "y", support for WMM (Wireless MultiMedia extensions) has been enabled for the device. If set to "n", WMM has not be enabled.

**Encryption\_x:** specifies the type of encryption used by the access point.

---

*Note:* depending on the encryption selected, additional fields will be included specific to that encryption type.

---

For more information on WLAN settings see the *oMG Operations and Configuration Guide*.

The following are example fields of a .CSV file for WLAN configuration. Note that the large number of encryption specific parameters which normally follow the *Encryption* column have been left out due to space constraints:

- **ESN:** G100108B0111
- **WLANDeviceName:** Atheros WLM54AG @ mini-PCI Slot
- **Channel:** 11
- **NetworkType:** 802.11b/g
- **Mimo:** n
- **SecondaryChannel:** none
- **LanSegment\_1:** y
- **IsAutoSSID\_1:** y
- **SSID\_1:** \$ESN
- **IsBroadcastSSID\_1:** y
- **EnableWMM\_1:** n
- **Encryption\_1:** WPA/CCMP

The following rules must be adhered to when modifying and deploying VPN CSV files:

- There must be one "header row" containing a contiguous set of column names.
- Each oMG must be remotely configurable.
- Each selected oMG must have a corresponding row in the CSV.
- Each configuration field must be configured on the selected oMGs.
- Values in the CSV must be present and must match those on the selected oMGs.
- Each selected oMG must be in sync with the oMM.
- Duplicate rows (i.e. rows with same values for each column) are forbidden. However, if duplicate rows are found, the last instance will be used.

## 3.7. Admin Tab

The *Admin* tab provides users with admin privileges to access to a number of administrative panels.



### 3.7.1. Gateways

The *Gateways* panel is used to add, modify and delete gateways.

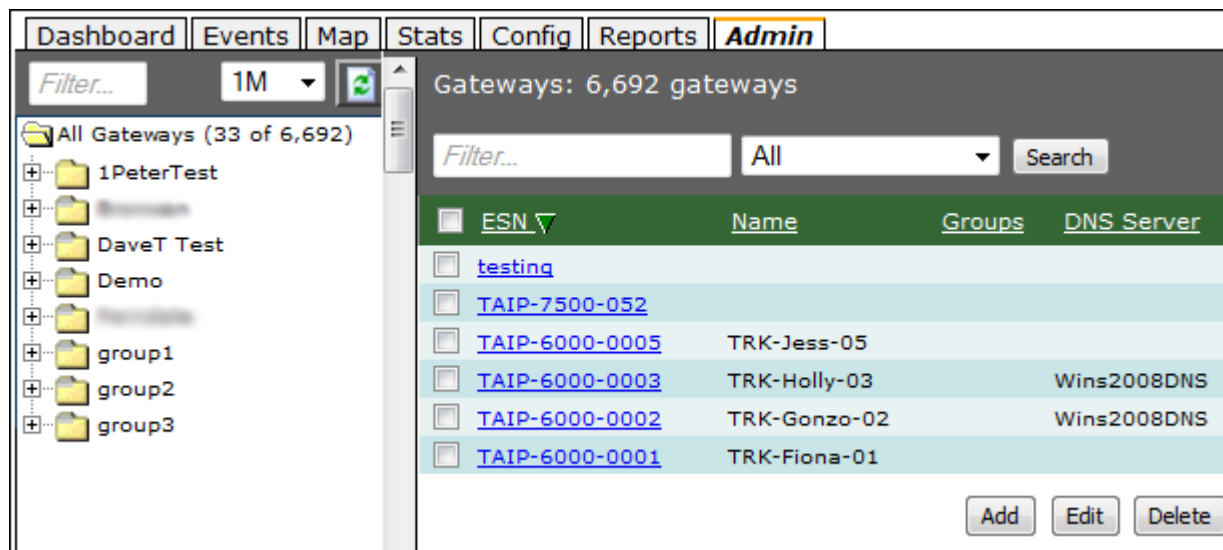


Figure 44 - Gateways Tab

#### Adding a new gateway

Click on **Add** to open the *Add or Edit Gateway* panel.

#### Enter the following fields:

- **ESN\***: electronic serial number (used to uniquely identify the gateway).
- **Name**: enter the name or alias for the gateway.
- **Group**: use the drop-down menu to select the group to which the gateway will belong.
- **Update DNS Servers**: use the drop-down menu to select the DNS server to which updates will be sent. Note: before a DNS server can be assigned to a gateway, it must first be created. See Section 3.7.10.
- **Hostname**: use the drop-down menu to select the hostname to be updated when the oMG reports a change in the current active link. There are three options:
  - **Use Text-->**: enter the hostname in the input field.
  - **Use ESN**: select to use the gateway's ESN name. The input field will remain empty when selected. After the new gateway is saved, the *Hostname* selection is changed to **Use Text** and the input field is populated with the Gateway ESN name.
  - **Use Name**: the default option. This option uses the Name field (alias) as the hostname. The input field remains empty when selected. After the new gateway is saved, the *Hostname* selection is changed to **Use Text** and the input field is populated with the *Name* used for the gateway. *Do not use this option if no alias was given.*

Click on **+** to add additional DNS servers and **-** to remove them.

- **Customer**: enter the customer information for the gateway.
- **Location**: enter the location information for the gateway.
- **Contact**: enter the contact information for the gateway.
- **Notes**: enter additional information regarding the gateway. This can be used to segment a fleet. For example, when using search filters, entering "Laptop equipped" or "Winter Tires" will only display vehicles equipped with laptops or winter tires.
- **Icon URLs**: leave empty - reserved for future use.

Click **Save** to create the new gateway.

### Deleting a Gateway

Gateways can be deleted by clicking in the checkbox next to the gateway label and then on **Delete**.

### Editing a Gateway

To edit an existing gateway, click on its gateway link in the Label column to open the *Editing* panel (or click on **Edit**). Gateways can be moved from one group to another from this panel.

\* denotes a required field

---

*Note:* administrators can add gateways before they go online. When a gateway boots up, the oMM matches it based on the ESN. Thus, administrators can pre-assign gateways to a fleet and configure additional properties.

---

## 3.7.2. Users

The *Users* panel is used to add, modify and delete user IDs for the oMM and is available only to customers who own an oMM appliance.

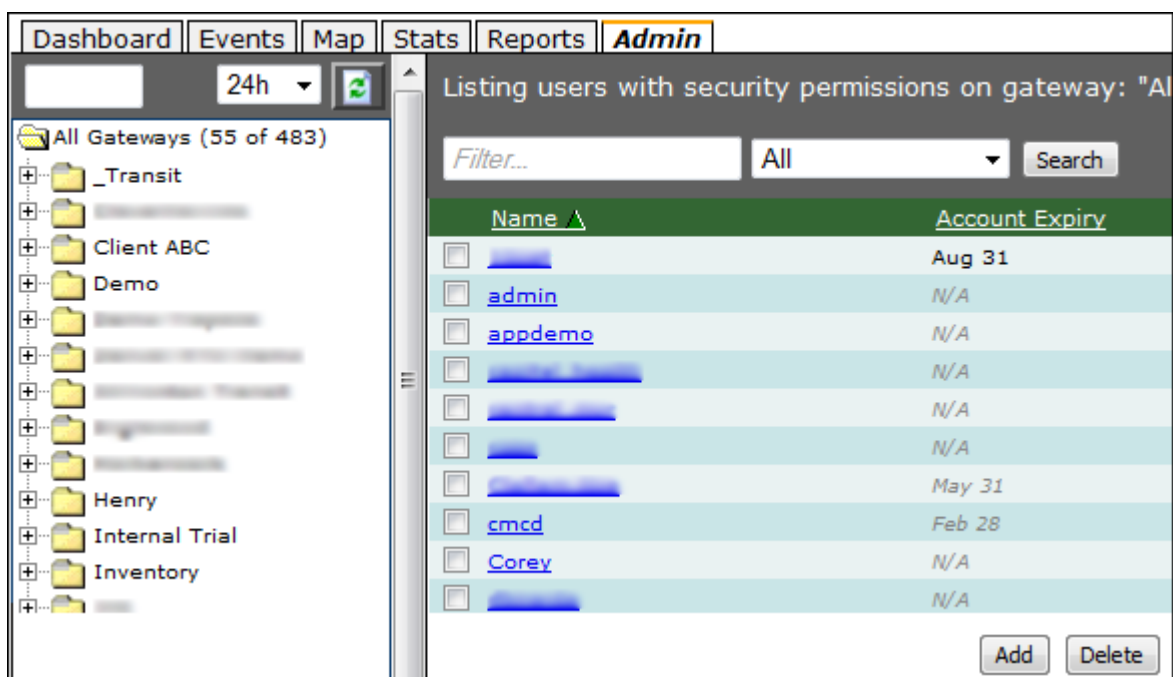


Figure 45 - Users Panel

**Adding new USER** [Show Advanced Config](#)

---

**Identification**

Name:\*

Customer group: **\*\* All \*\***

Password:  Confirm:

Expiry:

---

**Privileges**

OMM: ☐ None ☐ Read ☒ **Read/Write**

Tabs: ☒ All

Reports: ☐ All

Available Items (59)

**Network**

- Network/Multinetwork Summary
- Network/Availability at Speed
- Network/Link Up versus Speed
- Network/Network Boottime

Selected Items (9)

- Network/Availability Trend
- Network/Availability Details
- Network/Coverage Map
- Network/Coverage Trails
- Network/Link Utilization

Stats: ☒ All

---

**Preferences**

Measurement units:\* ☒ **Imperial** ☐ Metric (for number and unit formatting)

Position Format:\* ☒ **Decimal Degrees** ☐ Degrees:Minutes.DecimalMinutes

☐ Format XLS output values same as HTML

Dashboard timespan: **24 hours**

Tracker refresh:\* **30** (s)

Dashboard refresh:\* **30** (s)

Oldest report:\* **90** (days)

Max concurrent logins:  (blank for no restriction)

Restricted IP:  (a.b.c.d)

Max threshold emails/day:

Nav Stop List: **Creation Time Ascending**

Time Zone: **Server TimeZone**

Dashboard Items: ☒ Use applicable thresholds in default order

Telemetry Dashboard: ☒ Use applicable telemetry stats in default order

**Save** **Cancel**

Figure 46 - New User Screen

**Adding a new user:**

- Click on **Add** to open the *Adding new user* panel.
- Enter the user options. For a description of each field see *Preferences* in Section 2.4.
- Click **Save** to save the new user.

**3.7.3. Stats**

A *stat* defines a parameter value collected by the oMM. The *Stats* panel is used to add, delete, and modify the many parameters that are monitored and tracked by the oMM.



Tracker | Stats | Total Reach | Assets | Config | Reports | Nav | Telemetry | **Admin**

**Adding a Stat**

Label:\*

Unit:\*

Delete after:\*  days (0 to keep forever)

**Save** **Cancel**

Figure 47 - Adding a Stat

**Do not modify these parameters unless under direct consultation with Sierra Wireless personnel.**

### 3.7.4. Groups

A *group* is a named collection of gateways which allows for groups of gateways to be managed throughout the oMM. Groups of gateways are shown in the oMM's *Gateway Tree*:

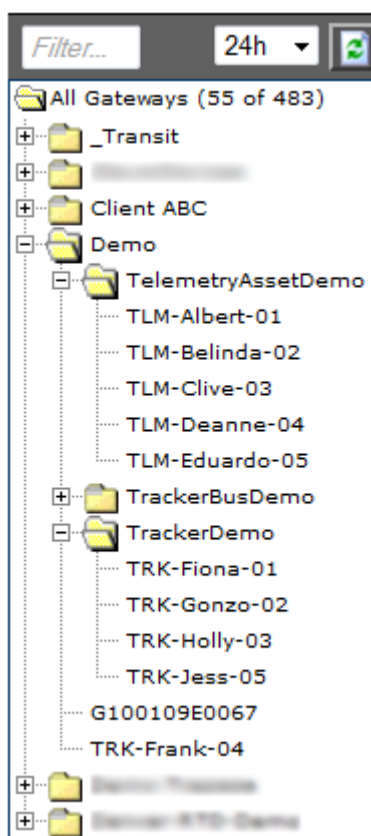


Figure 48 - Groups in the Gateway Tree

Groups can also be organized under other groups to form a hierarchical organization of gateways.

**Adding a new Group:**

The screenshot shows a web interface for adding a new group. At the top is a navigation bar with tabs: Tracker, Stats, Total Reach, Assets, Config, Reports, Nav, Telemetry, and Admin (highlighted in orange). Below the navigation bar is a form titled "Adding a new Group:". The form contains the following fields:

- Name:** A text input field with a yellow background.
- Parent group:** A dropdown menu showing "\*\* All \*\*".
- Group authentication:** A section with a title bar. Inside, there is a label "Authentication type:" followed by two radio buttons. The first radio button is selected and labeled "Local". The second radio button is labeled "LDAP".

At the bottom right of the form are two buttons: "Save" and "Cancel".

Figure 49 - Group Administration Screen

Click on **Add** to open the *Add a Group* panel and set the following fields:

- **Name:** enter a descriptive name for the Group in the Name field.
- **Parent Group** (optional): select a Group from the Parent group dropdown to make the new group a child of that parent.
- **Authentication Type:** select the authentication type for user login:
  - **Local authentication:** uses passwords defined on the oMM.
  - **LDAP:** uses an authentication server for LDAP authentication. When selected, the following fields are available:

**Server Address:** specifies the URL of the LDAP server (e.g. ldap://yourcompany.com) which will be used for authentication.

**Search Base:** the distinguished name of the search base object which defines the directory location to begin the LDAP search.

**Domain:** identifies the domain to which the user belongs.

When selected, any users which are assigned to the group will have the option to select remote authentication to use this LDAP authentication configuration (see *Remote Authentication* in section *Section 2.4*);

### 3.7.5. Thresholds

The *Thresholds* panel allows users to specify threshold settings that can be applied to one or multiple gateways. A threshold is configured for a Stat (e.g. a battery voltage level) and triggers an event when the threshold criteria is met. Thresholds can be created without warning or error conditions. Once created a threshold is available for display on the *Dashboard*.

Listing thresholds 3 gateways in group: "All Gateways > Test"

Filter... Search

Label ^	Node or Group	Warning Criteria	Error Criteria
<input type="checkbox"/> <a href="#">active link ip</a>	CCCCCCCCC		
<input type="checkbox"/> <a href="#">AirFlowRate</a>	N/A		
<input type="checkbox"/> <a href="#">AlertHB</a>	N/A	greater than 1 min	
<input type="checkbox"/> <a href="#">Ambient Air Temp</a>	N/A		
<input type="checkbox"/> <a href="#">AssetTemp</a>	N/A	greater than 85.0F	
<input type="checkbox"/> <a href="#">Base Version</a>	CCCCCCCCC		
<input type="checkbox"/> <a href="#">Base Version</a>	N/A		
<input type="checkbox"/> <a href="#">Battery-test</a>	N/A	less than 15.5	
<input type="checkbox"/> <a href="#">bug3133</a>	CCCCCCCCC	matches text 192\,168	
<input type="checkbox"/> <a href="#">CalculatedLoadValue</a>	N/A		
<input type="checkbox"/> <a href="#">CallUp Check</a>	N/A	less than 30 mins	less than 5 mins
<input type="checkbox"/> <a href="#">DistanceSinceMilOn</a>	N/A		
<input type="checkbox"/> <a href="#">Engine Coolant</a>	N/A		
<input type="checkbox"/> <a href="#">FuelRailPressureGauge</a>	N/A		
<input type="checkbox"/> <a href="#">Garmin Trouble</a>	N/A	equals 1	
<input type="checkbox"/> <a href="#">GPS Fix</a>	N/A	greater than 5 mins	greater than 1 hour
<input type="checkbox"/> <a href="#">GPS Fix</a>	CCCCCCCCC	greater than 5 mins	greater than 10 mins
<input type="checkbox"/> <a href="#">Heartbeat</a>	N/A	greater than 5 mins	greater than 1 hour

Add Delete

Figure 50 - Thresholds Panel

### Adding a new threshold:

Click on **Add** to open the *Add a Threshold* panel.

Configure the *Properties*:

- **Label\***: the name of the threshold.
- **Group or Gateway\***: the group or gateway listed will be the one selected in the gateway tree.
- **Stat**: use the drop-down to select the stat.
- **Default value**: specifies a value for which reporting is not expected.
- **Display Filter**: controls what is displayed for the threshold's value on the dashboard using regular expressions.
- **Matching Labels**: some stats use sub-keys (e.g. AssetTemperature) and the sub-key is the asset tag ID. This provides a way to limit the threshold to a specific asset (e.g. AssetTemperature: 1234567890 > 50c = error).
- **Dashboard position\***: select the group on the dashboard where the threshold is to appear. Groups are displayed from left to right depending on their number. To avoid showing the group select **Do not show on dashboard**.
- **Threshold owner**: allows a threshold to output using the settings of the specified user.
- **Show value as obsolete when**: determines when to grey out a value to indicate that it is "stale" (obsolete). This can be set to go obsolete when the unit is powered off or a heartbeat is over an hour old.
- **Email warning and error actions to owner**: sends an email containing error and warning information related to the threshold to the user specified by the Threshold owner field. The information included is dependent on the definition of a threshold but can include the ESN, timestamp, description, location and other information.

- **Only show warning and alert values on dashboard:** when enabled, overrides the dashboard settings and only shows the threshold's value when it meets the criteria for a warnings or error.
- **Do not trigger actions on clear:** when enabled, actions are not sent for "clear" events (i.e. events indicating that a previously crossed threshold is no longer occurring).
- **Notes or instructions:** enter the instructions that will be included in alerts and email messages.

Set the *Warning Conditions*

- **Warning Criteria\*:** sets the criteria required for the stat's value to trigger a warning (e.g. selecting *greater than* and then entering a value of 10 will generate a warning when the stat's value exceeds 10). The meaning of the value is specific to each stat and its units of measurement.
- **Extra Criteria:** enter up to four additional criteria (i.e. stats) that must be satisfied in order for a warning to be sent. Upon selecting a stat for each criteria, the condition and value fields will become visible for configuration.
- **Actions\*:** select the actions to be taken to report a warning:
  - **Log Event:** default action. It is recommended that this remain enabled so that all warnings are written to a log file.
  - **Send Email:** select to enter the email address(es) to which an email will be sent, advising of the warning condition. Up to two email addresses can be entered.
  - **SNMP Trap:** when enabled, an SNMP Trap is sent by the oMM when a threshold is crossed. Enter the IP address to which the SNMP Trap is sent.
  - **Trigger on all events:** enable to set the threshold to trigger every time a value is reported to the oMM.

**IMPORTANT:** this option triggers the threshold to report each and every value to the stats selected. Therefore, it is recommended that it only be used for PNDError with the optional onBoard Nav application.

- **Hold time\*:** enter a value between 0 and 600. This state will be held even if the value clears for the specified number of minutes.
- **Delay Time:** specifies an amount of time (in minutes) during which an error threshold whose criteria has been met, should be ignored (e.g. if driving at a certain speed should trigger a speeding threshold error, but the user wants to allow a vehicle to be able to travel at that speed to pass other vehicles (e.g. for up to 1 minute), then setting a delay time allows that threshold to be ignored for the specified amount of time, without triggering the threshold error).

Set the *Error Conditions*

- **Error Criteria\*:** sets the criteria required for the stat's value to trigger an error (e.g. selecting *greater than* and then entering a value of 10 will generate an error when the stat's value exceeds 10). The meaning of the value is specific to each Stat and its units of measurement.
- **Extra Criteria:** enter up to four additional criteria (i.e. stats) that must be satisfied in order for an error to be sent. Upon selecting a stat for each criteria, the condition and value fields will become visible for configuration.
- **Actions\*:** select the actions to be taken to report a warning:
  - **Log Event:** default action. It is recommended that this remain enabled so that all warnings are written to a log file.
  - **Send Email:** select to enter the email address(es) to which an email will be sent, advising of the warning condition. Up to two email addresses can be entered.
  - **SNMP Trap:** when enabled, an SNMP Trap is sent by the oMM when a threshold is crossed. Enter the IP address to which the SNMP Trap is sent.
  - **Trigger on all events:** enable to set the threshold to trigger every time a value is reported to the oMM.

**IMPORTANT:** this option triggers the threshold to report each and every value for the stats selected. Therefore, it is recommended that it only be used for PNDError with the optional onBoard Nav application.



- **Hold Time\***: enter a value between 0 and 600. The state will be held even if the value clears for the specified number of minutes.
- **Delay Time**: specifies an amount of time in minutes during which a warning threshold whose criteria has been met, should be ignored (e.g. if driving at a certain speed should trigger a speeding threshold error, but the user wants to allow a vehicle to be able to travel at that speed to pass other vehicles (e.g. for up to 1 minute), then setting a delay time allows that threshold to be ignored for the specified amount of time, without triggering the threshold warning).

Click on **Save** to create the new threshold.

Thresholds can be deleted from the gateway by clicking in the checkbox next to the threshold label and then on **Delete**.

\* denotes a required field

### 3.7.6. Zones

The *Zones* panel can be used to identify, add, and delete zones (e.g. virtual boundaries or geofences). Zones allow administrators to monitor vehicles in different ways. For example, if a vehicle is expected to only travel within a certain area, a threshold can be set up that triggers an alert when the vehicle leaves a zone.

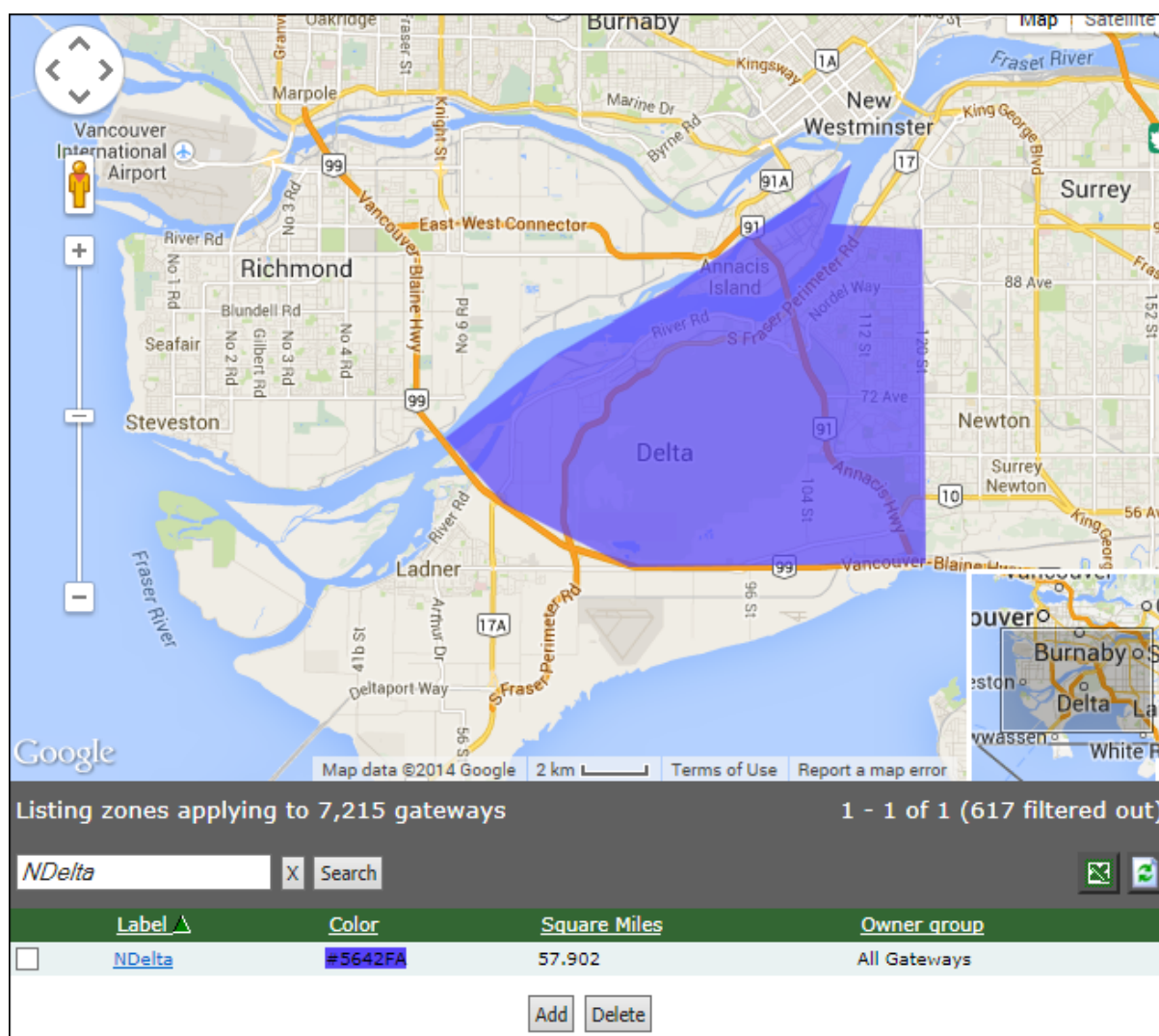


Figure 51 - Zones Panel



### Adding a new zone

1. Click on the **Add** button (located at the bottom of the zone list) to open the *Adding a Zone* panel and edit the following:
  - **Label\***: enter the name for the new label.
  - **Owner group**: use the drop-down menu to select the preferred group.
  - **Color\***: click on the field to open the color picker or enter the 5-digit code (if known). Select a color and then click the *OK* button.

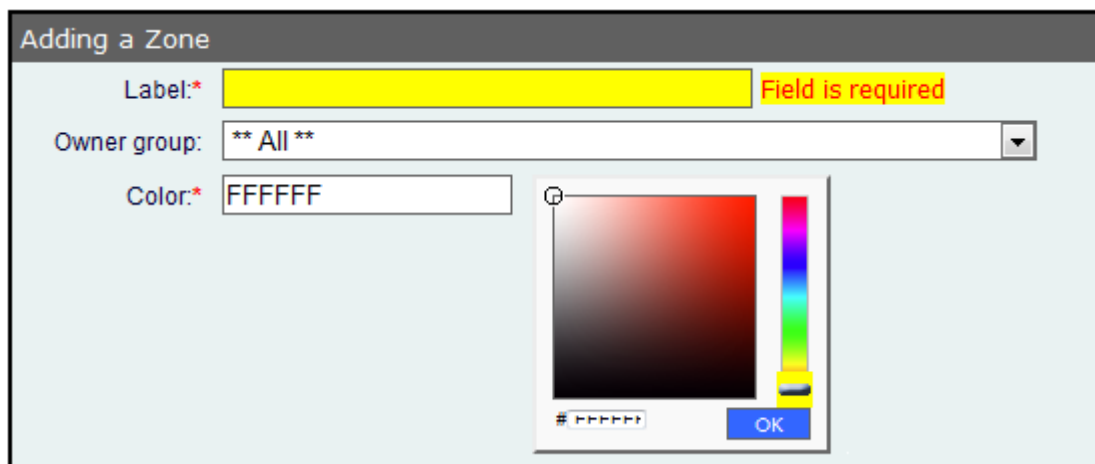


Figure 52 - Zone Configuration Screen

2. The default map is a view of the world. Zoom in on the map to the area in which to create the new zone.
  - Under *Map area\**, click on **Add** to add a 4-point rectangle on the map (the color will be the one chosen above)



Figure 53 - Map Area Controls



Figure 54 - Map Bounding Box

Each point is labeled; the top-left point is *point1*. Click and drag it to the first boundary for the zone.



Figure 55 - Dragging a point on the bounding box

- Click and drag the remaining points to define the boundary.

To refine the boundary, click on **Add** (in the Map area toolbar) to add additional points. The new points will be labeled in numeric order.

- Adding more points results in a better-defined boundary, especially if there is a curve in the boundary.
- Use the zoom in/out controls and drag the map to achieve the best views of the boundary areas.

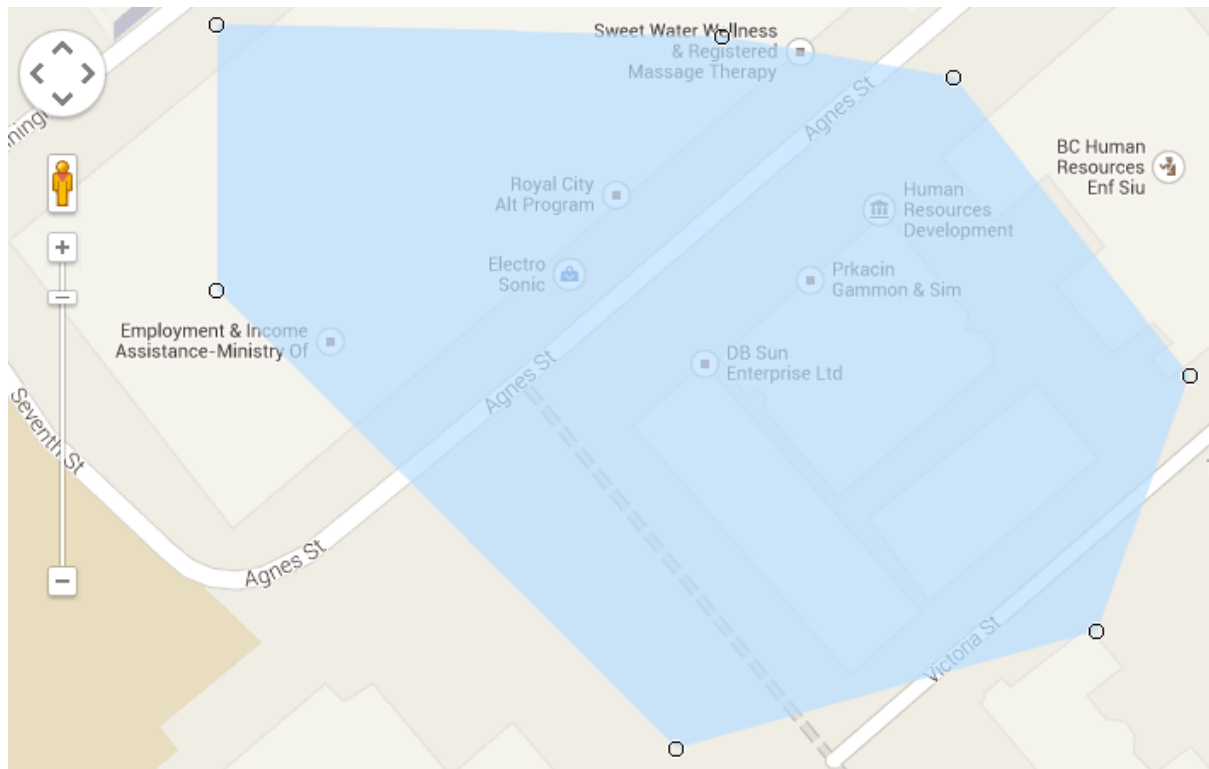


Figure 56 - Adding more points to the bounding box

- To remove the most recently added or edited point, select the point, and click on **Del**.
- To clear the zone from the map, click on **Clear** (note that once cleared, there is no way to retrieve the zone).
- Click on **Find** to locate a location on the map.
- To display other zones on the map, click on **Show Other Zones**.
- To import an existing zone into the new zone, use the drop-down menu to select it. Using an existing zone provides a starting point and can facilitate quicker zone creation.
- Click on **Advanced** to define the zone using raw point text in latitude/longitude position pairs. Click on **Update** when complete.

```
49.20601861948011,-122.9523754119873; 49.21700843405369,-122.93134689331055;  
49.21745694602088,-122.92147636413574; 49.214653679452866,-122.9180431365967;  
49.21140169105767,-122.9048252105713; 49.205289616812706,-122.91658401489258;  
49.20214917476017,-122.91735649108888; 49.20097145757163,-122.9198455810547;  
49.20387363861269,-122.9236650466919; 49.203172644300736,-122.92499542236328;  
49.20376148019056,-122.92829990386966; 49.20684574410649,-122.9320764541626;  
49.20353716258311,-122.94207572937013; 49.20135001258377,-122.94641017913818
```

Update

Figure 57 - Raw Latitude/Longitude Pairs Used to Define a Zone

3. Click on **Save** to save the new zone.

#### Editing an existing zone

1. From the main *Zones* panel, click on an existing zone name in the list of zones, to open the editing panel.
2. From this panel, the zone's properties can be changed including the name, color, and owner group. Points can also be moved, added, and deleted to redefine the boundary.
3. Click on **Save** to save the changes.

#### Deleting a Zone

To delete a zone, select it from the main *Zones* panel and click on **Delete**. Alternatively, click on **Delete** from the editing panel.

### 3.7.7. Sessions

The *Sessions* panel provides the list of the users logged into the oMM. Information provided includes the IP address of the login host, the time the user logged in, the last page visited, the time at which the last page was visited, the time spent on the last page and the number of pages visited.

Information can be filtered by text and time and date. Use the drop-down menu to select a time period: *All (default)*, *Last Hours*, *Previous Days*, *Previous Months* and *Range*.

Users currently logged in

Filter... All Search

<input type="checkbox"/>	Username	Login Host	Time	Last Page	Time	Page Time
<input type="checkbox"/>	admin	10.180.100.219	Jan 6 9:32:01 AM	dashboard.vm	Jan 6 9:38:22 AM	
<input type="checkbox"/>	admin	10.180.100.219	Jan 6 9:29:05 AM	blank.vm	Jan 6 9:29:39 AM	
<input type="checkbox"/>	admin	10.20.236.148	Jan 6 9:12:12 AM	sessions.vm	Jan 6 9:38:24 AM	
<input type="checkbox"/>	admin	10.180.100.219	Jan 6 8:56:10 AM	remote_sessions.vm	Jan 6 9:27:46 AM	
<input type="checkbox"/>	admin	10.40.110.48	Jan 6 9:20:03 AM	nodeedit.vm	Jan 6 9:20:03 AM	00:00.219
<input type="checkbox"/>	admin	10.180.100.219	2010/12/10 11:11	dispatch.vm	Jan 6 9:38:19 AM	

Figure 58 - Sessions Panel

### 3.7.8. Remote Sessions

For appliance oMMs only (i.e. oMMs hosted by customers), the *Remote Sessions* panel provides a mechanism for administrative users to monitor and terminate remote LCI sessions that were initiated via the *Total Reach* tab (see Section 3.5 - Total Reach Tab for more information).

The information provided includes the port number, the gateway, the LAN host address, the host port, the date and time the session started and the user ID of the users connected.

Active Reachthrough Sessions on Gateways: gateway: "All Gateways > 106011000533" last r

Filter... All Search

<input type="checkbox"/>	Port	Gateway	LAN Host	Host Port	Started At	Connected Users
<input type="checkbox"/>	5,901	106011000533	127.0.0.1	80	Jan 6 9:46:50 AM	[techwriter@10.180.100.219]
<input type="checkbox"/>	5,902	106011000533	127.0.0.1	11,532	Jan 6 9:46:52 AM	[techwriter@10.180.100.219]

Stop

Figure 59 - Remote Sessions Panel

Sessions can be filtered by text and time and date. Use the drop-down menu to select a time period: *All (default)*, *Last Hours*, *Previous Days*, *Previous Months* and *Range*.

The Remote Sessions panel will only be populated with sessions that have been initiated via the Total Reach tab (see Section 3.5 - Total Reach Tab for more information).

To terminate a session, select the session by clicking its checkmark box and then click on **Stop**.

### 3.7.9. User Activity

On appliance oMMs only (i.e. not hosted oMMs), the *User Activity* panel provides information about user activities. Information includes the date and time of the activity, the user who performed the activity (user ID), the host address, the node/group ID and the action performed.

Activity can be filtered by text and time and date. Use the drop-down menu to select a time period: *All*, *Last Hours (default)*, *Previous Days*, *Previous Months* and *Range*.

Audit history 204 gateways

Filter... Last Hours: 24 Search

Time ▲	User	Host	Node or Group	Action
Jan 5 10:17:32 AM	<a href="#">admin</a>	70.174.39.216	N/A	Login
Jan 5 10:35:02 AM	<a href="#">[redacted]</a>	166.205.12.134	N/A	Login
Jan 5 10:42:48 AM	<a href="#">[redacted]</a>	166.205.12.134	N/A	Execute report run
Jan 5 10:50:13 AM	<a href="#">admin</a>	70.174.39.216	N/A	Login
Jan 5 3:22:59 PM	<a href="#">admin</a>	64.180.100.213	N/A	Login
Jan 5 3:36:07 PM	<a href="#">techwriter</a>	70.30.236.148	N/A	Logout
Jan 5 3:38:08 PM	<a href="#">admin</a>	64.180.100.213	N/A	Sync OMM demo (2
Jan 5 4:07:08 PM	<a href="#">admin</a>	64.180.100.213	N/A	Login
Jan 5 4:34:54 PM	<a href="#">admin</a>	64.180.100.213	N/A	Modified user tech
Jan 5 5:25:15 PM	<a href="#">[redacted]</a>	70.174.39.216	N/A	Execute report run
Jan 6 12:00:12 AM	<a href="#">admin</a>	127.0.0.1	N/A	Execute report run

Figure 60 - User Activity Panel

### 3.7.10. DNS Servers

The oMM can update a configured name server with the address of the currently active WAN link for an oMG. When a change of active link is reported to the oMM, the name server is updated with the address of the new active link. Before assigning a DNS server to the oMGs, it must first be created.

Add or Edit DNS Server 1 - 4 of 4

Filter... Search

Server name ▲	IP Address	Domain
<input type="checkbox"/> <a href="#">newWindows</a>	192.168.3.52	inmotiontest.local
<input type="checkbox"/> <a href="#">NewWindozDNSServer</a>	192.168.3.52	inmotiontest.local
<input type="checkbox"/> <a href="#">ToBeDeleted</a>	123.123.123.123	tbd.com
<input type="checkbox"/> <a href="#">Wins2008DNS</a>	192.168.3.52	testinmotion.com

Add Delete

Figure 61 - Panel Listing DNS Servers

#### Adding a new DNS server:

Add or Edit DNS Server

Server name\*:

Lifetime\*:  (seconds)

IP Address\*:  (eg: dyndns.org or ipaddress)

Domain\*:

Save Cancel

Figure 62 - Add or Edit DNS Server Panel

- Click on **Add** to open the *Add or Edit DNS Server* panel
  - Server name\***: enter the name of the DNS server.

- **Lifetime\***: represents the amount of time that a DNS record for a certain host remains in the cache memory of a DNS server after the DNS server has located the host's matching IP address. The default is 300 seconds.

By specifying this setting for a particular domain's DNS records, webmasters define the frequency of website content updates. A higher value allows for faster domain resolution times. The value can be set to several hours if no changes to the domain's DNS records are planned for the specified amount of time. When changes are required, decrease the outdated website data.

- **IP address\***: enter the IP Address or qualified name of the DNS Server to which DNS updates are sent when a Gateway's IP Address changes.
- **Domain\***: enter the domain of the name service of the DNS Server to update.
- Click on **Save** to save the new DNS server.

It is possible to define multiple server names with the same IP Address/hostname but with different domain names.

To delete a DNS server, select it from the main DNS Server panel and click on **Delete**. Alternatively, click on **Delete** from the editing panel. **Note: DNS servers cannot be deleted if there are oMGs associated with it.**

\* denotes a required field

### 3.7.11. Debug

Debug is an administrative panel showing all of the actions which were performed on an oMG. The output can be used when contacting support to diagnose issues.

## 4. Optional Packages

The following subsections list some of the optional oMM add-on packages and the resulting tabs that will be available in the oMM. More information about the optional packages can be found in their respective user guides.

**Note:** *the order of tabs is specified by oMM administrators for each user.*

## 4.1. Tracker

The *Tracker* package plots the geographical locations of all units/vehicles in a fleet or selected vehicles within a fleet. If the package is installed, a *Tracker* tab will be available in the oMM.

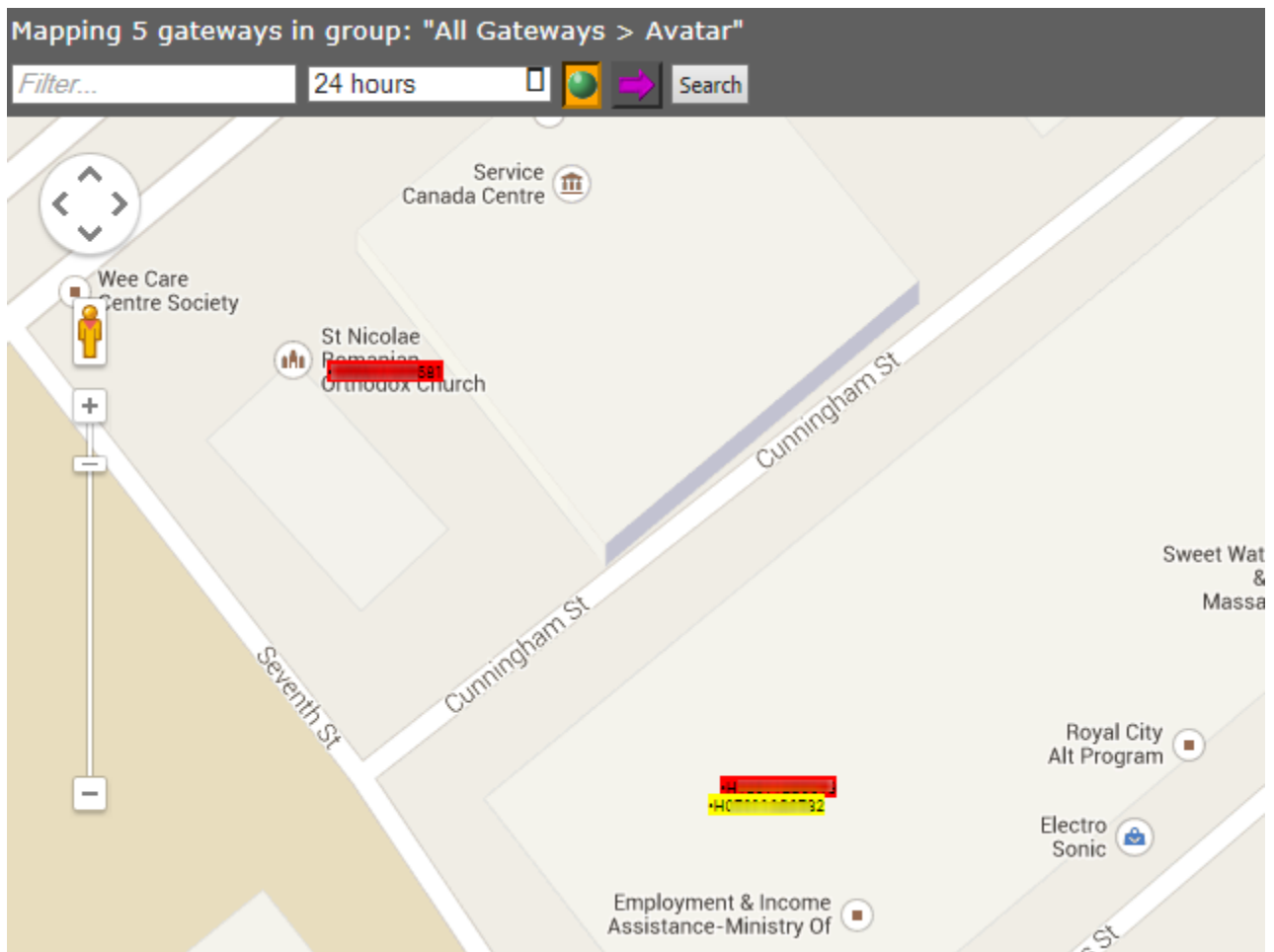


Figure 63 - Tracker Tab Plotting Locations

The following options are available:

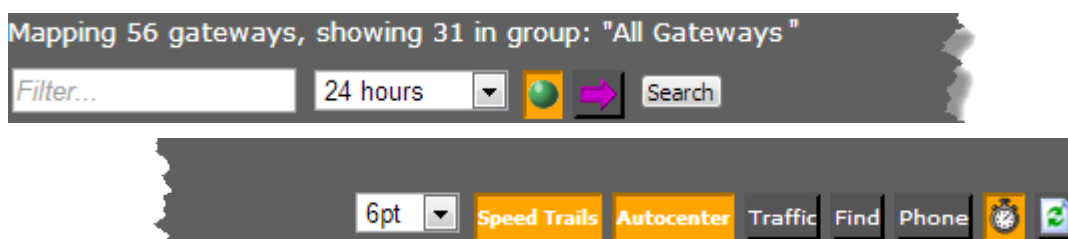


Figure 64 - Tracker Tab Options



**Filter:** use to filter vehicles by name or group name

**Autocenter:** by default, the map will automatically center the gateways on the map

**Traffic:** displays traffic flow information on the map

**Phone:** click to communicate with the selected vehicle

**Find:** locates an area on the map based on an address or a more general area (e.g. a city). The map will center on the address, but will not mark or indicate a specific location.

Use the drop-down menu to filter vehicles by time since the previous report. Nominal events (those operating within the threshold limits) are displayed by default (green circle icon). De-selecting the green icon displays only those gateways in warning and error states.

Clicking in the purple arrow displays only the gateways that have moved in the last 5 minutes.

To facilitate identifying the gateways, the label font size displayed on the map can be changed by using the drop-down menu. The default is 6pt.

## 4.2. Nav

The *Nav Application* is an optional package requiring installation on the oMG. It works in conjunction with a Garmin PND connected to the oMG to provide vehicle dispatch functionality on the oMM and two-way messaging capabilities between a fleet of vehicles and a control center. When the package is installed, a *Nav* tab will be available in the oMM.

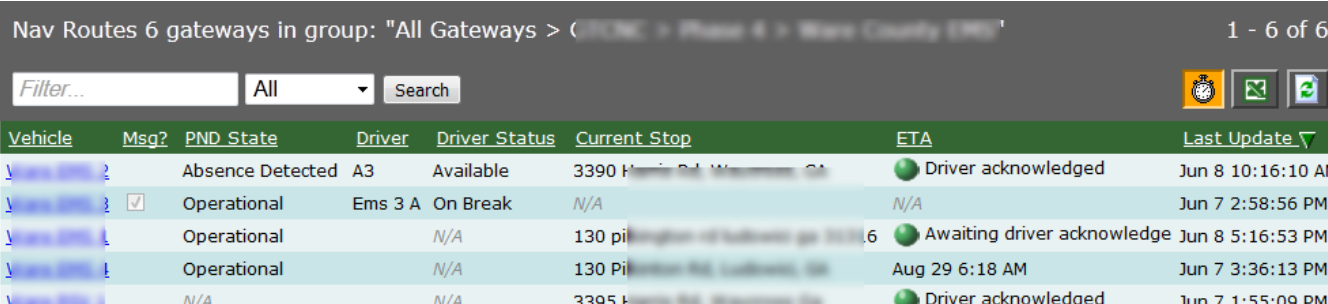
The Garmin PND and the oMG are physically connected via a serial cable and are installed in a vehicle. The PND automatically reports its location via the oMG to the oMM using the oMG's onboard application and wireless WAN connection.

At the control center, administrators can view real-time vehicle locations on a map displayed on the oMM and can dispatch vehicles to their next and future destinations using a simple user interface. Dispatching includes the ability for administrators to add and delete stops on the PND directly from the oMM.

Administrators are able to send and receive messages to one or more vehicles in the fleet at any time, and drivers are able to respond to incoming messages as well as send messages to dispatchers. Messages are received in the vehicle directly on the Garmin PND. Vehicle operators send or response to messages using the PND's message option which features an on screen keyboard. Administrators have the option to send "open ended" questions requiring the vehicle operators to type a response, or multiple choice questions in which vehicle operators can choose from a series of answers.

### 4.2.1. Nav Panel Overview

The *Nav* panel displays the status for the gateways:



Nav Routes 6 gateways in group: "All Gateways > (11/20/14) > Phase 4 > West County EMS"

1 - 6 of 6

Filter... All Search

Vehicle	Msg?	PND State	Driver	Driver Status	Current Stop	ETA	Last Update
Vehicle 1		Absence Detected	A3	Available	3390 Highway Rd, Westwood, CA	Driver acknowledged	Jun 8 10:16:10 AM
Vehicle 2	<input checked="" type="checkbox"/>	Operational	Ems 3 A	On Break	N/A	N/A	Jun 7 2:58:56 PM
Vehicle 3		Operational	N/A		130 Highway Rd, Westwood, CA	Awaiting driver acknowledge	Jun 8 5:16:53 PM
Vehicle 4		Operational	N/A		130 Highway Rd, Westwood, CA	Aug 29 6:18 AM	Jun 7 3:36:13 PM
Vehicle 5		N/A	N/A		3395 Highway Rd, Westwood, CA	Driver acknowledged	Jun 7 1:55:09 PM

Figure 65 - Navigator Panel

The following information is available:

**Vehicle ID:** the ESN of the gateway in the vehicle.

**Msg?:** notification of messages from drivers.

- **PND state of the vehicle:** can be one of the following values: *Offline, Presence Detected, Absence Detected, Operational, Not Operational*.
- **Driver:** a value identifying the driver that has been programmed into the Garmin PND.
- **Driver Status:** can be one of the following values: *Available, On Break, En Route, Done Route, Unavailable*.
- **Current Stop:** the location currently being provided by the Garmin PND.
- **ETA:** the estimated time of arrival.
- **Last Update:** the last time the oMM received information about Nav.

## 4.2.2. Dispatching

To add a stop on a Garmin PND connected to a Gateway:

Locate the gateway from the list of gateways on the *Nav* panel and click on the unit's link:

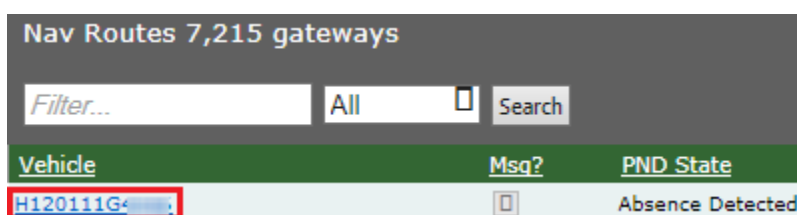


Figure 66 - Gateway Selection List

Enter a new address into the *New Destination* field, click **Add** to add it to the list of destinations and then click **Send** when the list is ready to be sent to the vehicle:

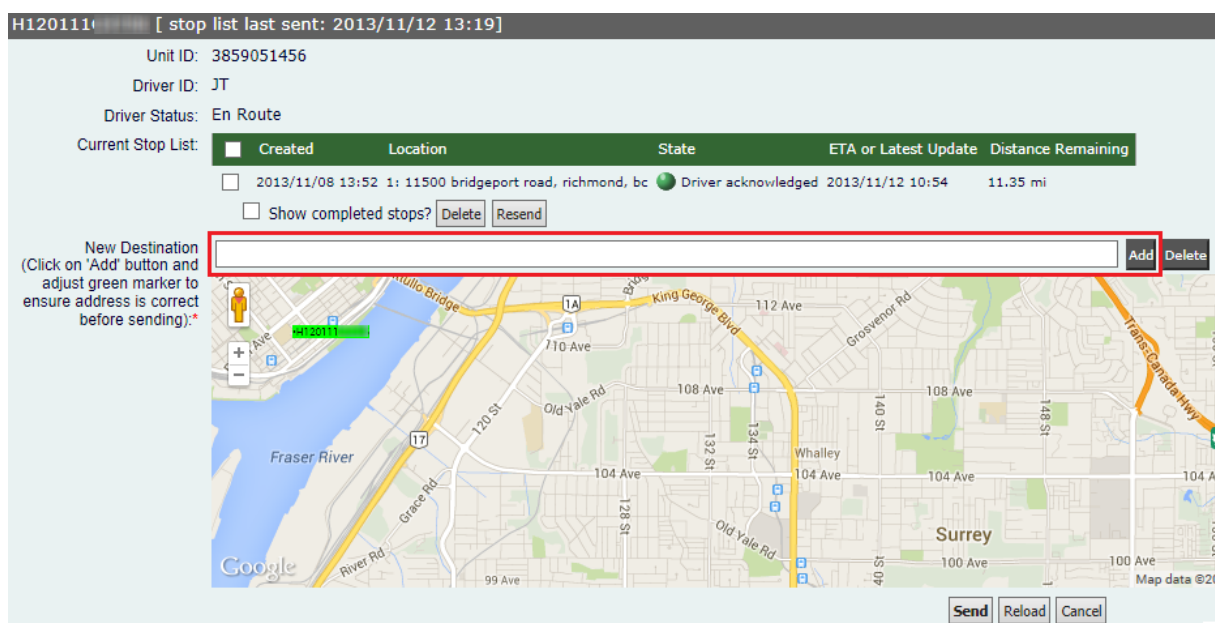


Figure 67 - Adding a New Destination

To delete a stop, locate the destination in the list of stops and click **Delete**:

H1201110 [ stop list last sent: 2013/11/12 13:19]

Unit ID: 3859051456

Driver ID: JT

Driver Status: En Route

Current Stop List:

Created	Location	State	ETA or
<input type="checkbox"/> 2013/11/08		<input checked="" type="checkbox"/> Driver acknowledged	2013/11

☐ Show completed stops? **Delete** Resend

New Destination  
(Click on 'Add' button and

Figure 68 - Deleting a Destination

### 4.2.3. Send Message

The *Send Message* panel allows administrators to send messages to the gateways.

Send Text Message

Vehicle(s):\*

Available Items (0)	Selected Items (0)
G070107J0021	H040109D0336
G10010910752	
H040109D0291	
H040109D0312	

Message: When are you taking lunch?

Response choices:

11 AM  
12 PM  
1 PM

One response choice per line. Optional.

**Send** Cancel

Figure 69 - Send Message Panel

To access the *Send Message* panel select **Nav->Send Message**:

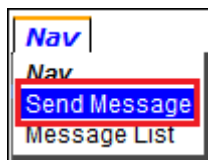


Figure 70 - Displaying the Send Message Panel

The following input fields are available:

**Vehicle(s)\*:** under *Available Items*, click on the vehicle(s) and on the right-arrow to move it to *Selected Items*. The message is sent to the vehicle(s) in this field.

**Message:** type the message to be sent to the gateway.

**Response choices:** type the response choices for the gateway. This field is optional and can be used to facilitate a response. Enter one response per line.

Click on **Send** to send the message.

\* denotes required information

## 4.2.4. Message List

The *Message List* panel displays the messages sent by both administrators and gateways for the specified time period. Multi-cast messages (i.e. messages sent to more than one oMG) include hyperlinks for additional details.

Query Responses 6 gateways in group: "All Gateways > CTCMC > Phase 4 > Ware County, GA"

Filter... All Search

Time ▾	From	To	Message	Responses	Latest Status	Last update
Jun 8 5:15:39 PM	Operator	Ware RSV 1	<a href="#">test</a>	1 of 1	User Responded	Jun 8 5:16:00 PM
Jun 8 10:10:19 AM	Operator	Ware RSV 1	<a href="#">test</a>	1 of 1	User Responded	Jun 8 10:10:36 AM
Jun 7 3:32:46 PM	Operator	Ware RSV 1	<a href="#">test</a>	1 of 1	User Responded	Jun 7 3:33:56 PM
Jun 7 2:49:57 PM	Operator	Ware RSV 1	<a href="#">test</a>	1 of 1	User Responded	Jun 7 2:53:06 PM
Jun 7 1:49:06 PM	Ware RSV 1	Operator	Ok In 2	N/A	Received	
Jun 7 1:48:30 PM	Operator	Ware RSV 1	<a href="#">Come to the office</a>	N/A	Viewed	Jun 7 1:48:41 PM

Figure 71 - Message List

To access the Message List panel select **Nav->Message List**:



Figure 72 - Displaying the Message List Panel

Clicking on a message link opens the original message, along with the response(s) from the gateway(s):

Figure 73 - Text Message Screen

To send a message:

1. Select the gateways from the *Vehicle(s)* list to which the message should be sent to.
2. Enter a text message in the *Message* field.
3. (Optional) Enter multiple responses that the recipient can select from.
4. Click **Send** to send the message. The recipient will receive it on their Garmen GPS device.

## 4.3. Telemetry

The *Telemetry* package displays data for vehicle performance and maintenance. Using compatible scanner hardware connected to the vehicle's data bus (OBDII and HDODB), vehicle diagnostic information, such as odometer, fuel level and warning lights, is interpreted and presented. When the package is installed, a *Telemetry* tab will be available in the oMM.

Not all Dashboard items are applicable to the Telemetry panel. To select the items to be displayed, go to **Options > Preferences** and uncheck the *Dashboard Items* checkbox. This will display the items which can be selected and shown on the *Dashboard*.

ats	Assets	Nav	<b>Telemetry</b>	Total Reach	Tracker	Reports	Admin
Viewing 11 gateways in group: "All Gateways > Demo"							
Filter...		24h					Search
Name (ID) ^	ReportIdleTime	Battery	Odometer	Vehicle Speed			
<a href="#">G100109E0067</a>	<a href="#">1 min 12 secs</a>			<i>N/A</i>			
<a href="#">TLM-Albert-01 (F010101F0001)</a>	<a href="#">35.1 secs</a>		<a href="#">94,482</a>	<a href="#">0mph</a>			
<a href="#">TLM-Belinda-02 (F010101F0002)</a>	<a href="#">3.1 secs</a>		<a href="#">94,527</a>	<a href="#">0mph</a>			
<a href="#">TLM-Clive-03 (F010101F0003)</a>	<a href="#">2.1 secs</a>		<a href="#">94,627</a>	<a href="#">0mph</a>			
<a href="#">TLM-Deanne-04 (F010101F0004)</a>	<a href="#">9.1 secs</a>		<a href="#">94,735</a>	<a href="#">23mph</a>			

Figure 74 - Telemetry Tab

## 4.4. Asset Manager

The *Assets Manager* package displays data about the fleet's optional equipment and to which gateway the equipment is assigned and detected. The information displayed allows users to track the equipment in transit but also warns when it is no longer in the vehicle (*State* column). Additionally, the last known location is available which makes for easy retrieval if the equipment is left out of the vehicle. This package requires that small electronic devices called *asset tags* be attached to the devices to be tracked. These devices are then in turn tracked by one or more oMGs.

When this package is installed, an *Assets* tab will be available in the oMM.

Listing assets in 7,215 gateways 1 - 6 of 6

Filter... 6 months ☐ Search Autocenter

<input type="checkbox"/>	Unique RF ID	Assigned to group or gateway	Current gateways	State	Last reported
<input type="checkbox"/>	000CC...E	N/A		New	139 days 22:17:33 ago
<input type="checkbox"/>	2 (000CCC7...)	G0301	H0901	Missing	24 days 22:48:11 ago
<input type="checkbox"/>	1 (000CCC7...B)	Car	H1301	Missing	3 days 17:18:14 ago
<input type="checkbox"/>	1 (000CCC7...)	Car	H0101	Missing	2 days 23:08:31 ago
<input type="checkbox"/>	Tag a10c (000CCC7...)	H06011	H0901	Missing	24 days 22:48:26 ago
<input type="checkbox"/>	TEST	G0701		New	143 days 3:05:30 ago

Add Edit Delete Upload

Figure 75 - Assets Tab

The default name for the assets is their unique ID. To add a new asset, click on **Add**. Enter the information and click on **Save**.

**Add or Edit Asset**

Unique RF ID:\*  **Field is required**

Label:

Type of asset:

Assigned to group or gateway:  ( 486 gateways)

Notes:

**Save** **Cancel**

Figure 76 - Screen for Adding/Editing an Asset

To edit an asset, click on the individual asset, in the Unique RF ID column, to open the *Editing* panel. Update the information and click on **Save**.

Note: entering a single ESN or gateway name into the *Assigned to group or gateway* field will cause that unit to track the asset. Entering a predefined group name will allow all oMGs in the group to track and report on the asset.

The *Editing* panel can also be used to delete assets from the oMM. Select the asset from the main panel and click on **Delete**. The asset will return the next time the unit reports it.





## 5. Reports

Reports provide the true power of the oMM. In addition to reports for the core oMM functionality, reports are also available for optional applications which must be purchased separately. Details for these reports can be found in the separate Reports Guide.

To generate a report, select **Reports** -> <Category> -> <Specific Report>

Each report contains basic and advanced configuration options which are used for configuring the reports.

To show advanced configuration options, click on **Show Advanced Config** to display the advanced edit fields. The option will turn orange when enabled. Click on the orange button to disable the advanced edit fields.

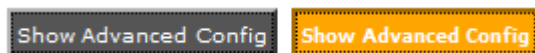


Figure 77 - Toggling the Show Advanced Config Button

The option to show or hide the **Show Advanced Config** button is found in *Options > Show Advanced Edit Fields*:



Figure 78 - Menu to Show or Hide the Show Advanced Config Button

Click on **Run Now** to generate the report immediately. Click on **Run in Background** to run the report in the background and to save the report on the server (go to **Results** for the report). Click on **Save** to save the report for future use without immediately generating it.

Reports also provide the following functions:



Figure 79 - Additional Report Functions

**Save Results:** Allows the report to be saved on the oMM. To view the report, navigate to **Reports->Generated Reports** (also be sure to specify the day that the report was run on the selection criteria of the Generated Reports listing screen).

**Excel:** Open and/or save the report in Excel.

**Change:** Change the report but retain the same gateway(s) and information in the input fields.

**Edit:** Edit the existing report input fields to generate different results.

For information on the various reports available, see the oMM Reports Guide.

### 5.1. Saved Templates

**Saved Templates** are scheduled reports to be run in the future. Users can configure the report to run on a scheduled day at a specific time.

The example below shows that the *Availability Trend* was scheduled for one gateway on two different days, while the Event Viewer Reports were scheduled for 3 different gateways.

Saved reports for 5,064 gateways 1 - 30 of 30

Filter... All Search ✕ 🔄

Report Name ▲	Type of report	Gateway(s)	Next Run Time
[-] Group: Availability Trend			
<input type="checkbox"/> <a href="#">A0003</a>	Availability Trend	020010010000	Jan 25
<input type="checkbox"/> <a href="#">oMM_report</a>	Availability Trend	020010010000	Jan 27
[-] Group: Event Viewer			
<input type="checkbox"/> <a href="#">DHCP</a>	Event Viewer	000010010000	Jan 29
<input type="checkbox"/> <a href="#">PeterR26MiscEventViewer</a>	Event Viewer	000010010000	Jan 27
<input type="checkbox"/> <a href="#">PKLR26MiscEventViewer</a>	Event Viewer	000010010000	Jan 27

Figure 80 - List of Saved Templates

To edit a report, click on its name. To delete a report (or several), checkmark it and click on **Delete**.

## 5.2. Generated Reports

The *Generated Reports* panel contains the list of all saved reports. When generating reports, users can save the report to the server.

Reports are listed with the most recent at the top. Click on a report name to view it. Click on a column header to sort the list. To delete a report, select it and click on **Delete**.

To filter the list, select a time period from the dropdown, enter a value into the filter box and click **Search**. This will list only those reports which were generated within the specified time period.

Saved reports for 224 gateways 1 - 2 of 2

Filter... All Search Readonly ✕ 🔄

Report Name ▲	Type of report	Gateway(s)	Next Run Time
[-] Group: Availability Trend			
<input type="checkbox"/> <a href="#">7 Days</a>	Availability Trend	Group: All Gateways	N/A

Delete Cancel

Figure 81 - List of Generated Reports

Upon clicking on a generated report in the list, the report will be displayed and the following options will be available:

Availability Trend for H1501001000 from May 7 to May 14 (7 days)

Delete Email Link ✕ Change Edit

Results by vehicle

Vehicle	Run Time	Av
<a href="#">H1501001000</a>	7 days	

Figure 82 - Available Options on a Generated Report

**Delete:** deletes the current generated report

**Email:** provides a popup through which the report can be emailed to one or more recipients. The popup provides fields to specify recipient email addresses, the sender, a subject, and a custom message. The custom message is prepended to the report content in the email.

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**Note:** *the oMM will automatically append a link to the report at the bottom of the email. The base URL of this link is configured by the oMM administrator and if it is changed, the backend processes of the oMM must be restarted in order for the new base URL to be used in the report emails. For hosted oMM's, contact Support to restart these processes.*

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**Link:** displays a popup containing the URL to the report which can be copied and pasted for later use (e.g. to send in an email).

**Excel:** exports the report to Excel.

**Change:** provides a list of all report types, allowing the report to be changed to a different report type.

**Edit:** displays the report edit screen where report parameters can be changed.