

# **GeoTelematic<sup>tm</sup>**

## **Tutorial and Guide for the GTS Enterprise**

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# 1) Introduction

This Tutorial will walk you through initial login and the various capabilities of the GTS Enterprise system, including Mapping, Reporting and Administrative capabilities. The intention of this tutorial is to be a step-by-step guide, showing how each of the various features and capabilities of the software are accessed and exercised in order to learn how it can be of benefit to you and your business. You can follow along with either the GTS Enterprise Demo Site at <http://track.gismogps.com/track/Track> or with your own installed GTS Enterprise system on your computer.

The GTS Enterprise is very configurable and your specific installation may be configured differently from what is described in this document. Your installed version may also have a different look & feel. This document covers the default and most common configuration of the GTS Enterprise.

## 2) Login

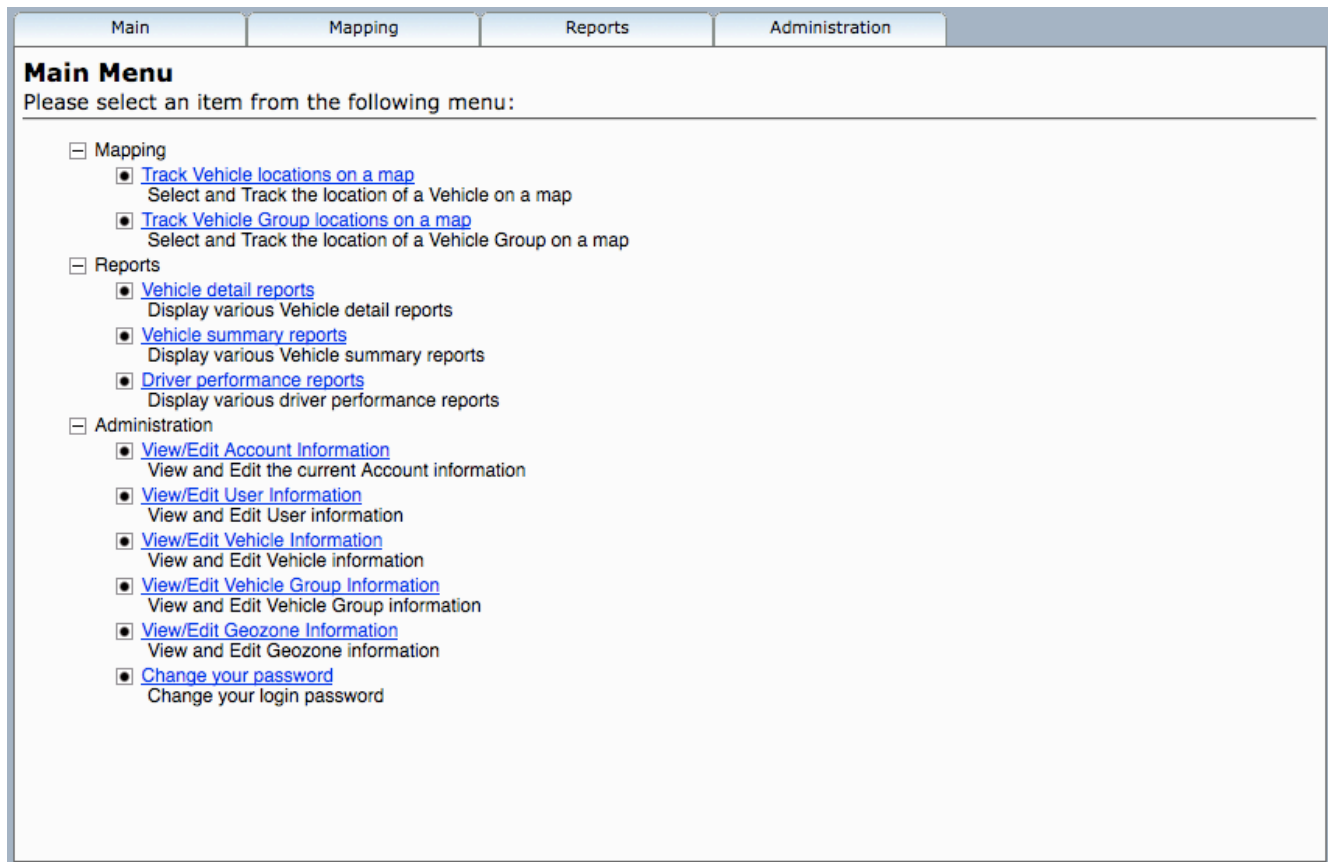
The GTS Enterprise demo login can be displayed by viewing the URL <http://track.gismogps.com/track/Track>. You will be presented with a Login window as shown below:



The screenshot shows a login window titled "Enter your Login ID and Password". It contains three input fields labeled "Account:", "User:", and "Password:". Below these fields is a "Login" button. A note below the button states "(Cookies and JavaScript must be enabled)". Below the note is a blue hyperlink "Forgot your password?". Below the hyperlink is the text "Or click here for a free demonstration" and a "Demo" button. At the bottom of the window, the text "Please Login" is displayed.

For the purposes of this Tutorial, we will be using the “demo” account. If the sample data has been loaded on your own GTS Enterprise system, this most of the same sample data may be available on your system as well. To go straight to the “demo” account, click the [Demo](#) button, or enter “demo” for the account, and leave the user and password fields blank. This will display the main navigation menu, shown on the next page.

### 3) Main Menu



As you can see, the functions are broken down into 3 main categories, **Mapping**, **Reports** and **Administration**. Each of the tabs corresponds to the appropriately named category of functions.

Navigation may be accomplished in one of two ways:

From the Main tab, select [Main Menu](#) and the screen displayed above will be presented. From there, you may select whichever section of the application is of interest.

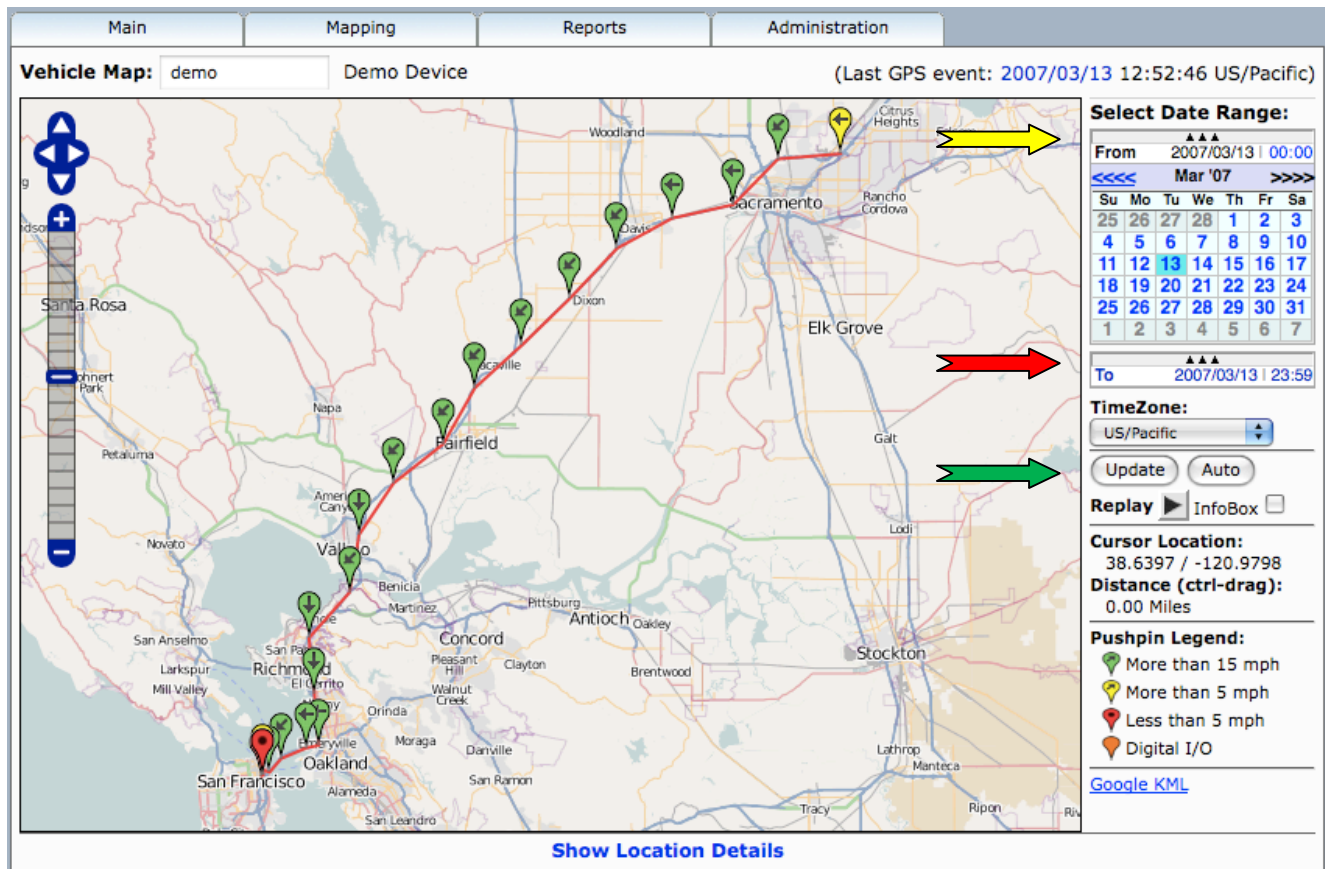
Alternatively, you may use the individual tabs (Mapping, Reports, Administration) to select functions within those specific categories. For instance, from the [Reports](#) tab, you may select [Vehicle Detail Reports](#), [Vehicle Summary Reports](#), or [Driver Performance Reports](#).

## 4) Mapping

### 4.1) Vehicle Map

Now that we know how to navigate, let's get started with the Mapping functionality. Click on the link for [Track Vehicle Locations on a Map](#) as highlighted above and the following screen will be displayed.

NOTE: Your map may be different depending on the date range selected.



Here we have the basic map view, with map **zoom** controls on the left.

On the right hand side, we have the date range controls allowing you to select the period of time for which you'd like to review activity for a particular vehicle/asset. Currently displayed is the starting date or "From" calendar (**yellow** arrow). The right and left arrows just above the calendar will change the month and then you can select the particular day of the month you want. To select a different end date, click on the 3 triangles below the calendar (**red** arrow) and the "To" calendar will roll up to replace the "From" calendar. Follow the same procedure here to select your end date and then click the **Update** button (**green** arrow) to redraw the vehicle/asset history on the map for the selected date range.

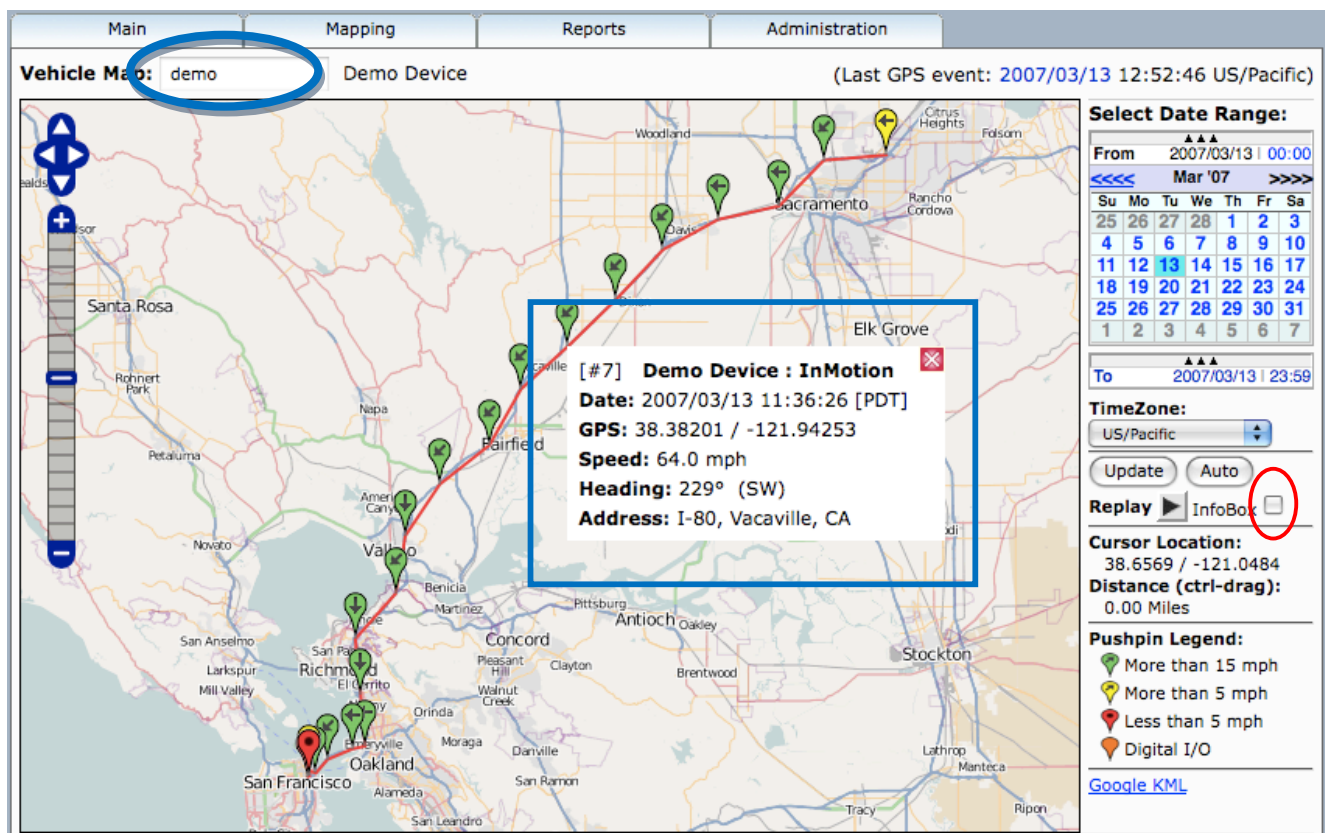
Moving a bit further down the right hand side, you'll notice the word **Replay** -- click on the arrow just to the right of it and it will begin a replay of the timeframe shown on the map, starting with the

first point and continuing through until the final point has been plotted. This is a useful mechanism for quickly seeing the path a vehicle has taken throughout a chosen period of time.

The **Pushpin Legend** in the lower right hand corner defines the color code of each of the points or "pushpins" on the map. These thresholds are fixed for this demo, but can be set at any level desired, or can be keyed off of other parameters in the database such as maintenance status or temperature for refrigeration trucks.

One final note about the basic map display -- if you look in the white space just above the calendar on the right hand side, you'll notice a line that denotes the Last GPS event, telling you the last time this vehicle reported its position to the database. On the left hand side of that white space is a box with the asset's name. Clicking in the box brings up a list of assets, any of which can be chosen just by clicking on that asset name.

Zooming in on the data in the left hand portion of the map, you can see greater detail of the map and the individual pushpins.



Placing your cursor over any pushpin will bring up an InfoBox as shown above. The InfoBox includes by default the data point (#7), the device name (Demo), its status (*InMotion*), **Date**, **Time**, **GPS Latitude/Longitude**, **Speed**, **Heading**, and **Address** (if available).

As an interesting side note, if you check the **InfoBox** checkbox before clicking the **Replay** button, then each Pushpin will have an InfoBox attached to it as the trail of Pushpins is painted on the map.

Note that on lower-left of the screen, there appears to be a red pushpin in San Francisco. Let's zoom in on that area.

Main
Mapping
Reports
Administration

Vehicle Map: demo
Demo Device
(Last GPS event: 2007/03/13 12:52:46 US/Pacific)

**Select Date Range:**  
From 2007/03/13 | 00:00  
<<< Mar '07 >>>>  

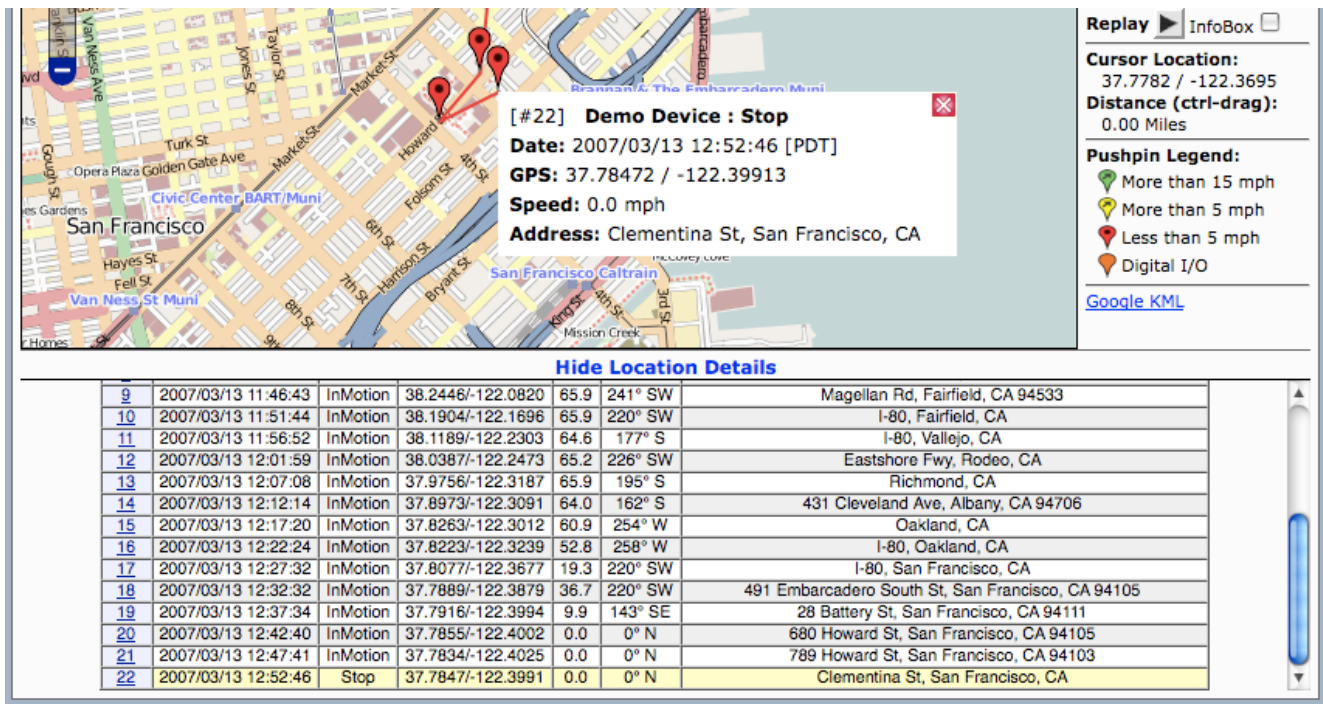
Su	Mo	Tu	We	Th	Fr	Sa
25	26	27	28	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

To 2007/03/13 | 23:59  
TimeZone: US/Pacific  
Update Auto  
Replay InfoBox  
Cursor Location: 37.7832 / -122.3677  
Distance (ctrl-drag): 0.00 Miles  
Pushpin Legend:  
More than 15 mph  
More than 5 mph  
Less than 5 mph  
Digital I/O  
[Google KML](#)

Placing the cursor on the red pushpin, we see that the status is reported as "Stopped" and Speed is reported as zero. Additionally, here the system reports a reverse-geocoded street address.

Another useful feature of the mapping function is the ability to determine the straight-line distance between any two points on the map. This can be useful for determining the distance between a vehicle's current location and any known location on the map -- ideally sticking to straight lines along known roads to maximize accuracy. This function is utilized by clicking on the starting point, holding down the CTRL button and dragging the cursor to the end point, as denoted by the **green** arrow. Note that the distance is displayed here as well.

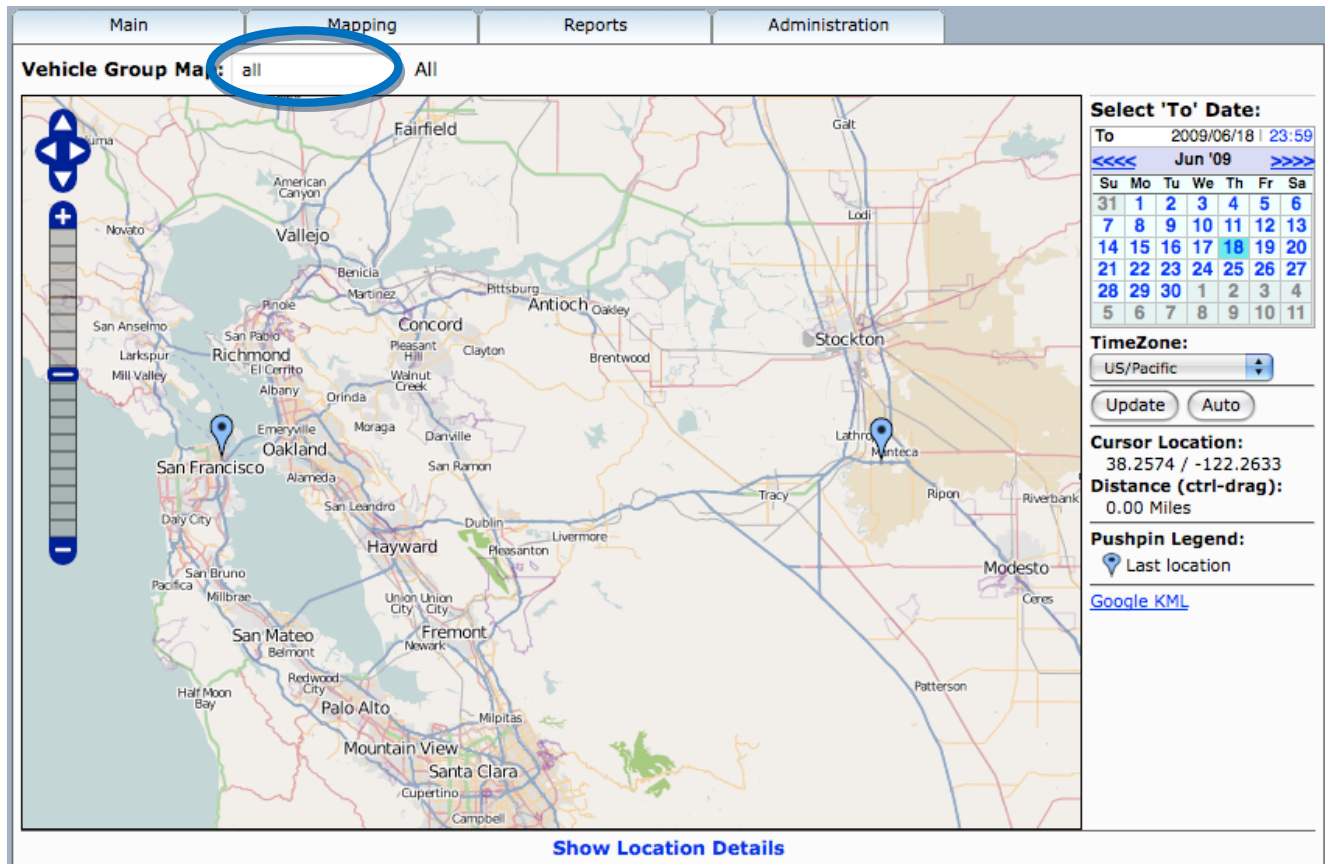
We have two ways of diving deeper into the details. The first is obviously to continue to zoom tighter into that portion of the map. The second is to utilize the Location Details, by clicking the [Show Location Details](#) link at the bottom of the map.



The values for each of the columns are as follows (reading from left to right): **Pin #**, **Date/Time**, **Event Status**, **GPS (lat/long)**, **Speed**, **Heading**, and **Address**. Reading down the Date/Time column, you can see that this vehicle/device is configured to report a fresh GPS reading to the server every 5 minutes.

## 4.2) Vehicle Group Map

Now that we're done with the individual vehicle mapping capabilities, let's look at what can be done in terms of mapping group assets. From the [Mapping](#) tab, select [Vehicle Group Map](#) to display all the vehicles in a given group or the entire fleet. Depending on the manner in which assets are grouped within your fleet (covered later in Administration), it is possible to look at either an individual group of vehicles or your entire fleet on the map. For the purposes of this tutorial, the [Vehicle Group Map](#) will display the entire fleet of vehicles. This is equivalent to a Vehicle Group which is the same as the entire fleet.



All the navigation controls are the same as the individual [Vehicle Map](#), Fleet positions can be viewed in date-specific configurations by changing the calendar and detailed information on any asset can be accessed by placing the cursor over any "pushpin" to display. If multiple groups have been defined, then alternate groups of assets/vehicles can be accessed in a pull-down menu by clicking in the field next to "Vehicle Group Map" (**Blue** circle).

## 5) Reporting

### 5.1) Detail Reports

Detail reports are vehicle or device specific and are structured to pull information from the database in pre-defined formats that are relevant to the type of report requested. It is important to understand that while the fields (columns) presented in the following reports are what we have found to be most useful for the majority of users, they are not cast in stone. If it is necessary to add/remove data fields (columns) to any of these reports, it is simply a matter of reconfiguring the report generator for a specific client. Any data field that exists in the data table is capable of being added to a specific report.

The [GPS Tracking Reports – Device Detail Reports](#) Screen can be accessed from the [Reports](#) tab and appears as shown below.

**GPS Tracking Reports**  
Please select a report from the following menu:

**Vehicle:**  
demo

**Select Date Range:**  
From 2010/03/09 00:00  
To 2010/03/09 23:59  
TimeZone: US/Pacific

**Device Detail Reports:**


- ☒ Event Detail
- ☐ Trip Report Detail Default
- ☐ Geozone Report
- ☐ Geozone/Driving Report
- ☐ Ignition Detail Report
- ☐ Temperature Monitor
- ☐ Property Values
- ☐ Error/Diagnostic Values
- ☐ J1708 Fault Codes
- ☐ OBD Event Detail

**Format:** HTML **Get Report**

Here we have the same nature of controls as on the [Vehicle Map](#) screen, allowing us to specify for which vehicle we want the report, the date range for the report and then which report we want to see. This particular report menu shows the [Event Detail](#), as well as other possible available reports. Using the capabilities of the report generator, additional report selections may be added.

## Event Detail Report

All received events are reported in the [Event Detail](#) report. In this application, location is reported every 5 minutes and events that are reported are Start, Stop, and InMotion. In a more complex application, other Status indications might include Digital I/O State (such as ignition on/off), Dormancy or Terminal Arrival/Departure. Each event reports **Time**, **Date**, **Status**, **Latitude**, **Longitude**, **Speed**, **Heading**, **Altitude**, **Odometer** (if available), and **Address**.

Event Detail									
Demo Device [demo]									
'2007/03/13' through '2007/03/13' [US/Pacific]									
<a href="#">Refresh</a>									
									<a href="#">Map</a> <a href="#">KML</a>
#	Date	Time	Status	Lat	Lon	Speed mph	Altitude feet	Odometer Miles	Address
1	2007/03/13	11:05:37	Start	38.6457	-121.3808	13.7 W	23		I-80, North Highlands, CA
2	2007/03/13	11:10:44	InMotion	38.6384	-121.4916	64.6 SW	16		I-80, Sacramento, CA
3	2007/03/13	11:15:50	InMotion	38.5755	-121.5702	63.4 W	16		I-80, West Sacramento, CA
4	2007/03/13	11:20:58	InMotion	38.5568	-121.6781	64.6 W	16		45217 E Chiles Rd, University of California-Davis Campus, CA 95616
5	2007/03/13	11:26:05	InMotion	38.5152	-121.7753	65.2 SW	33		Dixon, CA 95620
6	2007/03/13	11:31:15	InMotion	38.4465	-121.8580	65.9 SW	62		Dixon, CA
7	2007/03/13	11:36:26	InMotion	38.3820	-121.9425	64.0 SW	82		I-80, Vacaville, CA
8	2007/03/13	11:41:34	InMotion	38.3225	-122.0259	65.2 SW	266		Vacaville, CA
9	2007/03/13	11:46:43	InMotion	38.2446	-122.0820	65.9 SW	26		Magellan Rd, Fairfield, CA 94533
10	2007/03/13	11:51:44	InMotion	38.1904	-122.1696	65.9 SW	312		I-80, Fairfield, CA
11	2007/03/13	11:56:52	InMotion	38.1189	-122.2303	64.6 S	112		I-80, Vallejo, CA
12	2007/03/13	12:01:59	InMotion	38.0387	-122.2473	65.2 SW	194		Eastshore Fwy, Rodeo, CA
13	2007/03/13	12:07:08	InMotion	37.9756	-122.3187	65.9 S	233		Richmond, CA
14	2007/03/13	12:12:14	InMotion	37.8973	-122.3091	64.0 S	16		431 Cleveland Ave, Albany, CA 94706
15	2007/03/13	12:17:20	InMotion	37.8263	-122.3012	60.9 W	16		Oakland, CA
16	2007/03/13	12:22:24	InMotion	37.8223	-122.3239	52.8 W	16		I-80, Oakland, CA
17	2007/03/13	12:27:32	InMotion	37.8077	-122.3677	19.3 SW	190		I-80, San Francisco, CA
18	2007/03/13	12:32:32	InMotion	37.7889	-122.3879	36.7 SW	171		491 Embarcadero South St, San Francisco, CA 94105
19	2007/03/13	12:37:34	InMotion	37.7916	-122.3994	9.9 SE	289		28 Battery St, San Francisco, CA 94111
20	2007/03/13	12:42:40	InMotion	37.7855	-122.4002	0	30		680 Howard St, San Francisco, CA 94105
21	2007/03/13	12:47:41	InMotion	37.7834	-122.4025	0	16		789 Howard St, San Francisco, CA 94103
22	2007/03/13	12:52:46	Stop	37.7847	-122.3991	0	52		Clementina St, San Francisco, CA

You'll notice the small word [Map](#) (red arrow) just above the upper right corner of the report. Clicking on this link will launch a sub-window with a [Vehicle Map](#), displaying all of the points shown in the [Event Detail](#) report.

## 5.2) Summary Reports

Unlike [Device Detail Reports](#), [Fleet Summary Reports](#) are focused on either a group of vehicles or an entire fleet. They are not relevant only to a specific vehicle, as they present information that is only useful when viewed across a group of vehicles or assets.

The [GPS Tracking Reports – Fleet Summary Reports](#) Screen can be accessed from the [Reports](#) tab and appears as shown below.

**GPS Tracking Reports**  
Please select a report from the following menu:

**Group:**  
All

**Select Date Range:**  
From: 2010/03/09 | 00:00  
To: 2010/03/09 | 23:59  
TimeZone: US/Pacific

**Fleet Summary Reports:**

- ☒ Last Known Device Location (All Events)
- ☐ Received Event Counts (All)
- ☐ Session Connection Status
- ☐ Periodic Service Report
- ☐ Distance Traveled Report
- ☐ Ignition Summary Report

**Format:** HTML **Get Report**

The structure of the report selection mechanism here is identical to that found on the top level [Device Detail Report](#) screen. The date selector is the same as what we've seen throughout all of these screen shots and then there's the list of available reports off to the right. Note just above the calendars is the Group Selector field, where either the "All" group can be selected (which corresponds to the entire fleet), or if there are sub-groups defined, these can be selected as well.

As with the [Device Detail Reports](#), additional reports based on Vehicle Groups can be added to the [Fleet Summary Report](#) list.

## Last Known Device Location Summary

The [Last Known Device Summary](#) is designed to present the user with the simple report with current status on each of the vehicles in the selected group. Here the important information contained in the report is **Device Description**, **Device-ID**, **Date**, **Time**, **Odometer Miles** (if available), **Latitude**, **Longitude**, **Address** and time **Since Last Check-In**.

Last Known Device Location Summary								
<a href="#">Refresh</a>		Devices: All As of '2007/03/13' [US/Pacific]					<a href="#">Map</a> <a href="#">KML</a>	
#	Device Description	Device-ID	Date	Time	Odometer Miles	Lat/Lon	Address	Since Last Check-In
1	Demo 2	demo2	2007/03/13	09:35:18	10189	37.782/-121.232	State Highway 120, Manteca, CA	827d 15h 17m
2	Demo Device	demo	2007/03/13	12:52:46		37.785/-122.399	Clementina St, San Francisco, CA	786d 08h 14m

The **Since Last Check In** field is the amount of time that has passed since the device has last checked in with the server. This may not necessarily mean that this is the time the device last sent an event, only the last time the device communicated with the server (at which time it may, or may not have sent an actual event). You'll notice that this sample data was collected some time ago.


As was the case with the [Device Detail Reports](#), we can click on the Map link and get a pop-up sub-window that will display each of these vehicles on a [Vehicle Group Map](#).

## 5.3) Performance Reports

The primary focus of *Driver Performance Reports* is to provide the fleet manager with meaningful information that pertains to the utilization of his/her fleet assets. Are the vehicles being driven in a safe manner (i.e. adhering to relevant speed limits)? Are vehicles being used effectively or is excessive time being taken at stops? These are the types of questions that can be answered by reviewing the information available in the *Driver Performance Reports*.


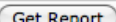
The *GPS Tracking Reports – Driver Performance Reports* Screen can be accessed from the *Reports* tab and appears as shown below.

**GPS Tracking Reports**  
Please select a report from the following menu:

**Vehicle:**  
<Apple's> 

**Select Date Range:**  
From: 2010/03/09 | 00:00  
Mar '10  
To: 2010/03/09 | 23:59  
Mar '10  
TimeZone: US/Pacific

**Driver Performance Reports:**  
☒ Speeds over 45 mph  
☐ Exceeding Posted Speed over limit  
☐ Driving/Stopped Time Summary Default

**Format:** HTML  

The date selector is the same as what we've seen throughout all of these screen shots and then there's the list of available reports off to the right. Note just above the calendars is the Vehicle selector field (**yellow** arrow), where the individual vehicle or asset can be selected.

As before, we'll start at the top of the list on *Speeds over [45mph]* and step through the list.

## Speeds over [45mph]

The [Speeds over \[45mph\]](#) report is designed to give the fleet manager information on a vehicle basis, showing if, when and where the specific vehicle exceeded the selected speed threshold (from the pull-down menu). The report presents **Date**, **Time**, **Status**, **Latitude**, **Longitude**, **Speed**, **Heading** and **Address** in the tabular format.

Speeds over 45mph (72kph)							
Demo Device [demo] '2007/03/13' through '2007/03/13' [US/Pacific]							
<a href="#">Refresh</a>						<a href="#">Map</a> <a href="#">KML</a>	
#	Date	Time	Status	Lat	Lon	Speed mph	Address
1	2007/03/13	11:10:44	InMotion	38.638	-121.492	65 SW	I-80, Sacramento, CA
2	2007/03/13	11:15:50	InMotion	38.575	-121.570	63 W	I-80, West Sacramento, CA
3	2007/03/13	11:20:58	InMotion	38.557	-121.678	65 W	45217 E Chiles Rd, University of California-Davis Campus, CA 95616
4	2007/03/13	11:26:05	InMotion	38.515	-121.775	65 SW	Dixon, CA 95620
5	2007/03/13	11:31:15	InMotion	38.447	-121.858	66 SW	Dixon, CA
6	2007/03/13	11:36:26	InMotion	38.382	-121.943	64 SW	I-80, Vacaville, CA
7	2007/03/13	11:41:34	InMotion	38.323	-122.026	65 SW	Vacaville, CA
8	2007/03/13	11:46:43	InMotion	38.245	-122.082	66 SW	Magellan Rd, Fairfield, CA 94533
9	2007/03/13	11:51:44	InMotion	38.190	-122.170	66 SW	I-80, Fairfield, CA
10	2007/03/13	11:56:52	InMotion	38.119	-122.230	65 S	I-80, Vallejo, CA
11	2007/03/13	12:01:59	InMotion	38.039	-122.247	65 SW	Eastshore Fwy, Rodeo, CA
12	2007/03/13	12:07:08	InMotion	37.976	-122.319	66 S	Richmond, CA
13	2007/03/13	12:12:14	InMotion	37.897	-122.309	64 S	431 Cleveland Ave, Albany, CA 94706
14	2007/03/13	12:17:20	InMotion	37.826	-122.301	61 W	Oakland, CA
15	2007/03/13	12:22:24	InMotion	37.822	-122.324	53 W	I-80, Oakland, CA

Here we can see each instance when the selected vehicle exceeded the selected threshold.

The speed violation reports are useful for determining if a specific vehicle is being regularly operated in excess of safe speeds or speeds deemed appropriate according to company policy. With concrete data substantiating the behavior, it is then possible to effect corrective action with the driver BEFORE an incident occurs on the road.

## Exceeding Posted Speed

This report depends on the reverse-geocoding service providing a “posted” speed limit at the location of the vehicle.

## Driving/Stopped Time Summary

For the purposes of this report, we have selected Device “demo2” as it has made several stops during its deliveries. There is a lot of information to absorb in the [Driving/Stopped Time Summary](#) report. It is designed to give the fleet manager detailed information (on a vehicle basis), showing how much time was spent driving, how long the transit time was between stops and how much distance was covered. Additionally, the report shows how much time the vehicle spent stopped, what the duration of the stops were and how many stops there were and what the locations were. The fields presented in the report are **Start Date**, **Start Time**, **Driving Elapsed**, **Miles Driven**, **Stop Date**, **Stop Time**, **Fuel Economy** (if equipped), **Latitude**, **Longitude**, **Address**, **Idle Elapsed time**, and **Stopped Elapsed time**.

Driving/Stopped Time Summary										
<a href="#">Refresh</a>		Demo 2 [demo2] '2007/03/13' through '2007/03/13' [US/Pacific]							<a href="#">Map</a>	
#	Start Date/Time	Driving Elapsed	Driven Miles	Stop Date/Time	Fuel Econ mpg	Lat/Lon	Address	Idle Elapsed	Stopped Elapsed	
1	2007/03/13 02:45:37	1:29:43	72.0	2007/03/13 04:15:20	---	37.8992/-122.3243	2411 Isabel St, Richmond, CA 94804	0:19:12	0:19:12	
2	2007/03/13 04:34:32	0:29:04	13.2	2007/03/13 05:03:36	---	37.7703/-122.4121	422 11th St, San Francisco, CA 94103	0:27:36	0:27:36	
3	2007/03/13 05:31:12	0:30:25	10.9	2007/03/13 06:01:37	---	37.6659/-122.4519	Hickey Blvd, South San Francisco, CA	0:44:17	0:44:17	
4	2007/03/13 06:45:54	0:31:52	13.7	2007/03/13 07:17:46	---	37.5565/-122.2744	Portal Ln, Foster City, CA	0:22:00	0:22:00	
5	2007/03/13 07:39:46	0:07:04	0.0	2007/03/13 07:46:50	---	37.5561/-122.2818	1842 Gateway Dr, San Mateo, CA 94404	0:15:05	0:15:05	
6	2007/03/13 08:01:55	1:33:23	64.4	2007/03/13 09:35:18	---	37.7824/-121.2321	State Highway 120, Manteca, CA	n/a	n/a	
0	n/a	4:41:31	174.1	n/a	---			2:08:10	2:08:10	

This report can provide full detail on time spent driving, and time spent at stops. This allows the fleet manager to pinpoint where stops are taking longer than necessary or unnecessary stops are being made. Additionally, by reviewing drive time and distance between known destinations, it can be determined whether vehicles are being used in the most efficient manner.

The last 2 columns in the report are **Idle Elapsed time** and **Stopped Elapsed time**. Unless the in-vehicle device is equipped with ignition sense, the values in these two columns will always be the same. But with the ability to determine that the ignition is on while speed is zero, this report can also provide the fleet manager with valuable data on excessive idling. Excessive idling can be a large cost center, frequently unknown but easy to correct with the appropriate data available. This is just one more piece of information the [Driving/Stopped Time Summary](#) provides.

## 6) General Administration

### 6.1) Account Administration

By selecting [Account Admin](#) from the [Administration](#) tab, the [Edit Account Information](#) screen will be displayed, as shown below. This is where account-wide contact information, and units-of-measurement information and format.

**Edit Account Information**

Account ID: demo

Account Description: Demo Account

Contact Name: OpenGTS Staff

Contact Phone:

Contact Email: devstaff@opengts.org

Notify Email:

Time Zone: US/Pacific

Speed Units: mph

Distance Units: Miles

Volume Units: gal

Temperature Units: F

Latitude/Longitude Format: Degrees

Geocoder Mode: full

'Device' Title: Vehicle Plural: Vehicles

'DeviceGroup' Title: Vehicle Group Plural: Vehicle Groups

Default Login UserID: user

Expiration: n/a

[Change](#) [Cancel](#)

After making any edits on this screen, it is important to press the [Change](#) button at the bottom of the screen to save those edits (a message should then be displayed at the bottom of the frame to indicate that the information was saved). To cancel changes, press the [Cancel](#) link.

## 6.2) User Administration

By selecting [User Admin](#) from the [Administration](#) tab, the [View/Edit User Information](#) screen will be displayed, as shown below. On this screen, you can review all of the defined users in the system. There are a number of fields that are available in this summary view -- **User ID**, **User Name**, **Contact Name**, **Contact Email**, **Time Zone** and whether the user is **Active** (ie. allowed to log-in). As you can see from the list below, it isn't necessary to populate all of these fields when setting up new users. If all of the fields are not defined, the table in the User Information Summary will just have some gaps.

Select	User ID	User Name	Contact Name	Contact Email	Time Zone	Active
<input checked="" type="radio"/>	admin	Administrator			US/Pacific	Yes
<input type="radio"/>	maint	Maintenance			US/Pacific	Yes
<input type="radio"/>	user	OpenGTS User			US/Pacific	Yes

View Edit Delete

Create a new user:

User ID:  New

It is possible to access the details that have been defined for any user in either [View](#) or [Edit](#) mode. All of the details are the same in these two modes, with the primary difference being unable to edit in the [View](#) mode. There's also the ability to add new users using the [Create a new user](#), in the field at the bottom of the screen (green arrow). The new user ID must be all one word and can't have any upper-case letters or special characters.

To edit user information, click the [Edit](#) button (yellow arrow) to open the Edit window.

Within the [View/Edit User Information](#) screen, users are defined as active or inactive, their password is defined, all contact information is entered (if desired) and group authorization assignment is made.

Main	Mapping	Reports	Administration
<b>View/Edit User Information</b>			
User ID:	user		
Active:	Yes		
User Name:	Demo User		
Password:	*****		
Contact Name:			
Contact Phone:			
Contact Email:	jones@example.com		
Time Zone:	US/Arizona		
Authorized Group:	all		
First Login Page:	Main Menu		
Preferred Vehicle ID:	Demo [demo]		
Default ACL Role:	test		
<b>User Access Control:</b>			
Account Administration:	Default [Default is 'Write/Edit']		
User Administration (Current user):	Write/Edit [Default is 'Read/View']		
User Administration (All users):	Read/View [Default is 'None']		
User Administration (ACL access):	None [Default is 'None']		
User Administration (Group):	Write/Edit [Default is 'Read/View']		
User Administration (Role):	Write/Edit [Default is 'Read/View']		
Role Administration:	New/Delete [Default is 'None']		
Device Administration:	New/Delete [Default is 'Read/View']		
<input type="button" value="Change"/> <input type="button" value="Cancel"/>			

The user's access to specific functions while logged-in is controlled by the selection of the Default ACL Role (see next section for more information on Roles) and the overriding selections in the [User Access Control](#) list.

Each individual access-control item typically provides the following selectable levels of access:

- **None** No access is allow for the specified item.
- **Read/View** Only Read or View access is allow for the specified item. The user may not edit or change information related to the specific item.
- **Write/Edit** The user is allow to Edit and change information related to the specific item.
- **Delete/All** The user has all access rights to the specific item, including view, edit, and delete.

For any function listed (i.e. **Account Administration**, **User Administration**, etc.), the access for the current user is controlled by the definition of the [Default ACL Role](#), unless configured otherwise. Note: ACL refers to Access Control List. As can be seen in the list above, Default is selected for all visible functions and to the right of the drop-down list, that default access control right is specified. As an example, for [Device Administration](#), the default access control right is "Read/View". (The default access control permissions are set at system installation/configuration time by the system administrator).

## 6.3) Role Administration

While users can be set up with their own access rights, if you wish to have multiple user, all with the same access privileges, it may be easier to create a “Role”, then simply assign the role to the specific users. When a role is assigned to a user, the user then takes on the rights granted to the role for accessing various pages and reports within the GTS system.

Selecting [Role Admin](#) from the [Administration](#) menu displays [View/Edit Role Information](#) as shown below. As can be seen, there is one defined role called **dispatch**.

**View/Edit Role Information**

Select a Role:

Select	Role ID	Description	Has Users
<input checked="" type="radio"/>	dispatch	New Role	No

Create a new role:

Role ID:

Selecting the [Edit](#) button opens the [View/Edit Role Information](#) screen where the Role-specific information is defined.

Function	Access Level	Default
Account Administration:	Default	[Default is 'Read/View']
User Administration (Current user):	Default	[Default is 'Read/View']
User Administration (All users):	Default	[Default is 'None']
User Administration (ACL access):	Default	[Default is 'None']
User Administration (Group):	Default	[Default is 'Read/View']
User Administration (Role):	Default	[Default is 'Read/View']
Role Administration:	Default	[Default is 'None']
Device Administration:	Write/Edit	[Default is 'Read/View']
Devices Administration (Device UniqueID):	Default	[Default is 'Read/View']
Devices Administration (Notification Rules):	Default	[Default is 'Read/View']
Group Administration:	Default	[Default is 'Read/View']
Geozone Administration:	Write/Edit	[Default is 'Read/View']
StatusCode Administration:	Default	[Default is 'Read/View']
Rule Administration:	Default	[Default is 'Read/View']
Change Password:	Default	[Default is 'Write/Edit']
System Administration:	Default	[Default is 'None']

You'll notice that this screen looks very similar to the lower half of the [View/Edit User Information](#) screen. With the role of dispatch defined, the next task is to define access control rights (**None**, **Read/View**, **Write/Edit**, **New/Delete** and **Default**) for each of the functions listed down the left hand side. The only changes that need to be made are where the **Default** setting is not appropriate for the new role that is being defined.

Each individual access-control item typically provides the following selectable levels of access:

- **None** No access is allow for the specified item.
- **Read/View** Only Read or View access is allow for the specified item. The user may not edit or change information related to the specific item.
- **Write/Edit** The user is allow to Edit and change information related to the specific item.
- **Delete/All** The user has all access rights to the specific item, including view, edit, and delete.

Once access control rights have been defined for each of the functions, click on the [Change](#) button to save the changes. Repeat this process for each role (i.e. Supervisor, User, Manager, etc.) that needs to be defined for your operation.

Once created, a role may be assigned to any number of users to define their rights and capabilities when logged-in to the GTS system.

## 6.4) Vehicle Administration


The next step is to tackle the [Vehicle Admin](#) function, where the vehicle-specific configuration is defined. By selecting [Vehicle Admin](#) from the [Administration](#) tab, the [View/Edit Vehicle Information](#) screen will be displayed, as shown below.

In the table, the following pieces of information are displayed -- **Vehicle ID**, **Unique ID**, **Vehicle Name**, **Equipment Type**, **SIM Phone#**, and whether the device is currently **Active**. If new vehicles need to be created, that is done with the field in the middle of the page (**yellow arrow**) under [Create a new device](#). Just make sure to keep the ID confined to a single word with no capital letters or special characters.

Select	Vehicle ID	Unique ID	Vehicle Name	Equipment Type	SIM Phone#	Active
<input checked="" type="radio"/>	demo	imei_012345678912345	Demo Device	Personal Vehicle		Yes
<input type="radio"/>	demo2	imei_123450123456789	Demo 2	Truck/Trailer		Yes

View Edit Delete

Create a new device:

Vehicle ID:  

New

Selecting the [Edit](#) button opens the [View/Edit Vehicle Information](#) screen where the vehicle-specific information is defined.

Main	Mapping	Reports	Administration
<h3>View/Edit Vehicle Information</h3>			
Vehicle ID: <input type="text" value="demo"/>			
Unique ID: <input type="text" value="imei_012345678912345"/>			
Active: <input type="button" value="Yes"/>			
Vehicle Description: <input type="text" value="Demo Device"/>			
Equipment Type: <input type="text" value="Personal Vehicle"/>			
IMEI Number: <input type="text"/>			
SIM Phone#: <input type="text"/>			
Vehicle Group Pushpin ID: <input type="button" value="greendot"/>			
Ignition Input: <input type="button" value="0"/> (ignition input line, if applicable)			
<b>Vehicle Group Membership:</b>			
<div> <input checked="" type="checkbox"/> All [all]:           <input type="checkbox"/> Demo Group [demogroup]:         </div>			
<div> <input type="button" value="Change"/> <input type="button" value="Cancel"/> </div>			

Here there's a significant amount of key information that must be entered in order for the in-vehicle devices to communicate with the server.

- **Vehicle ID** will be passed from the prior screen.
- **Unique ID** has a particular syntax that is specific to the particular device being used. Typically it will consist of a short prefix, followed by the IMEI number, separated by the 'underscore' symbol.
- **Active** should be selected to 'Yes' if the vehicle is in active status, otherwise set to 'no'. Events from an inactive device will be ignored, and not inserted into the database.
- **Vehicle Description** is the text description for this vehicle.
- **Equipment Type** specifies the type of device in the vehicle.
- **IMEI Number** is only applicable for hardware that utilizes a GSM/GPRS modem. This field is used for informational purposes only.
- **SIM Phone#** is the phone# assigned to the SIM supplied by the wireless service provider. This field is used for informational purposes only.
- **Ignition Input** should be set to the digital input line of the ignition sense. If the device does not have an ignition sense, or the ignition sense is not connected, then leave it set to "n/a". The value of this field is used to determine idle time on the Driving/Stopped time report.
- **Vehicle Group Pushpin ID** should be set to the desired pushpin icon to use when representing this device on the Fleet/Group map.

In the Group Membership window, all vehicles will automatically belong to the 'All' group. This is where you can select whether you want this vehicle to belong to any other groups, simply by checking the appropriate boxes. Note, vehicles can belong to multiple groups, if desired. The details of [Group Administration](#) will be covered in the next section.

When all changes have been made to your satisfaction, click the [Change](#) button to save your changes.

## 6.5) Group Administration

The goal of the [Group Admin](#) function is to simply define what groups exist. As we just covered in the [Vehicle Admin](#) section, this is where all of the vehicles are assigned to their groups. So all that is left to do in the [Group Admin](#) function is to define the actual Groups. By selecting [Group Admin](#) from the [Administration](#) menu, the [View/Edit Group Information](#) screen will be displayed, as shown below.


In the table, the following pieces of information are displayed -- **Group ID**, **Group Name** and **Vehicle Count**. If new groups need to be created, that is done with the field in the middle of the page ([yellow](#) arrow) under **Create a new Group**. Just make sure to keep the ID confined to a single word with no capital letters or special characters.

**View/Edit Vehicle Group Information**

Select a Vehicle Group:

Select	Vehicle Group ID	Vehicle Group Name	Vehicle Count
--	all	All	2
<input checked="" type="radio"/>	demogroup	Demo Group	1

Create a new Vehicle Group:

Vehicle Group ID:  

Selecting the [Edit](#) button opens the [View/Edit Group Information](#) screen where the Group-specific information is defined.

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View/Edit Vehicle Group Information

Vehicle Group ID: demogroup

Vehicle Group Name: Demo Group

Current Vehicle Member List:

#	Name	ID
1	Demo 2	demo2

Change

Cancel

This screen shot will drive home the point of just how straight forward it is to set up and administer groups. When you've drilled down to the edit function on a specific Group, just give the group a text description in **Group Name** and you're done. The **Current Vehicle Member List** shows all vehicles which are currently a member of this group. When satisfied with your modifications, click the **Change** button to save changes.

## 6.6) Geozone Administration

One of the more powerful administrative tools is the [Geozone Admin](#) function. A Geozone can be defined around any reference location. Definition is simple and once complete, movement of vehicles in and out of that Geozone will populate the [Event Detail](#) report with the specific description of the Geozone used a custom reverse geocoded address. By selecting [Geozone Admin](#) from the [Administration](#) menu, the [View/Edit Geozone Information](#) screen will be displayed, as shown below.

In the table below, the following pieces of information are displayed -- **Geozone ID**, **Description (Address)**, **Reverse Geocode**, **Arrival Zone**, **Departure Zone**, **Radius (meters)** and **Center in Latitude/Longitude**.

The information in this table contains the following fields:

- **Reverse Geocode** indicates that reverse geocoding is turned on if set to 'Yes'. Reverse geocoding is used to map a GPS coordinate to a known street address.
- **Arrival Zone** set to 'Yes' indicates that an Arrival Event will be created when a vehicle enters that Geozone (requires additional configuration and support).
- **Departure Zone** set to 'Yes' indicates that a Departure Event will be created when vehicle exits that Geozone (requires additional configuration and support).
- **Radius** and **Center** define the position and size of each of the Geozones that are currently defined.

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### View/Edit Geozone Information

Select a Geozone:

Select	Geozone ID	Description (Address)	Overlap Priority	Zone Type	Reverse Geocode	Arrival Zone	Departure Zone	Client Upload ID	Radius (meters)	Center Latitude/Longitude
<input checked="" type="radio"/>	china	Forbidden City	0	PointRadius	Yes	No	No	--	1303	39.91647 / 116.39041
<input type="radio"/>	holmfirth	Custom Zone	0	PointRadius	Yes	Yes	Yes	--	1000	53.56455 / -1.80457
<input type="radio"/>	myzone	Custom Zone	0	PointRadius	Yes	Yes	Yes	--	20000	25.36901 / 49.58212
<input type="radio"/>	newzone	Custom Zone	0	PointRadius	Yes	Yes	Yes	--	20000	46.98798 / -104.04434
<input type="radio"/>	nozone	Mexicali	0	PointRadius	Yes	Yes	Yes	--	20000	32.67185 / -115.46737
<input type="radio"/>	pawtrax	Home	0	PointRadius	Yes	Yes	Yes	--	100	51.37007 / -0.16670
<input type="radio"/>	sfo	SFO	0	PointRadius	Yes	Yes	Yes	--	2057	37.61670 / -122.38653
<input type="radio"/>	test	Custom Zone	0	PointRadius	Yes	Yes	Yes	--	0	0.00000 / 0.00000
<input type="radio"/>	testzone	South Bend	0	PointRadius	Yes	Yes	Yes	--	30000	41.68611 / -86.24650


ViewEdit

Delete

Create a new Geozone:

Geozone ID: 

PointRadius



New

If new Geozones need to be created, that is done with the field in the middle of the page (**yellow** arrow) under [Create a new Geozone](#). Just make sure to keep the ID confined to a single word with no capital letters or special characters. If so configured, you can also select the type of Geozone to create (such as “PointRadius” or “Polygon”).

Select a Geozone and then click the [Edit](#) button to display the edit screen.

The screenshot displays the 'Edit Geozone' interface. At the top, there are tabs for 'Main', 'Mapping', 'Reports', and 'Administration'. The 'Mapping' tab is active, showing a map of Beijing with a green circular Geozone centered on the Forbidden City. The right-hand panel contains the following fields and controls:

- Description (Address):** A text field containing 'Forbidden City'.
- Reverse Geocode:** A checked checkbox.
- Arrival Zone:** An unchecked checkbox.
- Departure Zone:** An unchecked checkbox.
- Radius (meters):** A text field containing '1303'.
- Latitude/Longitude:** A table with two columns and six rows. The first row is selected, showing '39.91647' and '116.39041'.
- Reset Map:** A button.
- Geozone Notes/Instructions:** A list of instructions:
  - Click to reset center.
  - Click-drag Geozone to move.
  - Shift-click-drag to resize.
  - Ctrl-click-drag for distance.
  - Distances are always in meters.
  - Max radius is 30000 meters.
- Cursor Location:** A text field showing '39.91924 / 116.41642'.
- Distance Ruler:** A text field showing '0 meters'.
- Change** and **Cancel** buttons at the bottom.

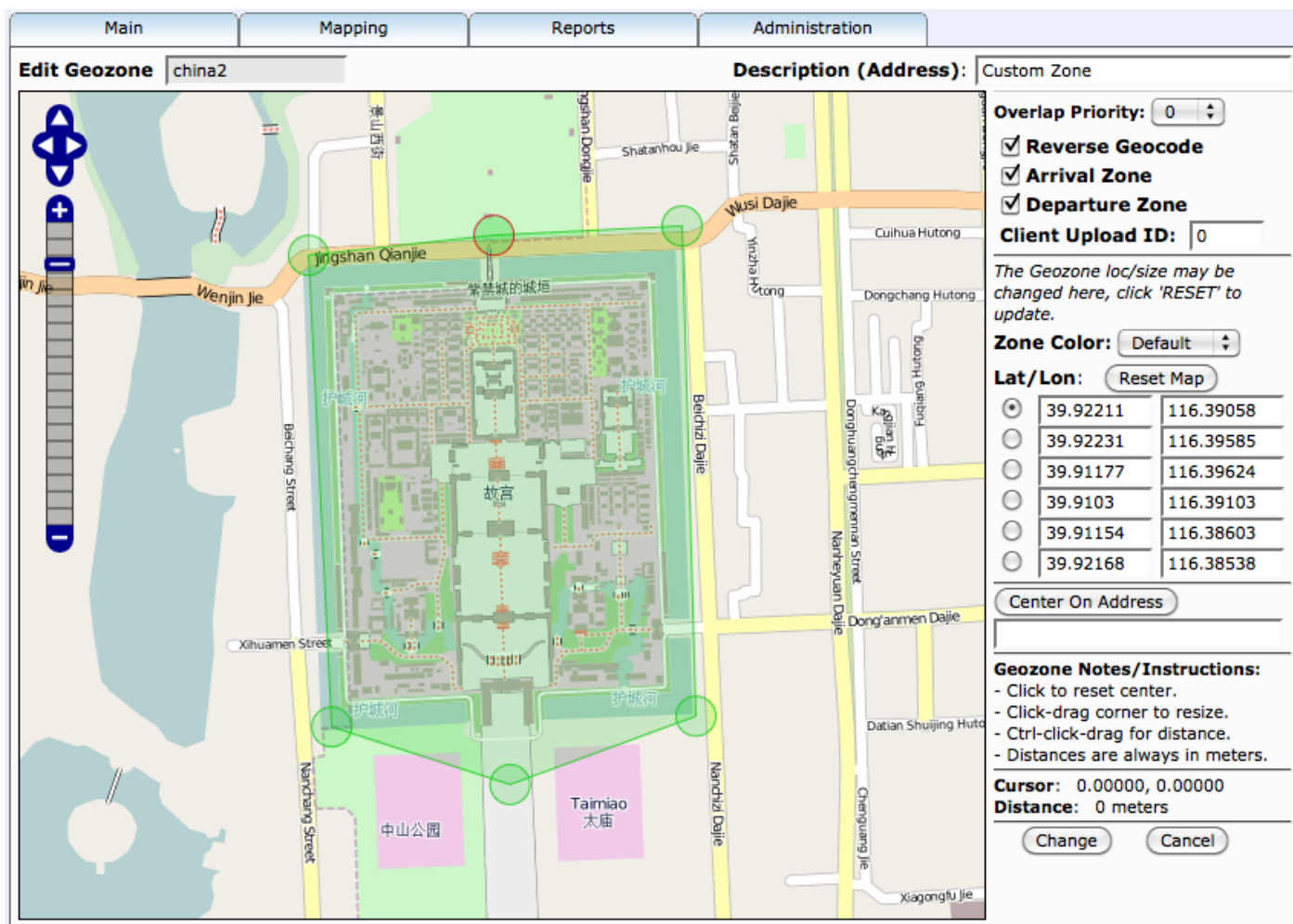
This shows the Geozone edit window showing a sample location with a point-radius Geozone. Using the map zoom controls, you can pinpoint the location of interest where you would like to center your Geozone. When the cursor is centered over the ideal location, there will be a Latitude/Longitude reading of that location right under the Cursor Location label (**red** arrow). The center of the Geozone will be indicated in the selected Latitude/Longitude row (**yellow** arrow). You can move the center of the Geozone by clicking and dragging the green area of the Geozone with your mouse.

Next we need to define the radius for the Geozone. You can enter a specific radius (in meters) into the specified field (in this case we've chosen 1303 meters), or you can hold the Caps-shift, then click inside the circle, and drag the radius to the desired size. If any field values are manually changed, we need to click the [Reset Map](#) button (**blue** arrow) to update the Geozone and map on the screen. At this point, you'll see the Geozone display as a green circle (as shown above), centered on the Latitude/Longitude coordinate you specified and with your defined radius. Before finishing the edit function, make sure to give your Geozone a text description in the field at the upper right hand corner of the edit window (**green** arrow). This description will be used as the custom reverse-geocoded address when vehicle are inside this Geozone.

NOTE: Just below the [Reset Map](#) button, there is a set of instructions to make positioning and sizing of your Geozone just a little bit easier.

When all edits are complete, click the [Change](#) button to save your changes. As before, the [Cancel](#) link will cancel any edits you have made.

Here's an example of a Polygon Geozone:



With a Polygon Geozone, you can drag the separate corners (vertices) of the polygon to the corners of the area you wish covered by the Geozone.

Also notice in the above example, the “Center On Address” button which allows entering an address to recenter the Geozone over the selected address. This feature requires that a valid “GeocodeProvider” has been configured (in the ‘private.xml’ files).

## 6.7) GeoCorridor Administration

*Note:*

*This section is only applicable to installations that include the Event Notification Rules Engine.*


The GeoCorridor Administration allows creating a specialized type of geofence that follows a driven route. The purpose of a GeoCorridor is to create a secure route over which a vehicle must be driven, and any deviation from this route will be detected by the Event Notification Rules Engine (with the appropriate rule selector) which will generate the appropriate alert.

By selecting [GeoCorridor Admin](#) from the [Administration](#) menu, the [View/Edit GeoCorridor Information](#) screen will be displayed, as shown below.

Select	GeoCorridor ID	Description	Radius (meters)	Starting Latitude/Longitude
<input checked="" type="radio"/>	calif	Route 5	2000	35.01060 / -118.95103
<input type="radio"/>	test	Utah route	1000	40.76559 / -111.95068

View Edit Delete

Create a new GeoCorridor:

GeoCorridor ID:  

New

In the table above, the following pieces of information are displayed -- **GeoCorridor ID**, **Description**, **Radius (meters)** and **Starting Latitude/Longitude**.

To create a new GeoCorridor, that is done with the field in the middle of the page (yellow arrow) under [Create a new Geozone](#). Just make sure to keep the ID confined to a single word with no capital letters or special characters.

Select a GeoCorridor and then click the [Edit](#) button to display the following edit screen.

**Edit GeoCorridor**  **Description:**

The GeoCorridor loc/size may be changed here, click 'RESET' to update.

**Radius (meters):**

**Lat/Lon:**

<input checked="" type="radio"/>	35.0106	-118.95103
<input type="radio"/>	35.29663	-119.25385
<input type="radio"/>	35.49757	-119.53262
<input type="radio"/>	35.61153	-119.65004
<input type="radio"/>	35.85956	-119.83749
<input type="radio"/>	36.01245	-119.99165
<input type="radio"/>	36.07796	-120.10666
<input type="radio"/>	36.18333	-120.20073
<input type="radio"/>	36.30683	-120.27626
<input type="radio"/>	36.52233	-120.47745
<input type="radio"/>	36.62324	-120.6086

**GeoCorridor Notes/Instructions:**  
- Distances are always in meters.

**Cursor:** 35.49376, -119.39627  
**Distance:** 0 meters

If a “GeocodeProvider” has been configured, the “Center On Address” field and button (blue arrow) can be used to enter an address to zoom in on a specific location to start a GeoCorridor.

The GeoCorridor description may be entered into the “Description” field (green arrow).

Under the “Lat/Lon” column are radio buttons that can be selected to enter or change points (vertices) of the GeoCorridor. You can select an empty row (ie. 0.0/0.0), then click on the map to set the latitude/longitude for the selected point. Then select the next empty row to select the next point. Individual points (vertices) on the map may be moved by selecting the specific lat/lon row, then dragging the point to a new location. (If using Google Premier Maps, a pushpin will be displayed at each point that can be dragged to a new location to rearrange the GeoCorridor).

The value entered into the “Radius” field determines the width of the corridor from the center-line of the path. This value may be increased or decreased as desired. Clicking “Reset Map” (red arrow) will redraw the GeoCorridor with selected points and radius.

After the GeoCorridor points and radius have been defined, click “Change” to save the corridor points and return to the [View/Edit GeoCorridor Information](#) screen.

## 6.8) Rule Administration

*Note:*

*This section is only applicable to installations that include the Event Notification Rules Engine.*

The Rules Engine is what ties together all of the Events, Geofences, and other information from the database to create a powerful and configurable AVL system. The significant feature of the Rules Engine is that it enables the delivery of the critical information from the mapping and reporting applications. When properly configured, this information is sent to the right people at the right time, without the need to constantly monitor the system. For this reason, we suggest taking some time and learning how the Rules Engine is defined, and how it functions and interacts with the various parts of the AVL system.

The scope of this document does not permit going into sufficient detail or depth to accomplish that function, but for those students that are interested, we provide this additional reference on the details of the Rules Engine.

<http://www.geotelematic.com/docs/RulesEngine.pdf>

By selecting *Rule Admin* from the *Administration* menu, the *View/Edit Rule Info* screen will be displayed, as shown below.

This screen is essentially a list of the existing rules and provides a pathway to either edit existing rules or add new ones. There's very little information that needs to be conveyed in the rule list on this page, with the only fields shown being **Rule ID**, **Description**, and **Selector**. We'll cover each of these parameters in detail in our discussion on the edit screen.

Main
Mapping
Reports
Administration

## View/Edit Rule Info

Select a Rule:

Select	Rule ID	Description	Selector	Cron Rule	Active
<input checked="" type="radio"/>	arrive_office	Office Arrive	\$ARRIVE("office")	No	Yes
<input type="radio"/>	depart	Departure on weekdays	(\$WEEKDAY && \$DEPART)	No	Yes
<input type="radio"/>	geofence	New Rule		No	Yes

View
Edit
Delete

Create a new Rule:

Rule ID:

New

As before, a new rule is made through the *Create a new Rule* entry field near the middle of the page (yellow arrow). To edit an existing rule, select that rule and then click the *Edit* button to launch the edit screen. In this case, we've chosen the **arrive\_office** Rule.

Main	Mapping	Reports	Administration
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---

### View/Edit Rule Info

---

Rule ID:

Notification Email:

System Rule:

Active:

Is Cron Rule:  (Used for periodic Rule triggering)

Description:

Rule Selector:

Email Subject:

Email Message: 

```

=====
Account   : ${account} [ ${accountid} ]
Device    : ${device} [ ${deviceid} ]
Date/Time : ${datetime}
Status    : [ ${statuscode} ] ${status}
Location  : ${geopoint} [ ${latitude}/${longitude} ]
Address   : ${address}
Speed     : ${speed}  ${direction}
Altitude  : ${alt}
Odometer  : ${odometer}
Distance  : ${distance}
=====

```

---

### Vehicle/StatusCode Selection:

Vehicle ID:

Status Code:

---

Going through these fields one at a time will be the most productive.

- **Rule ID** was defined in the [View/Edit Rule Info](#) screen and was simply passed down to this edit screen.
- **Notification Email** is the email where notifications as a result of this Rule should be sent.
- **Description** is the English description that defines what this Rule is for.
- **Rule Selector** is where all the logic happens for defined rules. These can be simple or complex and can be a single condition or can involve Boolean logic. Greater detail and instruction about rule definition is contained in the link provided on the prior page. In the case of this rule, we're simply using a standard function \$ARRIVE and using the Geozone "office" as the argument. The outcome is that we'll get a notification of an Arrival event at the **office** Geozone.
- **Email Subject** and **Message** define the contents of the email that will be sent when a notification is generated by the rule.

Under *Vehicle/StatusCode Selection*: Both **Vehicle ID** and **Status Code** are left set to **All**. This is the default condition unless there is a reason to restrict the rule to looking at only specific vehicles or only specific status codes.

So putting it all together, the **arrive\_office** Rule as defined above will generate a notification whenever any vehicle generates an Arrival Event by crossing into the **office** Geozone. Notification will be sent via email to smith@example.com with a header of "Arrive Office" and body text of indicating the event arrival information.

## 6.9) Status Code Administration

The function of *Status Code Admin* is simply to provide a more descriptive name for a status-code which has been assigned to an event which has arrive at the server from a remote tracking device. Most of the events (whether generated by the in-vehicle devices or the server have convenient, English descriptions. However, in some cases it may be useful to have a more descriptive name. This is where the Status Code Admin function comes in. It creates a mapping between the actual Status Code (either from the device or the server) and the English description that is preferred within the report. For instance, in the case of a digital input status code, instead of displaying "InputOn #7", you may define a custom description, such as "Ignition On".


By selecting *StatusCode Admin* from the *Administration* menu, the *View/Edit StatusCode Information* screen will be displayed, as shown below.

In the table, the following pieces of information are displayed -- **Status Code ID**, **Name** and **Description**. If new Status Code/Description relationships need to be created, that is done with the field in the middle of the page (yellow arrow) under *Create a new StatusCode*. You have the option of either creating a new status code or selecting a standard code for which to define a relationship. The status-code is a numeric value, and can be entered as a hex value of the form "0x#####" (where '#' is one of the hex digits "0123456789ABCDEF"), or as a base-10 integer.

Select	StatusCode ID	Name	Description
<input checked="" type="radio"/>	0xE866	BUS_LOCATION	Location
<input type="radio"/>	0xF400	BUS_LOCATION	Location
<input type="radio"/>	0xF423	INP.ON.3	Primary Pw On
<input type="radio"/>	0xF427	INP.ON.7	Ignition On
<input type="radio"/>	0xF443	INP.OFF.3	Primary Pw Off
<input type="radio"/>	0xF447	INP.OFF.7	Ignition Off

View Edit Delete

Create a new StatusCode:

StatusCode ID:  ( or, select a standard code: None ) 

New

To enter edit mode, select one of the existing Status Codes and then click the *Edit* button.

The following screen will be displayed, showing that the editing options are quite simple. Just like the summary table on the prior page, there are only 4 relevant fields -- **StatusCode ID** (which is filled in from the prior screen), **Name**, **Description**, and **Icon Name**.

The **Icon Name** field allows specifying which of the custom icons to display when an event with this status-code is displayed on the Device/Vehicle map.

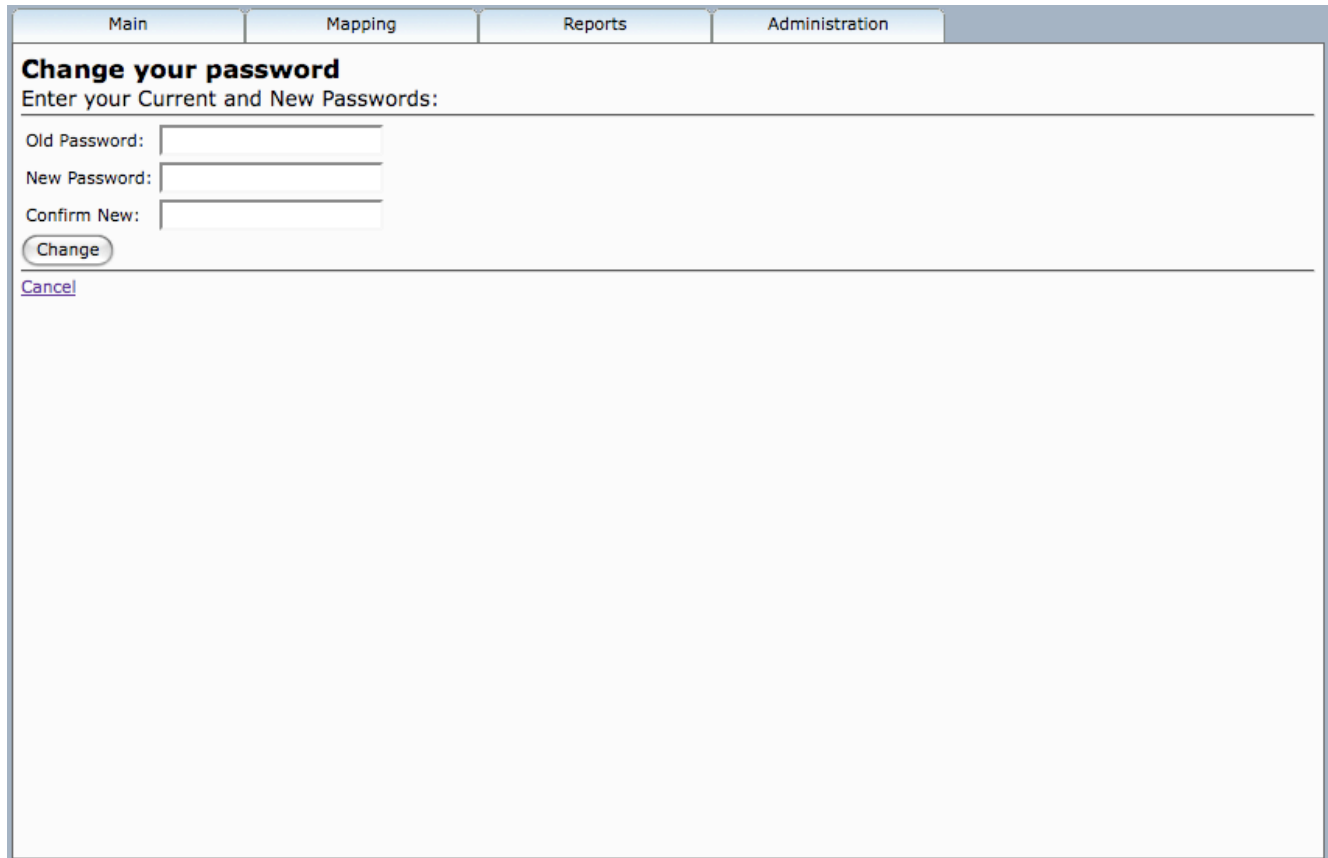
After any edits are made, click the *Change* button to save your changes.

The screenshot shows a web application interface with a navigation bar at the top containing four tabs: 'Main', 'Mapping', 'Reports', and 'Administration'. The 'Mapping' tab is currently selected. Below the navigation bar is a form titled 'View/Edit StatusCode Descriptions'. The form contains four input fields: 'StatusCode ID' with the value '0xE866', 'Name' with the value 'BUS\_LOCATION', 'Description' with the value 'Location', and 'Icon Name' which is an empty dropdown menu. At the bottom of the form are two buttons: 'Change' and 'Cancel'.

## 6.10) Change Password

The [Change Password](#) selection, under the [Administration](#) tab allows changing the current logged-in user's password. The [Change your password](#) screen will be displayed, as shown below.

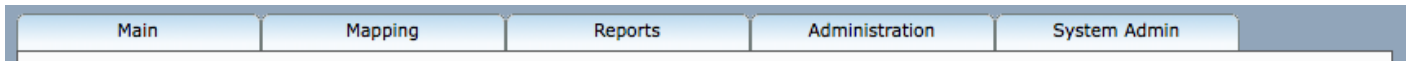
Enter your old password in the first field and then your new password in each of the next two fields. When entered, click [Change](#) to save your changes.



The screenshot shows a web application interface with a navigation bar at the top containing four tabs: 'Main', 'Mapping', 'Reports', and 'Administration'. The 'Administration' tab is currently selected. Below the navigation bar, the page title is 'Change your password' in bold. Underneath the title is the instruction 'Enter your Current and New Passwords:'. There are three input fields: 'Old Password:', 'New Password:', and 'Confirm New:'. Each field is followed by a text input box. Below the input fields is a button labeled 'Change'. At the bottom left of the form area, there is a link labeled 'Cancel'.

## 7) System Administration

The “sysadmin” account has special privileges for accessing system information and creating and deleting various other accounts. When the System Administrator logs-in, a new tab is available with additional options:

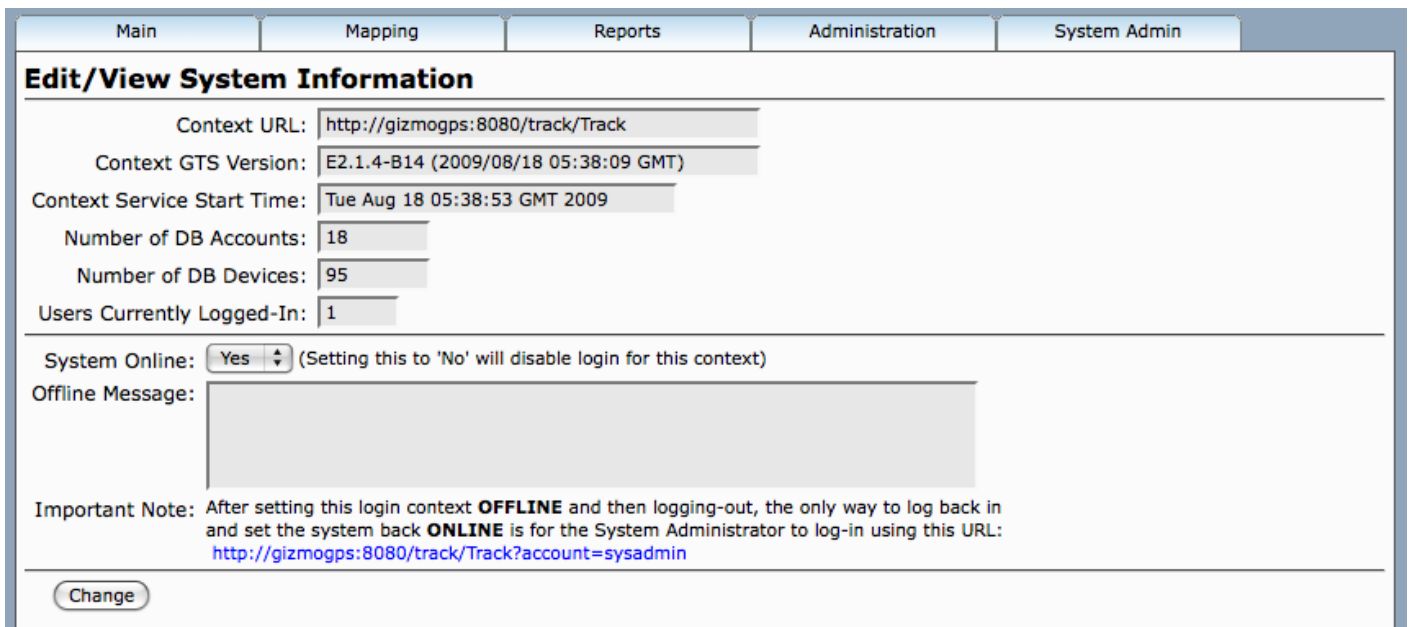


Note: The “sysadmin” account is typically added at installation time, however, if it has not yet been created, the following command must be executed from within the GTS Enterprise installation directory, which will create the “sysadmin” account with password “syspass” (this password should be customized on the command-line, or changed after logging in):

```
cd $GS_HOME
bin/admin.pl Account -account=sysadmin -pass=syspass -create
```

### 7.1) System Information

The "System Info" menu options displays a page showing system-wide information such as the number of accounts, and number of devices, currently contained within the system, and the current number of logged-in users.

A screenshot of the 'Edit/View System Information' web page. The page has a header with the same navigation tabs as above. The main content area is titled 'Edit/View System Information' and contains several fields for system configuration. The 'Context URL' is 'http://gizmogps:8080/track/Track'. The 'Context GTS Version' is 'E2.1.4-B14 (2009/08/18 05:38:09 GMT)'. The 'Context Service Start Time' is 'Tue Aug 18 05:38:53 GMT 2009'. The 'Number of DB Accounts' is '18'. The 'Number of DB Devices' is '95'. The 'Users Currently Logged-In' is '1'. There is a 'System Online' dropdown set to 'Yes' with a note: '(Setting this to 'No' will disable login for this context)'. Below this is an 'Offline Message' text area. At the bottom, there is an 'Important Note' about setting the system to 'OFFLINE' and logging back in as 'sysadmin' using a specific URL. A 'Change' button is at the bottom left.

This page also provide the ability to set an "Offline" message, should you wish to temporarily bring the system down for maintenance purposes.

## 7.2) System Accounts

Selecting "System Accounts" from the "System Admin" tab will allow viewing all currently existing accounts. The list will also show which accounts currently have logged-in users:

The screenshot shows the 'Create/Delete/Edit Accounts' interface. At the top, there are tabs: Main, Mapping, Reports, Administration, and System Admin. The 'System Admin' tab is selected. Below the tabs, the title 'Create/Delete/Edit Accounts' is displayed. Underneath, there is a section 'Select an Account:' followed by a table of accounts.

Select	Account ID	Account Description	Active	Device Count	PrivateLabel Name	Created GMT	Last Login GMT	Logged In Now
<input type="radio"/>	demo	Demo 'Account'	Yes	2	*	2007/03/13 09:45:37	2010/03/12 20:57:04	--
<input type="radio"/>	sysadmin	System Administrator	Yes	0	*	2009/03/20 04:35:28	2010/03/12 21:17:37	(1)
<input type="radio"/>	test	Test Account	Yes	0	*	2010/03/12 21:07:48	never	--

Below the table, there are buttons: View, Edit, Login, and Delete. The 'Delete' button is highlighted.

Below the buttons, there is a section 'Create a new Account:' with a text input field for 'Account ID:' and a 'New' button.

Entering an Account-ID, and clicking "New" will allow you to create a new account.

To edit an existing account, select the desired account and click "Edit". A page will be displayed allowing you to change selected information, such as the account description, the account password, and whether the account is currently active, or not (setting an account to inactive will prevent the account users from logging in).

The screenshot shows the 'Create/Delete/Edit Accounts' interface with the 'Edit' form for the 'demo' account. The 'System Admin' tab is selected. Below the tabs, the title 'Create/Delete/Edit Accounts' is displayed. Underneath, there is a section 'Edit Account:' with the following fields:

- Account ID: demo
- Account Description: Demo 'Account'
- Active: Yes (dropdown menu)
- Password: \*\*\*\*\*
- PrivateLabel Name: \* (dropdown menu)

Below the fields, there are buttons: Change and Cancel.

For system installations which serve more than one domain name look-and-feel, the "PrivateLabel Name" field allows selecting which domain this account is allowed to log in to. If only one "PrivateLabel" Domain is configured, then the selected value should be '\*'.

## 7.3) Find Assigned Unique-IDs

As devices are created and deleted, and moved from one account to another, it is very possible to lose track of the account to which a specific device was assigned. The "Find Assigned Unique-IDs" page allows searching the database for a specific device mobile ID (ie. IMEI#, etc), to see which Account is currently assigned to a specific device.

Enter the device IMEI# (or other mobile ID), such as "123456789012345", into the "Search Mobile ID" field, then click "Find". A list of matching Devices will be displayed. Ideally, the list will only show a single Device entry (or no entry, if the mobile ID is not yet defined), however, if more than one entry exists (such as "imei\_123456789012345" and "id\_123456789012345"), this may indicate a conflict in unique-ids that could result in incoming data from the device being routed to the incorrect Account/Device record. Any such conflicts should be corrected.

Main	Mapping	Reports	Administration	System Admin
<b>Find Assigned Unique-IDs</b>				
Search Mobile-ID :: <input type="text"/>				
<input type="button" value="Find"/>				
Devices matching specified Mobile-ID:				
Account	Device ID	Unique ID	Device Description	Server ID
demo	demo	imei_123456789012345	Demo Device	enfora
1 Device Found				

## 7.4) System Administrator Reports

An additional report has been added to assist the System Administrator in supporting and administering the system. Under the “System Admin” tab, select “SysAdmin Reports”:

**GPS Tracking Reports**  
Please select a report from the following menu:

**Device Group:**  
All

**Select Date Range:**  
From 2010/03/12 | 00:00  
To 2010/03/12 | 23:59  
TimeZone: GMT

**System Administrator Reports:**  
☒ Unassigned Devices

**Format:** HTML

Currently, this displayed report menu includes an “Unassigned Devices” report, which displays the Mobile-ID (ie. IMEI, etc) and last location of any devices reporting to the system that have not yet been assigned to an account:

<b>Devices not yet assigned to an Account</b>					
<a href="#">Refresh</a>		Timezone: GMT			
#	Server-ID	Unique-ID	Received Time	Event Time	Lat/Lon
1	enfora	011557002072268	2009/12/17 09:43:05	2009/12/17 09:43:05	51.51842/-0.06332
2	enfora	tropi106		2009/08/31 18:23:15	

## 7.5) Look-And-Feel Administration

If the default JSP files are being used for the web-interface, the Look-And-Feel Administration page allows customizing the banner image and the background color, based on the hostname in the URL which is used to visit the website. For instance, if you were to configure the two URLs "<http://taxi.example.com/track/Track>" and "<http://trucking.example.com/track/Track>" to access your server, you could use the Look-And-Feel Administration page to customize the banner image and background color separately for each of these URLs.

Under the "System Admin" tab, select "Look-And-Feel Admin":

**View/Edit Look-and-Feel Information**

Select a Host ID:

Select	Host ID	Description
<input checked="" type="radio"/>	taxi.example.com	"taxi.example.com" custom look-and-feel
<input type="radio"/>	trucking.example.com	"trucking.example.com" custom look-and-feel

Create a new entry:

Host ID:

To create a new look-and-feel entry, enter the host (domain) name of the URL which will be used to visit the web-interface, then click "New".

To Delete an existing entry, select the entry, then click "Delete". It will display a confirmation window allowing you to again select "Delete" or "Cancel".

To edit the values for a specific entry, select the entry, then click "Edit".

Main	Mapping	Reports	Administration	System Admin
<b>View/Edit Look-and-Feel Information</b>				
Host ID: <input type="text" value="taxi.example.com"/>				
Description: <input custom="" look-and-feel"="" type="text" value="taxi.example.com"/>				
Select the name of a JSP entry (from the JSPEntries section in 'private.xml') (WebPages tag, 'jsp' attribute, must reference the 'default' JSP entry)				
Default JSP Entry: <input type="text" value="sbanner"/>				
Enter the page Title and Copyright text to display. Depending on the selected JSP entry, the page Title may also be displayed within the banner image.				
Page Title: <input type="text" value="Acme Taxi Service Tracking"/>				
Page Copyright: <input type="text" value="Copyright Acme Taxi Service"/>				
Enter the banner area width and style				
Banner Area Width: <input type="text" value="860"/>				
Banner Style: <input type="text"/>				
Enter the banner image source/URL, width, height, and link (if applicable)				
Banner Image Source: <input type="text" value="http://taxi.example.com/images/TaxiBanner.png"/>				
Banner Image Width: <input type="text" value="860"/>				
Banner Image Height: <input type="text" value="120"/>				
Banner Image Link: <input type="text"/>				
Enter the background color in html format (eg. 'FFFFFF' is white)				
Background Color: <input type="text" value="FFFFFF"/>				
Note: Any of the above values may be left blank, in which case their default value will be used				
<input type="button" value="Change"/> <input type="button" value="Cancel"/>				

The “Description” field allows providing a description name for the entry.

The “Default JSP Entry” allow selecting one of several configured JSP files to use for the custom look-and-feel. (These JSP names are configured in the “private.xml” file).

The “Page Title” and “Page Copyright” allow setting the title displayed on the page, and the copyright text typically displayed at the bottom of the page.

The “Banner Area Width” is the width of the centered area which will be used for the banner and content sections. This value may be either a percent (ie. “100%”), or a numeric pixel width value.

The “Banner Style” allows specifying any custom style you wish associated with the banner area.

Banner Image “Source”, “Width”, and “Height” refer to the displayed banner image and its displayed image width and height (displayed in numeric pixels). The “Link” field allows specifying a URL anchor/link which will be displayed if the user clicks on the banner image.

The “Background Color” field allows setting the background color which will be used on the web-interface pages. The color should be specified in html #HEX format (ie. “#000000” is black, and “#FFFFFF” is white).

Click “Change” to save the entered values.