



neo**Connex**

**A text messaging and GPS
application for *MOTOTRBO*[™]**

Web Reporting - Version 1.3



neo**Connex**

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Before you Start:

Introduction:

Thank you for purchasing neoConneX[®], an application designed by NeoTerra[®] Systems for the Motorola MOTOTRBO[™] Professional Digital Two-Way Radio System, to permit the user enhanced control capabilities. The application has been designed to accommodate the safe tracking of fleet and similar fixed locations that use the MOTOTRBO product. The application has an archiving reporting feature that reports on activity captured by various parts of the application.

NeoTerra[®] Systems has worked with the end users to streamline the application and make it simple to install, easy to use and understand.

Before Installing the Software:

It is IMPORTANT to ensure that prior to configuring neoConneX[®]; that your Computer route table has been appropriately updated; so that the MOTOTRBO[™] radio network can be accessed.

The demonstration version of neoConneX[®] can be run as a stand alone, however, once purchased will require a USB “Key” to work with and validate the licensing agreement. This “Secure Key” will be supplied once the purchase has been approved.

CAUTION!

The purchased neoConneX[®] application is governed by a licence agreement that INCLUDES a USB license dongle, that compounds the security of the application for your exclusive use. This USB device is a Serialized Key that handshakes with your neoConneX[®] application to validate its licensing parameters and contains information that verifies these parameters which relates to the features purchased.

This USB “key” MUST be inserted into a usable USB port on the Computer and left in place at all times, while the purchased application is in use.

Failure to do so or removal of the key at any time will result in the termination of the neoConneX[®] application.

It is IMPERATIVE that the USB Secure Key be protected and secured at all times. In the event of loss or damage a replacement key can ONLY be purchased from NeoTerra[®] Systems.

NeoTerra[®] Systems Contact information:

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*(Please use the process within your Country to allow for direct dialling.)
For your convenience you may wish to try: <http://www.countrycallingcodes.com/>*

For more information on NeoTerra[®] Systems please visit: www.neoterra.ca

Installing neoConneX[®] Web Reporting Application:

Minimum requirements:

A Microsoft Windows Platform – Windows XP Professional, Windows Vista Professional/Business/Ultimate, Windows 7 Professional/Business/Ultimate, or Windows Server 2008. neoConneX[®] will run on both 32-bit and 64-bit operating systems. Please note that the software component for conventional and capacity plus MotoTRBO systems, neoNytro Node, will not operate on any Windows Server operating system.

- **>= 2 GHz Dual-Core CPU**
- **At least 4GB of system memory (RAM)**
- **160 GB hard drive with at least 15 GB of available space (Minimum)**
- **Audio Output**
- **Local Area Network with IP Platform support**
- **Internet access for remote support**
- **Internet Domain (if hosting our web-based AVL, mailservice, or MultiSpeak web service)**
- **Internet Explorer 8+, Opera 10+, or Firefox 3.x+ web browser (for reporting and/or AVL Web solution).**

Additional requirements:

Actual requirements and product functionality may vary based on your system configuration.

The installation disc contains files that will be used for the successful installation of neoConneX[®]. These folders & files are located under the “Server” folder”. Install them in the order shown.

- 1) **Httpd-2.2.19-win32-x86-openssl-0.9.8r.exe** – Contains the setup program for the web server to allow the web based reporting tool to run. Found under the “Apache” folder. If this has been previously installed, you can skip this step.
- 2) **WebReports Setup.exe** – Contains the web-based reporting application. It is recommended to use the default installation path presented by the application. Found under the “Web Reporting” folder.

The **MOTOTRBO™** Professional Digital Two-Way Radio System:

Some interesting “points” to remember about the **MOTOTRBO™ Professional Digital Two-Way Radio**



The Mobile radio has 5 terminal inputs and the Portable unit has 3 terminal inputs for use in telemetry.

NeoTerra[®] Systems has taken advantage of these terminals to accommodate various tasks that are efficiently controlled by the neoConneX[®] application.

Some value added inclusions within neoConneX[®]:

neoConneX[®] has some embedded assistance within the application:

1. Bundled geoMap maker for calibrating raster images for use in the GIS control.
2. Web-based archive reporting tool.
3. Bundled drivers in Quick start, which includes Motorola drivers using Ethernet over USB.
4. Ability to integrate Conventional, Capacity Plus, and Connect Plus systems together.
5. Mail service to negate the need to have a catch-all account or email aliases set up.
6. Mappoint GeoCoding service to make neoConneX[®] more robust.

There are 4 Protocols that neoConneX[®] uses with **MOTOTRBO™** devices:

1. Text Messaging – Can isolate a unit and send a unit-specific message to the device in question.
2. ARS (Automatic Registration Service) – Advises of devices that come on- line and go off-line.
3. Telemetry options – Sending automatic Text Messages that are based on actions taken by various operations at the remote location or vehicle.
4. GPS Tracking – Location based Services.

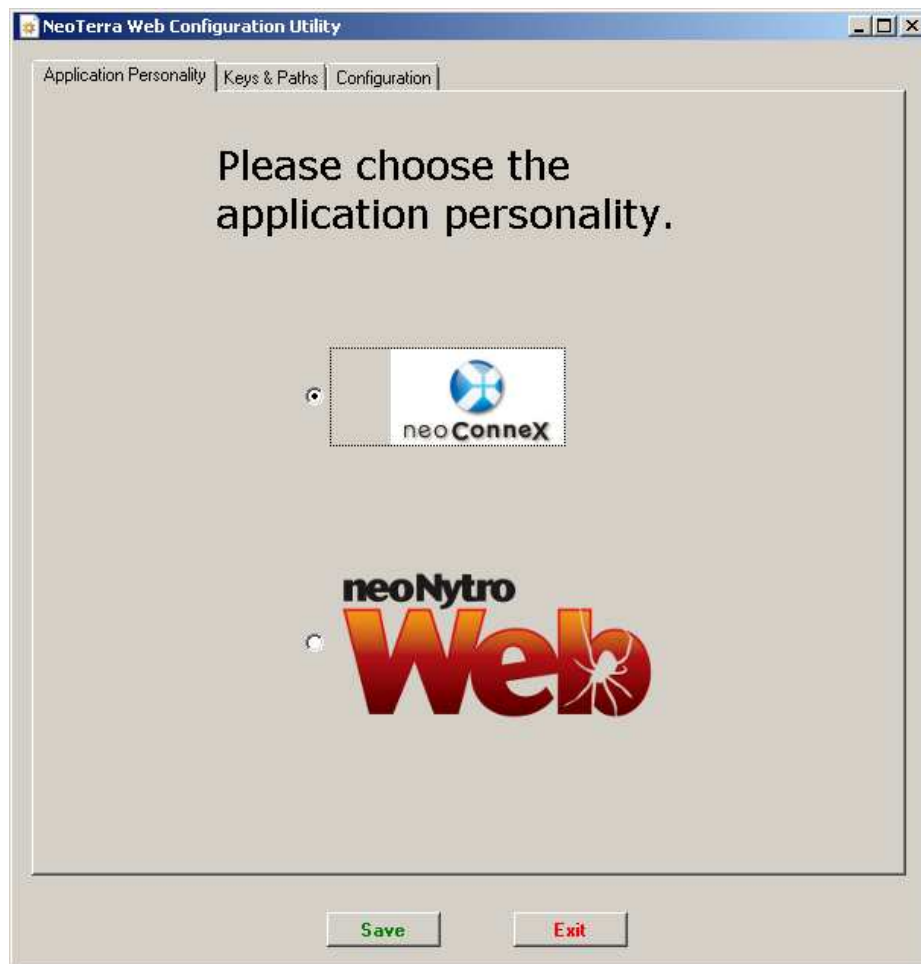
SECTION 2 – Web Server Configuration

Application Personality Tab:

There exists some additional setup for both the web reporting and AVL web applications.

Navigate to Start > Computer > C Drive > Inetpub folder > wwwroot folder > neoConneXWeb folder > and double-click the file neoWebCfg.exe to run it.

You will see a screen as below. Select the “neoConneX” application personality. The other two tabs “Keys & Paths” and “Configuration” will become available.



Keys & Paths Tab:

Data Paths – Contains a database path to a Microsoft Access database (neoNytro Only). You can ignore all of these for neoConneX.

Internal Web Application Keys – These contain separate URLs where the various online mapping sources are found. Google Earth requires what is called an API key for neoConneX to be able to use it. Simply click on the “Browse” button beside the maps key in question for a set of instructions and a web page that will take you right to the registration website. Once you have the key, copy and paste it after the “key=” in Google Earth.

External Web Application Keys – Same as above but these are used for those accessing this web application externally across the internet.

All keys, during the creation process need to refer to a PC NAME and NOT an IP! So, when signing up a PC for a google earth key with a name of RadioPC, you’d specify <http://RadioPC:8080> as the machine to register a key for.

Note: You cannot use an IP when creating an API key for Google Earth. The PC, whether internally or externally available, MUST resolve to a NAME!

The screenshot shows the 'NeoTerra Web Configuration Utility' window with the 'Keys & Paths' tab selected. The 'Data Paths' section includes fields for 'World Map Kit Data' (c:\WorldMap), 'World Map Kit Cache Data' (C:\WMKCache), and 'Database Path' (C:\ProgramData\NeoTerra Systems\neoNytro Server\data). The 'Internal Web Application Keys' section includes fields for 'Google Maps', 'Google Earth Maps', 'Yahoo Maps', and 'Virtual Earth (Bing) Maps'. The 'External Web Application Keys' section includes fields for 'Google Maps', 'Google Earth Maps', 'Yahoo Maps', and 'Virtual Earth (Bing) Maps'. Each field has a 'Browse' button next to it. At the bottom of the window, there are 'Save' and 'Exit' buttons.

Configuration Tab:

Default Web Reporting Tab – This setting has been deprecated.

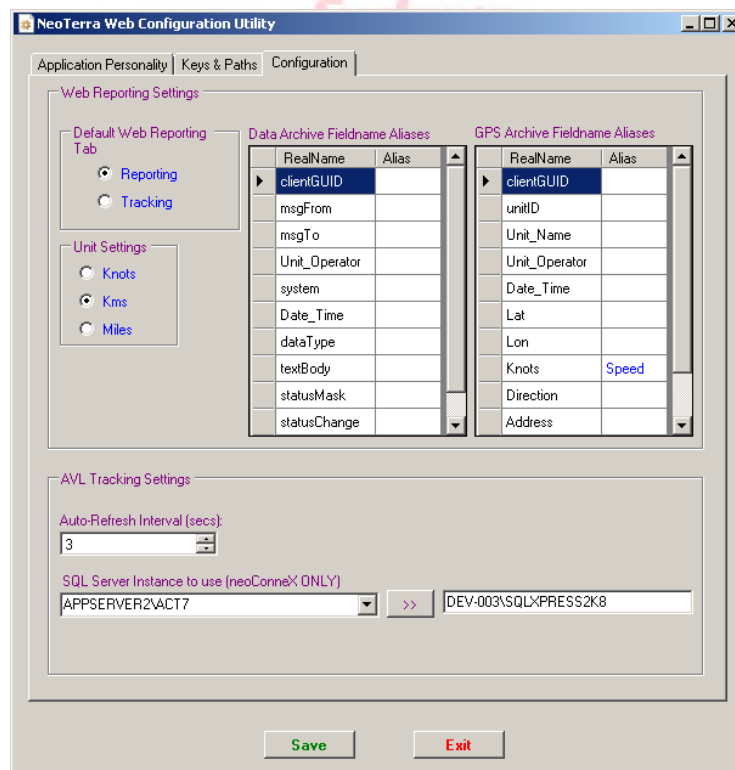
Unit Settings – Controls what units are used in the web reporting application by default.

Data Archive Fieldname Aliases – This gives the user the flexibility to assign more meaningful column names than those available by default on the sorting and criteria grid on the web reporting screen (default.aspx) for the data reports.

GPS Archive Fieldname Aliases – This gives the user the flexibility to assign more meaningful column names than those available by default on the sorting and criteria grid on the web reporting screen (default.aspx) for the GPS reports. The screenshot below shows that the “Knots” table column will be “renamed” to show “Speed” on the default.aspx record selection screen.

Auto-Refresh Interval (in secs) – This controls how often the map is updated in the neoConneX Web AVL application when the “Auto-Refresh” button is toggled on (neoConneX Web ONLY).

SQL Server Instance to use (neoConneX ONLY) – This setting allows the selection of the PC and SQL Server database instance where the neoConneX database resides.





Section 3 – Using the Web Reporting Tool

Logging In:

The first step in using the new web reporting tool is to login to it. By logging into the application, the server knows what units it should show to you since each login (client) is tied to a specific customer (end-user). These client names are set up in the neoConneX® Server Setup screen.

The next screen you will be presented with will allow you to choose what kind of report to show based on your selection of the archive and report in the report list.

	FieldName	Operator	Criteria	Sort Order	Desc
Edit	unitID				<input type="checkbox"/>
Edit	Unit_Name	LIKE	Bob%	1	<input type="checkbox"/>
Edit	Date_Time			2	<input type="checkbox"/>
Edit	Lat				<input type="checkbox"/>
Edit	Lon				<input type="checkbox"/>
Edit	Speed				<input type="checkbox"/>
Edit	Direction				<input type="checkbox"/>
Edit	Address				<input type="checkbox"/>
Edit	DirectionDesc				<input type="checkbox"/>
Clear Grid					

Report filtering & Sorting Screen:

The next step, once you've selected the report that is to be rendered is to enter any selection criteria to narrow down the data displayed in the report. Most of the page is pretty self-explanatory, but the "operators" column deserves a bit more of an explanation.

Operator Definitions: Equal To "=", Less Than "<", Greater Than ">", Less Than or Equal To "<=", Greater Than or Equal To ">=", Not Equal To "<>", LIKE "LIKE", NOT LIKE "NOT LIKE"

Using the LIKE Operator:

There are a couple of special characters that can be utilized in the criteria selection screen when using the "LIKE" and "NOT LIKE" operators. The % sign means a wildcard which is any record matching the criteria after or before its placement in a given string. The _ underscore is used to represent a wildcard for a single character position in a string. Any criteria specified is additive, which means data shown will be more restrictive the more items you filter on. See the next few examples narrowing by unit name below for clarification. The % and _ characters can be utilized simultaneously for a single field to allow for more complex filtering.

"M_": Pulls units containing the letter "M" and an additional character ("M1", "MZ" would all fit).

The screenshot shows the 'Archive Reporting Tool' interface. At the top, there are tabs for 'Application Mode', 'Choose Archive', 'Report List', and 'Units'. The 'Report List' tab is active, showing a dropdown menu with 'rptneoConneXGPS' selected. Below this, there are date pickers for 'From Date' and 'To Date', both set to '12/22/2011'. There are buttons for 'To Report', 'To CSV', 'To Google Maps', and 'To Google Earth'. Below the date pickers, there are sections for 'Saved Report Criteria' and 'Saved Report Maint'. The 'Field Sorting Options' section contains a table with columns for 'FieldName', 'Operator', 'Criteria', 'Sort Order', and 'Desc'.

	FieldName	Operator	Criteria	Sort Order	Desc
Edit	unitID				<input type="checkbox"/>
Edit	Unit_Name	LIKE	Bob%	1	<input type="checkbox"/>
Edit	Date_Time			2	<input checked="" type="checkbox"/>
Edit	Lat				<input type="checkbox"/>
Edit	Lon				<input type="checkbox"/>
Edit	Speed				<input type="checkbox"/>
Edit	Direction				<input type="checkbox"/>
Edit	Address				<input type="checkbox"/>
Edit	DirectionDesc				<input type="checkbox"/>
Clear Grid					

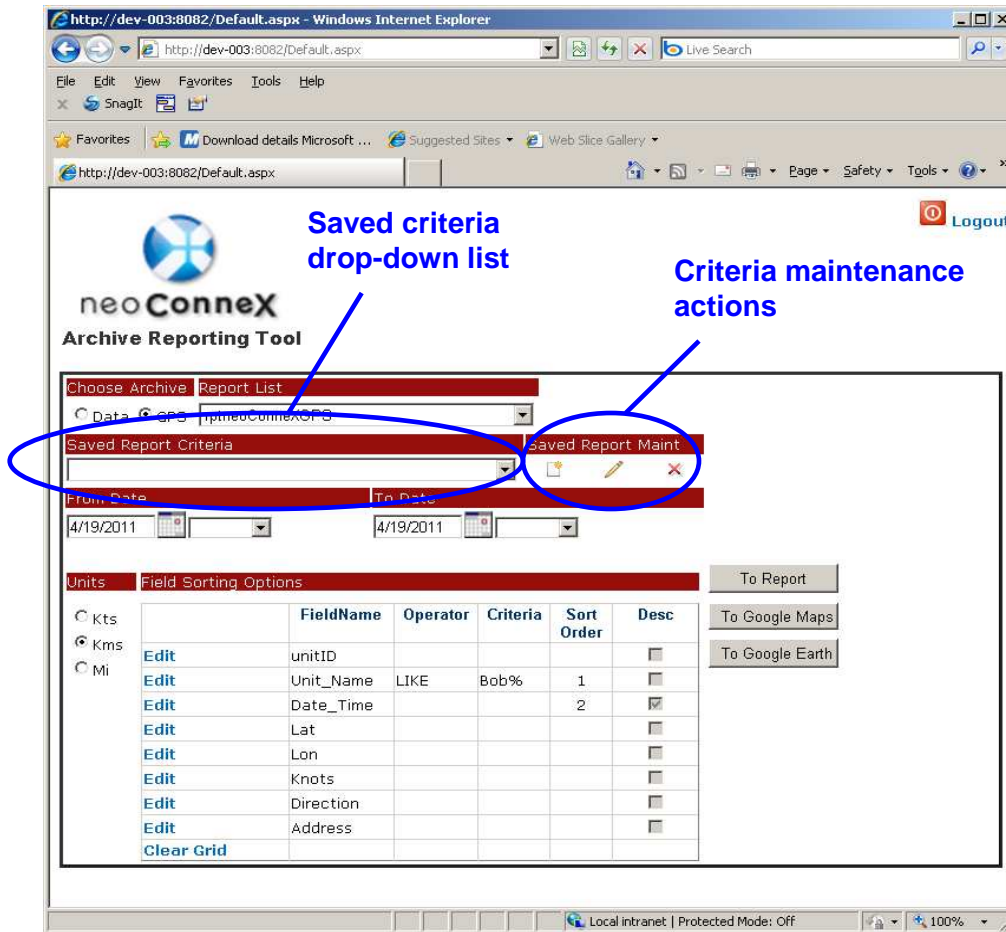
"M%": Pulls units starting with the letter "M" ("MZ", "Monday" would fit)








"%M%": Pulls all units containing the letter "M"

The example shown on the left will pull all Units matching "BobX", where X is a wildcard matching any number of characters ("Bobaa", "Bob1234" will all fit). We are also showing the speed units in kilometers, and sorting by "Unit_Name" in ascending order, then by "Date_Time" in descending order.

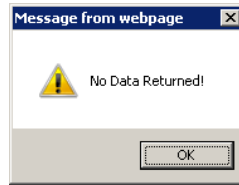
Saving Report Filtering & Sorting Criteria:

There are options to allow saving, modifying, and deleting report criteria. This allows a report user to save time by simply calling up a previously saved set of criteria that would otherwise have to be typed in every single time before a report is rendered.



- To save a set of criteria, simply click the  icon, give the criteria a name, and then click the  icon to save, or the  icon to cancel changes.
- To modify a set of criteria, simply click the  icon and then click the  icon to save, or the  icon to cancel changes.
- To delete a set of criteria, simply select the saved criteria from the drop-down list and click the  icon. A confirmation box will popup asking if for confirmation to deleted the selected criteria (OK to delete, Cancel to abort).

If no data is retrieved with the criteria specified, then a message box like the one below will be displayed.



Once a report is rendered a screen like the below will be shown. The Reports tab toolbar has many options including the ability to export the report to Excel, Word, Rich Text Format, even PDF!

Unit Name	Date Time	Speed	Direction	Address
Unit 2	12/22/2011 3:24:32 AM	0.0	ESE (122)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 3:39:32 AM	0.0	SE (132)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 3:54:32 AM	0.0	SE (130)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 4:09:31 AM	0.0	E (84)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 4:24:30 AM	0.0	E (98)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 4:39:31 AM	0.0	NE (50)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 4:54:30 AM	0.0	ENE (74)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 5:09:31 AM	0.0	NNE (30)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 5:24:31 AM	0.0	NE (34)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 5:39:31 AM	0.0	ENE (68)	46, Centennial Road, Orangeville, Ontario, Canada
Unit 2	12/22/2011 5:54:31 AM	0.0	ESE (110)	46, Centennial Road, Orangeville, Ontario, Canada

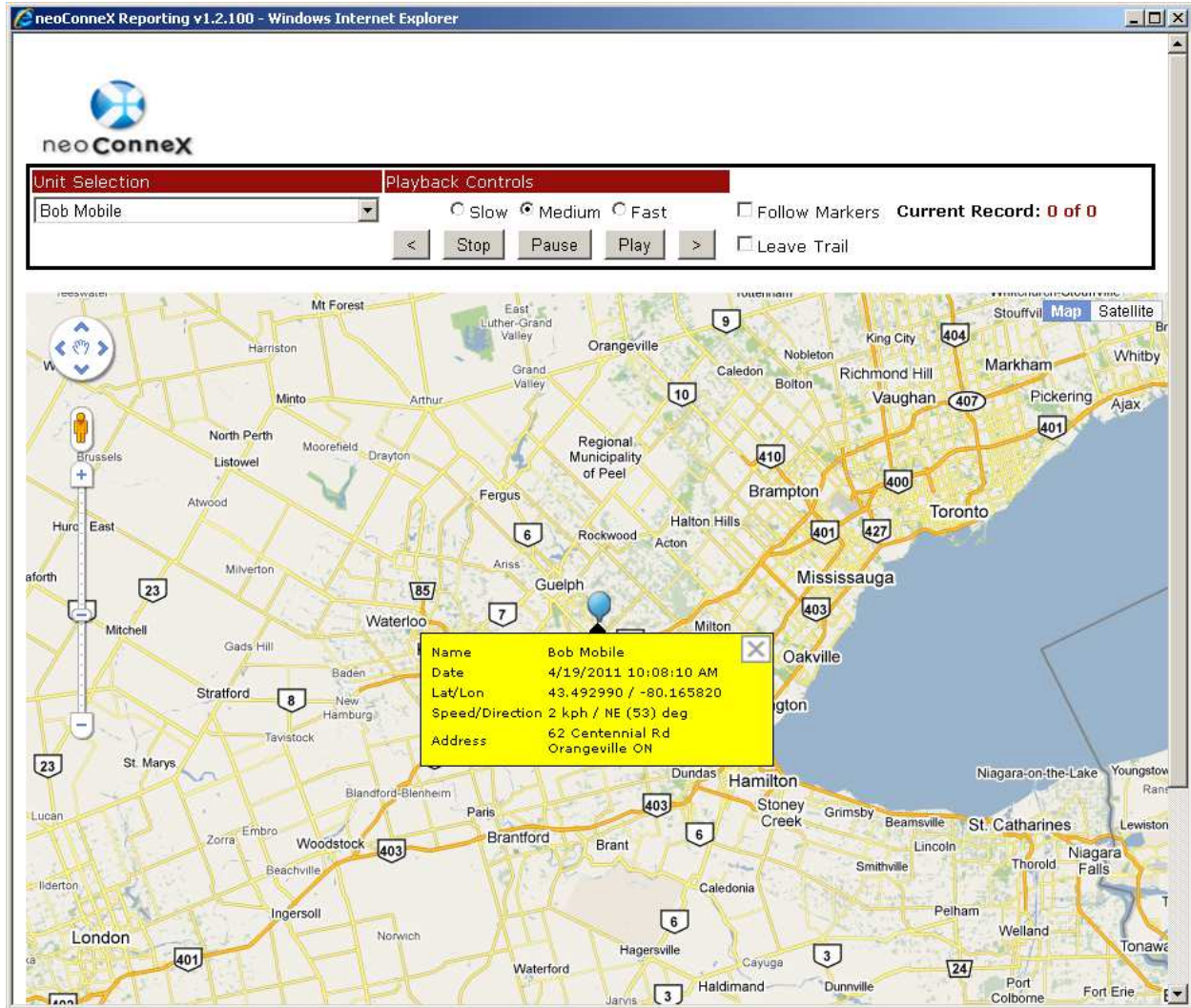
```
http://localhost:27757/reports2.aspx - Windows Internet Explorer
http://loc...
Archive Reporting Tool v1.3.101
localhost
File Edit View Favorites Tools Help
Page Safety Tools
ID,CLIENTGUID,UNITID,UNIT_NAME,UNIT_OPERATOR,DATE_TIME,LAT,LON,KNOTS,AVG KNOTS,DIRECTION,ODO,DISTANCE,RU
287380,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 3:24:32 AM,43.908130,-80.110715,0.0
287379,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 3:39:32 AM,43.908138,-80.110727,0.0
287353,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 3:54:32 AM,43.908151,-80.110726,0.0
287352,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 4:09:31 AM,43.908158,-80.110739,0.0
287351,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 4:24:30 AM,43.908153,-80.110730,0.0
287350,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 4:39:31 AM,43.908165,-80.110727,0.0
287349,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 4:54:30 AM,43.908154,-80.110734,0.0
287337,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 5:09:31 AM,43.908169,-80.110732,0.0
287336,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 5:24:31 AM,43.908159,-80.110737,0.0
287335,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 5:39:31 AM,43.908150,-80.110738,0.0
287334,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 5:54:31 AM,43.908124,-80.110735,0.0
287333,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 6:09:31 AM,43.908112,-80.110736,0.0
287332,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 6:24:31 AM,43.908115,-80.110742,0.0
287321,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 6:39:31 AM,43.908115,-80.110758,0.0
287320,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 6:54:31 AM,43.908124,-80.110751,0.0
287319,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 7:09:31 AM,43.908132,-80.110735,0.0
287318,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 7:24:31 AM,43.908136,-80.110764,0.0
287317,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 7:39:31 AM,43.908153,-80.110747,0.0
287316,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 7:54:31 AM,43.908166,-80.110756,0.0
287263,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 8:09:31 AM,43.908159,-80.110762,0.0
287262,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 8:24:31 AM,43.908166,-80.110764,0.0
287261,be3aebce-9497-4139-aacc-cb8523a7d7f0,2,Unit 2,None,12/22/2011 8:39:31 AM,43.908180,-80.110750,0.0
```

This allows export to comma-delimited file for use in Excel or any of the applications to allow massaging of data



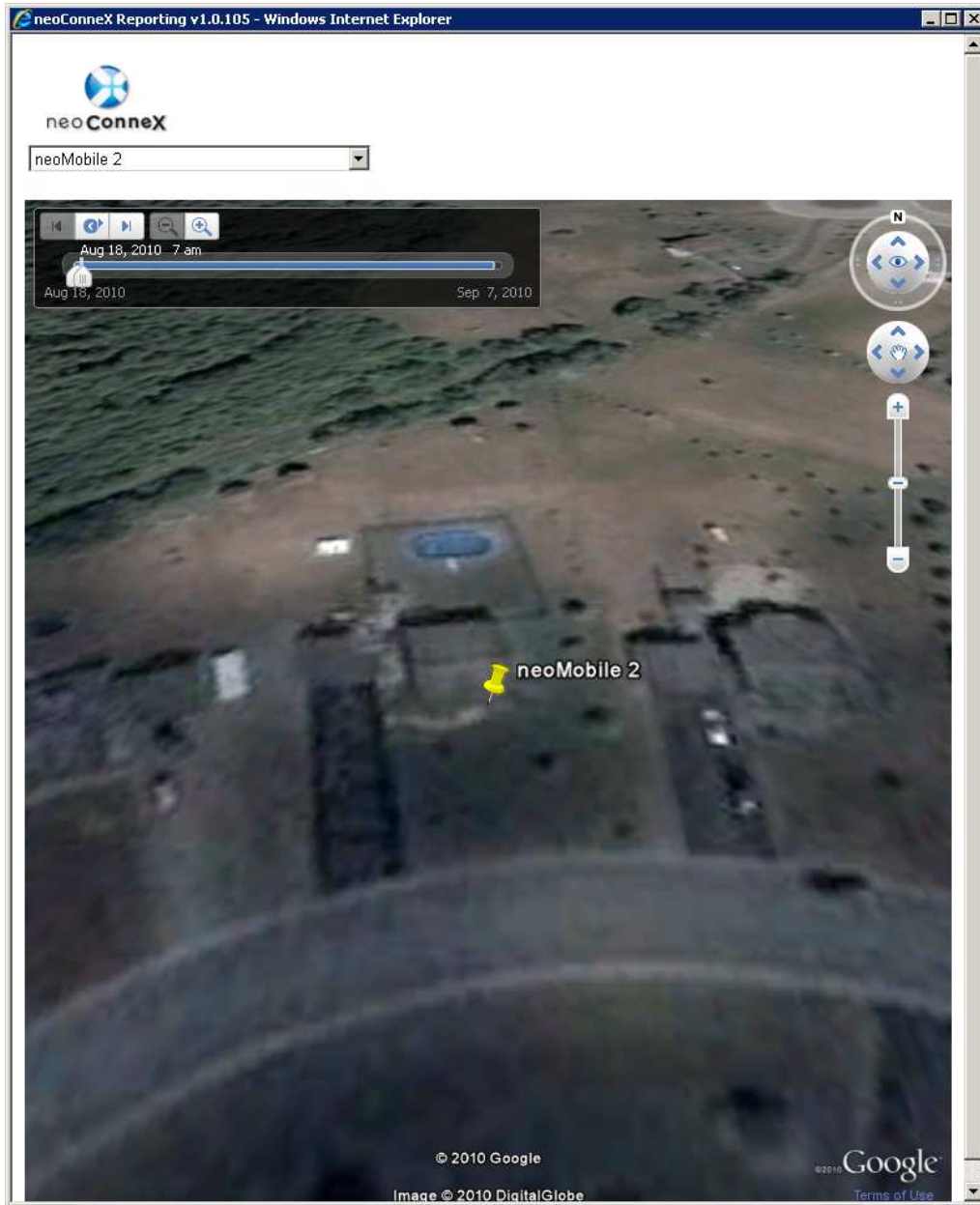
Rendering to Google Maps

Clicking on the “Tracking” tab will show a screen rendered to Google Maps.



Rendering to Google Earth

Rendering the report to Google Earth maps will produce a screen as shown below. The playback controls are at the top of the slider bar. The buttons from left to right are: Move backward one frame, Play positions, advance one frame, zoom out, zoom in. The slider bar also has two components to it. The left part of the slider indicator can be moved to the left (after moving the slider to the right a bit) to reveal a breadcrumb-like trail of pushpins over a timeframe governed by the report criteria which rendered the report.



Troubleshooting Tips:

- If you are getting errors trying to login when typing in the correct username and password to any web application, or, if you are getting errors trying to run a query that says something regarding missing tables or being unable to execute a query, then you likely have to re-do the permissions for the neoConneX user. To do this, you will have to follow the instructions in the last step of the SQL Server installation instructions in the neoConneX Server Manual (in Appendix C).



Notes:

