

GENESIS SOFTWARE SOLUTION BRIEF

GENWATCH® LOCATION SERVICES

NEVER MISS AN EMERGENCY • FIND USERS QUICKLY • CONTROL VIEWING PRIVILEGES

GenWatch® Location Services (GLS) is an enhancement to GenWatch ATIA (GW3) and allows Radio System Managers to monitor location data of every radio on the Motorola ASTRO® 25 system that is GPS capable and enabled. The location updates are sent through either the Motorola Intelligent Middleware (IMW), Unified Network Service (UNS), or Motorola Universal Processing Server (MUPS) to GenWatch. Once the location packets are received by GenWatch, they are processed and stored in Microsoft SQL datatables for reporting and displayed in the Activity Module in the GenWatch desktop application, as well as on the iVISTA browser-delivered map display.

Figure 1 shows a basic single zone system diagram of GenWatch with GLS. As GPS updates occur, the Motorola IMW sends the location data directly to the GenWatch Data Processor (DP) as TCP/IP. The DP then takes the packets, parses them out, and sends them to the GenWatch Data Server (DS), which writes the information into the SQL datatables. The DP also provides the data feed to the GenWatch Host (Host) for the desktop application Module screens and iVISTA. All GenWatch Clients connect to the Host.

GENWATCH ATIA AND MOTOROLA LICENSES ARE REQUIRED

As previously mentioned GLS is an enhancement to GenWatch; therefore GenWatch must be deployed first. The GLS software resides on the same DPDS as GenWatch so no additional hardware is needed. The GLS license is perpetual and licensed by the zone, not on a subscription basis, so there is no limit to the number of radios that can be added to the solution. Prior to installing and using GLS, Motorola will need to license both `Uns_location_ml` and `Uns_presence_pn` on the IMW.

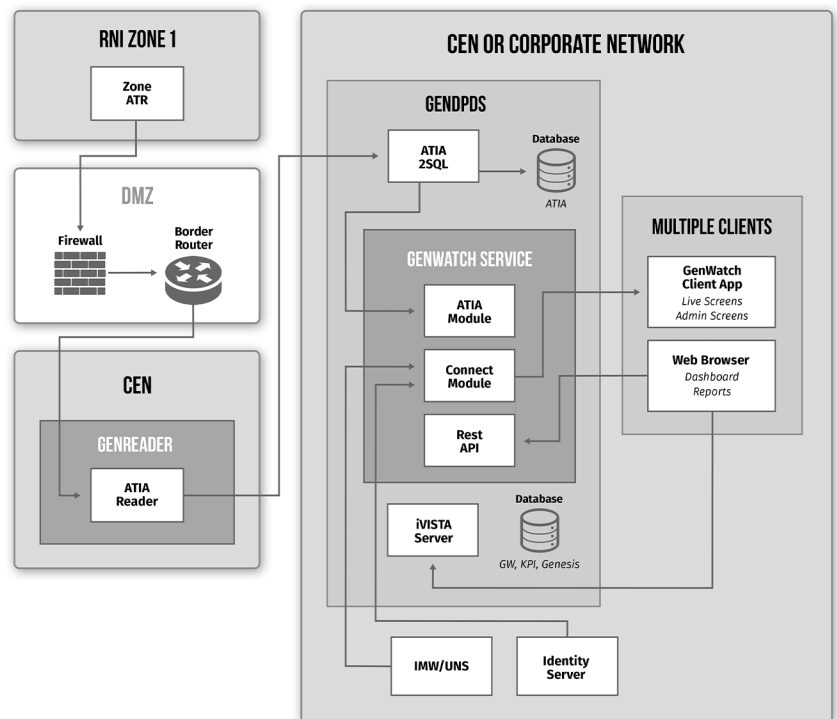


Figure 1: Basic Single Zone System Diagram with GLS

MAINTAIN CONTROL OVER WHAT'S DISPLAYED AND WHO HAS ACCESS

The GenWatch, as well as GLS, software complies with IT Security best practices. iVISTA, in particular, is SSL encrypted and supports up to TLS 1.2. Since iVISTA is a browser-delivered solution, it can be deployed securely on the internet or intranet and has no limit to the number of users that can be given secure login credentials. In addition to login credentials, Radio System Managers are able to create a filtered agency view, by radio IDs or Talkgroups, for each Member Agency. When the Member Agency logs in, they will only see the GPS location of radios that pertain to them.

For agencies, such as SWAT and Tactical Teams, who would rather their radio's location not be monitored, Radio System Managers can create a Blacklist. This will ensure those radios and their associated location will not be seen by anyone on the system unless they initiate an emergency from their radio.

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PROVIDES A BIRDS EYE VIEW OF WHERE RADIOS ARE LOCATED

As mentioned earlier, the location data for each radio is displayed within the iVISTA Map Display. This is the same map used to show the GenWatch radio traffic. iVISTA includes a map tile server, Open Street Maps, to view the location data requiring no internet connection to run the application. Radio System Managers may choose to use an ESRI or any GIS map as well as Google Maps.

Each radio on the map display is represented by an individual icon as seen in **Figure 2**. The more transparent the location icon is, the longer it's been since GenWatch last heard from the radio. The legend on the upper right-hand side of the map (**Figure 2**) lists the icon color and it's associated time interval that has been set in the IMW.

In addition to color-coding by time interval or cadence, each location icon can be color-coded by site or talkgroup. This is beneficial for quickly identifying radios that are, for example, incorrectly affiliated throughout the system.

The GLS can be used in conjunction with the Trigger Module located in the GenWatch desktop application. If a radio that was added to the Blacklist initiates an emergency, Trigger could be used to notify another individual for further action.

From a reporting perspective, location information, such as the latitude and longitude, has been added to the GenWatch Subscriber Activity Details report. It is also possible to filter this or any report within the GenWatch software by agency.

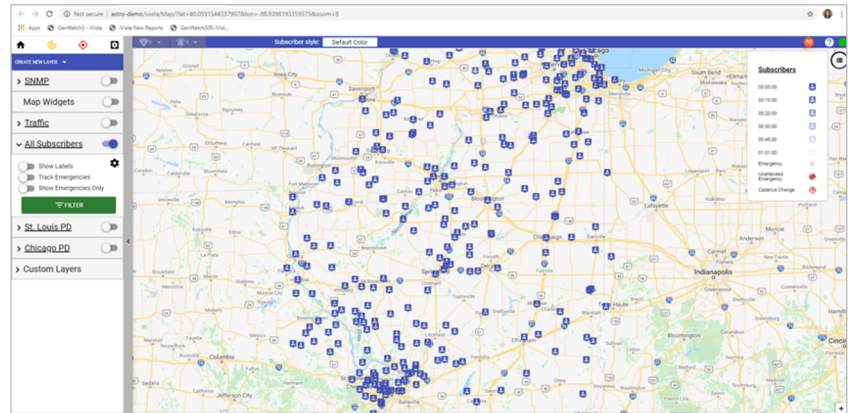


Figure 2: iVISTA Map Display

TRACK RADIOS AS CLOSE TO REAL-TIME AS POSSIBLE

LOCATION WINDOW

Clicking on any location icon will open a separate window (**Figure 3**). Within that window, Radio System Managers can determine the site and talkgroup (and corresponding timestamp) from the last reported location, the latitude and longitude, the radio's current site and talkgroup, and nearest address via reverse geocoding. Showing both the last reported and current site and talkgroup is helpful, especially if a radio has been programmed to revert to an Emergency Talkgroup as emergencies occur. Note, an internet connection is needed in order to receive the reverse geocoded address.

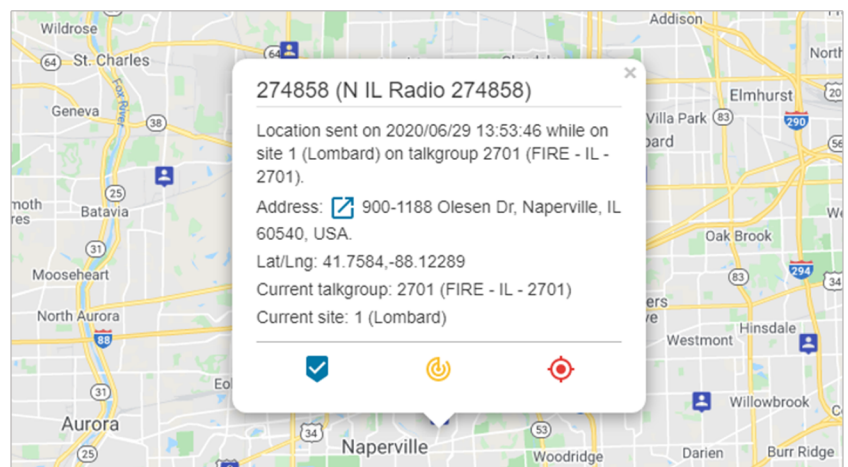


Figure 3: Location Window

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A few additional features are able to be executed directly from the location window; a historic breadcrumb report, temporary cadence change of a radio's location and an immediate location request of a radio. A temporary cadence change or immediate location request can also be performed directly from the left-hand menu of the map display (*Figure 2*).

HISTORIC BREADCRUMB REPORT

The Historic Breadcrumb Report (*Figure 4*) determines where a radio has been over a specified period of time. That timeframe can be set from the last hour to the last year. Within the report, Radio System Managers can continue to monitor both the reported cadence level and location window information for each step along a radio's route. Having this visibility is useful in identifying which radios may have switched talkgroups or sites.

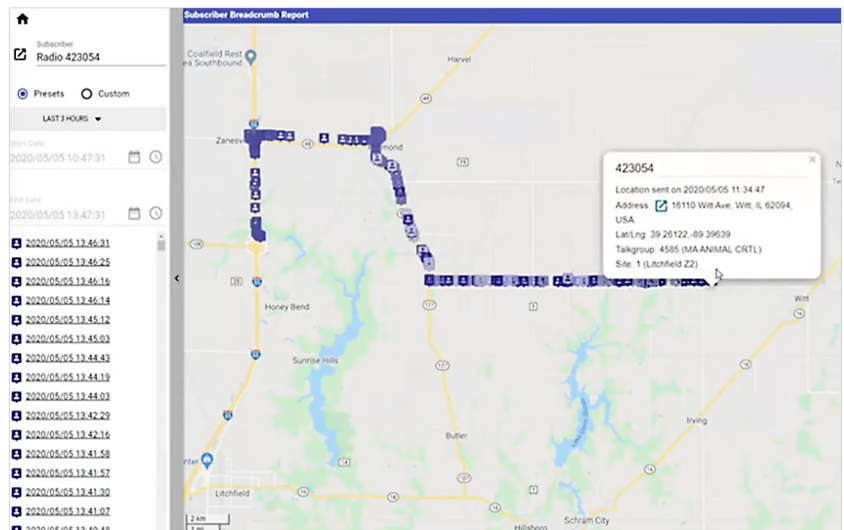


Figure 4: Historic Breadcrumb Report

TEMPORARY CADENCE CHANGE & IMMEDIATE LOCATION REQUEST

A temporary cadence change as the name suggests, temporarily changes, within the IMW, the time interval, and duration at which a radio reports its location data. Temporary cadence changes can be made on an individual or group of radios (*Figure 5*). Agency defaults can also be created on a per agency basis that differ from the main default. Radios that have had a temporary cadence set will be highlighted on the map display with a small clock icon. When the duration of the cadence change expires, the icon will disappear from the map indicating the cadence has gone back to its original IMW setting.

If, for instance, there is a need to confirm where a specific radio(s) is located, an immediate location request can be made directly from the location window by clicking on the target icon (*Figure 3*). This will send a command to the IMW which will in turn communicate to the radio and then send the location information back to GenWatch.

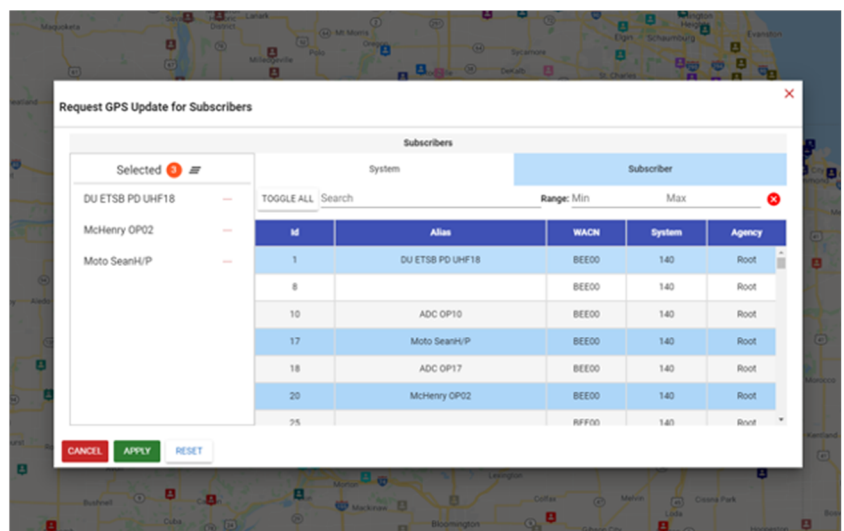


Figure 5: Temporary Cadence Change

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NEVER MISS A USER IN DISTRESS

One of the more popular elements of the GLS is the software's ability to alert Radio System Managers when an emergency is present. When a radio user initiates an emergency alert, a flashing alarm appears on the map display next to that radio's location icon; see **Figure 6**. Clicking on the alarm will pop-up the same window as a unit not in an emergency state. The same details are captured as described above and will include an emergency notification message that will remain on the map for a configurable amount of time or when manually acknowledged.

An alarm will also generate a notification on the top of the map display screen in the form of a ringing bell (**Figure 6**). The bell icon will animate and list the total number of active emergency alerts; regardless if their location is being tracked or not. The alerts can be accessed, in chronological order, via a drop-down menu. Expanding the menu will show the talkgroup, site, and timestamp of when the emergency was received in addition to a hyperlink directly to that radio's location.

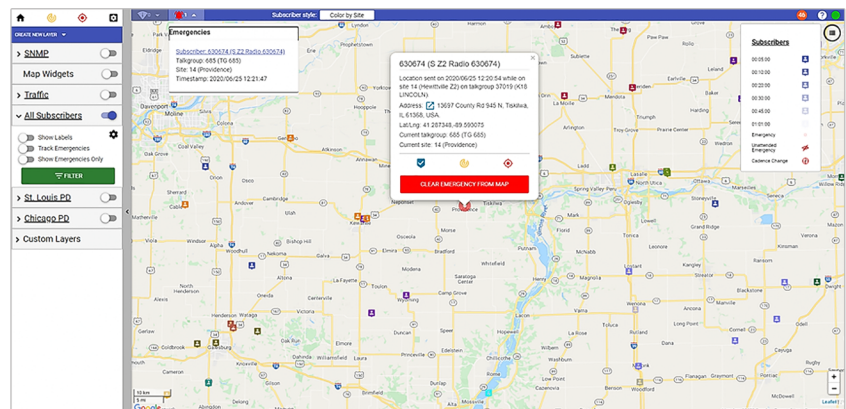


Figure 6: Emergency Alert

DISPLAY RADIOS WITH THE UTMOST IMPORTANCE

Due to the potential for a large volume of radios whose location data is being tracked, there are a number of filtering options available with the GLS. From an emergency standpoint, the software can be configured to track emergencies or to show emergencies only. Tracking emergencies will ensure a radio(s) in an emergency state will continuously be centered on the map display. In other words, if for some reason, a Radio System Manager is viewing another part of the map and an emergency is initiated, the map will automatically center on that radio's location.

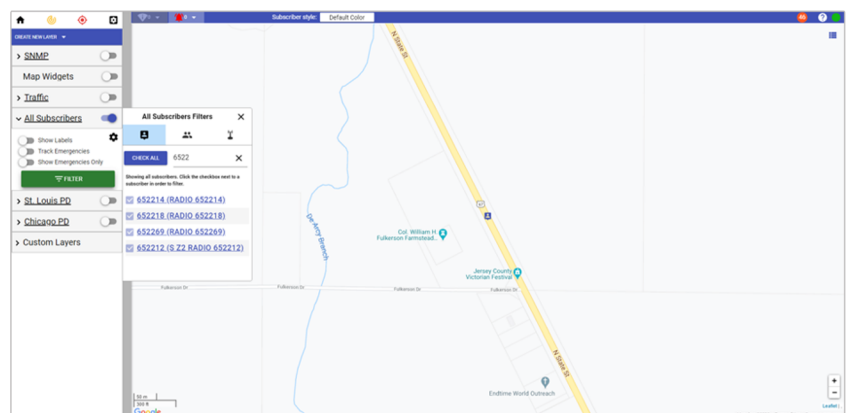


Figure 7: Radio Search and Filtering

If a Radio System Manager only wants to view the location of a radio that is in an emergency, they can elect to only show emergencies. Both of these options are activated from the left-hand menu of the map display (**Figure 6**)

Also from the left-hand menu is the ability to filter and/or search for a specific location, radio ID, or site. To search for a location, radio ID, or site, a Radio System Manager would use the search field. If it is desired to show only a subset of the radios on the map display, the Radio System Manager can select which radio units they want to view and create a filter. The filter icon (**Figure 7**) will notify other users that may login that a filter exists. The filter can be turned on, off or cleared entirely.

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EXTENDED SERVICE AGREEMENT OPTIONS THAT PROTECT YOUR INVESTMENT

Genesis provides a 1-year standard warranty on all Genesis software products which begins on the date of installation (i.e., the software goes live). Beyond the standard warranty period, Genesis offers two tiers of extended support; Essential Service Agreement (ESA) and Premium Lifecycle Agreement (Lifecycle).

At a high-level, ESA's cover all things software related, while Lifecycle includes support on software, as well as hardware and third-party software (eg. Microsoft® Windows). Each executed agreement has a minimum of one year, however, multi-year agreements are also available upon request.

Figure 8 lists the services provided with each agreement. A few of the services can be added ala carte to any ESA. For more detail, including contact information and the Genesis hardware replacement policy, please refer to the "[Genesis Service Agreement Overview](#)" document.



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SERVICE PROVIDED	PREMIUM LIFECYCLE	ESSENTIAL SERVICE
Multi-year Pricing	✓	✓
Phone, Email and/or Remote In Assistance (During Regular Business Hours)	✓	✓
24/7 "On-Call" Availability for Complete Software Failure	✓	✓
Software Updates and Version Upgrades	✓	✓
Hardware Refreshes	✓	
Hardware Warranty Extensions	✓	
On-Site Services	✓	ALA CARTE
Third Party Software Replacement	✓	
Training Following Software Upgrades	✓	ALA CARTE
Quarterly Preventative Maintenance Checks (Remote Only)	✓	

Figure 8: Genesis Service Agreement Overview Matrix