

NORTHROP GRUMMAN

DEFINING THE FUTURE

CommandPoint™**Mapping and GEO Services**

Map

CommandPoint™ Map, A Real-Time, Big-Picture Mapping Solution

CommandPoint™ Map is a member of the Northrop Grumman CommandPoint suite of public safety applications. It is designed as a real-time map display in support of the CommandPoint Computer-Aided Dispatch (CAD) system, the Altaris CAD system, and the PSI CAD system. The map display supports emergency operations and response procedures by displaying the location of incidents and units on a computerized map of the agency's service area, with changes occurring on the display as they happen in near real time.

There are two product offerings for the CommandPoint Map application: Standard Map and Premier Map. The CommandPoint Premier Map offering is built with native ESRI technology and allows the user to create and use ESRI .mxd map files directly with any ESRI data format. In addition, the Premier Map offering uses out-of-the-box ESRI tools for zooming, panning, and navigating the map, and it can be configured to use a centralized ESRI ArcSDE repository to host the map data for all map clients. The CommandPoint Standard Map offering also uses core ESRI coverages for data incorporation to CAD, but uses Northrop Grumman advanced tiling capabilities for mapping display management. For both map offerings, the Northrop Grumman CommandPoint Map application performs as an integrated component of CAD or as a stand-alone application. The most visible tool in the CommandPoint suite of public safety products is the CommandPoint Map.

In conjunction with CAD automatic vehicle location (AVL), CommandPoint Map provides a real-time color map with automatic updates of incident and unit display. The map connects to CAD and/or AVL to display unit location and operations status for every unit configured. As an added benefit, automatic vehicle routing and recommendation (AVRR) functions can be used to plot routes on the map and provide CAD with dynamic unit recommendation based upon the location of AVL-equipped units within closest proximity to an event. This allows the CAD operator to more efficiently deploy resources where needed.

The CommandPoint Premier Map offering also provides new AVL, AVRR, and Address Verification solutions based on ESRI technology. These solutions provide the same CAD functionality as the CommandPoint Standard Map solution but leverage the industry standards and out-of-the-box functionality provided by ESRI. The AVRR solution uses ESRI's Network Analyst functionality, the AVL solution is based on ESRI's Tracking Server, and the address verification uses ESRI's address locator technology.

Features include:

- Ability to follow AVL-equipped units on the map.
- Ability to query for events and units on the map.
- Ability to create events by reverse geocoding from the map to CAD.
- Ability to color code unit and incident icons to convey priority and aid rapid recognition in emergency situations.
- Ability to define clustering thresholds and data for each layer for automated removal of map clutter, and high visibility of incident and unit icons to provide a "big picture" for dispatchers any time.
- Ability to obtain textual driving directions in addition to visual route rendering when routing with the Premier Map application.

Multi-Layering & Zooming for Clutter-Free Detail

CommandPoint Map is a multilayered system. A user or system administrator can select or deselect layers as desired. Different street and feature types may be associated with each layer, so selecting a given layer will cause the associated features to be overlaid on the map much like a transparency.

Each zoom level can be defined to initially reveal or obscure different layers, so the number of additional details that are displayed as the user zooms on the map may be configured by the system administrator. Regardless of default settings, the user always has the capability to enable or disable the visibility of layers as desired. This allows users to configure the map to remain uncluttered, showing only major features when viewing the entire jurisdiction and showing more detail as the zoom level increases.

Mapping

Boundaries and layers can be displayed such as:

- Beat
- Sector
- Precinct
- District
- Zone
- Response area

Boundaries can be distinguished when multiple layers are displayed through the use of colors and/or graphics. CAD atoms and response areas can also be displayed on the map.

Landmarks such as hospitals, schools and libraries may be similarly defined, as well as hydrants, building footprints, and other point and vector map data.

For streets, the graphic roadway map is stored as a compressed set of interconnected segments. Streets can be displayed as centerline or can have curb lines automatically generated based on the classification of each street segment, such as highways, arterials, collectors, light-duty, and unpaved roads.

CommandPoint Map Integration with AVL & AVRR

Provide Real-Time Visual Updates to Unit Locations

Unit icons can be defined to distinguish different types, with unit status visually depicted through colors. CommandPoint Map can be configured to follow a specific unit or centered on an incident or other location. Each unit's direction of travel and speed can also be tracked and displayed.

Improve Response

AVRR functionality provides CommandPoint CAD with lists of units best able to respond to an incident based on projected response times. Calculations are based on the actual street network, and take into account the relative speed with which each road segment can be traversed and temporary road obstructions. Dispatched units are provided with a visual depiction of the route on their mobile computers, allowing for even faster response times.

Perform AVRR Queries Independently

CommandPoint Map contains an AVRR interface that allows users to request routes between any two map points, or between a unit icon and a point on the map. A user can request the best route between his or her current location and a station. The route returned and displayed reflects temporary road closures and any height or weight restrictions associated with the vehicle.

Open & Close Roads to Support AVRR Functionality

Centrally located CommandPoint Map users may dynamically open and close roads in order to support AVRR functionality. Closed roads may be grouped together and associated with expiration timers to remind a user to re-open the roads after a set period of time.

AVL History & Playback

The CommandPoint AVL Manager allows a history of AVL data to be recorded and played back on CommandPoint Map -- an invaluable capability when studying actual responses to an important incident.

A Scalable Solution Without High-End, Expensive Technologies

CommandPoint Map software is designed to provide a scalable solution on Windows platforms and mobile devices without multiprocessor servers or expensive network technologies.

Since the base map database exists locally on each machine, only unit and incident data need be transmitted to vehicles. This reduces transmission time and radio bandwidth requirements, and makes for an efficient in-unit AVL application. CommandPoint Map supports hard-copy incident map output to a PostScript supported printer, and larger thematic and incident maps can be supported via third-party GIS products. Maps may be printed in color or in black and white.

When Our Customers Need Trusted IT Solutions, We're There

Northrop Grumman's Information Technology sector is a leading IT provider and systems integrator, with annual revenues of approximately \$4 billion. For more than five decades, the company's trusted IT solutions have enhanced the work of government and enterprise customers -- and improved the lives of the people they serve. Delivering full life-cycle solutions, Northrop Grumman meets the mission, enterprise, and infrastructure needs of federal, civilian, defense, intelligence, state and local government, commercial, and international clients. State and local governments trust Northrop Grumman to provide end-to-end solutions for information technology, integrated justice, homeland security, public safety, transportation, human services, and public health initiatives.

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