GS-930 Integrated Command & Control System

[THE ROLE OF C2 SYSTEM]

The information play always important and key role in military operation for ages. Recently, distribution, mobility and three dimension of war aspect further complicate the situation of battlefield, therefore, make difficulty in command and control. In such warfare the superiority of information is keenly needed for successful fulfillment of command and control task. Command and control system is an ability for commanders to precisely evaluate the situation of the warfare, make the corresponding plan and control the subordinate units.

Command and control is continuous sequence of commander's making-decision.

Quality of command and control system determines quality of information, quality of information determines quality of making-decision, and finally quality of making-decision determines quality of command and control. Consequently, the system of command and control is an important element of command and control.

[GLOCOM SOLUTION]

Glocom software products provide military commanders at all echelon levels with high-performing command and control (C2) solution that offers clarity, simplicity, and high performance that addresses real world C2 challenges.

GS-930 is an integrated command and control (C2) software suite with features such as digital map display, situational awareness, Blue Force Tracking, instant messaging and collaborative planning. GS-930 suite connects the headquarters to the tactical edge with its four products: GS-930HQ-WEB, GS-930HQ-CS, GS-930FL, GS-930EG. They are fully integrated through tactical communications, which is the communication core of the GS-930 suite. GS-930 tactical communications provide networked command and control and shared situational awareness, from the higher headquarters to the commander at the tactical edge. It supports IP and non-IP Glocom radios and can handle different types of radios, even within the same vehicle. GS-930 is designed to provide a joint Common Operational Picture (COP) within all the operation domains.

GS-930 supports contemporary military and civilian data standards: ADS-B, AIS and so on.

Glocom software provides forces with information where and when they need it most!
ITCCS FRAMEWORK

**General Features**

- **Digital Map**: Geographical Information System (GIS) supports the widest range of map formats, terrain data and terrain tools, in both 2D and 3D including GeoTiff, ESRI Shape, Digital Elevation Model (DEM).
- **Situational Awareness**: Handling the live feed tracks from various sensors and tactical edge, Blue Force Tracking and supporting of contemporary military and civilian data feed standards: AIS, ADS-B messages.
- **Mission Planning**: Constructing textual and graphical plans & orders in a collaborative manner.
- **Interoperability and Sharing**: The highest degree of interoperability and sharing is achieved through Glocom Tactical Communications composed of Glocom radios and software.
- **Record & Playback**: Allowing debriefing or after action review of specific parts or periods of an operation.
- **Tactical Data Link**: Supports a wide variety of IP and non-IP Glocom.

**Performance**

**Target Process**

- **Track**: 2000pcs
- **Military Symbol**: 3000pcs
- **Route**: 2000pcs

**Map**

- **WGS1984 Datum by default**
- **Several Map Projection available**
- **3D Visualization by DEM**

**Navigation**

- **NMEA-0183 Format**

**Target Display/Update**

- **0.5s**

**System Delay**

- **0.1~0.5s**
GS-930HQ-WEB

GS-930HQ-WEB is a web-based C2 software designed for higher level headquarters.

It provides joint staffs and task force commanders with an up-to-date detailed picture of large-scale operations using high performance web technologies.

It quickly and effectively aggregates large quantities of information from military and civilian data live feed tracks from external sensors and servers such as AIS (maritime) and ADS-B (air) to generate a common operational picture for land, maritime, air and joint operations.

GS-930HQ-WEB is remarkably easy to use with an intuitive user interface that gets users up and running quickly. It does not require the installation or sustainment of any software on client computers. It also maximizes accessibility to the situational picture to any authorized user, as well as all authorized users on the wide area network.

GS-930HQ-WEB is quickly to deploy, requires minimal training, and can be integrated with all other Glocom C2 products and is also ideal for collaborative decision-making joint and multinational forces.

## Features

- Web-based client: no installation required, minimal deployment time and costs, and maximized accessibility
- Uses Web Map Service (WMS) standard, and also supports custom map service
- Role-based access control to data
- Allows user to highlighting important tracks and hide unimportant tracks

## Software Requirement

**Server**
- Microsoft Windows Server 2008 R2 or above
- Microsoft Windows 7 or above
- Red Hat Enterprise Linux 7.3 or above
- Ubuntu
- Apache Web Server 5.5 or above
- PostgreSQL 2.4.1 or above

**Client**
- Windows Internet Explorer 11 or above
- Google Chrome 56.0 or above
- Mozilla Firefox 57.0b14 or above

Recommended web browser with HTML5

## Hardware Requirement

**Server**
- RAM: Minimum 1GB, Recommended 2GB
- HDD: Minimum 100GB, depends heavily on the map data deployed on the server
- CPU: 2GHz or above

**Client**
- RAM: Minimum 1GB, Recommended 2GB
- HDD: 1GB or above
- CPU: 2GHz or above
- Display: Minimum 1024 x 768
GS-930HQ-CS

The GS-930HQ-CS is a C2 Information System designed to support operational staff in planning and executing missions. It supports key operational activities such as situational awareness, Mission Planning, Mission Execution, and Mission Reporting. It is intended for installation as required from the highest to the lowest command levels, primarily for use in environments where computers have full monitor display, keyboard, mouse, and LAN/WAN network connections.

GS-930HQ-CS is a reliable, scalable command and control solution that is easy to learn and use, provides extensive interoperability capabilities and fulfills all core requirements. It supports all headquarters' tasks and is ready to deploy.

GS-930HQ-CS works in conjunction with GS-930VH and GS-930EG through Glocom Tactical Communications to provide a unified C2 system across echelons of the command chain from the battlefield frontline vehicles to the command headquarters.

It is a client/server application thereby enabling comprehensive scalability for large headquarters.

Features
- Supports maps as raster, vector, or a combination of these formats
- Powerful GIS: Analysis tools, Drawing tools
- High performance
- Role-based access control to data

Software Requirement

Server
- Microsoft Windows Server 2008 R2 or above
- Microsoft Windows 7 or above
- Ret Hat Enterprise Linux 7.3 or above
- Ubuntu
- PostGIS 2.4.1 or above

Client
- Microsoft Windows 7 or above
- Fedora 18 or above
- Ubuntu

Hardware Requirement

Server
- RAM: Minimum 1GB, Recommended 2GB
- HDD: Minimum 100GB, depends heavily on the map data deployed on the server
- CPU: 2GHz or above

Client
- RAM: Minimum 1GB, Recommended 2GB
- HDD: 1GB or above
- CPU: 2GHz or above
- Display: Minimum 1024 x 768
GS-930FL

The GS-930FL is a battle and crisis management software for the mounted and dismounted frontline commander. Designed with operational simplicity, it fits into any organization by providing precisely the tools needed by battlefield commanders. Its design and features address both military and civilian commanders at lower organizational levels.

This solution facilitates mobility that enables the operator to mount and dismount vehicles in the application, while ensuring that his location is always accurately known by other participants.

GS-930FL is fully integrated with other components of GS-930 suite through Glocom Tactical Communications to provide networked command and control and shared situational awareness, from the higher headquarters right down to the commander at the tactical edge.

Features

- High update rate for BFT over tactical radios
- The software has a small footprint with a lean GIS that offers high performance visualization with no need for a database server
- It is designed for installation on devices with small to medium displays, and the user interface
- Easy to install, and operate

Software Requirement

- Microsoft Windows 7 or above
- Fedora 18 or above
- Ubuntu

Hardware Requirement

- RAM: Minimum 1GB, Recommended 2GB
- HDD: Minimum 100GB, depends heavily on the map data deployed on the server
- CPU: 2GHz or above

GS-930EG

The GS-930EG is an Android-based battle management system for the commanders and soldiers at the tactical edge. Designed for simplicity it provides the commander with fast and clear friendly force tracking (FFT) picture.

Users can exchange their own location and spot reports between subordinates, superiors, and peers through the tactical radio.

GS-930EG is fully integrated with other products of GS-930 suite through Glocom Tactical Communications to provide networked command and control and situational awareness.

Features

- Superior situational awareness on Android devices: own position, FFT, tactical reports, intelligence pictures and plans
- High update rates for FFT over tactical radios
- Quickly report and share spotted targets
- Exceptional performance over intermittent, low bandwidth tactical radio networks

The GS-930EG is designed to run on devices with the following minimum configuration:

- Android 5.0
- Display 7"
- 1GB RAM
- 1.5GHz
- Hardware buttons and touch input supported
Communications solutions for anywhere, anytime in battlefield

Global Communications is a leading supplier of secure voice and data communications products, systems and networks to military, government and commercial organizations worldwide.

Glocom is an international communications and information technology company serving government and commercial markets in more than 50 countries. The company has annual revenue of over $15 million and 200 employees—including nearly 100 engineers and scientists. Glocom is dedicated to developing best-in-class communications products, systems and services. Additional information about Global Communications is available at Glocom website www.glocom-corp.com.