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Concept Commentary

GPS-based Remote and Central Tracking



Introduction

The Nexus Hawk™ brings highly secure, highly reliable voice, video

and data communication to the Anytime, Anywhere and Mobility work force and service provider market.

Mobile assets are valuable; the Nexus Hawk may optionally include a Global Positioning System (GPS) receiver that can be accessed both locally and centrally.

The Concept

Asset location within a brick-and-mortar building is straightforward. In a mobile environment, the issue of knowing where the asset is can be quite complex. Having an embedded GPS receiver and ability to access its data makes the job of asset tracking much easier.

Access to location information can bring efficiencies that can't be realized in any other way. Fleet dispatchers can use **Computerized Dispatching** systems to save money and increase responsiveness. Fleet schedulers can assure that **delivery Service Level Agreements** are being met – both in real time and historically. Staff that are local to the asset can use its GPS stream to **map-track their own locations** in real-time. It should be possible to do both local and central GPS-based tracking at the same time.

Central Tracking

Knowing where an asset is will enable its manager to do their jobs more efficiently. When that manager is located elsewhere, it is important to be able to deliver that GPS information to them in real-time. The Nexus Hawk can “push” industry standard NMEA data to a central host as defined by a customer's I-T staff.

The Nexus Hawk's GPS module includes several very useful features. It can attach a custom header to each GPS string that is sent to a host. It can likewise send either a steady stream of GPS data, or one-set of data every n-seconds (user-defined).

Out of Range, but Caching

A mobile asset may travel out-of-range of cellular data services. During this time, the stream to the central host is interrupted and the asset can drop off the map, only to reappear in another location (where service is restored). The dilemma may be in knowing where the asset was during the time that it had no cellular services.

The Nexus Hawk can cache data, when it senses that it has lost connectivity to a remote host. When service is restored, the cache is uploaded.

Local GPS Use

Users who are local to the Nexus Hawk can likewise access GPS data – something that can be done at the same time that central systems are being fed data! GPS data is presented on an IP port that is available to local users. This enables users to plot themselves on any number of mapping systems for their own use.

There are several sources of street-level maps that can be loaded on computers that are in the field. Most of them have the ability to recognize a locally-connected GPS receiver, usually via a serial port. The

challenge is in connecting that client-software to a GPS that is available on an IP port.

The solution is straightforward. A 3rd party software program called a “Serial Port Redirector” can bridge the two systems together. It does so by creating a virtual COM: port that is connected to the Nexus Hawk's IP port. One simply configures the mapping system to look to that “virtual serial port” for GPS information.

To find products that perform this function, use your favorite Internet search engine and search for the terms “serial port redirector” or “virtual serial port”. The products that you choose must have the ability to send login and logout commands in order to toggle the GPS stream on and off. Your Nexus reseller may be able to offer you suggestions of systems that have been proven to work.

Solutions for Everyone, Anywhere

The Nexus Hawk enables both central and mobile staff to stay connected and have a high degree of situational awareness through a constellation of GPS options designed for a 21st century Anytime, Anywhere world.

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