



## Ask The Expert

This month's expert explains the uses of GPS technology in law enforcement and private enterprise

By Skip Sampson



A salesman counts on the unit mounted on his car's dashboard to help him get from one sales call to the next. Out in the wilderness, a lost camper pulls a handheld unit from his backpack to help guide him back to the hiking trail. When her 16-year-old son is late coming home, a worried mother goes to a Web site on her computer to find out where her son and family car are at that moment.

Each of these people is relying on Global Positioning System (GPS) technology. More than two dozen, earth-orbiting GPS satellites broadcast radio signals to GPS receivers to pinpoint the location of a person, vehicle or other object virtually anywhere on the globe day or night. The technology was first used in the 1970s by the military. It became commercially available in the 1990s. In addition to becoming more affordable, the technology has become much more accurate, now capable of plotting the location of a receiver within one centimeter.

**ISSUE: With major reductions in both the size of the equipment and the price, what are the uses in security and law enforcement that GPS technology facilitates?**

**SOLUTION:** In Wisconsin, a new law requires lifetime GPS tracking for some child sex offenders. Offenders who assault a child under 12, threaten force or use violence while molesting a child will be affected. A state fiscal analyst estimates that monitoring would cost about \$1.2 million for 285 offenders in the first year.

In California, parole officers are using handheld GPS units to see that sex offenders are not living or working within a 1/2 mile of a K-12 school, as prescribed by law. Previously, the officers would drive the streets and measure the distances between schools and a sex offender's home and place of employment.

Security directors for city and school district transportation systems now equip each bus with GPS technology to make it easy to locate a vehicle in an emergency situation. GPS also serves as a valuable management tool by reporting on drivers who take their buses outside of their defined routes or speed.

Businesses across the country are turning to GPS to help protect and recover valuable portable assets. Assets, such as vehicles, heavy equipment, marine assets and cargo, are routinely outfitted with GPS hardware so that the equipment can be easily tracked via an Internet-based service.

**ISSUE: You mentioned cargo as an asset that's being equipped with GPS hardware. How is tracking technology playing a larger role in cargo security?**

**SOLUTION:** Once loaded and sealed, cargo containers are equipped with GPS hardware. Then as the containers move across the ocean on a container ship, each one can be monitored to see that they are not moved. When the containers reach the destination port, they can still be tracked as they make their way to their final stop via rail or truck.

By placing the GPS units within the cargo, it makes it more difficult to locate and disable the equipment. Should there be an incident -- a terrorist attack or the theft of a truck -- the cargo owners and/or law enforcement officials have a much better chance of quickly locating the vehicle and taking appropriate actions.

From a systems integrator's point of view, GPS shows the most potential as a management tool. By adding GPS equipment to company vehicles, an integrator can quickly locate his fleet. That way, when a service call is recorded, the closest technician can be dispatched to reduce response times.

Also, it helps end the practice of some technicians to use company vehicles for personal errands. That can cut down on fuel costs and positively affect the bottom line.

*This month's question from a reader asks:*

**ISSUE: We are adding three smaller buildings on the perimeter of a 10-acre, campus-like facility. I want to make sure we have appropriate access control in place, as these facilities will store valuable equipment. The site's topography makes running cable expensive. Would a wireless access control system be a good choice? What are the downsides of such a system, and what are its distance limitations?**

**SOLUTION:** There are basically three types of technology available for your consideration in implementing access control to detached buildings in a campus environment. The assumption is made that you will not have network connectivity to the buildings being discussed.

The first is the one you mention -- wireless access control. This technology will interface with most leading access control manufacturer panels, which will allow you to continue using one system. It communicates from door to panel using 900 MHz spread spectrum technology. Typical, in-building wireless distances are about 200 feet, but with changes in antennas, up to 4,000 feet can be obtained outdoors -- line of site. This technology has proven very reliable.

A second choice would be a managed, hosted access control system that uses the cellular wireless network for communication. The system can be operated, administered and managed via the Web from any computer or device connected to the Internet. Coverage is via multiple national carriers. This technology has been in place for the last four or five years, and also has been very reliable wherever cellular coverage is available.

The third choice would be a new approach to remote building access control from CoreStreet. The CoreStreet answer is to use the access credentials as the "network." Instead of using network cables to carry messages back to the computer, CoreStreet uses the capabilities of smart credentials (such as smart cards or RFID fobs) to carry access history from standalone access points to online access points that do connect to the computer. Online access points are located strategically throughout a facility, so that communication is accomplished by the normal traffic patterns of individuals. This is very exciting technology that is making its way into our industry.

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