

Federal Computer Week

May 23, 2005

The Pipeline

BY [Michelle Speir](#)

Published on May 23, 2005

I want my GPS TV

Global Positioning System (GPS) devices are great for tracking objects and people — until they go indoors, where GPS signals can't penetrate.

That makes GPS a limited solution for tracking assets and people. In an effort to expand the scope of GPS, President Bush issued a Presidential Decision Directive last December that mandated a search for terrestrial GPS complements or substitutes.

Officials at Rosum came up with just the thing: using TV signals to supplement GPS signals so devices can seamlessly travel from outdoors to indoors and back again. Possible applications include monitoring criminals on probation, fleet management and emergency services.

"Most things of value — as well as people — are indoors," said Todd Young, director of marketing for Rosum.

Rosum TV-GPS devices are dual-band and automatically search for the strongest signal in the area, whether it's GPS or television. The devices pick up the signals automatically in a process transparent to users, who experience no interruption of service when switching from one type of signal to the other.

Young said TV signals have three main advantages over GPS signals. One is power: Typical TV broadcasts are about 1 megawatt, about 2,000 times the power of 500-watt GPS signals.

The second advantage is television's lower broadcast frequency, which enables TV signals to go through walls, buildings and cars.

Finally, TV signals are diverse, with each tower broadcasting several channels; a GPS satellite broadcasts one. As a result, the Rosum device can choose the best TV signal out of several instead of being consigned to one that may be weak at that location.

There's a homeland security angle as well because GPS signals are more vulnerable to spoofing and jamming than TV signals, which are stronger and highly distributed.

But wait, there's more. Rosum TV-GPS can also be a vital link for 911 emergency services, providing the 911 caller's location, even if that person is indoors, to the public safety answering system that receives, 911 calls, Young said.