

The company is developing an e-seal system that will enable shipping companies to monitor cargo security electronically.

By Mary Catherine O'Connor

Oct. 14, 2005—[WhereNet](#) located in Santa Clara, Calif., provides real time location system (RTLS) technology used by shipping companies, auto manufactures and other organizations to track goods and containers through active RFID networks. The company has shown its system can support data transmitted by electronic seals, or e-seals—devices set to transmit data regarding container integrity.

Using e-seals, the company says, logistics providers will be able to couple cargo security with cargo tracking under the WhereNet infrastructure. As governments and trade organizations make efforts to heighten the security of international ports, many large logistics providers are beginning to use electronic seals to ensure the security of containers coming into and out of ports around the world. E-seals benefit shippers by removing the need to make visual inspections of containers.



John Rosen, WhereNet

"We've demonstrated the ability to use the WhereNet infrastructure to read electronic seals. We've tested them on containers going on and off ships, and containers coming into and leaving ports via trucks," says John Rosen, WhereNet's director of product marketing. The company ran the tests at three Southern California ports earlier this year, receiving data from approximately 50 e-seals as they entered and exited the ports, then were moved on and off vessels.

The WhereNet system utilizes active tags transmitting data over the 2.4 GHz frequency band used worldwide. The tags comply with the [American National Standards Institute's](#) 371.1 standard air interface for RTLS systems. The e-seals the company tested also comply with the 371.1 standard. (ANSI has another standard for 433 MHz RTLS systems, dubbed 371.2, but the 2.4 GHz tags have a longer read range.) The e-seals were manufactured by [E.J. Brooks](#), a Livingston,

N.J., company that makes security seals, locking devices and metering-related products through its Security Products Group.

WhereNet says it will roll out an e-seal product, WhereNet e-Seal, which will include electronic seals, signal receivers and software to process the e-seal data. It is currently developing that software and looking for a shipping company to participate in a test of the system, as part of a pilot program it would like to deploy early next year.

Once the e-Seal product is rolled out, companies already using WhereNet's RTLS services will be able to tack on the e-Seal system by purchasing the seals and upgrading their software systems to process the seal data.

According to WhereNet, the company has installed more than 500 receivers in marine terminals and logistics centers in Los Angeles, Long Beach and Oakland, Calif.; Seattle and Tacoma, Wash.; and Anchorage, Alaska. It is also installing an infrastructure of receivers at sites on the East Coast and in Europe. These receivers process the RFID signals from its location tags and will be used to process the e-seal signals, as well. If the e-seals are to be used in a port that does not have an existing WhereNet infrastructure, an e-Seal sensor will be installed to read the seals.

Rosen says that in the future, WhereNet hopes to extend its security offerings by moving from e-seals, which monitor just container doors, to container security devices utilizing a combination of sensors to monitor the integrity of the entire container.