

Nortel to Add RFID-Enabled Services to Municipal Wi-Fi Platform

The telecommunications equipment firm is integrating central sensor-networking appliances from Blue Vector so wireless ISPs can provide RFID services.

By Mary Catherine O'Connor

Dec. 27, 2006—Multinational telecommunications manufacturer Nortel plans to offer solutions that let municipal governments RFID-enable their existing Wi-Fi wireless infrastructure for such things tracking assets and serving as a real-time location system.

Nortel provides equipment that wireless Internet service providers use to enable municipal governments to build wireless broadband networks using Wi-Fi and WiMAX (which networks Wi-Fi access points) technology. In late October, Nortel announced that it is working with a number of companies, including Blue Vector Systems, so that wireless ISPs can use Nortel's municipal wireless platform to provide enhanced services, including those involving RFID.

For example, like many businesses, municipalities own large mobile assets, such as fleets of cars or trucks. Its schools are full of computers, science equipment and other valuable items that can be tracked using active RFID tags integrated with GPS receivers. The RFID tag readers can use a Wi-Fi connection to transmit their data to Blue Vector Edge Manager appliances, which can use the municipal wireless network to forward that data to Blue Vector Network Manager appliances deployed throughout a facility. The wireless Internet service providers, which would deploy and maintain the Blue Vector devices for the municipality, can then use the wireless network to deliver location data to the schools or agencies that own the tagged assets or vehicles being tracked.

Nortel says its Municipal Wireless Solutions, which consists of Wi-Fi, wireless-mesh and WiMAX broadband hardware and software designed to help municipalities provide affordable broadband services to their citizens, is being deployed by wireless Internet services providers in several North American towns, cities and counties, including Carlsbad, N.M.; Occoquan, Va.; and Niagara County, N.Y. According to Romen Kuloor, vice president of marketing and business development for Blue Vector Systems, Nortel is installing the Blue Vector Edge Manager and Network Manager appliances for demonstration purposes at its municipal wireless demonstration lab in Research Triangle Park, N.C. Here, the Blue Vector Network Manager appliance will act as a central control unit for RFID and other sensors in demonstrations of asset tracking and the other RFID-enabled systems that Nortel is beginning to offer municipalities, such as those that can combine RFID with GPS technology to provide real-time location tracking of city buses.

The RFID tags that are deployed do not need to communicate over Wi-Fi, because the Blue Vector Edge Manager appliances can use a Wi-Fi link to communicate with RFID readers operating at a number of different frequencies and protocols. If the frequency and protocol of the RFID tag or other wireless sensors are not ones that the edge appliance can already read, says Kuloor, Blue Vector will create the application protocol interface needed to link the appliance with the readers.

Wireless Internet service providers can use the Blue Vector appliances to leverage the RFID systems used in prisons to track inmates, who wear RFID wristbands encoded with ID numbers, says Penny Kennedy, director of business development for Nortel municipal wireless solutions. To locate inmates, the Blue Vector Edge Manager appliances could communicate with RFID interrogators installed in prisons, courthouses and on GPS-equipped buses used to transport inmates between prison and court.

Blue Vector Edge Manager appliances can also receive data from wireless sensors that monitor temperature inside buildings or motion detectors, and feed this data to the Network Manager devices, which then send the tag data to the appropriate parties via access points within a municipality's Wi-Fi or wireless mesh broadband system.

Kennedy says that the wireless Internet service providers could purchase or lease the Blue Vector devices and Blue Vector software that runs on the appliances they use to collect and process RFID tag and sensor data, and then charge municipalities or the agencies within the town and cities for the data collected from them.

"When people think of municipal wireless, they think of free Wi-Fi," says Kuloor. "But at the end of the day, municipalities can't make any money from free Wi-Fi. The real goal of municipal wireless is to leverage that Wi-Fi infrastructure to [generate] efficiencies." Often, the types of efficiencies that municipalities are looking for—spending less time locating assets, making sure their transportation systems are running on schedule—are similar to those that companies in the supply chain are seeking. In either case, he says, RFID tags and wireless sensors can identify objects or monitor environments.

RELATED_ARTICLES Municipal wireless systems are seen as an alternative to large-scale wired local area networks. "Passing information over a wireless mesh is more cost-effective than passing it over DSL," says Kennedy. Plus, the added bonus of offering free Wi-Fi access to citizens is seen both as good will and makes the municipality more attractive to residents and visitors.

Kuloor says Nortel selected the Blue Vector platform for part of its municipal wireless offerings because Blue Vector edge managers and network manager devices are easy to install and maintain. The Blue Vector platform is also being used in supply chain RFID deployments. Its Edge Manager devices can manage and receive data from passive UHF tag readers (such as EPCglobal Gen 2 readers).

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