Much more than security
WiFi management adds performance optimization, info and control

By Charlotte Wolter

UNTIL RECENTLY, WHEN A CITY OR enterprise, or their service provider, first installed a Wi-Fi network, one of the priorities was how to keep out intruders and protect the network from attacks.

But Wi-Fi management and monitoring systems have moved well beyond the status of network sentries. They have added features that not only guard the network, but also optimize its performance.

For an enterprise or service provider, it is critical to be able to know who is using a network. And, while many cities are installing Wi-Fi networks for public use, or for mixed use by the public and city staff, they increasingly want to have control over the use of the network, or at least to know who is using it.

The City of Wilmington, Del., had a free unauthenticated network operating, but eventually deployed an operations support system by Pronto Networks Inc. to add authentication. The city had not decided whether to charge for use of the network, "but even if they are not going to charge, it is a good idea to have people agree to an acceptable-use policy or to be able to monitor the network to make sure it is up and running," says Lee Tsao, worldwide solutions director of Pronto.

Pronto has established interoperability with leading hardware vendors, including BelAir Networks, Cisco Systems Inc., Strix Systems Inc., Tropos Networks Inc. and Vivato Inc.

Cognio Inc. provides network-monitoring systems that work at the physical layer, detecting anything operating over RF for potential interference. It can discover not only the 802.11 devices but also Bluetooth, cordless phones, video cameras and even microwave ovens, all of which can affect the performance of a Wi-Fi network. "We can tell what device is in your spectrum," says Neil Diener, CTO. "You can click on a device, go to the source of the interference and eliminate it." Cognio sensors, which look like base stations, can be deployed at widely dispersed geographical locations and monitored remotely.

Environments where such monitoring is proving critical, Diener says, are wireless offices, VoWi-Fi deployments in which critical data is transmitted, and manufacturing spaces where Wi-Fi is used for tracking products and reporting data.

Some customers, such as hospitals, want to set up wireless-free zones so Wi-Fi does not interfere with other equipment. The Department of Defense, which has areas that are very secure, also may want to ban wireless in certain areas, says Diener. "Now someone can carry a spectrum analyzer around and spot check," he says. "Because we operate at the physical layer, we can see anything that transmits."

And knowing who is on the network is often the means to charge for use of the network. The Pronto software, like that of other providers, also includes the ability to bill for services using a wide range of billing options, from hourly and daily to monthly.

Besides controlling access, it is important a network be managed so it can support a range of services and users. "The trend is expanding the system to the entire enterprise," says Mike Puglia, director of product management at Bluesocket Inc., a provider of management systems for mobile and Wi-Fi networks. As a result, there is a glut of calls to IT help desks that may know a lot about Ethernet but little about Wi-Fi. "They have to have a view into the black magic of a radio network that makes sense to them." The company's management systems include tools that help IT staff "visualize [the Wi-Fi network] with details that make sense to them."

Pronto supports bandwidth management and QoS, important for services such as VoWi-Fi. When a network is overcrowded, VoIP calls often get dropped. "If the network is hitting a threshold, we can make sure the next user gets a network-busy message, but all the current users will remain on the network and get good performance," says Tsao. One Cognio customer is the Chicago Board of Trade, where traders often carry PDAs. "It's a very noisy RF environment ... with noise from microwaves and, yes, GameBoy controllers," says Diener. "If people lose connectivity on their PDAs, it is a big deal, so the IT staff has to monitor actively and eliminate interference."

Systems will provide even more specific service management in the future, Tsao says. "We're seeing requests for service specific management.

As an example, Pronto designed a system for a restaurant that had to provide support for public surfing while maintaining constant connectivity for an Internet jukebox by Ecast Inc. and the credit card verification system. "We are being asked to manage more devices," Tsao says, "and these [devices] are all revenue opportunities for our [service provider] customers."