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IN DEPTH: TECHNOLOGY & TELECOMMUNICATIONS

Wi-Fi gets its wind

Wireless Internet creates a buzz, adds flexibility for business users

Becca Mader

Tired of tethering their PCs to cables when they moved back and forth between their work stations and conference rooms, engineers at Security International decided to look for a more mobile, convenient solution.

They turned to Wi-Fi, or "wireless fidelity," a form of wireless technology that provides short-range Internet access through radio waves, which are transmitted through access points.

Wi-Fi products were released in late 1999 but its popularity has picked up over the last 1-1/2 years as providers and tech experts have touted its advantages.

The latest buzz has surrounded hotspots, or public wireless networks where people can gain Internet access for a nominal fee, which have been set up in areas with a concentration of people. The technology has started appearing in hotels, airports, coffee shops and retail stores, as owners see it as a way to generate additional revenue as well as attract additional clients.

More companies are starting to view Wi-Fi as a wise financial investment -- it provides extra convenience and cost savings as less wiring is required than online Internet connections.

"When we became aware that there was such a thing as a wireless hub that allows you to plug into a network, it became obvious that it was a good solution," said Warren Simonsen, vice president of marketing for Security International, a Franklin electronic equipment and software developer.

The firm has used Wi-Fi for about five months. Employees now are able to move about freely and stay connected to the network.

To set up Wi-Fi, a company or individual needs an Internet connection and hardware. The hardware includes access points, which transmit the signal and are plugged into wired LAN switches, and client cards, or adapters, that receive the signal. Client cards are available as an external device, though many laptops and PDAs come equipped with Wi-Fi capability.

There are some issues business must consider before incorporating it but experts predict Wi-Fi will become more prevalent, especially as it becomes more reliable and robust.

About 40 percent of businesses use wireless LAN technology in some manner, according to a February survey by In-Stat/MDR, a technology research firm in Scottsdale, Ariz.

"Always being able to have access to information you need is one of the key drivers," said Frank Hanzlik, managing director of Wi-Fi Alliance, a trade association in Mountain View, Calif.

Add-on proposition

Businesses do not rip out their wired networks to deploy Wi-Fi but simply add it as an extension to an existing wired network.

Any work environment where an employee moves from a work station to conference room several times a day is a prime location, said Jason Tienor, managing director of Milwaukee's EthoStream, which has set up Wi-Fi in several areas throughout Milwaukee, mostly within the hospitality sector, including the Hilton Milwaukee City Center and The Pfister Hotel.

The advantage is "the mobility of being able to access what you need to without fighting for the resources," he said. "It saves a lot of cost and provides efficiency."

Although the highest concentration of the hardware is being installed in universities and hospitals, hotspots have started to sprout across the country. At hotspots, users log on and typically pay a nominal usage fee, depending on the location and time allotment. In the United States, usage fees are based on sessions, which typically range in price from \$5 to \$10 per session, or 24-hour access in any location, according to In-Stat/MDR.

"The target is the businessperson outside of their Wi-Fi zone in their office that would like to have that connectivity," said Karl Radke, director of business development with CyberLynk Business Internet Solutions, a Franklin Internet service provider.

Milwaukee's Alterra Coffee and Bella Cafe, Lake Geneva's Grand Geneva Resort & Spa and the Racine Yacht Club either have introduced it or are in the process of installing it.

The city of Milwaukee will make free Wi-Fi access available this summer on a 12-month trial basis at two downtown parks -- Cathedral Square Park and Pere Marquette Park. SBC Communications Inc. is donating its Yahoo! DSL service and Cisco Systems is providing the equipment. Users can purchase adapter cards for a one-time fee of \$50.

Some retail chains, such as Starbucks and McDonald's, have also made inroads into offering Wi-Fi but do not offer Wi-Fi access in their Wisconsin locations.

At Kings Head Hair Salon, 1246 N. Van Buren St., Milwaukee, owners installed Wi-Fi six months ago, seeing it as a value-added benefit to their customers. The installation, which included a laptop and access point, cost the salon \$1,500.

"Whatever we can do to save customers time, they appreciate," salon president Ray Schneider said.

The cost typically isn't a barrier, experts say. High-end access point hardware, which is used for larger deployments, can cost between \$500 and \$1,200 while low-end hardware for smaller businesses can cost between \$75 to \$150, said Gemma Paulo, a senior analyst at In-Stat/MDR. Client cards can cost about \$50 to \$120.

Businesses can contact providers, such as CyberLynk and SBC, or companies like Etho-Stream, to set up service.

Among Wi-Fi's inherent limitations is its limited capacity, Paulo said.

A limited amount of users can be supported per access point. The range is limited, as the access points typically extend out to 300 feet. Most businesses try to set up a system where multiple access points are set up on a floor.

Security is an additional issue as others can pick up another user's signal and gain access. Yet protected access is available as a software upgrade. Security protection will be integrated into future Wi-Fi products, Paulo said.

The Wi-Fi market is still relatively new, so certain standards -- particularly roaming agreements similar to those available with cell phones -- need to be ironed out. Nevertheless, Wi-Fi is viewed as having great potential.

"Adoption will just accelerate," said Michael Coe, spokesman for SBC.

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