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## Technology

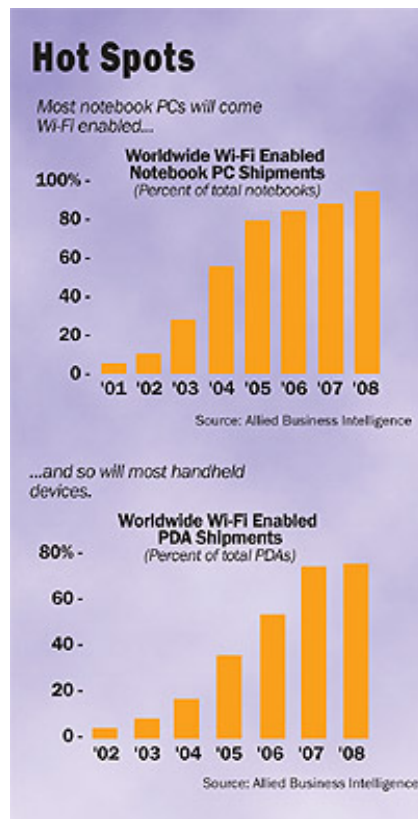
# Wi-Fi is the Next Generation...and Business Can't Embrace It Fast Enough

By Paul Ziek

The budding success of Wi-Fi is testament to our willingness to adopt new technologies. More importantly, it is an indication that wireless is the next generation of computer-mediated communication. Media coverage is abundant and the buzz is almost tangible. The move toward wireless communication has been evident since the explosion of cellular service in the mid-1990s. Although cellular communication has grown enormously and still continues to grow at an astounding rate, the introduction of more computer-oriented wireless technologies, such as wireless fidelity (Wi-Fi), will radically change the landscape of communications and interaction.

We have brought Wi-Fi into our homes and businesses, and the technology sector has responded with exuberance by increasing research and development. In addition to developing enhanced enterprise applications and equipment, manufacturers are working on applications for consumer electronics such as TVs and DVD players. The entire technology sector has seen a tremendous rebound, spurring Business Week to give the hardware sector a growth prospect of B+ and the chip sector a growth prospect of A for the upcoming year. This is mostly due to Wi-Fi's grass roots popularity. In-Stat/MDR further states that Wi-Fi hardware sales grew 140% in 2003 and the Yankee Group claims that 40% of small companies will increase IT spending in 2004. This revival and renewed confidence in technology is sure to stimulate more investment in the hardware and backbone of WLANs.

### Still, some wiring is required



Although the amount of wiring is significantly less than contemporary networking, a WLAN does, ironically, require some hardwiring. Wi-Fi connects computers and networks through radio signals IEEE (Institute of Electrical and Electronics Engineers) 802.11. Computers and handheld devices equipped with Wi-Fi radios (Wi-Fi NIC or PC Card) communicate with a gateway. The gateway or access point acts as the base station for the network and is connected directly to an Ethernet network or the Internet. A node or hot spot constitutes the coverage area and there are two types: public and private.

At the moment, Wi-Fi's largest customer base is the on-the-go professional. This is due to the recent implementation of thousands of public hot spots all over the country. By 2006, IDG estimates that over 50,000 public hot spots will be deployed. In fact, T-Mobile has spent over \$200 million to install hot spots in over 2000 Starbucks; Verizon plans to build 1000 hot spots in NYC using the existing pay phone infrastructure and SBC plans to do so in the south, setting up 3,000 hot spots.

However, the often-overlooked positives associated with corporate deployment (versus public) of Wi-Fi are colossal. Wi-Fi has the ability to allow organizations to connect both public and open areas to an existing network.

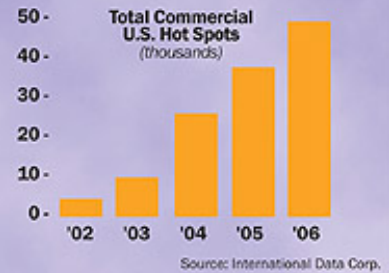
Therefore, previously out-of-reach areas such as the cafeteria, meeting rooms, industrial or storage areas are now available for conference calls, video conferencing, database queries or flat file usage. General Motors, CareGroup, UPS and Allsteel are just a few of the companies that have implemented their own wireless network and are taking advantage of the benefits.

Engineers have been developing and refining 802.11 for years and, presently, there are several frequencies. To ensure the validity and interoperability of 802.11, non-profit institutions such as the Wi-Fi Alliance have begun testing and certifying equipment that will work together. Since its inception in 1999, the Wi-Fi Alliance has qualified hundreds of products as interoperable from such companies as Belkin, D-Link, Intel, IBM, 3Com, Apple, AT&T and Cisco.

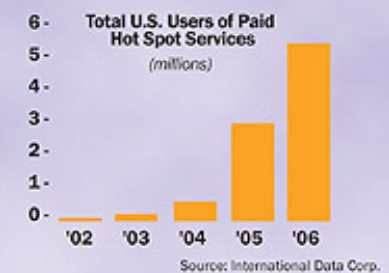
The Wi-Fi Alliance is also integral to securing Wi-Fi, a topic of interest among the masses. Currently, there is a perception that Wi-Fi is not a secure avenue for data transmission. Yet, in addition to existing security standards, such as WEP, the Wi-Fi Alliance is developing new standards as well as ratifying new procedures and frequencies that are secured through automatic cycling encryption codes.

## Hot Spot Services

*In coming years, Wi-Fi hot spots will proliferate...*



*...That should drive growth in subscription Wi-Fi services...*



## Supplying the market

The preparation for supplying this emerging market has already begun and, as was previously stated, dozens of companies have become involved in Wi-Fi. All of them need to apply funds to R&D and sales and marketing. Witness the following: Cometa Networks, a premier Wi-Fi provider, is a partnership between Intel, IBM and AT&T.

Cingular has partnered with Wayport, a company committed to implementing public hot spots. Palm released the Tungsten, Sony released the Clie and HP released the iPaq—all Wi-Fi capable handheld devices. Intel introduced yet another Centrino chip that is less expensive than its predecessors.

For many, it is surprising that the Wi-Fi market is so large; however, the true surprise is the projected intensification. According to Insight Research, Wi-Fi equipment and services are expected to grow from \$7 billion in 2003 to \$44 billion by 2008.

## Wireless as a new standard

Wi-Fi will undoubtedly change business communications, as WLAN connectivity is designed to compensate for lost computer time. People are no longer bound by hardwired CPUs and therefore will have network, email and Internet access from anywhere. The ability to dissolve space issues associated with contemporary computer-mediated communications will enable the application of wireless technologies as a communication benchmark. The widespread reliance of email proves that enhancing relationships and information exchange with technological innovations has become a business standard. In fact, according to a study performed by the Meta Group, 74% of executives say email is even more vital to their business than the telephone.

There are a plethora of wireless technologies that are on the cusp of a consumer and corporate breakthrough. All of which will have tremendous impact on the way we do business. Examples range from Wi-Fi, WiMax and Bluetooth to 3G, SMS, MMS and Microsoft's SPOT initiative. Among the host of changes that these technologies will stimulate, the facility professional must truly hold the knowledge of their impact and operation. It is better to be the FM who embraces and can explain this technology revolution to executive management before a vendor does so.

The Wi-Fi Alliance Internet site answers many questions from how to design your Wi-Fi network to how to secure it to implementing advanced Wi-Fi. The following is an example of help offered on the Wi-Fi Web site, [www.wi-fi.org](http://www.wi-fi.org)

### **Setting Up a Wireless Network**

Once you've decided to free yourself by "going wireless," you can reap all the benefits of mobile computing—and it's simple and easy to set up and operate a wireless network. Here's how to plan for, install and operate your Wi-Fi® network:

### **What Makes Up a Wireless Network?**

Do I Need a Peer-To-Peer Network, or One with a Base Station (An Access Point Or Gateway)?  
What Are the Wi-Fi Radio Options For My Laptops, Desktops and PDAs?

### **Planning for Access Points and Gateways**

How Many Users Can Use a Single Access Point?  
Choosing Components for Your Network  
Count The Total Number of Users and Computers  
Place a Wi-Fi Radio In Each Computer  
Determine the Number Of Base Stations (Access Points or Gateways) You Need  
How Do You Connect Your Wi-Fi Network to the Internet?  
How Do You Make Printers Work on Your Wi-Fi Network?  
Can You Share Devices on Your Network to Save Money?

### **Metric: 80% of U.S. enterprises to have WLANs by 2008**

According to a study from InfoTech, 80 percent of U.S. enterprises will have a WLAN network system by 2008. This growth will represent a \$5.9 billion market. Seventy-five percent of U.S. businesses have some kind of WLAN deployment, with most only affecting around 10 percent of their workforces. The study predicts that WLAN penetration will remain narrow until newer applications, like Voice over WLAN (VoWLAN), prompt businesses to deploy WiFi across all their units. The study also predicts that in-building mobile business users using multiple wireless technologies (i.e., cellular, WiFi, Ultrawideband, Bluetooth) will rise from 14.8 million in 2003 to 30.8 million in 2008. Forty percent of the mobile workforce will use multiple wireless standards as a part of their work routine by 2008. (infotech.com) Sourced from FierceWireless; [www.fiercewireless.com](http://www.fiercewireless.com)

*Paul Ziek, Project Management Professional, is a project manager for Savant Services Corporation, a New York-based project management and advisory firm. He has led the implementation of numerous corporate relocations, reorganizations and facility designs. Visit [www.savantservices.com](http://www.savantservices.com)*

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**Eileen McMorro**, Editor & Publisher — McMorro Report, LLC

[eileen@mcmorrorreport.com](mailto:eileen@mcmorrorreport.com) | [mcmorrorreport.com](http://mcmorrorreport.com)

Ph: 973.509.7277 Fax: 973.509.5288

P.O. Box 43008, Upper Montclair, NJ 07043-0060

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