BusinessNewHaven

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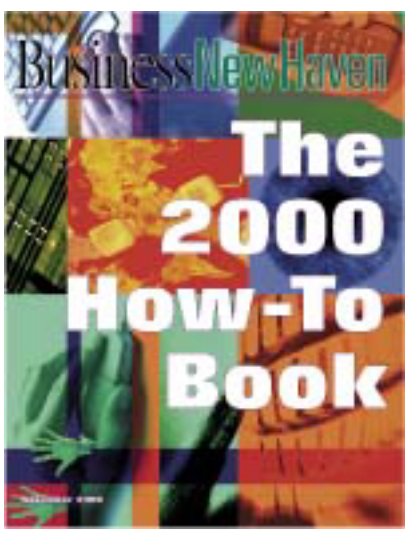

High Wire(less) Act

Wireless technologies — from untethered Internet connections to wireless wide-area networks to wireless local-area networks — are taking the business world by storm. These emerging technologies promise to revolutionize communications and the Internet. If the hype around wireless technology is to be believed, it won't be long before everything in the business world is linked to the Internet and remotely controlled by cell phones activated by voice commands. Some companies are looking for productivity gains and are arming their workforces with mobile devices. Others are trying to stay connected to an increasing mobile customer base. None of them is waiting for a killer app; they're moving ahead with unique systems now. But although the future will indeed be wireless, we are still light years away from the reality.

Jacqueline Lightfield, president of New Haven-based Blowtorch Studios, demystifies wireless applications.

What is WAP and its applications?

WAP is an acronym for Wireless Application Protocol. It's simply a protocol — a standardized way that a mobile phone talks to a server installed in a mobile phone network. It is an attempt to define the standard for how content from the Internet is filtered for mobile communications. WAP is an important development in the wireless industry because of its attempt to develop an open standard for wireless protocols, independent of vendor and airlink.

What are the standards now?

There are essentially several wireless standards today. WAP is backed by Nokia, Ericsson and Motorola. AT&T and Vodaphone backs the global standard called UMTS [Universal Mobile Telecommunications System], also known as WCDMA (Wideband Code Division Multiple Access). AT&T plans to be one of the first major companies in North America to deploy such a network based upon global standards for "third generation" (3G) services such as graphic presentation of data, video e-mail, high-quality music downloads and streaming audio and video. In the U.S., we're on a lower standard than in Europe, which is the "3G" standard. The third generation of wireless communications has higher gigahertz, or throughput. All this telephony technology impacts what happens on the data side.

What has slowed deployment in the U.S.?

Most of the wireless applications that have been developed have not gone anywhere because there is not enough market and broadband to support them. With the 802.11b standard [802.11b is an intermediate-range wireless networking standard that runs at speeds comparable to standard Ethernet], wireless applications run in a kind of Intranet or LAN-type setting. These have taken off, unlike Bluetooth [a standard for the wireless transmission of data between devices by the use of short-range radio waves]. Bluetooth is another standard that works as if it will be very prominent with embedded applications such as your refrigerator talking to your microwave talking to your stereo system. The bottom line is there are a lot of standards and a lot of new technologies — but without the support of the wireless telecom providers in the U.S., it's very hard for a technology company to say, 'This is the one consumers will adopt.'

If wireless users today think that cell-phone coverage and voice quality stinks, how can they be confident or even interested in using wireless data applications tomorrow?

For sure, there are infrastructure and technology problems with wireless that need to be overcome. The problem in the U.S. is that we have a fractured market and low bandwidth voice and data solutions. Europe is way ahead of us because they have such awful infrastructure for land lines and bought into the latest technology before us and leapfrogged over us. In the U.S., when you think about wireless applications on your phone, you think, 'Can I really buy something from Amazon on my phone?' The answer is yes, but it's really slow. Most people don't want to sit there pressing on their little keypads trying to get letters out in order to make it a two-way communication. That's where devices like PDAs [personal digital assistants] succeed, because they've already addressed user input. One of these days, we're going to get voice recognition where we can just talk to whatever device and it will do a whole bunch of wonderful things for us. We're still a ways away from that. Although it's nice to see that AT&T just came out with an improved voice-recognition system.

How are businesses using wireless technologies to benefit their customers?

For example, they're using PDAs equipped with a wireless modem to scan bar codes, which are transmitted back to their supply chain-management software. Some airlines let their passengers check flight information from their wireless devices or like UPS, which lets customers check delivery on their Web-enabled pagers and phones. A bank recently unveiled a wireless transactional banking service. For one of our projects, we've developed an application that uses wireless technology to transmit information anywhere in a museum — no matter where you are in the room you can get information on a painting or a sculpture. It delivers audio, video, text and pictures. It makes for a more interesting experience when you can't have a curator walking along beside you. We've also developed a back-end content management system in XML. [Extensible Markup Language is the universal format for structured documents and data on the Web.] It allows us to write data once and have it appear anywhere. We could take information written for the Web and separate it from the delivery mechanism and have it appear in any wireless protocol.

How about small businesses — Blowtorch, for example?

We use wireless technology within our office. We're getting rid of Ethernet cables and equipping all of our laptops and PCs with wireless cards because it makes the workflow much easier. When we have a meeting in our conference room, we're all connected with our laptops to each other and the Internet. People can take notes and send e-mail. It makes for a more productive experience rather than everyone peering behind one desktop jotting down information only to go back to their desks, type it up and send it out.

What about people walking down the street to a mixed chorus of beeps and rings as coupons from nearby shops arrive on their phones?

Our philosophy about delivering ads over PDAs or Web phones is that if people are paying for wireless connectivity, the last thing they want to see are ads. In New York, there is a company that is transmitting coupons for companies if you happen to be on a certain block near their stores. Vindigo and AvantoGo are trying to support themselves with additional revenue streams like this, but I just don't see it working. It's putting marketing messages in tools. And I think most of the wireless applications that we're going to see will resemble tools rather than commercial content.

What about security issues?

A cool thing happening in major metropolitan areas is to have wireless Internet access available in Starbucks cafés, in airports or in business zones. The great thing about that is that you can walk around with your laptop or PDA and get wireless Web access, but security is an issue. You want to ensure that your corporate data is not compromised or accessible by someone other than authorized users. It's one of the biggest challenges.

It seems like more hype than reality right now. When will the two catch up?

What is happening is that the 802.11b standard — the wireless cards that you currently see being deployed — has been adopted pretty quickly. The reason being is that it is expensive to put Ethernet cables in homes and offices and they're also unsightly. You're locked into a position where a computer or desk can be. So we're seeing a lot of interest and implementation of wireless solutions — especially, for instance, in older buildings with concrete walls from the 1970s. Wireless allows them to get high-speed access without the infrastructure work and cost. That's where the hype has hit the pavement in a positive, practical way and I see big growth there.

How about in terms of wireless applications?

It's a little more complicated. We have to wait for some sort of standardization among the telecom companies. I don't think that they have an incentive to do it [now]. They certainly didn't have an incentive to roll out DSL until very recently, and with their competition drying up it's getting more difficult to get them to move quickly. But I would really love for one of them to come through and say that [they're] going to adopt 3G, or start selling high-bandwidth phones. I think that will change what people will use wireless devices for outside of the office.