Rich Sheridan, member of the Wireless Washtenaw steering committee

County WiFi to start weaving its web

Work on tests begins with eye to October launch

BY TINA REED 08-06-06
News Staff Reporter

Imagine having a wireless device in your car that could locate open parking spaces downtown.

Or envision taking golf advice from a GPS wireless mechanism that can locate your position, remind you how you played the exact hole last time and what club you should use.

With Wireless Washtenaw, a plan to develop a widespread wireless Internet infrastructure by December 2007, county officials hope new product and business ideas like those could become not only possible, but commonplace.

"It'll be an innovation playground," said Rich Sheridan, president of the Ann Arbor-based Menlo Innovations software company and a member of the project's steering committee. "There will be infrastructure that can be counted on that was never there before."

On Wednesday, the county Board of Commissioners approved 20/20 Communications, which is partnering with the international technology firm Siemens, as its Internet service provider. A contract is still pending, but the company can now begin official pilot tests of its technology and get plans rolling to start integrating part of the county into the network starting in October.

"I'd imagine a lot of people will say, 'Oh, great. I can surf the Web and check e-mail sitting at a cafe or a park,'" Sheridan said. "But once wireless is ubiquitous, the product ideas could be endless."

The idea to weave the wireless Web across the county was hatched over a cup of coffee in the fall of 2004.

Imagine taking the idea of Wi-Fi from the coffee shop and turning the entire county into a hot spot, David Behen, the

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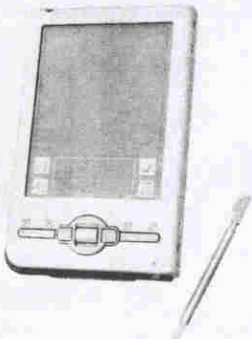
ELIYAHU GUFFINKEL, THE ANN ARBOR NEWS

Rich Sheridan, left, president and CEO of Menlo Innovations, LLC, and David Behen, director of support services for Washtenaw County, came up with the idea of a countywide wireless Internet service over a cup of coffee at Cafe Verde in Ann Arbor.

INSIDE



One goal: Provide Internet for those who can't afford it or who have few service options

information technology director for Washtenaw County, told Sheridan, a longtime friend and business partner. The result was a two-year planning process involving the county, local units of government, local information technology companies, the University of Michigan and the companies vying to be the ISP.

The idea is to spur local businesses into creating new ways to use the infrastructure once it's in place, said Tom Crawford, the City of Ann Arbor's chief financial officer and a member of the Washtenaw Wireless steering committee.

Inventions that rely on wireless Internet would then become more realistic. Everyday tasks, such as catching a bus, could be made easier.

"What if you could see where the bus is from your PDA?" Crawford said. "Ann Arbor is particularly suited to take advantage of that."

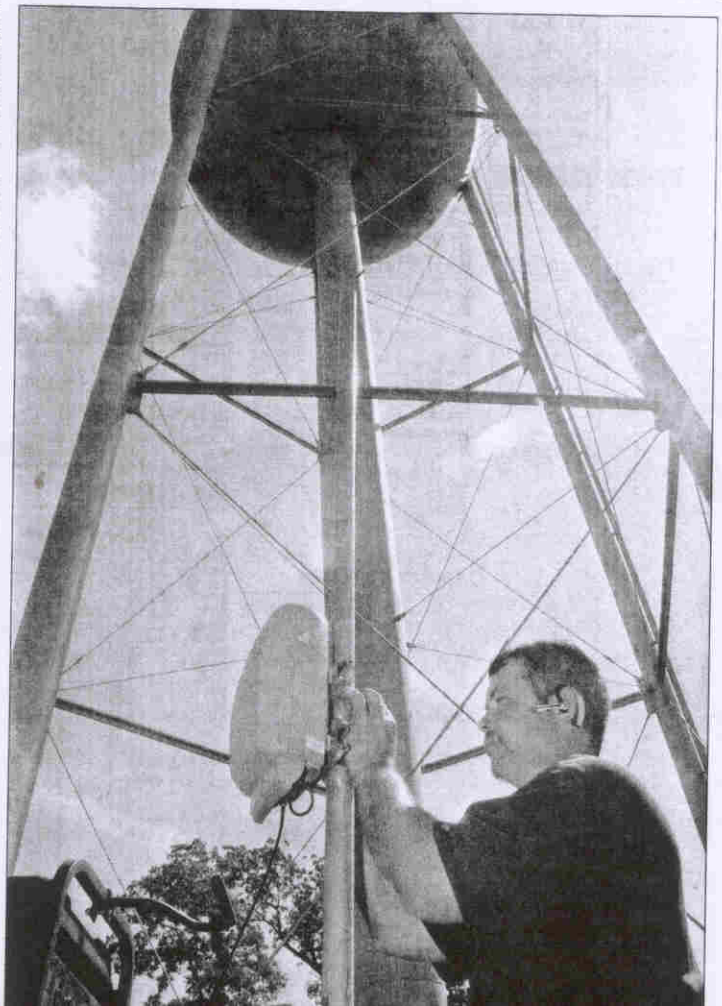
Or how about allowing people with health issues to travel the county wearing monitors to transmit information back to their doctor, Behen said.

The system might also be an attractive feature that causes businesses to locate to Washtenaw County.

"I could imagine a company like Google would look at the kind of forward thinking like ours and start to pick a place that offers these types of services," Crawford said, referring to the search engine giant's recent announcement it planned to move its AdWords division to the Ann Arbor area.

The general idea is also about finding a way to provide basic Internet access for those who can't afford it or those who have few options near their homes because neither cable Internet service nor DSL is available.

"There is a severe digital divide in our county; it could best be described as Zeeb Road," Sheridan said. "Past that point, high-speed availability drops off dramatically."



Going wireless

Here are some frequently asked questions about Wireless Washtenaw, a countywide wireless Internet access service.

Q: How much will it cost?

A: Lower speed service will be free; a high-speed optional subscription with advertising will cost $35 for residential customers; and a high-speed subscription without advertising will cost $50 for residential customers. It will include telephone service called Voice Over Internet Protocol.

Q: How fast is the free service?

The free service will range between 85K or about twice the speed of dial-up.

Q: How fast is the paid high-speed service?

The high speed service will be about 1 Mbps (megabit per second), somewhat slower than basic DSL or cable service.

Q: Do you have to live in the county to get the service?

No, you must simply be within its borders to use the system.

Q: When will it be available?

The system will be operational in stages, beginning in October. December 2007 is set as the deadline for the entire county to have wireless access. Ann Arbor will most likely gain access first because of its customer density and proximity to the main server. The company says existing pilot test sites in the Saline and Manchester areas may also be starting points for the system.

Q: What do I need to make my computer wireless?

A wireless card (standard in many laptop computers built in the last two years). They start at about $30.

Q: What will I need to do to hook up?

An antenna outside the house and a router may be needed for computers set up inside homes. Users of the free service simply need to select the network from the computer and subscribers will receive a password for faster access.

Q: How do I make my computer more secure on a shared network?

Purchase strong firewalls and spyware to protect personal information on computers. It is also possible to select a privatization option in the control panel of computers with Windows XP to encrypt saved files and a similar option exists on Apple computers running the latest version of OSX.

Source: Bob Woolf, president of 20/20 Communications; Jatrod Mitchell, a PC technician at Affordable Computers Inc. in Ann Arbor.

availability drops off dramatically."

It's a problem that many residents deal with on the western side of the county. In some spots near the small towns, Internet access might be available, but in other places the only option is dial-up or satellite.

More Internet access will make a difference in selling homes to people in areas that have had limited access options, said Peggy Moran, a real estate agent at the Charles Reinhart Company in Chelsea. Moran heard about Wireless Washtenaw at an Ann Arbor Board of Realtors meeting and she can't wait to tell clients about the availability in the rural areas when it gets up and running.

"It's a high priority for many people," Moran said. "One gentleman who works out of his home didn't even look at a house without it. That was his No. 1 priority."

The access could also make a difference in how Moran does her own job, such as when she's showing a client a house.

"If I have my computer and had the wireless, I could pop it on and give you the additional information on-site," Moran said. "I'm ready for the change. I'm all for anything that will improve our county."

During a recent Thursday lunch at Zingerman's Deli in Ann Arbor, a corned beef sandwich and a laptop were Rick Zahodnic's only companions.

The Macomb Township resident wasn't bored.

While passing through town, he had found one of the many business Internet hot spots in town and spent his lunch hour checking e-mails, catching up on work and passing jokes.

"Would it make a difference in the future of whether I come back? Definitely," he said. "You get hooked on having access and being able check the Internet."

Wireless Washtenaw may have the same effect on a much larger scale, said Bob Woolf, president of 20/20. Last weekend, Woolf traveled to New Haven, Conn., and checked out parking meters there that can sense when a parking space is occupied and can send a text message to registered cell phones warning users when their time is about to expire.

This could be the future for Washtenaw County once it has the wireless infrastructure to support it, Woolf said.

It all starts atop an 11-story building in downtown Ann Arbor. That is "radio mecca," one of the many large buildings dotting the city skyline where local telephone and Internet providers have set up their own radio technology.

It's where 20/20 Communications has set up initial testing sites for its radio-transmitting equipment – or access points. The estimated 5,000 access points, nicknamed pony-kegs at the company for their cylindrical shape and size, hold six radio transmitters that will communicate with individual computers or with radios in other access points. When a user requests a Web page, the computer would request the information from the transmitter located closest to it. The request would be sent through the wireless web of access points back to a main server in downtown Ann Arbor, most likely the large 100-Mbps digital pipeline at 20/20 Communications, and out into the Internet from there. The information would be sent back again, bouncing between radio transmitters, to the individual in the form of a Web page.

20/20 Communications is no stranger to wireless projects – it set up a wireless system in Saline, as well as Sylvan and Scio townships, in what Woolf called smaller versions of Wireless Washtenaw. The company, and not the county, is planning to pay the estimated $42 million cost to set up the service and provide the free access within county borders.

"Now don't get me wrong, it won't be fast access," Woolf said. "Otherwise, how would we make money?"

In return for its investment, 20/20 Communications would be able to hang its transmitters on government-owned assets, such as water towers, and gain access to customers around the county. This summer, it began testing new equipment that uses higher frequencies to avoid the common wireless problem of radio-signal interference. Part of the tests involved hanging a transmitter on the sign in front of Ahmo's Gyros & Deli on the corner of Huron and Division streets in downtown Ann Arbor and hanging a transmitter from the Manchester water tower. The technology worked better than expected, Woolf said.

At last Wednesday's county board meeting, the company said it would charge $35 for the higher-speed subscription with advertising for residential customers and $50 a month to customers who want it without advertising. Both versions will include Voice Over Internet Protocol, the Internet telephone service.

A welcome browser screen and accompanying advertisements could be targeted to users based on their location.

"If someone is downtown, it would make sense to send them ads to places that would be within walking distance," Woolf said.

The free service will range around 85K, or about twice the speed of dial-up telephone service, Woolf said. The system will be set up to allow future integration of the new technology Wi-Max, which may replace Wi-Fi in the future.

The company still can't say for sure who would get service first.

One option would be to build out from testing sites, gradually expanding across the county, piece by piece, starting in October. This summer, the company performed its own testing in Manchester and Saline and hopes to run official pilot testing from these sites.

"But we have to start earning our money back as soon as possible," Woolf said.

That means, the company may have to split its focus between getting access to those in the rural areas and to higher populated areas, such as Ann Arbor, that could more quickly garner more subscriptions to the higher-speed service.

The ISP has been receiving questions from rural residents eager to offer their own farm silos and barns for hanging the access points.

"Our phones have been ringing off the hook," Woolf said. " This is like a brand new utility. They figure the closer to them, the better the service."

Those offers will help, but without assets from the county, it would have been impossible to compete, Woolf said.

"This is the first time we'll be able to go out against the big guys. We've got our slingshot loaded."

Companies that offer other forms of Internet locally aren't worried about the new access being offered.

The countywide Internet service is only another competitor, said Jerome Espy, spokesman for Comcast, which offers cable access around the county and state.

There may well be problems early on as the project gets up and running, Behen said.

"No one has really done this, so there's going to be technical issues," Behen said. "There may be interference with other businesses."

Ann Arbor business owners didn't expect the county wireless program to affect their business.

At Zingerman's, which has wireless both indoors and outdoors, the countywide access would only complement or replace the service they offer as an extra to their main product – the food, said Grace Singleton, managing partner of the deli.

The wireless isn't supposed to eliminate other forms of access, Crawford said.

"I think we'll always see land line and businesses offering wireless on their own," Crawford said. "This won't become everyone's network."

Excitement is growing from impatient residents who want to know when they will be integrated into the program. It's a strange development because only a few years ago, the project would have seemed impossible or unnecessary, Sheridan said.

"People simply expect this to be there and expect this to work," Sheridan said. "It's amazing how yesterday's luxuries become today's necessity."

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ROBERT CHASE, THE ANN ARBOR NEWS

Dave McCarthy, senior radio-frequency engineer for 20/20 Communications assembles the electronic equipment for a wireless access point to be mounted on top of the Manchester water tower Monday. The access point will be used to test signal strength in the Manchester area and is part of the Wireless Washtenaw program intended to allow wireless Internet access throughout Washtenaw County.

Comparing network connectivity: What does it all mean?

	Cable	Dial-up	DSL (Digital Subscriber Line)	Satellite	Wireless
What is it	Data transmitted through cable TV lines.	Data travels through a regular phone line using a modem.	Data transmitted through separate telephone wire.	Data transmitted via satellite to an outside dish similar to satellite TV.	Data transmitted across radio waves
Pros	High speed and mostly smooth performance; bundled cable TV and Internet service.	Available everywhere, inexpensive	High speed and mostly smooth performance; bundle telephone and Internet service without tying up the phone line.	Available anywhere other high speed Internet can't reach; about the same	Allows for mobility, less infrastructure needed to put in place
Cons	Not as pervasively or consistently available in rural areas, might need to buy both television and Internet service to get a good deal.	Slowest speed available	Not as pervasively or consistently available in rural areas, might need to buy both telephone and Internet service to get a good deal.	Equipment and activation can be costly; light delay in video conferencing and realtime activities.	General performance capacity can be lower than wired systems. Signals can be reduced greatly by fluorescent lights, structure and steel.
Monthly cost	Between $33 and $45 depending on bundling with other cable services.	Betwen $0 and $15	Between $13 and $30, depending on speed and bundle of services	$50 and $130	Around $30 to $50
Speed	6 to 8 Mbps (Megabits per second) available; about 100 times faster than dial-up.	Between 35K and 56 K	Between 1.5 and 6 Mbps; Between 25 and 100 times faster than dialup	Up to 1 Mbps, somewhat slower than DSL or cable.	About 1 Mbps; somewhat slower than DSL or cable; speed varies depending on proximity to access point.
Availability	Much of the county where you can get cable television from provider. However, there are some townships and spots in the western portion of the county that do not receive full service.	Everywhere where there is telephone service	Service is available in different parts of the county	Everywhere the company is willing to install.	Already available in specific hotspots in cities and towns from various companies in the county; found most often in businesses. County-wide service to start creation this October. Homeowners may also have another Internet service but use a router to create their own wireless network in their home.

Source: Andy Pokes of University of Michigan IT Communications; Comcast; AT&T; Earthlink; 20/20 Communications; Spakenet Media

SONIA L. GOTTSEFIG, THE ANN ARBOR NEWS

ALAN WARREN, THE ANN ARBOR NEWS

David McCarthy, radio-frequency engineer for 20/20 Communications, works on tuning the RF output signal at the wireless access point on the sign outside of Ahmo's Gyros & Deli on Huron Street in Ann Arbor.