When it comes to Internet access, today’s plugged-in generation increasingly seeks a swifter flow of information. The optimal answer is broadband, the high-capacity, high-speed transmission channel with sufficient bandwidth to carry multiple data channels simultaneously.

In Indiana, broadband access has been available in the metropolitan areas for a couple of years, but much of the state’s rural citizenry has been out of luck.

According to the Federal Communications Commission (FCC), Indiana has the fewest number of high speed Internet lines among the Great Lakes states. More specifically, a 2003 state report indicates that 18% of all Hoosier homes use broadband technology; the figure stands at less than 5% for rural residents and businesses.

Now, thanks to an emerging technology utilizing power lines – instead of telephone or cable television lines – to transmit broadband, small communities throughout the state could soon be zooming along the information superhighway.
BPL takes flight

Broadband over power line (BPL) users connect their computers to outside power lines through, most commonly, a modem that plugs into a wall socket. The modem transmits a signal to a coupler that routes it around a transformer, thus enabling it to hit a main power line.

“BPL is already in a number of areas throughout the country and throughout the world,” reports Jeff Tolnar, vice president of marketing and business development for Amperion, Inc., a medium-voltage powerline communications company that develops networking hardware and software to enable the delivery of BPL.

“We have 25 networks up and running in five different countries right now. The marketplace as a whole is now starting to adopt the technology. We don’t really get questions any longer like, ‘Does the technology work?’ Because I know ours does work.

“It’s widely deployed and our competitors like Current Communications and others are having success in the marketplace as well,” Tolnar concludes. “We turned up about 10,000 households in one deployment over a three-week period, so it’s also a quick process. It’s just a matter of how many line crews are working at once to put the units on, which each serve between 20 and 100 customers.”

Major Midwestern utility Cinergy Corp., which announced its partnership with Current Communications in March, has investigated BPL for more than three years and recently concluded a successful pilot phase in Cincinnati-area neighborhoods, says company spokesman Steve Brash.

“We’ve had a 15% sign-up rate outside of the original pilot. The acceptance rate has generated a lot of word of mouth,” he states. “We are now moving ahead fully with the implementation phase, getting equipment installed and doing direct marketing.”

At year’s end, Cinergy looks to have enabled more than 50,000 homes with equipment lines. By 2006, the estimate is 250,000. “Once the homes are enabled, residents can get connected through their modem and then register online. It’s pretty immediate,” reports David Gard, manager of Cinergy Ventures, the segment leading the corporation’s BPL efforts.

Selling points

There are several easy-to-see advantages to BPL. First and foremost, it is a natural entry into the rural environment because wherever you have power and energy, the infrastructure and wires are already there, ready for enabling.

With its “plug-and-play” aspect, BPL is also extremely convenient for consumers. “The modems can plug into any outlet in the house. You can buy as many additional modems as you like,” Gard states. (The first modem is free from Cinergy; each subsequent modem is $39.95.)

“The modem feature also makes it easy to network without all the extra equipment.”

Additionally, the speed of BPL is on par with DSL. “One great advantage, though, is that information travels into and out of the home at the same rate of speed,” Gard notes.

The price is also competitive. Typical costs will run from $29.95 to $39.95 per month, varying based on connection speed. In comparison, a typical dial-up connection from the phone company runs between $15 and $22. Meanwhile, cable connections go for $35-40 per month; DSL lines are $30-$35 with bundled services.

Beyond the selling points to consumers, BPL provides a major benefit to the power industry. “We get better control of the grid itself through distribution automation. This helps the utility better manage what they have in place, to know when and where they have an outage,” Tolnar reports.

As it stands now, Gard explains, “We don’t know when there is an outage unless someone calls and alerts us.”

By being able to control the load so the utility can more effectively use the generation, Tolnar predicts “it could have some strong benefits for rate payers.”

Competition and opposition

Surprisingly enough, DSL and cable providers “haven’t really been that vocal against us,” Tolnar reports.

“It’s an interesting dichotomy between the business development portions of these companies and their anti-competitive portions. They’re walking a fine line right now of where they really shake out because they do see broad opportunities for them with this technology,” he surmises.

SBC Gets Rural with DSL

Besides the promise of BPL, many rural Indiana communities seeking faster Internet connections could soon get their wish through another familiar avenue.

In mid-August, SBC Communications Inc., the nation’s leading high-speed DSL provider and one of the top U.S. Internet service suppliers, announced a multi-million dollar expansion of its broadband capability across its Indiana service area, which comprises areas within 53 counties.

“With this newly available access, many of the smaller towns in our SBC Indiana service territory will be able to get DSL,” says local company spokesperson Michael Marker.

SBC defines “small towns” as those with population under 10,000. Communities already with access through the program range from tiny Burlington, west of Kokomo, population 444, to Kendallville in Noble County, population nearly 9,000.

Marker says this latest development was a natural evolution of SBC’s plan for DSL in Indiana, which was first launched in Indianapolis some two years ago, then went on to capture such densely populated markets as South Bend and Lake County.

Appropriately, SBC chose the Indiana State Fair, where throngs of rural residents gather annually, as the location of the announcement. There, a traveling display unit was available for people to “get a hands-on experience of what high speed broadband can do for them,” Marker offers.

“DSL can be good for anyone from a residential customer to someone who needs access and information on a farm to a small business owner.”

Marker estimates, “By the end of 2004, SBC will have more than 63 small towns around the state equipped with broadband capability.”

Resource: Michael Marker, SBC, at (317) 265-4020
As it turns out, ham radio operators are actually the most vocal opponents to BPL.

“They’re concerned that our emissions will hurt their hobby and we’re doing the best we can to ensure them that it doesn’t,” Tolnar insists. “They’re very vocal, they have a very strong lobby, and that’s why we’re working very closely with the FCC to ensure that our technology abides within the right rules,” [FCC Part 15, dealing with frequency and emissions].

Adds Gard, “The ham radio operators have some concern that BPL has created interference with their operation … our contact has a BPL system that would eliminate interference, so it’s not an issue with us.”

**Government input and regulation**

Expanding broadband access to reach more of the population is also on the radar screen of state and local governments.

An assessment to improve Indiana’s infrastructure called the INdiana INterconnect initiative was announced last year by then-Lt. Gov. Joe Kernan. This three-phase process was recently completed with a final report on the project pending.

In the initiative’s first phase, data was gathered to comprise a statewide map of the network and broadband services infrastructure. Secondly, a test was conducted on the dial-up network performance to evaluate the effectiveness (connection speed, interruptions, etc.) of the state’s infrastructure. [The majority of Hoosiers – 53% of businesses and 78% of households – access the Internet via dial-up modems].

The final stage consisted of a statewide survey of business and residential usage to gauge current and anticipated trends for the demand of telecommunications infrastructure and e-commerce applications.

A byproduct of the initiative is the INdiana INterconnect conference. This year’s event was set for mid-September, with Lt. Gov. Kathy Davis at the helm.

Indiana Republican gubernatorial candidate Mitch Daniels believes the state should do more. In a July statement, he set forth a plan that called for every Hoosier household and business to have high speed Internet access by 2007.

“Catching up with the rest of America in broadband connectivity is essential to raising incomes in every part of the state,” Daniels says. “This is especially important to reviving Indiana’s small towns, small businesses and rural areas.”

Government buy-in is also vital when it comes to regulation time. According to Tolnar, “every state commission that we’ve talked with has been very supportive. They just have to set the rules to make sure it [BPL] doesn’t hurt the rate base, because the utilities are still regulated and everything they do applies to the rate base.”

Nationally, President Bush has given talks on broadband expansion and FCC Chairman Michael Powell has offered his endorsement of BPL.

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Tolnar confirms, “Chairman Powell has been to one of our sites and two sites of our competitors. He’s gone on public record as being supportive of the industry.”

Timeline for Indiana

As for the million-dollar question: ‘when will BPL reach Hoosier households?’

Brash says that Cinergy is currently in the planning stages for BPL deployment in other locations. “We are continuing forward, gaining traction in the Cincinnati area, building scale and a timetable for Indiana and Kentucky for 2005 – exactly where and when and to what degree.”

Cinergy serves part or all of 69 counties in Indiana, including Marion and all adjoining counties.

Amperion is also working on entering the Hoosier marketplace with BPL. Tolnar hints that an announcement may be forthcoming in the next few months.

Stay tuned.

INFORMATION LINK

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