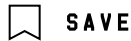


Appalachia: Where Net Trails Off

With little access to high-speed Internet connections, the tech revolution has ground to a halt in Appalachia. But the problem isn't just wiring remote areas: The Internet stands for everything that small-town America does not. A multimedia presentation by Jeremy Barna and Brad King.



The World's Longest Outdoor Sale -- one of hundreds of flea markets that operate in Appalachia -- is a chance for families to get out of the house and socialize with their friends and neighbors. B. KING



HARRODSBURG, KENTUCKY -- Bill Campbell is the man technology companies have been warned about.

Campbell, a war veteran with a steel rod in his left arm, lives in a small house in Harrodsburg, Kentucky. He collects a monthly pension of \$117 he supplements by selling power tools and household items at flea markets and yard sales throughout Kentucky and Tennessee.

Campbell is soft-spoken and wary of people he doesn't know. He doesn't much want to deal with anyone he can't look in the eye. He leaves most of the talking to friends.

In other words, he doesn't trust the Internet.

Even if he and his friends did -- and there are indications that rural residents are warming to the idea of high-speed technology in their homes -- most simply can't afford the price to log on.

Without ready access to the Internet, the technology revolution has ground to a halt throughout much of Appalachia.

To get broadband Internet access where he lives, Campbell would have to purchase a wireless satellite system. At \$99 a month, the service fee from StarBand -- a satellite carrier -- would eat up nearly his entire pension.

In large cities, high-speed access is available for as little as \$35, but residents like Campbell who live in rural towns face more expensive connection fees because of the price tag associated with wiring the towns.

Broadband access is largely non-existent in outlying areas because of the copper wires that carry information from a desktop PC out on the Web, said David Young, Verizon Communications director of public policy.

High-speed connections require copper wires to carry information back and forth from central service stations to customers' home computers. But homes need to be fewer than 18,000 feet from any central connection hub, otherwise the information flow slows down to a crawl.

Rural areas like Harrodsburg, which is located 122 miles south of Cincinnati, Ohio, are often too far away from these hub stations, requiring alternative solutions for access.

"Some areas are so remote and sparsely populated that no DSL solution will be economically possible," Young said. "So in those places, you would need to use a satellite service. But the dish has to be mounted to a solid object and then pointed at a satellite."

The problem for Verizon, one of the world's largest communications providers, and for other DSL providers is that they can't make money trying to service rural areas.

Oftentimes, that leaves the local phone companies as the sole providers for high-speed access.

Those companies can apply to receive money to upgrade their systems, Young said. The Universal Service Fund and the Schools and Libraries Program require large communications companies offering services in highly populated areas to set aside funds for independent businesses.

Those subsidized services -- along with companies like Vancouver, Washington's New Edge Networks, which targets towns with populations around 35,000 -- have sparked a small growth in high-speed network availability in outlying areas.

According to the Federal Communications Commission, there were 7.1 million high-speed lines available in the United States at the end of last year, with at least one broadband subscriber in 97 percent of the most populated zip codes in the country. In the least populated zip codes -- largely rural communities -- the rate of subscribers had nearly doubled from 1999, to 45 percent penetration.

"We believe -- and our business model is predicated on that belief -- that there is a market in these small communities," said Sal Cinquegrani, executive director of New

Edge Networks. "Nothing that has been happening on Wall Street has put a dent in the demand that people have for broadband."

Getting a town "wired" for high-speed connection is only part of the problem. Small town residents are reluctant to try the new services.

Despite the increase in high-speed networks in rural areas, companies like New Edge Networks still discuss local customer bases in terms of tens and hundreds of consumers -- not thousands and millions.

The biggest barrier for technology providers won't be technology solutions, which will develop as need increases. Rather, companies interested in rural audiences will have to find a way to mesh with the existing culture.

Instead of using the Internet to help him sell his wares, Campbell and Harris follow the local flea markets running year round in Kentucky and Tennessee. Last week, the pair joined over 4,000 other vendors -- and several hundred thousand shoppers -- lining a 450-mile stretch of Appalachia along State Route 127 for the 15th annual World's Longest Outdoor Sale.

The annual event -- one of several flea markets and festivals that draw bargain hunters from around the country -- winds through five states and 89 counties, many of which are several hours away from the nearest interstate highway system.

The Outdoor Sale, conceived as a way to lure shoppers off the national highway system and onto the state routes that connect towns through Appalachia, brings in hundreds of thousands of dollars to local residents and businesses. The Sale also serves as the social backbone for the community.

Appalachian flea markets are strangely anomalous when compared to the Internet's largest flea market -- eBay -- which has 29 million registered users. Yet the high cost of getting online and the impersonal nature of the Internet have only intensified the resolve of many rural residents to avoid technology.

"You would think that the sale would have petered out because of online auctions and all that," said Pat Stipes, a spokesman with the Kentucky State Park system. "But I think it's thrived because of that. Here, you get a handshake, and you have a chance to talk to people to get the story behind the cookie jar that you are buying.

"A guy sold a unique piece of pottery, and he wrote out a little history along with his phone number and address."

Internet access providers hope the resistance to new technologies will fade once people begin using the new satellite services that offer rural consumers true high-speed access, said Tom Andrus, vice president of emerging technologies at [Earthlink](#), Verizon's direct competition for satellite access.

"When people live in outlying areas, at most they can get 28.8 kilobits-per-minute access to the Internet. That's what metro areas were getting in 1995. So the move to high-speed satellite access is huge for rural communities."

While Campbell might be priced out of the new satellite connections, Andrus said rural residents are warming to the idea, citing his company's faster-than-expected growth in satellite service sales.

Still, there are only 112,000 satellite and fixed wireless delivery subscribers nationwide, according to the FCC, which represents a fraction of the 7.1 million high-speed lines available.

But Andrus said that once people sign up -- oftentimes spending \$400 to buy a dish -- they aren't likely to leave the service because of the convenience the Internet provides.

"We would get more people to sign up if the price was lower," Andrus said. "But in the outlying areas, people are finding that using the Internet is a better way to shop for things that they normally can't get without driving several hours."

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