

The March To Next-Generation Bandwidth: The View From Tennessee

By Mike Hill
September 21, 2008

A quiet revolution is going on in the world of broadband. And Tennessee is smack-dab in the middle of it.

Over the past three years, nearly 4 million U.S. households have been connected directly to the Internet via end-to-end fiber-optic cable. Fiber networks are now present in neighborhoods where 10 percent of Americans live. And this rewiring of America is gaining speed.

Optical fiber is an amazing thing. One fiber-optic cable which is the thickness of a pencil could theoretically carry all of the world's communications traffic at any single moment. In fact, fiber has long been used in the telecom industry to carry voice and data communications over long distances.

Today, thanks to improvements in the technology, it is now economically feasible to run fiber all the way to homes and businesses — replacing copper wires and copper coaxial cable now used in the “last mile” links between telecom company premises and the subscribers. These fiber to the home (or FTTH) connections can now carry up to 20 times what your typical cable or DSL provider can deliver, and further improvements in the optical access technologies mean that bandwidth can be expanded to many times that without having to replace the fiber. This is why we call fiber “future-proof.”

It's all about getting that “big pipe” into people's homes so that Americans can have access to the ever-expanding number of applications that require more and more bandwidth — like watching movies and television programs over the Internet, playing video games online, or connecting into company networks to get work done.

Accordingly, some telephone companies — which have been looking to compete with cable TV companies offering voice services — are replacing their copper wires with “fiber to the home” (or FTTH) technology, thereby enabling them to offer their own robust video services and bring needed competition into the traditionally monopolistic market of cable television. Some cable TV companies, seeing the writing on the wall, are looking into FTTH, as well.

And while the telecom giant Verizon has garnered much of the attention with its \$23 billion fiber to the home project that is now being rolled out in a number of states,

communities in Tennessee are making their own history with their investments in fiber to the home.

Although FTTH is still in its early stages of deployment, some 65,000 households in Tennessee are already connected with end-to-end fiber, putting us in the top third of states with regard to FTTH market penetration.

Tennessee is also a pioneer and a leader in municipal FTTH deployments — that is, those that are built by local governments or public electric utility companies looking to secure a brighter economic future for their communities and thereby ensuring that they will not be left behind in the information age. There are more of these municipal systems here than in any other state, as well as the two largest in Jackson and Clarksville, and one of the first in the nation was built in Bristol. Based on their successes, officials in Chattanooga recently decided to build an FTTH system for that city after failing to get the local cable provider to upgrade its system to include more bandwidth.

As networks are built and services gain traction, the capabilities made possible by FTTH will have a profound, positive effect on life and on economic opportunity in our region. Vast improvements in connectivity will put a whole range of sophisticated new online services within reach of the average American household — teleconferencing, teleworking, and telemedicine, to name a few — the kinds of applications that help take the “place” out of knowledge work. By plugging rural and small-town America into networks at big city speeds and connectivity, hard-pressed communities will see enhanced opportunities to participate directly in the global economy.

It’s already happening. As just one example, an Asian company recently contracted with American partners to hire 150 language instructors who will teach English to Korean kids over high-speed teleconferencing networks, directly from their homes in a small city in Wyoming. This is happening because fiber to the home will soon be available there.

There are legitimate concerns that the opportunities of the Internet Age have thus far bypassed many who are outside of the country’s major metropolitan areas. The fiber-inspired transformation to next-generation networks, particularly over the last mile to the consumer, offers hope for a rising tide of connectivity that will lift all boats. Watch it happen here in Tennessee.

Mike Hill is chairman of the board of the Fiber-to-the-Home (FTTH) Council North America, an industry group representing FTTH service providers and equipment vendors, and the president and CEO of On Trac Inc., located in Morristown, Tenn. The council is holding its annual conference and expo Sunday-Thursday at Gaylord Opryland Resort & Convention Center.