Fiber-optic lines languish under scarred city streets

Jan 13, 2002

By Alwyn Scott

Seattle Times business reporter

E-mail this article
Print this article

Related stories
Part 2: No rush to join in the faster Net race

First of two parts

The 321 Hair Design salon stands at one of Seattle's busiest intersections. But rather than help business, the heavy traffic has chased away customers for more than a decade.

The traffic is data — billions of Web pages, music files and phone calls — pulsing through fiber-optic cable buried below Seneca Street between Third and Fourth avenues. With the fiber outside her door, Pam Thurston, 321's owner, could have created an online appointment book and beamed in movies for clients.

But the salon isn't wired.

Instead, it lost business as jackhammers ripped up the asphalt to install lines — 28 times since 1990.

"We get absolutely no benefit from it," Thurston says.

Empty pipes

Fiber-optic cable was the bold new promise of the 1990s, designed to link us at cyber speed. Goaded by ambitious forecasts, easy money and deregulation that opened the streets to all comers, telecom companies spent billions of dollars laying millions of miles of fiber cable to slake the thirst for high-speed Internet connections.

But before they could hook the network to their customers, they ran out of money. Today an estimated 95 percent of that cable lies "dark" — completely unused — often just yards from the homes and businesses it was supposed to connect. After paying $1 million a mile or more to build their networks, many telecom companies are going bust and can't afford to wire the "last mile."

The glut of fiber-optic capacity is staggering. A pair of glass strands not much wider than a human hair can carry 10,000 times more data than a conventional copper phone line.

That's enough capacity to easily carry television movies to 10 million homes. Better electronics are expected to bump the capacity to 2 billion homes in a few years, far more than anyone here needs.

"There's a lot of dark fiber out there that may not ever be lit," says Barry Moore, sales manager of Sprint's Seattle branch. Like most telecom companies, Sprint won't disclose how much of its Seattle network is in use.

The oversupply has caused prices for high-speed Internet connections to plummet nearly two-thirds in three years. In theory that should be good for customers. But in fact, it has put fiber networks further out of reach by making it harder for telecom companies to earn back the cost of a last-mile connection.

In Seattle, a few hundred feet of fiber line from the street to a building can cost $200,000 to install, more than either telecom companies or customers can pay, says Victor Smith, a Seattle salesman for Bloomfield, Colo.-based Level 3 Communications.

"In the old days — two years ago — we would go building to building (making connections) and then advertise to customers," says Chris Heavens, general manager of Electric Lightwave, a Vancouver, Wash.-based fiber provider. "In the current environment, that's not a healthy thing to do."

Payback at current prices could take many years, and few telecom companies have that kind of time.

Bigger crash than dot-coms

The hangover from the late 1990s building boom is hitting the U.S. economy hard.

After growing 17 percent a year from 1995 to 2000, telecom-equipment spending fell 24 percent in 2001, shaving more than a third of a percentage point from the nation's economic growth, according to James Glen, an economist at Economy.com.

Job losses in the industry have climbed into the tens of thousands as companies scale back and go bust. Investors are being punished, too. Telecom stocks such as Nortel Networks and Cisco have crashed like dot-com stocks, but because their value was much greater, they've caused far more pain, accounting for the bulk of stock-market wealth destroyed in the last two years.

Telecom salesmen once scrambled to keep pace with Internet startups and big businesses expanding network use, and they earned six-figure incomes for their efforts.

Now they're a cross between Maytag repairmen and financial analysts, waiting for the phone to ring and carefully calculating whether a job will justify the cost of hooking up a customer.

"In all situations you see other companies in, vying for the same business you're vying for," says Smith of Level 3, which now often sells capacity to other providers rather than wiring buildings itself.

At the peak of the building frenzy in 2000, Seattle issued 1,126 permits to dig up streets and install fiber. Today, more than 30 companies have put cable in the city; at least 16 lines snake through downtown Seattle. Nine pass Microsoft's Redmond campus.

Two years ago, just weeks after the state paid to repave Aurora Avenue North, a telecom company called Global Crossing started tearing up the asphalt to install a fiber line that would eventually link Seattle to Asia. To avoid repaving the entire road, Global Crossing bored underneath it, like a gopher, surfacing every 600 feet or so.

Larry Walters, who lived at the Mirabella apartments on Aurora at the time, said the nocturnal drilling sounded like a garbage disposal reverberating in an auditorium.

On Seneca Street, Thurston and her neighboring business, the Hotel Seattle, watched in horror as crews opened the street 14 times in a two-year stretch to connect with a nearby Qwest office. A set of lines once was laid across steam pipes, which melted the sheathing. The solution: open the streets again to move them.

"The city could have planned better," says Doug Neyhart, general manager at the hotel. He looks out at 21 manholes that litter the pavement. "Instead we got a street that's a mess."

The city says its hands were tied. Unlike cable-television service, which was franchised to one or two companies, the 1996 telecom deregulation required local governments to accommodate any company that wished to install fiber.

Costly trench in Bellevue

Now some telecom companies are going bust, leaving their networks unfinished.

A group led by 360 Networks, based in Vancouver, B.C., fought hard and paid an estimated $10 million to build a loop through downtown Bellevue last year. It opened a 16-foot-wide trench at the busy intersection of Bellevue Way and Northeast Eighth Avenue as it searched for a clear path through a mass of pipes there. At Kamber Road, it

bored underground for 2,000 feet to avoid a stream and loose soil. The tunnel collapsed and had to be dug again.

After all that, the group stopped short of pulling fiber cable through the entire loop. 360 Networks filed for bankruptcy protection last June and says none of the fiber in its loop is lit. Ditto for its loops in Seattle and Redmond.

"I can't think of any building that's actually hooked up yet," says Ron Kessack, who manages Bellevue's right of way.

"People know there should be fiber here in Bellevue," he adds. "We get calls every day from people asking, 'Why can't I get a high-speed connection?' "

Why, indeed? At least three telecom companies have put fiber down Factoria Boulevard in Bellevue. But the Factoria Mall, which abuts the road, has been waiting more than a year for Qwest to even say when high-speed service might be available to tenants such as Target, Mervyns, Old Navy, Nordstrom Rack, Gottschalks and Safeway.

"We don't have a timeline at this point," says Craig Chang, the mall manager.

At nearby Sterling Plaza, an office complex, one dot-com waited a year for a fast fiber connection from Qwest. By the time it was available, the company was splitting off from its parent and being sold.

Building owners sometimes pose an obstacle by limiting the number of telecom companies they admit and charging access fees, which have prompted some telecom companies to pass them by. Owners also want to avoid tangles of cable clogging access chutes and tenants abandoning lines when they leave. And they're looking for telecom providers that won't go bankrupt.

"We just don't have room to let every company in," says John Miller, general manager for Unico's Metropolitan Tract.

Watching the bottom line

To be sure, most Seattle skyscrapers have some fiber access. And even some older buildings are getting wired.

Cobalt Group, which provides Web sites and software for car dealers, connected its red brick building at 2200 First Avenue South with fiber. But it wasn't easy. And it hasn't been lucrative for the provider.

Cobalt waited nearly a year for AT&T to install the line — at AT&T's expense. And the traffic on the lines, which are used to back up Cobalt's servers located elsewhere, is relatively light. "I would be surprised if they've made any money off of us yet," says Marty Ahern, Cobalt's information-technology director.

To avoid such situations, telecom companies have grown steely-eyed about where they place fiber. Electric Lightwave, with an extensive network in the West, now looks for customers whose use is great enough to pay back the cost of a connection in three years.

"There is tons of fiber," says Ed Doyne, director of customer development for Fisher Plaza, near the Space Needle. His complex is becoming a telecom hub along with the Westin Building. "The problem is it just doesn't go into the buildings that it passes."

Many expect the glut will eventually be absorbed, much as telegraph overcapacity disappeared in the 1860s, thanks to good old ingenuity. Microsoft's Windows XP and other new computer applications are prompting more people to transmit photos and music, requiring fast connections.

Driven by such innovations, "bandwidth demand is doubling every year, so eventually you'll pick up the slack in fiber," says Keith Grinstein at venture-capital firm Second Avenue Partners. Estimates range from three years to a decade, he says.

Innovative minds also are devising more-radical solutions to bridge the last mile. AccelNet, based in Woodinville, uses microwave antennas on Cougar Mountain in Issaquah and Seattle's Bank of America Tower to shoot the Internet to homes and businesses in the area.

Terabeam of Kirkland uses laser beams to reach buildings in Seattle, Denver and New York. Cobalt had considered using Terabeam instead of AT&T, but the light would have been blocked when the roof closed at Safeco Field.

By far the most down-and-dirty method belongs to CityNet Telecommunications of Silver Spring, Md. It uses small robots to pull fiber cable into buildings through sewers. It has already plumbed the depths of Albuquerque and is talking to about 10 other cities, including Seattle.

"It's helping business do business," says spokesman Lee Allentuck, without a trace of irony.

Alwyn Scott can be reached at 206-464-3329 and ascott@seattletimes.com.