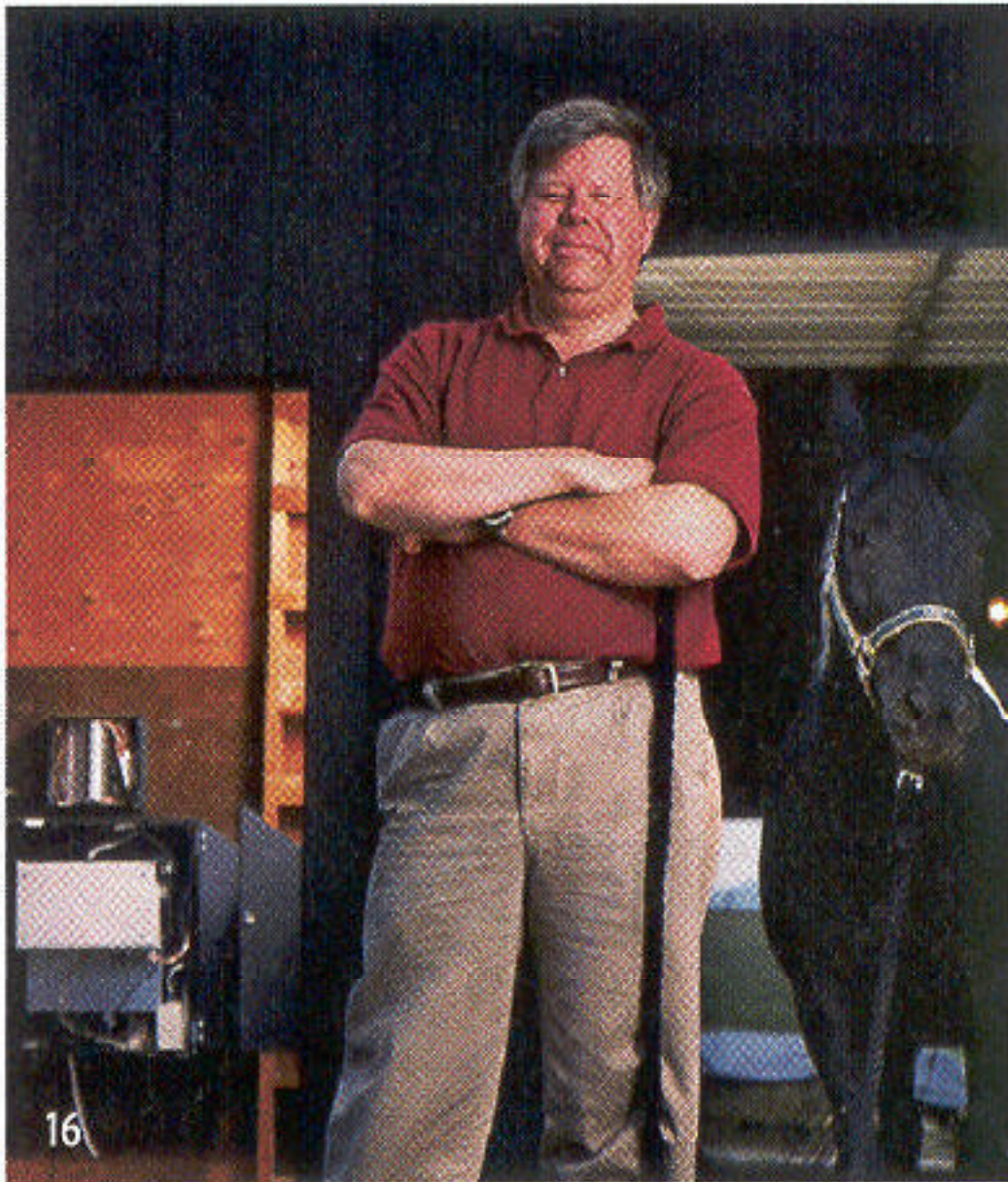


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PEOPLE, TRENDS, WILD CONJECTURE

16/Mayberry DSL When Qwest balked at bringing broadband to a small Colorado town, locals didn't just get mad. They hooked it up themselves.

STARTUP

PEOPLE ♦ TRENDS ♦ WILD CONJECTURE

Please do not
feed the horses

ODD COUPLE "Cricket" cozies up to her new stablemate, the electronic hub of Ruby Ranch's DSL service.



Mayberry DSL

When Qwest balked at bringing broadband to a rural town, locals didn't just get mad. They did it themselves. **BY JOE ASHBROOK NICKELL**



CARL OPPEDAHL MOVED FROM MANHATTAN to Ruby Ranch, Colo., in 1997 for the typical reasons that city folk light out for the country: spectacular views, proximity to world-class ski resorts, miles of open terrain. Tucked into the mountains west of Denver, this small community is home (or at least second home) to some of Colorado's most well-to-do residents, with sprawling, luxurious estates. Posh though it may be, the one amenity that Ruby

Ranch lacked was a decent Internet connection. And that's precisely what wound up turning the normally affable Oppedahl, a 46-year-old patent attorney, into the local phone company's worst nightmare.

With only 40 homes here and no sizable city within an hour's drive, Qwest and AT&T Broadband, the two telecoms operating in Ruby Ranch, had for years balked at fronting the steep costs of delivering broadband to such a remote locale. In fact, thanks to poorly configured phone lines, Ruby Ranch until recently was saddled with one of the slowest dial-up connections in the country.

Not anymore. Inside a neighborhood horse barn hangs a 12-inch-wide metal box that's securing a brighter technological future for the locals. Known as a **DSLAM**, it's the hub of a new broadband service that began in May. The box isn't owned by Qwest, AT&T, or any other big telecom. Oppedahl and about a dozen of his neighbors bought it last year for approximately \$5,000. Then they scooped

up cable modems, routers, and other equipment (usually for pennies on the dollar on eBay) and spent the past 10

months setting up the first subscriber-owned DSL co-op in America. While it all might

DSLAM The heart of a DSL network, it serves as the conduit between an Internet source and the copper phone lines that connect to homes.

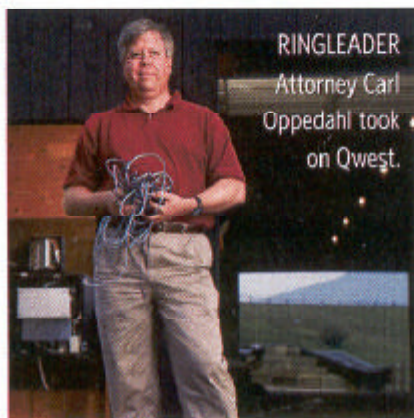
seem unremarkable to outsiders—it serves 12 homes at average DSL data speeds—it does offer a compelling script for rural towns that don't want to wait until the next ice age to join the 21st century.

None of it would have transpired without Oppedahl's do-it-yourself guile. Bored with Qwest's standard response to the town's frequent pleas for broadband access—maybe someday, definitely not soon—Oppedahl began hatching a plan of his own. First, using microwave antennas, he figured out how to connect the high-speed Internet pipeline at his office (3 miles away in the town of Dillon) to his home, and then to the DSLAM in the barn, which itself was wired to Qwest's "connect box," the electronic junction of the town's phone lines. Then, last spring, he and several neighbors organized a nonprofit co-op to run the service.

All that remained was to wire the DSLAM to homes. Alas, as Oppedahl and everyone else knew, that would require access to about 7 miles of unused—but Qwest owned—copper lines known as "subloops," which snake underground into each home. And that's when trouble began.

According to Oppedahl, Qwest initially refused to negotiate a deal because the new co-op wasn't licensed by the state as a voice telephony company. Then Qwest demanded

that the co-op purchase an \$11 million insurance policy to cover unspecified liability. Eventually, the co-op and Qwest went before the state's public service commission to resolve the dispute. Perhaps not surprisingly, the commission sided with Qwest on most points—including the requirement



RINGLEADER
Attorney Carl Oppedahl took on Qwest.

for insurance, though it was discounted to \$1 million—but the outcome had a copper lining: Residents finally got their DSL. Each subscriber now pays \$60 in monthly fees, and as Oppedahl cheerfully points out, the rates will drop as more people sign up.

"It's unfortunate it took so much effort to get this going," he says. "But hopefully we paved the way for others."

Qwest reports that several towns have inquired about launching similar co-ops, but that's no guarantee that the Ruby Ranch model will cross state lines. Terms of service differ between states and telecom providers, and up-front costs tend to favor other forms of broadband, such as satellite or wireless, over DSL. Regardless, Oppedahl can take pride in having disproved Qwest's initial claim about the prohibitive startup costs. The co-op spent a grand total of \$12,000 to get the network launched—legal fees included. ♦

Joe Ashbrook Nickell (j@rox.com) wrote about Harrab's customer-data network in the April issue.

DIY DSL What it takes to set up your own backcountry broadband service.

- 1 THE RIGHT PLACE** Service quality depends mostly on the distance between homes and a central connection point, or DSLAM. DSL has a maximum range of about 3.4 miles from the DSLAM.
- 2 THE RIGHT GEAR** At a bare minimum, you'll need a DSLAM with a backup power supply, racks, surge protectors, and a DSL card to link phone lines to the DSLAM, plus a DSL modem and line filter for each subscriber.
- 3 THE RIGHT CONNECTIONS** Access fees for the wires into subscribers' homes typically run about \$15 a month per line, plus \$120 or more for initial setup. But those pale next to the cost of connecting the DSLAM to the Internet. That requires direct access to a T-1 line from a service provider, typically \$400 to \$1,100 per month.

For more information, check out the Ruby Ranch co-op's website: www.rric.net.