

BROADENING BROADBAND

Quest for Access, Speed Continues

By Matt Ottinger

Broadband was once considered important simply for its faster and more reliable Internet entertainment connection. Today, its business, medical, security and quality of life impacts are paramount.

Surprisingly, while the United States has traditionally prided itself on being a global leader on technology and innovation, the U.S. doesn't even crack the top 10 in access rankings (see accompanying tables). East Asian nations (South Korea and Japan), and Scandinavian countries (Norway and Sweden) now lead the way.

Overcoming legacies

Part of America's struggle, according to Cullen McCarty, executive vice president of Smithville Fiber, lies in the nation's legacy networks. While the United States is constantly working to upgrade existing infrastructure, Eastern Europe nearly started over following World War II.

"When you have nothing, you can go nowhere but up..." he contends. "It was our humanitarian efforts and the Marshall Plan that got Europe back. They've been able to capitalize on that and don't have the (costly to upgrade) legacy systems we do."

Population density also aids countries not burdened by the sprawling frontier permeating the American landscape.

"Like any utility, if you put 10,000 people per square mile, you're in good shape because you have density," McCarty notes.

"You can't get denser than South Korea, Japan, Hong Kong and Singapore. They have great networks because they invested – and they have density. When you look at our country, we're a large isthmus with a large geography to cover."

The rural telecom sector comprises over 40% of the land mass in the U.S., he quantifies. That means America "must build more on top of the legacy network."

"The U.S. hasn't emphasized that," he points out. "We've emphasized allowing competition, which is fine and we've benefited from it, but in the rural sector we haven't kept up. When you get out to Wyoming, Nebraska, West Texas, it's difficult to support that network. We have a colleague whose company covers territory

roughly the size of half of Indiana, but only has a few thousand customers on that network. How do you support that?"

Crossed wires

When asked how the Federal Communications Commission (FCC) could enhance broadband prospects, McCarty states, "The FCC can stay out of it, because they're interfering more than helping."

He believes the FCC's efforts to reform the Universal Service Fund for Rate of Return carriers (rural, high-cost carriers like Smithville) are punitive toward companies that did due diligence.

"We're in a situation where high-cost support that was originally intended for telephone service has been used to build data networks, because as an industry we've been building data networks for almost 20 years," he asserts. "The FCC is looking at reforming that. They're

reforming it in a way that punishes those of us who have invested in fiber in rural areas. We'll be seeing cuts in terms of high-cost support on our network to subsidize those who did not take the initiative early and placing it toward buildout requirements for megabit."

McCarty also believes net neutrality (the principle that Internet service providers should enable access to all content regardless of the source) has poisoned the proverbial waters, delaying progress in efforts to "connect people." He laments the loss of recently-deceased United States senators who took bipartisan approaches on telecommunications matters.

"We've taken a topic like rural telecom and made it political," McCarty believes. "It

used to be a very strong bipartisan effort. Unfortunately our biggest champions are deceased – Sens. Ted Stevens (R-Alaska) and Daniel Inouye (D-Hawaii). They worked together and got things done. We're not getting policy done in terms of telecommunications. Hopefully that will get done no matter who is president next term. We're just piece-mealing rules and regulations together through the FCC and that's just not effective, because we don't have a voice."

Supplying demand

While companies and even legislators can ring the chimes of growth and access year after year, demand must exist before it can



Equipping rural areas with fiber has its logistical challenges, but Smithville Fiber and Jasper are working to bring high-speed broadband access to each home in the city.

Average Connection Speed by Country

Rank	Country/Region	Fourth Quarter 2015 Avg. Mpbs	Year Over Year Change %
	Global	5.6	23%
1	South Korea	26.7	20%
2	Sweden	19.1	30%
3	Norway	18.8	65%
4	Japan	17.4	15%
5	Netherlands	17	20%
6	Hong Kong	16.8	-0.4%
7	Latvia	16.7	28%
8	Switzerland	16.7	15%
9	Finland	16.6	37%
10	Denmark	16.1	36%
14	United States	14.2	29%

Average Connection Speed by State

Rank	State	Fourth Quarter 2015 Avg. Mpbs	Year Over Year Change %
1	Washington D.C.	21.3	48%
2	Delaware	20.4	24%
3	Rhode Island	19.1	35%
4	Massachusetts	18.6	31%
5	Utah	17.9	28%
6	Maryland	17.6	47%
7	New Jersey	17.3	42%
8	Virginia	17.2	-3.1%
9	New York	16.8	33%
10	Washington	16.7	25%
23	Indiana	14.4	24%

Source: Akamai's 2015 State of the Internet Report (fourth quarter)

Average Peak Connection Speed by Country

Rank	Country/Region	Fourth Quarter 2015 Peak Mpbs	Year Over Year Change %
	Global	32.5	21%
1	Singapore	135.7	61%
2	Hong Kong	105.2	20%
3	South Korea	95.3	26%
4	Macao	83.1	60%
5	Japan	82.9	20%
6	Indonesia	79.8	495%
7	Mongolia	78.9	97%
8	Taiwan	78.8	23%
9	Qatar	77.8	24%
10	Romania	73.6	9.70%
20	United States	61.5	25%

Average Peak Connection Speed by State

Rank	State	Fourth Quarter 2015 Peak Mpbs	Year Over Year Change %
1	Delaware	88.3	17%
2	Washington D.C.	82.5	25%
3	Massachusetts	81.2	24%
4	Maryland	79.8	38%
5	Rhode Island	79.1	22%
6	Virginia	77.5	5.4%
7	New Jersey	77.3	30%
8	Utah	74.6	24%
9	Washington	73.8	28%
10	New York	72.7	22%
27	Indiana	61	19%

A Good 'Gig'

Chief among Smithville Fiber's major initiatives is the "Gigacity" project in Jasper.

Once the three-year project is complete, Jasper residents will have access to a full gigabit fiber network, which will feature high-speed in-home and business wireless gigabit connectivity.

"It means a lot in terms of future proofing," McCarty predicts. "It's an opportunity for homes to have enough bandwidth to do what they want. As we see more data usage increase and people turn away from traditional television and go to their tablets and phones, when you go portable, you'll have three or four going at the same time in a house."

Jasper's distinctive makeup also serves as an ideal target for an undertaking of this magnitude.

"It's a unique community that has multiple publicly traded Fortune 500 companies (Farbest Foods, Inc., Jasper Engines & Transmissions, Kimball International, etc.) and a high-growth area," McCarty reports. "It's an oasis in terms of economic development in our part of the state."

To install the fiber, Smithville bores small holes through property and inserts conduit and fiber, limiting the amount of destructive trenching involved.

"We try to be as environmentally friendly as possible. Having seen some the areas we work in, you can't tell we've been there," McCarty notes.

"There are approximately 6,000 homes in Jasper, and that's the goal. We're trying to get everybody."

truly flourish. For that reason, McCarty offers, consumer education remains vital.

"We're in an age where people think what they have is good enough, so they don't see the application for high-speed networks," he relays. "Whether they have a DSL or cable connection, they think it's good enough and they don't think they need fiber optics."

McCarty gives an example of \$70 per month service being available for a gigabit (1,000 megabits) in markets like Bloomington and Jasper, which compares very favorably to paying a little less for just a fraction of the speed.

"So we're trying to educate consumers as best we can," he concludes. "That's a bigger challenge than building the networks. Once you build it, they have to come on board."

RESOURCE: Cullen McCarty, Smithville Fiber, at www.smithville.com