

New Arguments for Municipal Broadband

RBOCs and Incumbents must join Verizon to deploy FTTH, or get out of the way

By Leonard Ray ■ *Atlantic Engineering Group*

I have heard all the arguments for and against municipal broadband. As it is with religion or politics, I don't think many folks can be swayed one way or another once they have an established opinion. I believe that this country's future depends strongly heavily on the size of our broadband pipes. Therefore, I am supportive of anyone who is deploying robust broadband, be it

Verizon (an RBOC), Cinergy MetroNet (a CLEC), or the Lafayette Utilities System (a municipal utility).

I am also confident that I can handily address and refute any argument made as to why municipalities should not enter the communications space. Moreover, I am confident that I can clearly articulate why it is crucial for our country's educational, economic, and quality of life de-

velopment for municipalities to enter the communications space. However, all of the traditional arguments around the pros and cons of municipal communication or broadband are the entirely wrong issues to be debating or discussing.

The current debate focuses on "is broadband available or is it not available" and "should they or shouldn't they." The real questions should be "what is broad-

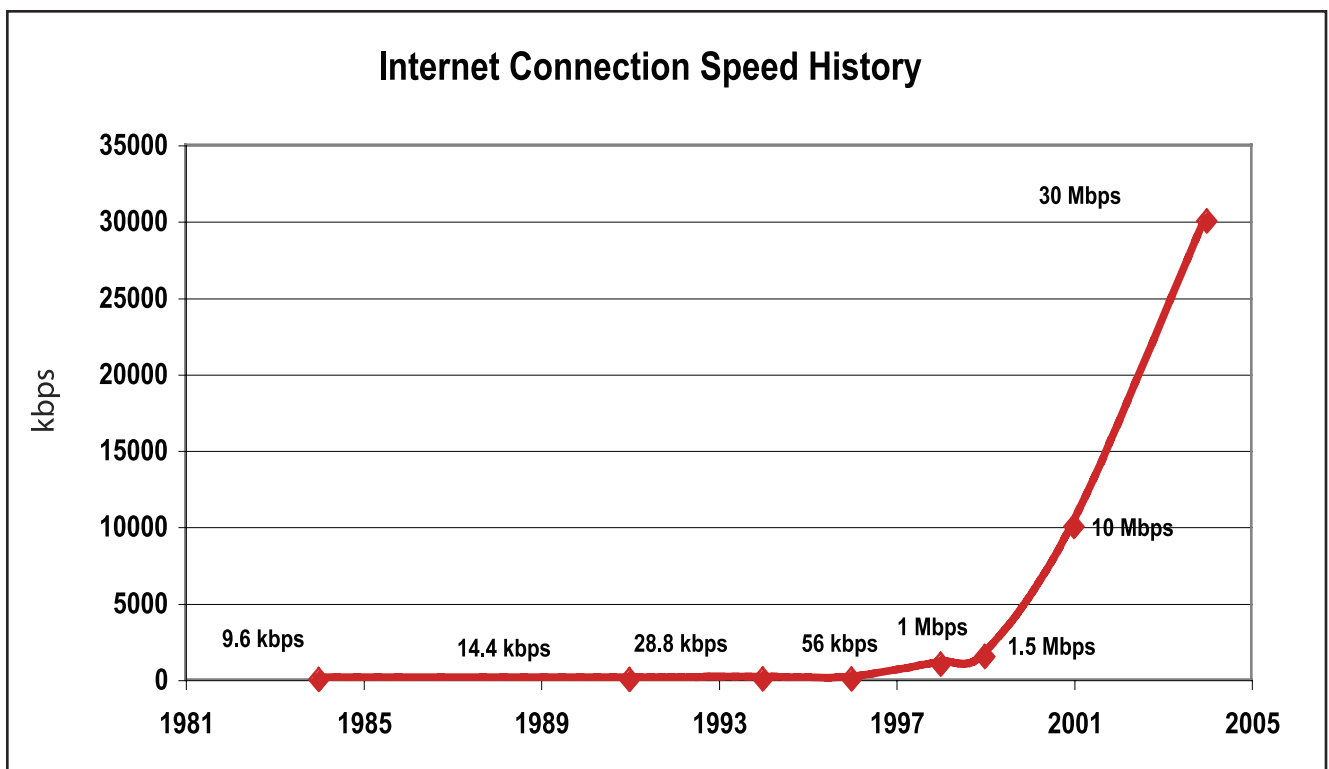


Figure 1. In 1981, 300 bps modems were the norm. That rose quickly to 9.6 kbps but readily available. Internet connection speeds did not cross the 1 Mbps line until 1998. FiOS and a handful of other providers pushed the US limit to 30 Mbps last year.

band” and “where does the U.S. stand” Once you understand this, you can debate if broadband is available and the merits of municipal broadband.

What is broadband?

Broadband is probably the most important yet misunderstood communication service of our lifetime. Ask a group of people what they believe broadband is and every one of them will give you a very different answer. Considering broadband’s history, this is no surprise. Broadband emerged out of the most unlikely of origins, aging and antiquated copper telephone networks. The very medium that is restricting the technology’s true potential today is the medium that first gave birth to the concept of transmitting 1s and 0s from computer to computer. However, even at its conception, broadband clearly fed the technical and consumer need for fast growth.

Figure 1 shows the early evolution of connection speeds. Clearly, technology and consumer demand has begged for faster and faster connections. While the Regional Bell Operating Companies

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(RBOCs) were busy selling second phone lines to consumers for dial-up access, Competitive Local Exchange Carriers (CLECs) were beginning to roll out DSL on the Incumbents’ networks to provide faster options to consumers. Soon after that the cable companies began offering cable modem and the RBOCs, in true Incumbent innovative speed, began offering their own DSL (the irony that the innovative CLECs who ushered in DSL on the Incumbents’ networks have since been regulated out of existence by the FCC at the insistence of the Incumbents should not lost on you).

While this was all going on, the folks in Washington D.C. created the Telecommunications Act of 1996, revising a 1934 Act. The 1996 law claims that

broadband is the ability to send voice, video and data bi-directionally. On the other hand, the FCC comes out with a report that states broadband is “the capability of supporting in both the provider-to-customer (downstream) and the customer-to-provider (upstream) directions, a speed in excess of 200 kilobits per second in the last mile”.

No wonder we can’t figure out the definition of broadband – our government can’t even do it. Regardless, the early definition of broadband was based on what the Incumbent networks could deliver (copper was good enough for the telegraph, the telephone – why not for computers?). To get a perspective, at 200 kbps (just better than dial-up) you can’t work from home, you can’t stream

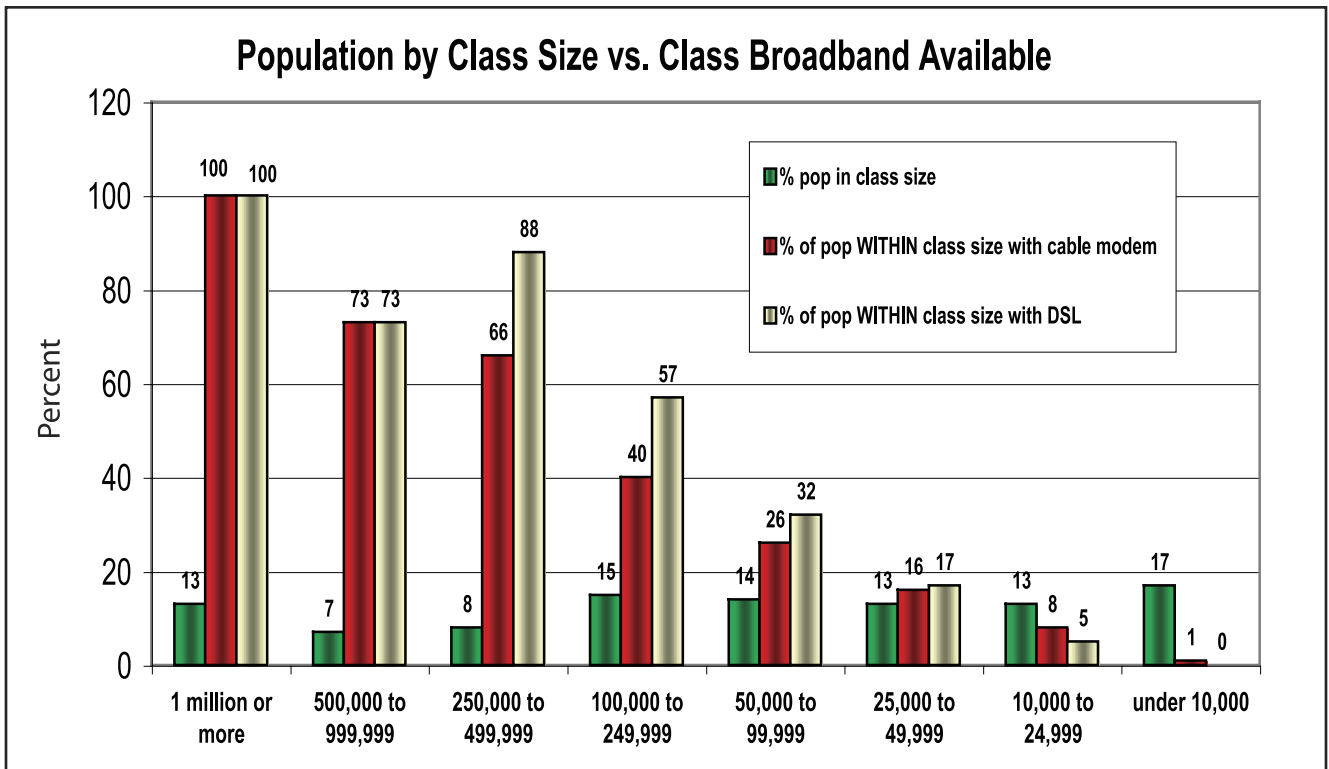


Figure 2. Some 57 percent of the US population lives in communities with fewer than 100,000 people. Of those people only about 5 percent have cable modem or DSL service available. Source: US Census, “Advanced Telecommunications in Rural America.”

Homes in North America, Europe, and Japan Connected with FTTH, Winter 2005

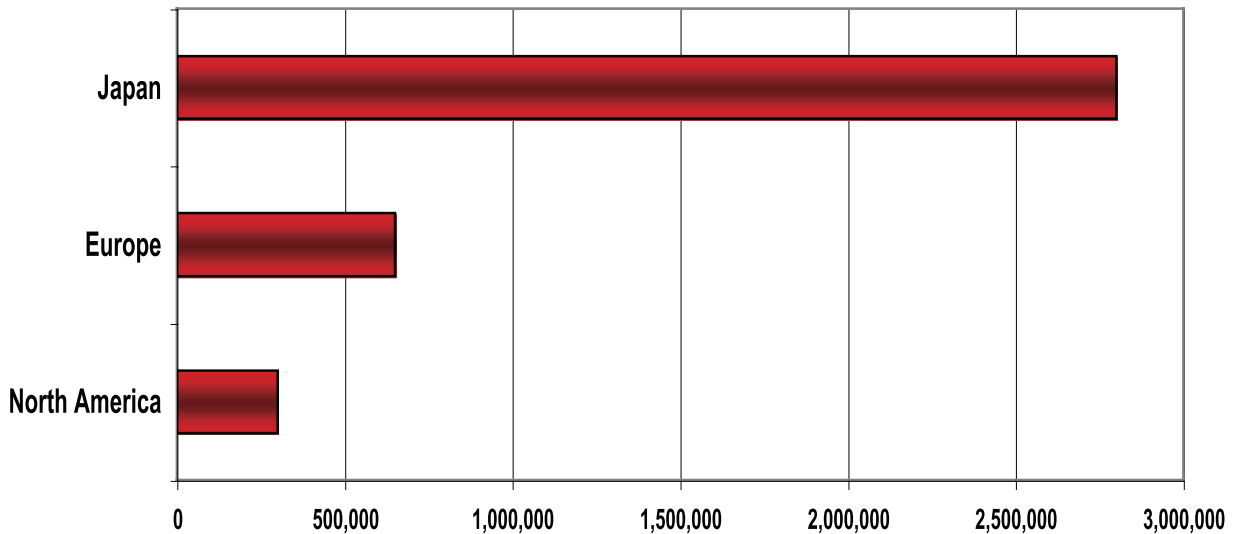


Figure 3. Homes taking FTTH service. North America will catch up somewhat over the next year, as existing FTTH homes passed are marketed. But Japan, with a much smaller population, will remain well ahead.

videos, you can't have HDTV, and you can't even hook up your X Box or Playstation 2 to game on-line.

I would call this broadband "current-generation broadband" or broadband that is dependent and restricted by the legacy networks. Lately, I hear talk of bonded twisted pair copper lines, FTTC, and FTTN. Frankly, this is simply a costly 'band-aid' for current-generation broadband. As SpongeBob Square Pants would say, "that's crazy talk." I propose that true broadband or next-generation broadband should allow consumers to do all of the above and more. Broadband should allow virtual offices, which would require a connection to a LAN and LAN speeds (10-100 Mbps), and the highest quality

video (full HDTV package at 50 Mbps or an 870 MHz CATV system just for the video stream).

My view of broadband can only be achieved through an all optical network; networks like Verizon, Cinergy MetroNet, Lafayette Utilities System and many other municipalities are building – fiber-to-the-home (FTTH) networks.

Where does the U.S. stand?

Again, we have to look at this differently. Even under the FCC's inadequate definition of broadband it is not terribly great. The U.S. has dropped from 4th in 2001 to 12th in 2004 (and I have heard we are now 16th). This not good – imagine if we had the 16th best economy or the

16th best military or the 16th best electrical grid?

When you look at broadband penetration closely, the numbers are even more disconcerting; Figure 2 shows DSL and cable modem availability according to city size. Statistically speaking, nearly half of the U.S. has an only 3 percent chance of getting cable modem and a 2 percent chance of getting DSL. Ouch.

Clearly, the U.S. is not doing well even within the generous parameters of our antiquated broadband definition. Now, if you apply my definition of broadband, which is FTTH, the U.S. position gets considerably worse. Figure 3 shows the U.S. position in comparison to Japan and Europe. These numbers are from Render, Vanderslice & Associates.

For sometime now, Japan has been connecting 100,000 with FTTH a month. That means that in two months, Japan will connect as many homes with FTTH as the U.S. has since 2000. That can't be good for our ability to compete in a global economy.

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The fact that the U.S. has any next-generation broadband at all is a result of the forward-thinking municipalities who began deploying FTTH in 2000. This segment made up nearly one half of the FTTH space until 2005, when Verizon began deploying FTTH in earnest. Ironically, Verizon's ability to deploy a mature, next-generation technology in 2005 is the direct result of the efforts of the pioneering municipalities before it.

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So, how long will it take the U.S. to have widespread next-generation networks (NGN)? If we are to use history as an indicator; it took the phone companies 90 years to build out the copper telephone networks to 90 percent of the country. And this was as a regulated monopoly – they had no competition, plenty of government subsidies, and huge tax breaks. What about CATV? These networks took 40 years to build out to 90 percent of the country – and keep in mind these were built through exclusive franchise agreements (a monopoly on video service, which of course changed through the Cable Act).

No wonder the Incumbents fear municipal broadband, any monopolist would fear competition. I can't image the folks who made candles were terribly excited about the advent of the light bulb. But getting back to NGN or FTTH, how long will it take to light the country? At the current Incumbent rate it will take 60 years. Do you think the average American is going to be willing to wait until 2065 to have the capability to work from home or watch a full HDTV package? I don't think so, particularly when every person in Japan will have FTTH by 2010.

What this country desperately needs is an environment where alternative, facility-based carriers can flourish and help

build NGNs to every American. Be it a home developer like Tamarack Resort, a CLEC like Cinergy MetroNet, an RBOC like Verizon, an Independent LEC such as Rochester Telephone, or a municipalities like Lafayette, LA, Bristol, TN, UTOPIA, UT or Morristown, TN.

The Merits and Fear of Municipal Broadband

Clearly, there is a need for municipalities to step up in unison with home developers, CLECs, RBOCs and ILECs and assist this country with the necessary build out of NGNs. I believe our country's future depends upon it. And with the exception of Verizon; the Incumbents are not getting it done.

To quote the Consumer Federation of America, "A traditional role of government has been to provide essential services to citizens when competitive markets fail to do so.... Many rural communities were left with the choice of forming a community-owned electric utility or being left in the dark. Similarly, high-speed Internet access, while viewed as a novelty only a few years ago, now has come to be viewed as an essential element necessary for communities to create economic, employment, and educational opportunities."

On the flip side, it is not hard to understand why the Incumbents fear municipal broadband. I cannot imagine that any monopoly has ever "enjoyed" a radical transformation of their previously exclusive market.

In addition, municipal broadband offers consumers choice; again, something the Incumbents have been reluctant to do. For example, with the advent of voice

over Internet protocol (VoIP), the Incumbents choose not to compete but to obstruct. Look at BellSouth for example. Instead of developing a competitive VoIP offering (and cannibalizing its monopoly, high-revenue voice service) BellSouth's policy is it won't provide a consumer with DSL unless the consumer takes its phone service.

Furthermore, the innovation and choice that a municipality offers will result in competitive pricing. Again, this is yet one more consumer benefit that consumers have yet to realize from the Incumbents. Since 1996 cable rates have increased 59 percent, three times the rate of inflation. From 2000 to 2003 the average price of phone service has increased by \$4, without the addition of any new services. The nation's largest long distance carriers have raised their basic rates by more than 55 percent during the past four years and none of these increases were required by regulators. And my favorite statistic, only 2 percent of Americans have more than one cable company to choose from. Those that do, pay 10 to 20 percent less for cable service.

So, municipalities provide essential services, innovation, choice and competitive pricing. Is this harmful to the country? I think not. Although most negative statements from the Incumbents towards municipalities are baseless and untrue, the Incumbents do have one area where they are correct. The communication market should be allowed to play out - but municipalities need to be part of that market. Without this catalyst, the Incumbents will continue to drown our country's future in a morass of their inaction, excessive litigation, and self-serving denial. In closing, I offer Verizon's backward sister organizations a challenge: Build out FTTH to this country now and the municipalities won't feel obligated to do so. If you can't or won't, get out of the way and let the municipalities provide this essential service. **BBP**

About the Author

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