Four signs America's broadband policy is failing

Where's the robust broadband competition we were promised?

By **Timothy B. Lee** - May 28 2012, 9:00pm EDT

In 2008, I wrote a paper for the Cato Institute questioning the need for network neutrality regulations; I argued that the Internet's decentralized architecture made it inherently resistant to mischief by broadband incumbents. While I'm still skeptical about the wisdom of network neutrality regulations, I've become more concerned about the state of the broadband market in the four years since writing that paper. In a March article for *National Affairs*, I made a case for regulatory action to prevent further consolidation of the largest broadband firms.

What changed my thinking was less the theoretical arguments set out in that piece than it was a sequence of developments in the telecom marketplace, all of which forced me to reexamine my own assumptions about the state of US broadband. Here are the four most important.

The Berkman broadband report

Telecom policy wonks have held a long-running debate about how the United States stacks up against other nations when it comes to Internet access. In 2009, a team led by Yochai Benkler at Harvard's Berkman Center produced a voluminous report on the subject which found that broadband service in the United States was distinctly mediocre.

The report attracted a harsh response from some libertarians, including Brett Swanson. What was striking about Swanson's response (and others were similar) was that it didn't seriously dispute the core findings of the report. For example, Benkler's team found that the United States had gone from leading the world in broadband penetration to being ranked 15th by an OECD report. Swanson countered that if you crunch the numbers better, the US is actually around eighth or tenth—which is to say, also not near the top.

That matters because a key argument for America's relatively hands-off approach to broadband regulation has been that giving incumbents free rein would give them incentive to invest more in their networks. The United States is practically the only country to pursue this policy, so if the incentive argument was right, its advocates should have been able to point to statistics showing we're doing much better than the rest of the world. Instead, the argument has been over just how close to the middle of the pack we are.

Halting FiOS builds

One reason I was sympathetic to Swanson's argument in 2009 was that Verizon was then in the middle of a massive investment in its new fiber optic network called FiOS. AT&T was also replacing parts of its copper network with fiber. I expected this would spark an arms race between the telephone and cable companies, leading to rapidly increasing speeds.

Instead, in 2010 Verizon announced that it would stop installing fiber without reaching some of its most important markets, including Baltimore, downtown Boston, and my own apartment in Philadelphia. It now appears that none of the "Baby Bells" have any further plans to run fiber optic cables to peoples' homes. That means only the minority of households with FiOS service (and perhaps some of AT&T's U-Verse customers) have an alternative to their local cable company for faster-than-DSL connectivity.

Verizon underscored its dwindling interest in the wired broadband market earlier this year when its wireless subsidiary signed a deal to sell Comcast broadband service in Verizon Wireless stores. Instead of an arms race between telephone and cable incumbents, we seem to be getting a truce.

The Level 3/Comcast dispute

In my 2008 paper, I made an in-depth argument for the long-term stability of the Internet's decentralized architecture. I won't rehearse the explanation here, but a key premise was that the Internet consisted of relatively small networks at the edges of the Internet that paid other, larger networks for access to the Internet's backbone. In the

center of the network were several "tier one" backbone providers who peered with one another on a settlement-free basis and did not have to pay anyone else for connectivity. Competition among these tier one providers ensured that no single firm wielded too much power.

So I was surprised when Comcast forced Level 3 to pay it for connectivity in 2010. (Level 3 had become the content delivery network for Netflix.) Until then, Comcast had been paying Level 3, a "tier one" backbone provider, for connectivity. Given that I'd written a whole paper based on the assumption that payments flow from edge networks to backbone providers, I felt a bit like a geologist who suddenly spotted water running uphill.

There's still significant dispute about what happened and whether Comcast did anything unethical or illegal. But the incident is a clear sign of Comcast's growing bargaining power relative to other major networking firms. And that's cause for concern because, while there are plenty of alternatives to Level 3's transit services, only Comcast can deliver traffic to Comcast's 17 million broadband subscribers.

No "third pipe"

For as long as I've been writing about broadband policy, I've heard speculation about whether anyone will enter the broadband market to compete with incumbent phone and cable companies. At various times, people have touted broadband over power lines, satellite-based broadband, and wireless services like WiMAX as candidates to be a third player in the broadband market. Others have predicted that someone will actually dig up the streets and lay their own fiber.

This is happening in a few places. Kansas City is getting Google-installed fiber, and a handful of communities can get broadband service from WOW or Sonic.net. But these examples are the exception that proves the rule. The overwhelming majority of households have no more than two options: their local cable monopoly and their local phone monopoly. Building a broadband network is very expensive, and it's probably not realistic to expect a third network to be profitable.

What about wireless? Here, things are a little more promising, but not much. A number of cities now have WiMAX service available from CLEAR. It's nice to have another option, but the service delivers real-world speeds of around 5Mbps in the best circumstances, which is to say it's slower than a good DSL connection and an order of magnitude slower than the fastest fiber or cable connections.

Verizon and AT&T are in the process of rolling out LTE networks that promise to be faster thanWiMAX. If these technologies live up to their promise, they could finally provide some serious competition to wired broadband services. But the shared nature of wireless media means that the real-world speeds of wireless networks tend to fall far short of their theoretical maximum. And there are monthly data consumption limits. So I'd love to see LTE broadband provide a fast "third pipe"—but I'm not holding my breath.

America's broadband strategy isn't working very well. Unfortunately, it's not clear how to fix it. The experiences of other nations can yield useful insights, but such examples only get us so far. The American legal and economic systems are different from those in

Japan or Denmark, so it's probably not practical to adopt another nation's policies wholesale.

Still, the first step to fixing the American broadband policy is to admit that we have a problem. And I now admit it.