

Our Broadband Fiasco

High-speed connectivity in the U.S. is rolling out in slow motion. Whose fault is it?

BY PETER GALUSZKA

Dianah Neff, Philadelphia's chief information officer, bristled in frustration when she reviewed the broadband penetration rates for her 135-square-mile city. Broadband, or high-speed Internet, was reaching only 58 percent of the City of Brotherly Love in total, although 90 percent of nearby affluent neighborhoods had been linked.

The reason? Local telecoms and cable firms, specifically Verizon and Comcast, were setting up broadband networks at their own pace and discretion, she says. They were targeting places where they could bundle separate services and sell them at greater profit margins. Low-income sections and some industrial parks supporting small and middle-sized businesses simply had to wait. "The Digital Divide is very real in Philadelphia," says Neff.

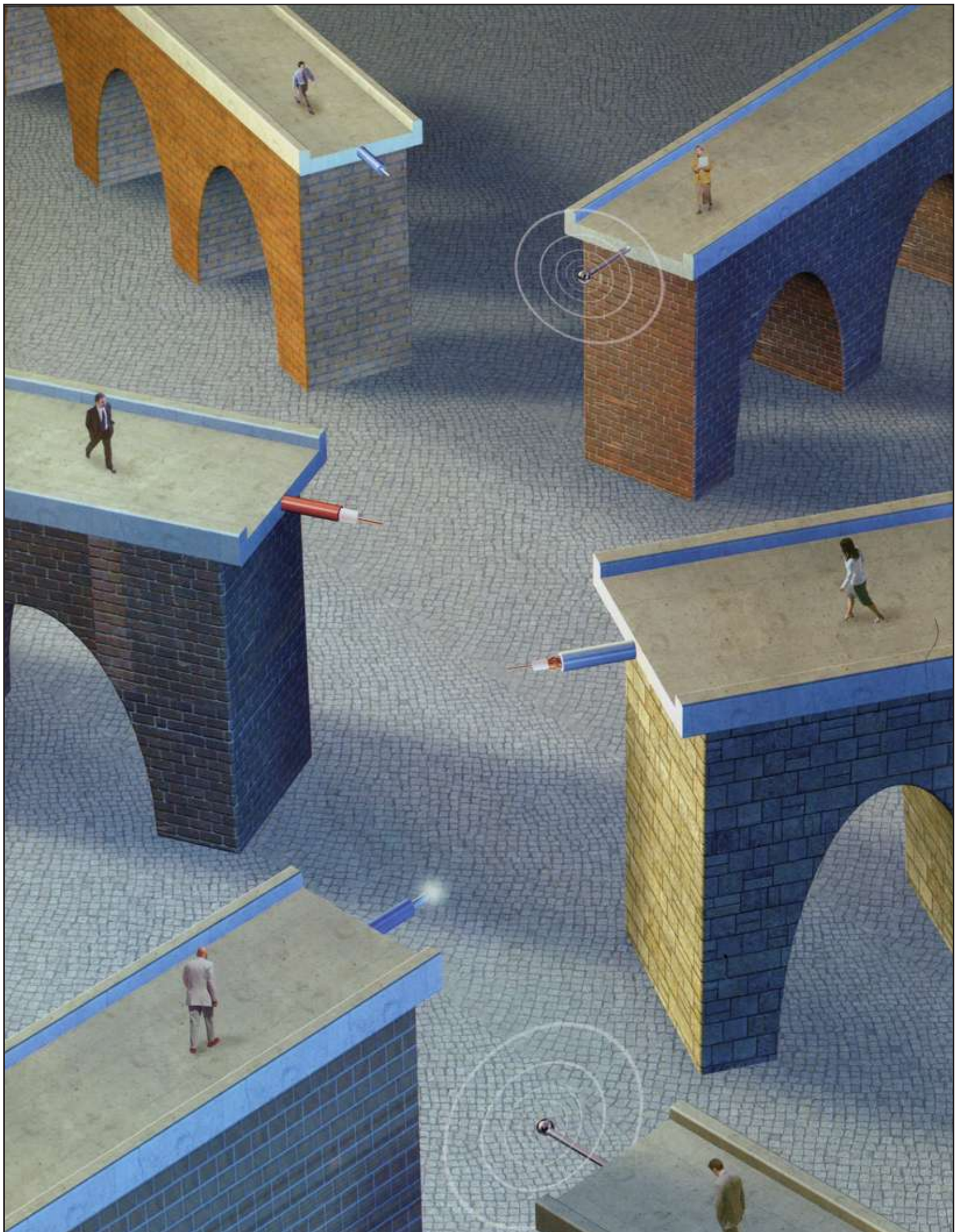
Miffed, Neff helped put together "Wireless Philadelphia," an \$18 million public-private project to blanket the city with a hybrid wireless coverage called Wi-Fi, short for wireless fidelity. For a fee through links with Internet providers, anyone with a Wi-Fi-

Broadband Use By Country

Broadband subscribers per 100 inhabitants, December 2004

Rank	Country	Total %
1	South Korea	24.9
2	Netherlands	19.0
3	Denmark	18.8
4	Iceland	18.3
5	Canada	17.8
6	Switzerland	17.3
7	Belgium	15.6
8	Japan	15.0
9	Finland	15.0
10	Norway	14.9
11	Sweden	14.5
12	United States	13.0
13	France	10.6
14	United Kingdom	10.5
15	Austria	10.2

Source: OECD



enabled computer would be able to access broadband.

In swift retaliation, Verizon led a charge in the state legislature to ban governments from setting up competitive broadband systems. The gambit worked, up to a point. The state legislature passed the law, but Philadelphia's mayor worked out a deal to exempt his city.

The Philadelphia story is part of the explanation for why the U.S. is slipping badly in the introduction of broadband. The U.S. gave birth to both the Internet and broadband, but has fallen to 12th place among advanced industrial nations in broadband's deployment, a survey last December by the Organization for Economic Co-operation and Development (OECD) showed. South Korea led in the number of broadband subscribers per 100 inhabitants, and Japan, which was nowhere with broadband just five years ago, shot up to eighth position, thanks in large part to a state-sponsored industrial policy called "E-Japan" to introduce broadband on a massive scale.

Absent from the leadership list was the U.S., whose world ranking by other estimates may be as low as 16th. Such mediocre performance is alarming CEOs and policymakers. "I don't think it's really that important whether our number is 11, 12 or 13," says Andy Mattes, president and CEO of Siemens Communications. "The fact of the matter is we still have room to grow and to grow in comparison to other economies around the globe."

Losing Our Competitive Advantage

That's putting it politely. Whether they realize it or not, America's CEOs face a major competitive hurdle because of the broadband mess, says Charles H. Ferguson, visiting scholar at the Massachusetts Institute of Technology. Ferguson says the tardy deployment of broadband could cost the U.S. economy as much as \$1 trillion over a decade. "Certain-

ly, it's going to have an effect on overall American economic growth, and it is bound to have an effect on the comparative advantage in the U.S.," he says.

The fact of the matter is that some American businesses are being denied the most advanced communications tools—and their ability to innovate is damaged as well. Japanese and Korean competitors, for example,

percent of the basic infrastructure, including switches and wire links to customers. As stipulated in the Telecommunications Act of 1996, phone companies have been forced to let broadband suppliers, such as firms offering digital subscriber lines (DSL), piggyback on their networks, but they often balk at doing so. In a new twist, the Federal Communications Commission ruled in August that telephone companies no longer had to share their lines at government-set rates. It is unclear whether this ruling will spur greater investment in broadband or lawsuits or both.

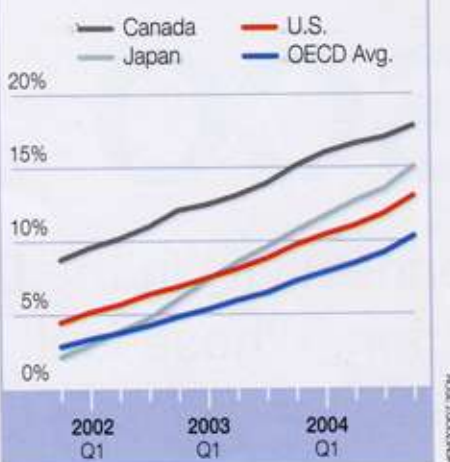
Big cable firms such as Cox and Comcast, which had to pitch their services and win franchises from thousands of big and little towns, offer broadband service, but there are questions over whether they will allow upstart companies to use their systems to offer competing services. A U.S. Supreme Court ruling in June gave the upper hand to the cable operators, saying they had a right to decide who made use of their systems.

The incumbent companies that could provide broadband also are subject to a slew of regulations and taxes that upstart broadband suppliers don't have to bother with, at least, so far. Verizon-type legacy firms, called incumbent local exchange carriers, or ILECs, have to bill customers for state and local taxes along with federal charges, including one that dates back to the Spanish-American War, more than 107 years ago. In addition, they must contribute to the so-called universal service fund through which the federal government collects money that it redistributes to help telephone companies make sure poor inner city and rural areas have adequate service. Incumbents must make sure that their lines can handle 911 emergency calls and can be tapped legally by law enforcement agencies.

All of this adds up to costs that deny legacy telecoms what they call a "level playing field." Newer firms such as Von-

Broadband Penetration Growth

The Japanese have overtaken the United States in terms of percentage of households with access to broadband.



Source: OECD

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age and Luxembourg-based Skype avoid such charges because they offer Voice over Internet Protocol (VoIP) service that piggybacks onto a customer's installed broadband Internet access or uses the Web directly. This cost advantage means that newer firms can offer phone service for about \$25 a month compared to about \$50 a month for Verizon. While the legacy firms say this is unfair, firms such as Vonage don't get the perks that legacy firms do. "BellSouth can get a million dollars a month from the universal service fund. We can't," says Chris Murray, Vonage's chief lobbyist in Washington.

Dance of the Incumbents

Washington, in fact, is the source of a lot of the confusion. Despite the wildfire growth of the Internet and the promise of broadband, not one significant piece of federal legislation has been passed that in any way sorts out the issues posed by the new technologies. The most recent bill doesn't even mention the Internet, largely because the Net was so new at the time.

The Internet's fast growth can be attributed in many ways to the lack of taxation and little government interference, as well as a robust entrepreneurial environment and a communal attitude among its innovators. One of the Net's big advantages was that it was entirely new, so it wasn't directly challenging any preceding technology.

Now, however, broadband is challenging established service providers. "We tell our clients in IP (Internet Protocol) that the revolution is a 50-year revolution and that we are only halfway through," says Dan Elston, managing partner for the communications industry at consulting firm Accenture.

Not surprisingly, incumbent firms are scrambling to use regulation to protect themselves. And, the big phone companies and cable firms try to use every opportunity to bundle services and boost their

prices, rather than making it easy for customers to choose just the services they want. "If they're charging only \$14.95 a month, they're not making money on that," says Elston.

While legacy telecom companies scramble to find a balance, some analysts believe they're employing their traditional economic clout to slow things down to their liking. "Incumbents say that unregulated companies will drive them out of business, that it renders their model instantly obsolete and provides no protection for them," says Carmi Levy, a telecommunications industry analyst at Info-Tech Research Group in London, Ontario. "They claim that they need legislation to slow the process down and give them a chance to compete. It's kind of ironic since they've

been so anticompetitive all of their lives."

One factor, says MIT's Ferguson, is that the incumbent telephone companies are stuck with management that is basically low-tech and not terribly visionary. "There are no technology people on the boards to a stunning extent," he says. "The top managements of the ILECs are basically composed of people who were career employees of the old Bell system before the breakup of AT&T. They provided analog telephone service and the governance and management of the ILECs has remained extraordinarily retrograde."

Another problem for broadband is political. The Clinton Administration embraced and encouraged high technologies such as the Web. Former Vice President Al Gore boosted "information highway" schemes to



UNPLUGGED
Philadelphia residents can tap into a high-speed Wi-Fi network created by the city.

PHOTOGRAPH BY JEFFREY M. HARRIS

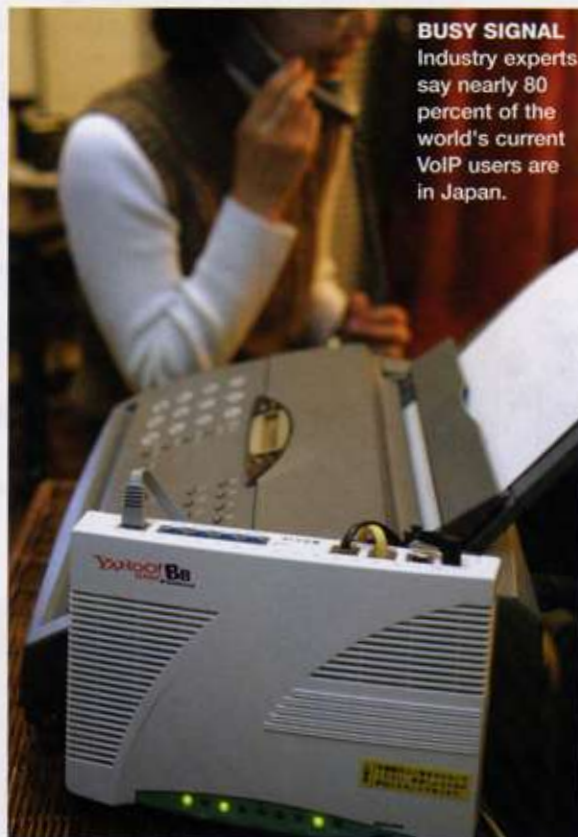
keep the Internet free and unfettered. George W. Bush, by contrast, has generally taken a hands-off approach to the Net and broadband. His philosophy has been to let market forces, such as the financial markets, take broadband where they would. At least in the short term, this approach may help explain why the U.S. has slipped as other countries that embrace public-private cooperation forge ahead. According to Niklas Zennstrom, CEO of Skype, the dramatic growth of broadband in South Korea results from "favorable government policies," along with "aggressively low pricing" and "concentrated and well-educated population centers."

Bush has recently changed course. Earlier this year, he appointed Republican Kevin J. Martin to head the FCC. A boyish-looking Harvard Law School graduate from North Carolina, Martin had been serving as a commissioner for four years after having been an advisor and lawyer for the first Bush election campaign. Martin's first move was to extol the progress the U.S. has made in broadband, noting that "we are signing up new subscribers at an incredible rate." Last year, he notes, broadband has seen a 34 percent growth in subscribers with a 45 percent increase in DSL subscribers.

Stating that "we need to place all broadband providers on an equal footing so they can fairly compete in the marketplace," Martin promised to make broadband a new priority. In August, he led a 4-0 FCC vote to allow legacy telecoms to charge DSL providers market-based rates (as opposed to government-set) for using their equipment. Some analysts believe this will spur major investments in infrastructure. At least three bills are now making their way around Capitol Hill that would finally sort out many of the contradictions that have held the U.S. back.

The stakes are indeed huge. Broadband's market size is now estimated at \$15

billion, and it could be nearly \$30 billion by 2009, the Yankee Group in Boston estimates. Related technologies such as VoIP could turn the entire telephone industry on its head and change forever how it operates. Although the FCC ruled nearly a year ago that it would be the lead regulator for some VoIP issues, it still is uncertain whether states and localities will have the right to tax Internet telephone calls. Even



so, thanks to some recent clarifying points, VoIP finally appears to be ready to take off, says Boyd Peterson, senior vice president of research at the Yankee Group. MIT's Ferguson doesn't buy that. "There has been no fundamental change in the situation," he says. "The U.S. continues to fall further behind the rest of the world."

Equally uncertain is the future of another broadband-based technology, Internet Protocol Television, or IPTV, which promises high-speed streaming that

could allow viewers to select from an extensive list of movies, television shows, sports events or music concerts. But IPTV is not expected to be commercially available until at least 2007 because it is still uncertain how other governmental bodies, notably states, counties and cities, will deal with it. As far back as 30 years ago, cable television companies had to apply for franchises from thousands of local city or county governments, and it isn't known if IPTV will have to do the same. But it is seen as having a huge market potential and could be the catalyst that really gets the U.S. set up with broadband.

All of these add up to big opportunities for CEOs in the media and entertainment industries. Yet CEOs everywhere will be hurt if the U.S. stays in its lackluster spot compared to some of its toughest economic competitors. Foreign firms with access to faster broadband will be better able to fulfill orders, communicate with their customers and far-flung operating units and constantly upgrade productivity. "French and Canadian telecoms are amazed at the battles going on here," says Neff, Philadelphia's CIO. "As long as that continues to happen, the United States will be farther behind. We'll lose in the knowledge economy."

Of course, many large companies ranging from Cisco Systems to Lucent Technologies to Motorola have extensive research and development operations around the world and can capture some of the leading-edge innovations that emerge from countries with advanced broadband deployments. But if the home market is behind the global curve, and that is where crucial management and R&D decisions are made, some American CEOs could get blindsided by innovations they couldn't see coming. That, ultimately, may be the greatest risk. ▲