

Heritage Lectures

No. 852
Delivered May 13, 2004



Published by The Heritage Foundation

October 26, 2004

Broadband by 2007: A Look at the President's Internet Initiative

*James L. Gattuso, John M. Kneuer, David McIntosh,
Harold Furchtgott-Roth, and Peter Pitsch*

JAMES L. GATTUSO: On March 26, President George W. Bush gave a speech setting a national and Administration goal for broadband telecommunications. He said, "This country needs a national goal for the spread of broadband technology. We ought to have universal affordable access for broadband technology by the year 2007 and then we ought to make sure, as soon as possible thereafter, consumers have choices when it comes to their carrier."¹ That sets an agenda very clearly.

At the time that announcement was made it also left a lot of questions. From the free market, conservative point of view, I think there were a lot of mixed emotions. I think a lot of people were pleased that this issue was finally being brought to the forefront of the Administration's focus and attention. Certainly, many of us have been pointing out for some time the policies that need to be pursued in order to let communications technology flourish.

At the same time, there is a natural hesitation to embrace a specific national goal. Many of you who were around in the 80s remember the term "industrial policy." Anything that hints of that is something that we tend to—and probably should—approach cautiously. There is no one technology—no one service—that the government should favor. The question is: Is it the government favoring a technology or is it getting out of the way and reducing barriers?

One comment I found online was a comment on the President's speech titled, "Bush Says Americans 'Ought To Have' Broadband and a Pony by 2007."² I thought

Talking Points

- The Bush Administration has set a national goal for the spread of broadband communications. The broad objective is to create universal affordable access for broadband by the year 2007.
- One way to achieve this is to avoid the pitfalls of the 1996 Telecommunications Act. Government and the Federal Communications Commission (FCC) should steer clear of over-regulation in the broadband marketplace.
- Government and FCC rules and regulations should ensure that broadband providers have adequate incentives to invest in this capital-intensive industry.

This paper, in its entirety, can be found at:
www.heritage.org/research/regulation/h1852.cfm

Produced by the Thomas A. Roe Institute
for Economic Policy Studies

Published by The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20002-4999
(202) 546-4400 • heritage.org

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

that was interesting and typified a lot of people's reaction: What exactly is the President promising?

About a month later, however, the Administration did provide details and set out a more specific agenda for how it proposes to reach that broadband goal. That is what we want to discuss today.

JOHN KNEUER: This is a very timely topic of discussion. I will address how all this fits in with the free market principles that the Heritage Foundation is so well known for espousing.

I'd like to give a little bit of context and framework about the Administration's overall policies and approach to the economy, regulation, and industrial policy (or lack thereof). This Administration has pursued strong pro-growth policies that involve tax relief for Americans, responsible regulation, responsible deregulation when necessary, and clearing out the regulatory underbrush that can clog up the economy. These policies have been demonstratively effective.

Just to give a couple of quick numbers, the economy grew at a 4.2 percent annual rate in the first quarter of 2004. We added 288,000 new jobs in April. March's numbers, which were initially announced as 308,000 new jobs were revised upward to 337,000 new jobs. The economy has created 1.1 million new jobs in the last eight months and nearly 900,000 jobs in 2004 alone. These policies—which have been so effective in the economy, the general deregulatory tack, and the tax relief tack—are helping the broader economy. Applying similar principles and similar policies is our agenda to bring similar growth to broadband. The President's policy, or the goal that he set—universal affordable access for broadband by 2007—is one that I wouldn't characterize as establishing a new policy. I think in setting that aggressive goal, the President is doing what the presidents are supposed to do, which is to offer leadership and set a goal. The Administration is

going to do its part and industry will need to do its part.

The broad objective is to create the most competitive broadband marketplace in the world. If we have the most competitive broadband marketplace in the world we will have the most affordable broadband services, the most diverse technologies, and the most full-service broadband for consumers. How we plan on doing that is consistent with the Administration's approach to most matters of economic policy: create economic incentives for business, remove regulatory barriers when necessary and possible, and promote innovation and new technology. Like I said, the Administration's approach to broadband is not something new. We have had these policies in place and I think they have been demonstratively effective.

The news on broadband isn't all bad. We are 10th or 11th, depending on the different data points you look at. Yet broadband take-up has been very rapid in this country. By some measures, broadband pick-up has been faster than color TV, the Internet, mobile phones, VCRs, or PCs—it is moving along pretty well. From 7 million broadband subscribers in 2000, we had 24 million in June 2003. That represents a 230 percent increase. There was an independent research report in the news just the other day. The Department of Commerce is going to be coming out with their numbers soon, which will be harder data points that say, "That's the number."

Just as the President will not be satisfied until every American who wants a job has a job, he is similarly not satisfied with the rate of the broadband penetration. That is why he set this aggressive target.

Economic Aspects of the Administration's Plan

On the economic front, the President has offered tax relief—not just for individuals, but also

1. White House, "Promoting Innovation and Economic Security Through Broadband Technology," March 26, 2004, at www.whitehouse.gov/infocus/technology/economic_policy200404/chap4.html (October 12, 2004).
2. Slashdot, "Bush Says Americans 'Ought To Have' Broadband and a Pony by 2007," at slashdot.org/articles/04/03/28/1730220.shtml (October 12, 2004)

for businesses—in order to create incentives. We have accelerated depreciation for capital-intensive equipment like broadband equipment because it is obviously a heavily capital-intensive business. He has signed a two-year extension of the Internet Tax moratorium. We have been working to see that that is made permanent. There are two bills on the Hill: The House and the Senate will be reconciling those soon. I think that is still the position of the Administration—that a permanent moratorium on broadband taxes and Internet taxes is appropriate. I think, as the President said, if you want something to grow, do not tax it. It would be antithetical to our broadband policies to turn around and go ahead and start levying taxes on it.

I should also mention the research and development budget. This is the largest in our history: \$132 billion has been proposed for fiscal year 2005. I think all of these provide incentives on the macro- and the micro-side. On the regulatory side, new broadband technology should not be subject to the legacy of phone regulations. We have been urging the Federal Communications Commission (FCC) to take whatever steps are necessary to finish and clarify that so that there is certainty in the industry and there is an incentive for companies to roll out new fiber and new broadband technologies. I think the alternative—to saddle broadband with these legacy regulations—is an enormous disincentive. A company that is going to invest capital and assume risk wants to build an asset and wants it to be their corporate asset that they can reap the benefits from. Putting in rules that it somehow becomes a public conveyance is a serious drag on the incentive to make the investments to roll out broadband.

The government is doing its part in the regulatory environment as well. A week or so ago, the President announced “The Federal Rights of Way” project which clarifies and standardizes the rules for telecom companies seeking access to federal lands. Under the old rules, if somebody wanted to lay long-haul fiber across big parts of the country, they may have come across lands owned by the Defense Department, the Commerce Department, or the Forestry Service. Each one of those federal agencies had different rules and different standards

about how you could be given a “right of way” access. We have standardized that, made it more uniform, and put some predictability into the process to accelerate the ability for companies to actually lay the heavy infrastructure that is required for broadband.

The third component is encouraging new technologies. Some people won't be satisfied unless your broadband policy includes writing a \$100 billion check of the taxpayers' money, picking the wrong technologies, sending it to every home, and creating an additional bottleneck. Our perspective is completely different. We do not think of broadband as simply a pipe. It can be wireless; it can be cable; it can be DSL (digital subscriber line); it can be broadband over power lines. We are taking steps to encourage all of those technologies.

Wireless Broadband

On the wireless side, the most critical thing we can do is to make spectrum available and to make sure that we have spectrum policies in place that are flexible enough to accommodate new technologies. At the Administration, we have doubled the amount of spectrum available for unlicensed services in the five-gigahertz band: It is 255-megahertz of additional spectrum. We identified 45-megahertz of federal government spectrum for licensed 3-G (third generation) services. That is paired with another 45-megahertz that the Commission identified—an additional 90-megahertz. That is real broadband.

There is the ability for real broadband technologies to be provided by wireless carriers. There is a test going on in Washington and in San Diego that, while not multiple megabytes, is clearly fast. It meets the FCC's definition of broadband. It has speeds of 500-kilobits per second and peak speeds of one or two megabytes per second. With this new 3-G spectrum available, we have the potential for the five or six nation-wide mobile phone carriers to become broadband carriers. Adding that level of competition into the broadband market space will clearly bring down prices and incentivize other activity. We are building on successes that we have had with 3-G and with the five-gigahertz, ultra-wide band, and other technologies.

Last summer, the President launched a spectrum initiative for the 21st century. We are completing the process of putting recommendations together to bring to the President. The objective is to make sure that we have modern spectrum policies that contemplate and accommodate both modern technologies and new, developing technologies. We want to institutionalize the processes that we put in place that allowed us to do 3-G and five-gigahertz spectrum and to make sure that this is a model that we can repeat. That is not to say that our sole objective is to make spectrum available for commercial use to the detriment of critical federal government systems; I think they remain critically important. The objective is to institutionalize procedures and policies that both fully appreciate and protect critical federal government systems, and at the same time, are flexible enough that we can accommodate new and emerging technologies in the wireless space.

Broadband Over Power Lines

Another new technology is broadband over power lines. It is an extraordinarily promising technology. We are able to leverage the infrastructure that is already in the power lines to carry broadband through them. It is not without its own technical challenges, though. There is the potential for interference to wireless systems from broadband over power lines because radio waves are sent over power lines. They can bleed off and leak out and cause interference to other services. In fact, there are 59,000 federal government systems in the frequency band that have been proposed for broadband over power lines.

Over the past year, NTIA has undertaken a rigorous technical examination of broadband over power lines and the risks of interference. They have conducted more than 10 million measurements on the test systems that are in place and recently submitted to the Commission a report that was several hundred pages long that identifies the risks of interference. More importantly, the report identifies the mitigation techniques that are necessary to allow it to roll out in a responsible fashion. We wanted to do the hard work up front to make sure that government systems are protected, and also to

create a road map for the technical solutions that the broadband companies can use so that so that once that road map is in place and there is technical agreement among all the parties, there will be no more barriers to the rollout. They can proceed without the risk of laying out a system and being told to pull it back because of interference.

Voice Over IP

Another new technology that I believe will have a significant impact on the rollout of broadband is “Voice over IP (VoIP)”. The Commission has proceedings regarding “Voice over IP” protocol. Our position is that—like all new technologies—it should be free of any economic regulation. Yet we do not want to give up all of the social regulations that we have come to agreement on, whether it is E-911 or access to persons with disability. The Communications Assistance for Law Enforcement Act is of significant importance, but once we answer those questions, I think VoIP has a possibility to be a real driver. People have been talking about VoIP for a long time, saying it is the killer app.

I was always very skeptical of that. If someone already has a telephone, why will he or she buy broadband? Yet I think if you look at the trends of the take-up of broadband, we have a fairly high level of broadband penetration at this point. I think 90 percent of Americans have access to a broadband service provider and 70 percent have access to more than one broadband service provider. Our take-up still lags well below. I think if you scratch the surface on that, the value proposition of broadband is not necessarily compelling. That is where I think VoIP brings a real impetus: If you can get broadband and your phone service at a price point that is similar to what you are paying for your phone service in narrow band, the value proposition becomes more compelling and I think a lot more people will take it up.

Like I said, our objective is not to set industrial policy, identify a technology, and force it on everyone. I think you made an interesting point earlier: Is it one technology or many technologies? I think the vision that we have is multiple technologies from multiple service providers competing at different levels. Some people may want 100 megabytes per

second coming into their homes. That is enough for at least five simultaneous high definition feeds. My mother is never going to want that, but she may want 500 megabytes. Somebody may offer that for ten bucks versus fifty dollars for the broader pipes. They will be competing on speed, price, and functionality—whether it is mobile or not. When we have a market that is that diverse and competitive, I think it is inevitable that we will have affordable and universal broadband for all Americans.

DAVID MCINTOSH: The Heritage Foundation has convened us here to fill out or put meat on the bones on President Bush's challenge that "We ought to have universal, affordable access to broadband technology by the year 2007." His opponent has also called upon the nation to set broadband deployment as a high priority.³

What is President Bush's vision? Someone quipped that there are as many ideas for what "universal, affordable broadband by 2007" means as there are lobbyists in Washington. That being said, there are a couple of key principles that surface in this debate. First, what is the role of government: regulation or deregulation? The second is whether government should subsidize broadband.

I have approached these issues from several different perspectives. Serving as Director of the first Bush Administration's Competitiveness Council, I saw many of the same issues come up in the debate about whether to regulate cable and deregulate telecom. We saw deregulation as the best way to empower small offices, home offices, and small- and medium-sized businesses, including rural businesses and farms in order to create more and different services for their customers—and with that innovation to create more high-paying jobs. As a Member of Congress, I was a strong proponent of the 1996 Telecom Act, believing it would

deregulate the telecommunications sector. There are some powerful lessons we should learn about deregulation: what works and what doesn't.

The 1996 Act

Most everyone now recognizes that the 1996 Act has failed to live up to expectations.

In the area of telephony, it has spawned even more regulation, massive litigation, and great uncertainty—leading to a weak climate for investment of capital to deploy new technology, such as fiber, on a universal basis.

Almost ten years after their enactment, a set of "transition" rules to bring competition to local service are still being litigated. Now they threaten to migrate from telephone service to broadband. In recent months, Chairman Michael Powell has sought to move towards deregulation and market negotiations between the phone companies and the CLECs (competitive local exchange carriers). However, without a clear majority, the FCC as a whole remains adrift as these rules are challenged in court.

The ongoing litigation and regulatory uncertainty has slowed the deployment of cutting-edge technologies. Recent studies comparing the U.S. to other developed nations show that the U.S. has fallen behind a number of countries as broadband deployment has stalled.⁴

This is not only keeping innovative products out of the hands of consumers, but it is undermining job creation and economic growth. Robert Crandall at the Brookings Institution has estimated that the U.S. could create more than one million new high-tech jobs through universal deployment of broadband.⁵ Citizens for a Sound Economy has broken this projection out state-by-state and the potential job gains are significant—including 34,000 new jobs in Michigan and up to 170,000 new jobs in California.⁶

3. John Borland, "Kerry's Broadband Policy Plans Emerging," CNET News.com, April 21, 2004, at http://zdnet.com.com/2100-1103_2-5197218.html (May 12, 2004).

4. DotEcon and Criterion Economics, "Competition in Broadband Provision and Its Implications for Regulatory Policy," October 2003, at www.dotecon.com (May 12, 2004).

5. Robert Crandall, Charles Jackson, and Hal Singer, "The Effect of Ubiquitous Broadband Adoption on Investment, Jobs and the Economy," Criterion Economics, L.L.C., September 2003, p. 22.

How to Meet the Challenge

Given all of these barriers, how do we go about meeting the President's challenge?

One decision the Bush Administration must make this month is whether to appeal the D.C. Circuit Court decision to the Supreme Court. This could delay the effort to deploy broadband by two years. If the FCC's Triennial Review Order goes to the Supreme Court, the good *and* bad parts of the order will all be up for grabs. Namely, the FCC's effort to carve out broadband from TELRIC/UNE-P (Total Element Long Run Incremental Cost/unbundled network elements platform) will also not go into effect for two more years while the parties battle out the issue in the Supreme Court. The telephone companies will have to wait until 2005 to know whether or not new investment in broadband will be subject to the TELRIC/UNE-P regime of price controls and compulsory resale to competitors.

[Ed. note: Subsequently, on June 9, 2004, the Solicitor General declined to appeal the D.C. Circuit Court decision vacating the FCC's local telephone unbundling rules. The FCC then also declined to seek Supreme Court review. The Supreme Court denied certiorari, and the D.C. Circuit's decision has become final. The FCC has set about implementing the D.C. Circuit's decision with interim—and eventually, final—rules.]

Some, like Bill Clinton's FCC Chairman Reed Hundt, have called for government subsidies and industrial planning to channel hundreds of billions of dollars in capital to lay fiber to every home in the US.⁷ Others, like economist Robert Crandall⁸ and Progress and Freedom Foundation President Ray Guifford,⁹ have called for major

deregulation and restraint on broadband taxation to spur private investment. These two worldviews aim at the same goal but counsel dramatically different ways to reach it.

One thing I noticed while in Congress is that when policymakers grapple with complex legislative and regulatory issues, it is good to look at real life applications of the principles guiding those decisions.

With that in mind, I thought it would be instructive to compare examples of government telecommunications policies based on these competing worldviews.

A Tale of Two Technologies: PDA's and Minitel

Congress and the FCC basically got it right when they decided not to regulate personal computers and to establish a national wireless network. There now are five or six national facilities-based carriers competing for the right to provide PCS (personal communications services) or cellular service to each of us. After I left Congress, wireless converged with computer technology to revolutionize personal communications.

The dramatic change in wireless communications that has happened in the last ten years can best be seen when you look at how the equipment has changed. Recently, I was boxing up ten years' worth of campaign material. Along with the bumper stickers, t-shirts, and balloons from three runs for Congress and two statewide campaigns for governor of Indiana, I found a box of old, used cellular equipment dating back to my first run in 1994.

The oldest phone was this Nokia brick phone that only worked when it was plugged into the car

6. Wayne Brough, "State Economies Can Benefit From Broadband Deployment," CSE Freedom Works Foundation, December 2003, p. 16.
7. Communications Daily, "Hundt Urges Government Action to Help 'Big Broadband' Build-out," December 11, 2003, at www.lexis.com (May 12, 2004).
8. Robert Crandall, Robert Hahn, Robert Litan, and Scott Wallsten, "Universal Broadband Access: Implementing President Bush's Vision," American Enterprise Institute-Brookings Joint Center For Regulatory Studies, May 2004, p.10, at www.aei-brookings.org/admin/authorpdfs/page.php?id=941 (October 12, 2004).
9. Raymond Gifford testimony before the Senate Committee on Commerce, Science, and Transportation, April 28, 2004, at commerce.senate.gov/pdf/gifford042804.pdf (May 12, 2004).

battery. Then came the small box phones that seemed to run out of batteries every other call. Then I had a Motorola Flip Phone for 2000. Somewhere along the line, I thought I was hot stuff with a Palm Pilot to keep the schedule.

Finally, today I carry a BlackBerry that is smaller than all of them. It is a phone, receives copies of my office e-mails, and has my entire address book on it, along with my schedule.

How did this regulatory success story happen? Computer hardware and software have been largely unregulated industries. For wireless, the 1996 Act created a regime implemented by the FCC in which each carrier is mostly facilities-based. The rule for cellular licensees was “build it or lose it.” Cellular licensees were, and are, expected to construct facilities and operate over those facilities. Each carrier controlled its own network, and the market—not government regulations—forced them to negotiate roaming agreements. The industry broke down the old distinctions between local and long distance with nationwide calling plans. In other words, there was no pervasive TELRIC- or line-sharing-type regime for cellular. We got facilities-based competition in cellular because we expected and demanded it from the beginning. We also let the cellular market develop according to consumer tastes and business needs—not according to government’s central planning. Today the wireless companies compete based on service—e.g. Verizon’s “Can you hear me now?” ads seek to differentiate their product based on quality.

Government also allowed flexibility in the standard for transmission. The industry could move from analog to digital and now to international third-generation digital standards—often overbuilding their own networks with multiple systems to keep current customers while they added new technology.

Today there are almost as many cell numbers as there are land phones in the U.S. In the world there are more cellular numbers than land lines, because many developing countries like China chose to skip land-based technology and deploy cellular networks as they built out their telecommunications infrastructure.

Compare the success of Personal Digital Assistant (PDA) technology with one of the first experiments in universal computer hook-up through the telephone system. In the 1980s, France decided to deploy the Minitel. Even before the Internet, French telephone customers could send a computer-generated message to anyone on the system. The French government subsidized the technology so that it would be universally available. Yet within ten years, what seemed like the leading edge of modern communications became a dinosaur. No other European country adopted the Minitel. The Internet soon provided not only text messages, but also Web sites, video content, and e-mail messages with attachments that can be viewed and processed on most home and office computers. However, until 2002 there were more Minitel than Internet users in France.

The government policy of choosing one technology and encouraging universal adoption through subsidies ultimately left the French consumers far behind the rest of the world.

When it comes to broadband policy in the U.S., we are not writing on a blank slate. The FCC has attempted to deregulate this service in several ways. It early on ruled that broadband provided by cable is an information service that should be free from government-set common carrier regulation.¹⁰ Similarly, the FCC last year ruled that telephone companies will no longer have to provide access to competitors for new broadband investments.¹¹ Both of these rulings have been attacked in court.¹² Uncertainty about the rules is likely to

10. Declaratory Ruling and Notice of Proposed Rulemaking, *In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00–185 *et al.*, 17 F.C.C. Record 4798 (2002).

11. Report and Order on Remand and Further Notice of Proposed Rulemaking, *Review of the Section 251 Unbundling Obligations of the Incumbent Local Exchange Carriers*, CC Docket No. 01–338 *et al.*, 18 FCC Record 16978 (2003).

continue for several years as these cases wind their way up to the Supreme Court.

Lessons Learned

What is clear is that in the next year or so, Congress, the FCC, and the Administration have a choice between the old way of government regulation and planning and a new way based on deregulation. As they make that choice, several lessons can be learned from the cellular and Minitel examples:

True Competition. As we have learned, to deregulate means to take rules off the books, not put more on like we did after the 1996 Act. As we have learned from the PDA example, “real competition” means facilities-based competition. Avoid pseudo-competition such as what the FCC set up in the TELRIC/UNE-P regulations—in which competitors could simply choose to operate by reselling telephone companies’ existing facilities under government-controlled prices. This regime only undermined incentives to invest in new technology. The phone companies have been reluctant to upgrade their systems for fear they will be forced to sell it at below-market rates to competitors. They couldn’t tell investors what their return would be. The new CLEC’s could make more money repackaging the phone company service than investing in their own facilities. Technology expert George Gilder perhaps put it best when he said, “Regulators currently ‘privatize the risk, and socialize the rewards.’ The result is paralysis of investment.”¹³

Certainty. The TELRIC episode shows that, if there is any question about whether the old rules still apply or who sets rates, it will lead to endless litigation. Too much is at stake for either side to quit chasing the possible win in court. The result is that capital will flow to other opportunities with greater certainty of investment conditions and/or better

odds of a higher rate of return. Technologies like fiber optics that are already expensive become prohibitively costly to deploy for mass consumption.

Property Rights. The cellular companies paid for spectrum rights and their right to use spectrum exclusively for their customers was protected. There was no need to issue long extensive rules on wholesale prices and interconnectivity.¹⁴ The customer wouldn’t buy the service if he couldn’t connect to the phone network—including other cell systems. That market pressure forced the cellular companies to negotiate roaming and connection rates.

Flexibility for Technology. As the progress in cellular phones shows, regulatory flexibility allows the providers to continuously update their service to meet the needs of the customer. By allowing the market to drive end-user applications as well as network standards, wireless technology has kept pace with technological innovation.

Avoid Subsidies. Minitel shows how a nation can be left in the dust when the government “invests” in a particular technology. Subsidies ultimately interfere with market progress. Crandall and Hahn argue that when they are coupled with industry taxation to pay for the subsidies, the economic inefficiencies far outweigh the benefits.¹⁵

Policy Prescriptions

With these general principles in mind, I would like to suggest a series of policy prescriptions that the Bush Administration should consider as ways to implement the President’s call for universal broadband by 2007:

1. **Broadband as a no-regulation zone.** Congress seems to be preparing to rewrite the 1996 Act. Instead of rewriting it, I suggest they write a new Title for Broadband that would take broadband altogether out of the Title II common carrier or Title VI cable regulations.

12. *U.S. Telecom Assn. v. FCC*, 359 F3d 554 (D.C.Cir. 2004); *Brand X Internet Services v. FCC*, 345 F2d 1120 (9th Cir. 2003).

13. George Gilder, remarks at Discovery Institute Luncheon at the University Club, Washington, D.C., October 23, 2001, at www.techlawjournal.com/home/newsbriefs/2001/10e.asp (May 12, 2004).

14. Compare the three pages of FCC regulations that set out a general duty for wireless providers to interconnect to the 900 pages of detailed prescriptions for telephone companies.

15. Crandall *et al.*, “Universal Broadband Access.”

Both federal and state economic regulation should be off-limits. This is essentially the environment that the FCC created for cable-based broadband through regulation. This, too, is being challenged through litigation in the Ninth Circuit Court of Appeals.

To promote the full range of competition for broadband, Congress should do the same for telephone companies and other potential providers. Essentially, it should stand the traditional telecommunications model on its head. The traditional model says that if you are providing telecommunications, then you are a legacy monopoly and you will be regulated as a common carrier. We need to do the opposite. Government should say, "If you provide broadband, we recognize that you are not a monopoly and you are free from regulation—even if you are providing telecommunications or video services with the same network." With cable, DSL, wireless, and (possibly) power line providers poised to offer competing broadband services, these providers are not a monopoly and should not be treated as one.

2. **Encourage facilities-based investment.** We should do the same thing we did for cellular for broadband: To take advantage of the new deregulated status, providers must build and operate facilities. In exchange, their investment will be protected by ensuring that they retain property rights in their own facilities. If you have a strong cable provider, a strong WiFi or other fixed wireless provider, a strong 3-G or mobile provider, a strong electric power line provider, a strong satellite provider, and a strong telco provider of broadband, then you have robust, facilities-based competition. Facilities-based, inter-modal competition produces real competition—while piggyback, platform competition distorts the market.
3. **Allow the market to operate for resale, content, and connectivity.** Some have proposed that broadband be segmented into layers, with the content and application layers unregulated, but the physical layer of transmission networks subject to so-called non-discrimination regulations that force the provider to carry competitors' applications and content. The argument is that without this, phone companies or cable companies can limit the customers' access to key elements of the Internet or broadband content. This type of regulation should be rejected. In the same way wireless providers couldn't—and didn't—limit their customers to making calls within their network because their customers wouldn't pay for that type of limited service, broadband customers will drive the physical provider to offer them the ability to link up to the widest range of content and applications. This is especially true when there are multiple providers to choose from.
4. **Federal broadband regulations should be limited to safety features such as "9-1-1."** This is one of the few areas where regulation should be retained. It can be accomplished at the state and local levels and with private standards-setting bodies. States should not play any role in rate and access regulation.
5. **Universal service needs market-based mechanisms.** Crandall and Hahn argue that there is not much need for government to provide subsidies to specific users to adopt broadband technology. At the same time, they recognize that for political reasons government may adopt such subsidies. In order to make sure that the subsidy encourages broadband deployment rather than effects wealth transfers, universal service subsidies should be offered as a one-time inducement; be relatively small; be funded from general revenues; and go to providers rather than consumers. The Administration and Congress would do well to look at recent experiences around the globe as countries have adopted programs to bring telecommunications to remote, undeveloped areas. New ideas—such as the reverse auction used to create incentives to provide telephone service in remote mountain villages in Chile—can show us how to minimize the cost and maximize the benefits of a universal service program.
6. **States should be invited to join in the deregulation party.** TechNet published a survey of the 50 state efforts to encourage broadband deployment. It shows mixed results. It is clear

that states can and should play a significant role in some areas, such as streamlining the right-of-way process to allow build-out of broadband facilities. However, the approach adopted by the FCC in the Triennial Review for telephone service stands out as a great example of what *not* to do to at the state level. By creating 50 different ratemaking regulatory bodies, this approach would only slow down the introduction of broadband.

7. **Limit litigation.** Finally, to short circuit the endless cycle of regulation and litigation that arose from the 1996 Act, Congress should consider a mechanism similar to the one they used for the Campaign Finance Reform legislation that would take the fundamental issues quickly to the Supreme Court for resolution. This has the advantage of expeditious certainty—if not necessarily correct policy.

The Administration and Congress are recognizing at many levels that something needs to be done to encourage broadband deployment. Too many good jobs have been lost in the telecom bust and too many good jobs are being outsourced overseas. We need broadband to empower small offices, home offices, and small- and medium-sized businesses—including rural businesses and farms—to create more jobs. The way to reach all these is through deregulation that encourages facilities-based competition among all types of broadband providers.

HAROLD FURCHTGOTT-ROTH: Four years ago, if we had had this same panel, I think conservatives would have had a telecommunications agenda that would have been the following: End the Gore tax—which funneled money to selected voting areas around the country; move away from picking winners and losers; move away from centralized telecommunications policy with unending court losses; move toward decentralized policy based on federalism; and move toward market mechanisms and away from government control of issues. We still have a long way to go.

We haven't made progress in some areas, but there is one area where we have made enormous

progress. In this area, I think the Bush Administration should declare victory. Like all politics, incumbents claim progress and victory and challengers focus on failures and better ideas. The Bush Administration rightly trumpeted successes in education, the environment, the economy, taxes, and the war on terrorism.

Yet somehow when it comes to broadband, we are claiming defeat. We should be claiming victory. Senator John Kerry (D-MA) and Reed Hundt and their lieutenants are the ones who are claiming that something is very wrong with broadband. They have a plan and their plan is \$100 billion of taxpayer money, enormous subsidies, and enormous intervention. This type of intervention went on in France in the 1980s. It didn't work in France in the 1980s and it won't work in the United States today.

The Myths of Broadband

What I'm going to focus on are the myths of broadband. Let's just go through a few.

- *Myth #1: Telecommunications is one of the largest portions of the U.S. economy.* A lot of folks on Capitol Hill like to describe it as one-sixth of the U.S. economy. It is actually a lot closer to 2 percent to 2.4 percent for telecom services. If you throw in equipment manufacturing, you can bump it up another one-half of one percent.
- *Myth #2: Broadband is the largest portion of telecommunications services.* It is growing fast but it isn't there yet. Data constitute the majority of Internet traffic and the majority of business revenues or data services. There is rapid migration towards broadband, but there still is a very heavy narrow-band basis to telecom services in the U.S.
- *Myth #3: Broadband is heavily regulated.* In some pure, abstract sense it is—but if you look at every possible segment of the telecommunications industry, broadband is by far the least regulated. There is no price regulation, no unbundled element rules on new investment (thanks to the TRO [Triennial Review Order]), no rules on cable modem services, and no rules on DBS (direct broadcast satellite) broadband services. Yet we still have taxes that

remain on DSL services that ought to be removed.

- *Myth #4: Broadband is unavailable in most of the U.S.* I think one of the most brilliant things about President Bush's target of universal broadband availability by 2007 is that it is kind of like asking Michael Jordan, "Are you going to touch the top of the backboard?" And he says, "Well, maybe I'll just take a walk onto the court." You know what? We already have universal broadband access. It is available in nearly 100 percent of America. Based on FCC data—very conservatively constructed—as of last June, there were two land-based competitors in 75 percent of U.S. zip codes. That's just based on whether they actually had a customer—not whether they offered service or not. There were three competitors for 60 percent of the zip codes. You can do the math. Add two satellite competitors to each of those.
- *Myth #5: Broadband is not growing fast.* Broadband is growing very fast for both business and residential customers.
- *Myth #6: The U.S. is behind the rest of the world in broadband penetration.* First of all, this completely ignores the business side, which is where the vast majority of data applications are and will continue to be. On the residential side, I think you can make the case that Korea has a higher broadband penetration than the U.S. For the Western European countries, I'm not sure that the distinction that the OECD (Organization for Economic Co-operation and Development) draws between 9 percent and 10 percent is as great as you might think. The OECD information is out of date. Today the U.S. is well above 20 percent broadband penetration. As noted in the Crandall paper that was just released, Korea heavily subsidizes broadband.
- *Myth #7: The U.S. is falling behind.* Let's not imitate Western Europe and say that they got it right and we got it wrong. It doesn't make sense and the reason is that free markets work. Centralized planning, such as in France, does not work. The U.S. is still the center of the world of

the Internet and the center of e-business for all types of activities. We are the center of the development of Internet applications. The brightest engineers and entrepreneurs around the world want to come where the action is and the action is here in America—not Western Europe, not Japan, and not South Korea.

- *Myth #8: Government programs are key to broadband and economic growth.* U.S. broadband has developed without government interference. The U.S. has benefited from the hands-off approach. Of the nine countries that the OECD erroneously claims to have higher residential penetration—not business penetration, just residential penetration—few, if any of them, have had higher economic growth than the U.S. If you did some economic study trying to measure growth based on broadband penetration, you won't find it—and you shouldn't see it—because broadband telecom services still are a very small part of the U.S. economy.

I could go on to some other myths, but let me just focus on the key summary conclusion. And that is, the final myth:

- *Myth #9: The government needs an ambitious broadband agenda.* That is what Reed Hundt would be here to tell you today, if he were on this panel. He would tell you that the key to success for U.S. economic recovery is a broadband agenda. He would say that millions of manufacturing jobs are at stake if we had a broadband agenda. He would say that we need a massive universal service program. I was recently on a panel with him and that's what he said. I do not know whether Senator Kerry listens to Reed Hundt or not, but I know that what Reed Hundt describes as the big, broadband solution is no solution at all.

I think the Bush Administration should do what it has wisely done, which is to keep a hands-off approach to technology policy—a very low-key approach. I would say that it is time to claim victory: It is time to claim what is actually the case, which is that the U.S. is the center of the Internet World and will continue to be the center. Ameri-

cans have the choice and many of them decide not to purchase it in their homes, but American business thrives on the Internet and will continue to do so.

PETER PITSCHE: I want to make three or four big points about broadband policy.

An English General was once asked, “What exactly did Winston Churchill do to win the war?” He responded, “He talked about it.” From that light, I applaud President Bush for setting this goal because when we see what the policies have been, we know that we are not talking about industrial policy. Although we do not need an industrial policy, we need to send a clear signal to the many policymakers within the Administration that they need to implement market-based policies that are going to promote broadband.

Unbundling Regulation

As my fellow panelists have pointed out, the government has done a number of things right. Eventually, we got the “unbundling” issue for cable companies right. The cable unbundling debate went under the rubric of “Open Access”—the idea would essentially have required the cable companies to unbundle their facilities to competitors at regulated rates. Fortunately, we did not make that mistake.

Next, the government generally made the right policy regarding taxation and not taxing the Internet. Hopefully, we will get in place at least a four-year extension of that.

Most recently, the FCC got the broadband portion of the Triennial review decision right. The basic idea is that if the incumbent telephone companies make new investment in the last-mile broadband facilities, that is, new fiber and electronics between their customer switch and the customer, investment would not be subject to unbundling regulations at regulated rates.

Intel (along with several other high-tech companies) formed a coalition called the High Tech Broadband Coalition. We forcefully argued in support of the position the FCC took and our rationale was simple. First: This is risky, expensive,

discretionary investment and if the government caps the upside and forces the companies to unbundle to their competitors where the investment is successful, they will undercut the normal business incentives to make discretionary investments. That was one of our key arguments.

Second: We saw no competitive failure. In this particular case there was a broadband alternative available in most of the country—cable modem service. It turns out that cable had a 3-to-2 advantage in reach and a 2-to-1 advantage in penetration. That is the number of subscribers. Many analysts thought they had the low-cost technology and they were not subject to this regulation. Yet the incumbent telephone companies, who were the insurgents in this market, were. Therefore, the high-tech broadband coalition argued forcefully against unbundling. The FCC appropriately stepped back from unbundling regulation on this new investment. I think we are starting to see good results from that already. I have every confidence that true facilities-based competition will lead to good results.

Policy Recommendations

I think there are still a number of very useful things that government and the FCC could do in the near term and in the long term. In the near term, the FCC could carry through on some things before the election that would strengthen incentives, reduce risks, and promote investment. There are some important decisions left hanging in the Triennial review that would allow companies to make investments with more assurance that they would get the benefit if they took the risk. The FCC could also clarify the regulatory status for cable and telephone. Basically, they need to make clear that price regulation will not apply to these new services and that certain interconnection obligations will not apply to these new services and facilities.

The other thing that the FCC could do is move forward on some additional spectrum relief. This doesn't get much discussion, but there is an enormous opportunity for creating additional broadband competition by promoting sound spectrum policies. The FCC today began a rule-making

looking at the unlicensed use of vacant TV channels. That proceeding will hopefully reach a conclusion by the end of this year or early next year. That could free up enormous new opportunities for spectrum use by broadband wireless because the propagation characteristics of this spectrum are tremendous. At these lower frequencies, you are able to communicate at greater distances into buildings at faster speeds and lower power, so companies like Intel would seize the opportunity to provide broadband wireless in rural areas where we are likely to see less facilities-based competition by the wire line alternatives.

Now, let me shift to my last point. In the long term, we could see even more powerful spurs to broadband deployment involving additional spectrum reform. Spectrum is the key input to any wireless communications and is essentially subject to command-and-control regulation. If you looked at the most valuable spectrum from 300-megahertz to 3,000-megahertz, over 80 percent of it is given out by the government to narrow purposes in a highly regulated fashion. If the FCC and the federal government, were to move incrementally, but significantly, to free up additional spectrum for unlicensed use or for flexible use by licensees, then we would see many new wireless Internet applications become available.

I want to close by going back to something that I think the Commission could do this year and that is to move forward on this MMDS/ITFS (multi-point, multi-channel distribution service/instructional television fixed service). Again, there is an enormous chunk of spectrum that is underutilized and tied up. The FCC is poised to make this valuable spectrum available to licensees in a flexible fashion. If that happens, it is going to move to wireless Internet applications—whether it be new 3-G cellular applications, new wireless

data applications like WiMax, or other things that Intel and similar companies are looking at.

Therefore, the Commission gets credit for a lot of good things done in the past. In the near term, it could finish up some important, unfinished business and move forward on some near term spectrum reform. In the long term, it should move aggressively on spectrum reform. If it does these things, it will have dramatically advanced broadband competition in deployment—not through the use of government money, but simply by doing essential government processes much more efficiently.

One final thing: Intel's approach to these issues is, I think, very congruent with those of consumers. Our basic position is that we want broadband to become widespread, high quality, and affordable. As we have looked at these issues over the years, we have consistently supported policies that encouraged facilities-based investment and competition. At the end of the day, we believe that is what will give consumers the broadband that they want. We are not disinterested, but we are neutral as among the technologies. At the end of the day, we hope the government continues to move forward on the wire-line policies that they've adopted and substantially does more in the area of spectrum reform.

—James L. Gattuso is Research Fellow in Regulatory Policy in the Thomas A. Roe Institute for Economic Studies at The Heritage Foundation. John Kneuer was Counsel to the Acting Assistant Secretary at National Telecommunications and Information Administration when this panel took place. He is now Deputy Assistant Secretary of Commerce for Communications and Infrastructure. David McIntosh is a former member of Congress and currently a partner at the international law firm of Mayer, Brown, Rowe & Maw. Harold Furchtgott-Roth is President of Furchtgott-Roth Economic Enterprises. Peter Pitsch is Director of Communications Policy for Intel Corporation.