Unclogging the Broadband Pipeline

Prepared Remarks of
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Good afternoon. I appreciate the opportunity to take a few minutes today to talk about the relationship between governmental action and the deployment of broadband technologies.

This is a worthy topic given that we have, according to my millennium watch, only about fourteen thousand, nine-hundred hours until the millennium arrives.

The appropriate role of government and the transformation of our economy are two dominant themes of the Twentieth Century – but as often happens, two themes that have not yet become integrated.

We have lived through a century in which the role of government has seemed at times to be the most critical intellectual issue facing the American democracy.

From the New Deal to Ronald Reagan; from the early years of the Johnson Administration to the recent bi-partisan budget agreement, we have discussed what government should and shouldn’t do, what it can and cannot do – and what, exactly, is its job, anyway.

Right alongside this debate – but not always connected to it – we have been living in a century of unparalleled innovation. Building on the foundation of the Industrial Revolution, the past one hundred years have seen – to use the quintessential term of our century – a quantum leap in the manner in which we produce goods and services, organize business relationships, and create and exploit advancing technologies.

To think that not so long ago, the fax machine – with thermal paper – was the greatest thing since sliced bread. Indeed, the comparison is apt. Devising a means of producing sliced loaves of bread that could be delivered to mass customers was a considerable technological advancement of 1927 – hence the expression.

In our times, it’s the slicing, reshuffling and delivery of information that’s attention grabbing; creating an economy based on accessibility to vast amounts of information, increased productivity, new skills, and exponential advancement of technology. According to a recent Commerce Department report, information technologies are responsible for more than one-quarter of real economic growth over the past five years.

But, the relationship between what the information economy delivers and what the government delivers is much less clear.
In one sense, we are akin to physicists at the beginning of the century. 100 years ago, we all believed in Isaac Newton’s laws of the universe, but there were these nagging facts – like the fact that the speed of light never varies – that could not be fit into existing scientific frameworks.

Nagging facts and existing frameworks. Not so different from the challenges we face today. One of the reasons I am so appreciative of the chance to talk to you, is that I really believe, like the physicists of a hundred years ago, that we are struggling to find a new governmental framework to accommodate an economy that is moving at the speed of light.

Any search for that governmental framework must begin with a simple question: What drives innovation in America today? Is it a couple of guys in a garage in Silicon Valley? Federally-funded research? Large corporate laboratories?

Well, I think, more than anything else, the creation and spread of innovation into society is driven by users – people who learn by using new technologies and people who learn by piling new innovations upon previous discoveries.

This may sound backwards, because we don’t think of users as inventors. We might think that users, therefore, can’t know what to demand until someone shows them what is possible.

But that’s too simplistic a view. As two friends of mine, Francois Bar and Michael Borrus, have explained, "user-driven innovation is already the distinguishing characteristic of the information economy." This seems to me to be fundamentally correct.

When I say user, I don’t necessarily mean just end user, and the passive role that term suggests. It means customers, it means competitors, it means more innovators.

Because innovation doesn’t end with the invention; it’s not even the beginning of the end; in fact, it’s just the end of the beginning.

In an interactive world, all users create, compete and demand. That means that economic benefits can best be discovered through the experimentation of users – who may themselves continue and expand the flow of innovation as they do business, take advantage of new network capabilities, or create products and services that enhance the flow of information.
Remember here, the environment is dynamic. Innovation isn’t just a straight line that runs from supplier to user and then stops at its destination; it’s a process more like the double helix of DNA – spiraling continually upward, moving back and forth from supplier to user and back again, with increasing complexity and value.

Consider the creation of graphical web browsers as just one example. It was Internet users, in particular Tim Berners-Lee, Marc Andreesen and Eric Bina, who saw the need to use the Internet in a very different, and much more accessible, fashion.

First, Berners-Lee, working at a lab in Switzerland, was just looking for a way to share information more easily with his scientific colleagues. It was his work that first brought about the World Wide Web. Unfortunately, the early web browsers that were developed were difficult to operate.

And here is where Andreesen and Bina stepped in. Working at the National Center for Supercomputing Applications in Illinois, these two did the primary work on the source code for Mosaic – a sort of Model T of Internet browsers.

And now, just a few years later, we’re seeing how what some might have initially seen as a ripple turn into a tidal wave. In fact, Netscape has even made the source code for the Navigator browser available for free on the Internet – investing its hopes for success in users who themselves will freely experiment with the program.

Perhaps even more to the point, the innovation that was created by users has spawned other users – from Yahoo to the Weather Channel web site to Barnes & Noble selling books on the web – actions which are continuing the virtuous cycles of innovation.

We’re seeing that users are driving innovation, and the power in the marketplace is shifting from supply to demand. . .from providers to users.

So in this context, I’d like to take a few minutes to explore briefly three current public-policy debates and suggest, in each instance, that the principle of user-driven innovation provides the best guide to the correct outcome.

The first concerns a provision of law designed precisely to empower
users. Congress enacted Section 706 of the Telecommunications Act in order to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capacity to all Americans."

Congress intended, I believe, that regulatory commissions proceed on the principle I have suggested – that innovation comes from users and, therefore, that the ability of users to reach broadband networks is deserving of innovation in the way that government acts.

But, the pending petitions that have been filed by Bell companies under Section 706 move exactly in the opposite direction. It seems to me, at least, clear that the petitions must be rejected on numerous legal grounds.

But, for the moment, let’s put that aside and ask whether, just as a matter of innovation policy, it makes sense to excuse the Bells from complying with the pro-competition parts of the Act in return for their promise to upgrade their networks to permit broadband capacity to travel over the last mile.

This is what I call the "Myth of the Friendly Giant." If we will only turn over our problems to the big giant, then he’ll be the large, benevolent pal who will take care of all of us.

The risk is, of course, that once the giant is turned loose, he might not turn out to be so friendly. And we may not thrive living in his giant shadow. And we might not like the effects of living with an unregulated monopoly.

The giant is a monopoly, of course, because he stands astride the last mile of copper that leads to virtually every home and office in America.

And, as we all know, the Internet does not operate in a vacuum; it is still largely tied to the public switched telephone network – the local loop – that the monopolies control.

And that local loop is currently the largest impediment to investment and innovation. And, as long as the local monopolies have bottleneck control of those essential facilities, service providers cannot reach customers, and customers can’t innovate.

The monopolies have used that control to retard deployment of advanced technologies in their networks because it has been in their self-interest to protect their monopoly services, such as the revenue-rich provision of T-1 lines, from other technologies that would erode
monopoly profits.

They have done so by simply not investing in technologies such as DSL, or digital subscriber loop, a family of technologies that vastly increases the capacity of copper wires. Or consider ISDN. When forced to provide it, the Bells priced it excessively in a fashion that portends failure.

Now, due to technologies and market developments that were completely beyond their control, the monopolies have found religion – or should I say broadband – and have announced plans to deploy technologies such as DSL.

But, they say, only on the condition that they are granted freedom from the pro-competitive requirements of the Telecommunications Act. Freedom that would translate into allowing monopolies to pick and choose who would have access to both unbundled network elements and wholesale digital services.

Though the monopolies endorse DSL, they want to control who has access to it. They want discretion over what unbundled elements would be made available, their rates, and the operational support systems needed to provision them. Granting them regulatory forbearance over those monopoly facilities would only ensure that they are never required to provide these essential elements to anyone but themselves.

You know, innovation can hardly flourish if the monopolies can use their control over the local loop – whether it’s a simple POTS loop or a loop with broadband capability – to control the ability of users to reach the Internet.

Even more important, however, is that there are many, many competitors that wish to do so, but the competition can’t. We cannot get access to these facilities. That means that they are blocked from providing innovation and from empowering users.

Because for any new entrant, including MCI, to offer viable competitive DSL services on a widespread basis under the Bells’ version of the law, we would have to collocate in every central office and outside plant cabinet, at huge-upfront equipment and leasing costs.

And, further, even if new entrants were able to do so, and after the time it will take to build collocation spaces in all end offices, there is no guarantee that the loops will be properly conditioned to support the new services. In most cases, the Bells themselves do not know which of their
loops can carry DSL.

Thus simply making unbundled, conditioned loops available is not sufficient – the new entrant still cannot count on timing, the condition of those loops, or their pricing. So it is imperative that new entrants – telephone companies and Internet service providers alike – have nondiscriminatory access to the DSL-related equipment and the ability to resell the incumbent’s DSL services.

After all, competitors still face these very same issues in voice grade competition. If the monopolies have not afforded these items for voice, why should we believe that they will do so for data? Removing these requirements for advanced services would instead be the final nail in the coffin for competition, closing off access to the local loop and foreclosing competitive investment entirely.

This is nothing new. As you may recall, if the Bell system had gotten its way in the past, it would be illegal to hook a modem up to a local telephone line. So much for the so-called "friendly giant’s" version of innovation.

At bottom, the Section 706 petitions rest on the belief that the monopoly local telephone provider knows best – and better than a free market – how to introduce new technologies.

Recall the French experience with Minitel. Some of you will remember that, in the 1980s, the French telephone monopoly was hailed for introducing Minitel – supposedly the information infrastructure of the future. Much of the media coverage concerned fears that France might be leapfrogging the U.S. Minitel was said to be the greatest thing since, well, sliced bread.

During the 80s, its users in fact significantly shaped Minitel. Because the users saw the potential for other communication patterns, such as the online chat rooms.

And so, there was a moment when Minitel was arguably more widespread, diverse and useful than the Internet at that time.

The misstep France Telecom made was to hold on to that model in the 1990s, failing to recognize the rise of the Internet. So, the biggest problem with the French system was that it prevented others from pursuing alternative networking approaches – including linking Minitel with the Internet – even though the other alternatives had great potential.
Now let’s take a quick poll. How many of you here believe the U.S. lost a long-term technological advantage by not forcing a "Minitel-like" system on users in the U.S.?

Me neither. Because we know now that the creation of a single, monopoly platform, whatever its initial appeal, inevitably locks-in users to a single approach to innovation and, once locked in, inevitably stifles, rather than encourages, innovation.

So the Section 706 petitions are really just a plea to bring Minitel to America.

Which brings us to investment. The asserted basis for this plan is the claim that, without regulatory relief, the local phone companies will not make the investment necessary to deploy advanced technologies.

This is precisely backwards. Without competition, investment does not thrive.

For example, Bell Atlantic’s 706 Petition argues for regulatory relief in advanced services not only because the "investments required are substantial," but that they are also "fraught with risk."

Imagine, running a business without risk. It’s incredible.

Well, we should all get such forbearance, the kind that allows us to make that sort of trade-off. They want a favor in exchange for … another favor. Like my two-year-old nephew saying, "OK, if you’ll buy me a cookie you can also buy me some ice cream." In other words, the Bells want their ratepayers not only to pay for the upgrading of their network, but also to guarantee their shareholders against risk.

Imagine if leading technology companies thought that way. Rewarding a company for not taking risk is very bad public policy. Indeed, by granting the incumbents the ability to leverage their monopoly stranglehold to the Internet would cause far-reaching damage not only to the Internet, but also to the entire economy.

At bottom, the monopoly world is one driven by supply, not demand. Relying on an incumbent to deploy technology and advance capacity leads directly to suppressed demand and little choice. Innovation grinds to a halt, and in turn, severely compromises economic growth.

Which brings me to my second example of governmental policy.
As you know, there’s a special software program on which speeches are written at MCI. It doesn’t correct spelling or change punctuation. It just inserts into every speech the following term – "access charges." Or more precisely: "inflated access charges."

So consider, for a moment, the FCC’s recent statement on access charges and the Internet.

For many people the choice here is easy – keep the Internet free of access charges. Others feel differently. They say that if it walks like a duck and talks like a duck then it should be overtaxed like a duck. They say that’s a matter of fairness.

But what we should really be considering is just what sort of effect access charges have on users and on innovation. And, in this case they’re clearly a drag. Unjustified taxation – which is what the current access charges are – simply burdens demand. With less demand comes less use; with less use comes less innovation.

So the Commission should consider the real structural problems of access charges and finally treat the disease rather than only the symptom. Hidden, unjustified subsidies – by our count totaling $10 billion at the federal level alone – are a bad idea.

Last week, we asked the FCC that by July 1, 1998, it reduce access charges by the $1.8 billion necessary just to keep the current regulatory regime current with economic trends.

After all, in the year in which the FCC claimed to have initiated fundamental access charge reform, the Bells’ interstate earnings actually went up – a clear sign that the Commission has yet to fully challenge the monopoly profits that access charges continue to constitute.

Now, some people tell me that cutting access charges is not realistic – that the FCC should wait before taking such a drastic step.

But delay doesn’t turn a bad idea into a good idea.

And the current access charge regime is a bad idea. It should be cauterized, not metastasized.

And delaying the cure has its own, very substantial costs. Costs that are less visible, but no less real.
A clear example is the long reign of the Bell System: remember that the Government took about a half-century to see through the fallacy that telecommunications constituted a natural monopoly.

Think about it this way. When we talk about financial outcomes we are used to discussing the present value of money: the discounted amount of cash we’d get today instead of waiting for payment in future dollars tomorrow.

But we’re not used to discussing the present value of governmental action. That’s because when lawyers write the mathematical equation that yields just outcomes, there’s no initial "T" contained in the equation that stands for timeliness. There’s "Q" for quality, "F" for fairness, but insufficient recognition that delay affects the quality of governmental outcomes.

At the same time, innovation is moving faster than ever before, and the government risks lagging further and further behind.

In the two years since the Telecommunications Act was passed, long-distance customers have paid, at the federal level alone, over $30 billion in access charges.

The fact that the FCC has failed to attack that problem at a fundamental level has only led to the current controversy over application of access charges to the Internet; has only continued to depress demand and has only made the problem worse by giving the local monopolies even greater incentive to keep their markets closed and greater ability to distort the long-distance, and now possibly the Internet, markets.

This is not how government should encourage user-driven innovation.

Which brings us to our final note – Competitive markets don’t spring full-grown from the brow of Zeus – they need predictable legal systems that permit innovation to extend its natural boundaries.

So, governments will need to provide a legal framework that will allow the rules of Internet commerce to be predictable. That means ensuring clear and consistent international laws regarding intellectual property and contracts. Actions that will go a long way in protecting and encouraging the ability of users to innovate and experiment.

Good examples of this sort of cooperation abound here in Washington. One of the best examples of this is the difficult issue of Internet taxation. Again, the Internet should not exist in a cyber-vacuum, but we
can't allow unfair and unpredictable taxation to weigh it down and stunt the development of the Internet’s incredible economic opportunities.

The hard work of Congress and State governors together has resulted in an agreement regarding a moratorium on Internet taxation – a common sense compromise that gives all parties a chance to think through a difficult policy conundrum. This kind of thoughtful and creative approach to public policy is not only encouraging; it’s important.

To conclude, I believe that the development of the Internet, accompanied by the worldwide move to tear down monopoly markets, presents us with a unique opportunity to permanently alter the balance of power in telecommunications – moving the locus of power from entrenched incumbent monopolies to users around the world.

So government should consciously work to free users from monopoly control of the local loop; should recognize the impact of governmental delay on the fast-paced world of innovation; and should be congratulated when different levels of government work together to ensure that governmental boundaries do not obstruct the free flow of innovation.

These lessons may not be the public-policy counterpart to Einstein’s special theory of relativity – which was the way that Newton and the speed of light were finally reconciled. But they do, I hope, demonstrate that users are ready, willing and able to innovate – if only they are allowed to do so.

Thank you.

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