NETWORK NEUTRALITY: COMPETITION, INNOVATION, AND NONDISCRIMINATORY ACCESS

HEARING

BEFORE THE

TASK FORCE ON TELECOM AND ANTITRUST

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Note: The Task Force on Telecom and Antitrust was established on March 26, 2006 and consists of all the Members of the full Judiciary Committee.

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NETWORK NEUTRALITY: COMPETITION, INNOVATION, AND NONDISCRIMINATORY ACCESS

TUESDAY, APRIL 25, 2006

HOUSE OF REPRESENTATIVES,
TASK FORCE ON TELECOM AND ANTITRUST,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The Task Force met, pursuant to notice, at 2:05 p.m., in Room 2141, Rayburn House Office Building, the Honorable Chris Cannon (Acting Chair of the Task Force) presiding.

Mr. CANNON. The Committee will come to order.

Just a note before we get started that we have a bill coming up on the—the Committee has a bill coming up on the floor at 2:45. We may have to recess this Committee. We're just trying to work out—it is the rule of the Committee that we recess when the Committee has a bill on the floor of the House. We are trying to work that out so that we don't inconvenience everyone with a 45-minute recess, and so we are going to get started here directly, and hopefully we will work that out so we don't have to recess.

In recent years, changing technology industry consolidation, and regulatory developments have fundamentally altered the telecommunications marketplace. With the changes in the industry, it is important that the pro-competitive goals that were the hallmarks of the 1996 act are maintained. Some have argued that these goals have gone unrealized, and it is essential that this Committee makes sure these goals do not slip away.

President Ronald Reagan boldly predicted that, "The Goliath of totalitarianism will be brought down by the David of the microchip." He really was a visionary guy, you know? Substituting the word "Internet" for "microchip" is particularly appropriate given the unprecedented manner in which the Internet has revolutionized the manner in which we access and transmit a broad range of goods, services, and information. High-speed broadband Internet services have dramatically enhanced the ability of Americans to access the Internet, but the safeguards that we have allowed these services—that have allowed these services to flourish are under growing legal and regulatory assault.

The Committee on the Judiciary has a central role in ensuring that market power of firms that provide access to the Internet is not used to discriminate against the content or services of competitors that drive innovation and consumer choice. Many credit the rapid rise of the Internet to the open architecture that defines it. Observers have noted that a unique feature of the Internet is the nearly unrestricted ability of anyone with service to connect to it,

access and post information, download content, and consume goods and services without discrimination. The open architecture of this medium is central to our understanding of the Internet and a fundamental attribute of its success.

Most Americans think that open and nondiscriminatory access to the Internet is something to be taken for granted, but it is not. Broadband providers exercise considerable control over how information and services are accessed over the Internet, and the inference that some of these providers may restrict access to the networks is of concern to all. While considerable effort has been made to confuse the definition of "net neutrality," the term refers to the fundamental architecture of the Internet that allows for uninhibited, end-to-end communication.

Former FCC Chairman Powell enunciated four Internet freedoms that provide a useful framework to understand this issue. These principles of Internet nondiscrimination are:

First, freedom to access content. Consumers should have access to their choice of legal content.

Second, freedom to use applications. Consumers should be able to run applications of their choice.

Third, freedom to attach personal devices. Consumers should be permitted to attach any devices they choose to Internet portals.

And, fourth, freedom to obtain service plan information. Consumers should receive meaningful information regarding their service plans.

Principles of net neutrality have been successfully articulated, but the mechanism to enforce them has not. The most notable example of Internet discrimination involved the Madison River Telephone Company obstruction of access to voice over Internet protocol, or VOIP, services provided by Vonage. In this case, the FCC investigated allegations that Madison River violated nondiscriminatory obligations contained in the Communications Act, but the redefinition of broadband as an information service dramatically reduces the authority of regulators to deter this kind of competitive misconduct.

The House Committee on the Judiciary and the antitrust laws have played a critical role in fostering competition in the telecommunications industry. While the technological dynamics of the telecom industry have shifted the use of market power to deter competition and undermine consumer choice has not. The continued success of the Internet depends upon unfettered interconnection and the ability of consumers to connect and access online information, content, goods, and services in a nondiscriminatory manner. If consumers are going to continually migrate to the Internet and businesses are going to prosper because of the Internet, the House Committee on the Judiciary must be at the center of the debate defining competition—defending competition.

Today's hearing will examine whether the threats posed to net neutrality and whether the concerns that broadband providers have or intend to abuse their market power to violate these principles are substantive or speculative. The hearing will also examine whether broadband providers have an economic incentive to limit access to the Internet, the sufficiency of current legal and regulatory authority to preserve net neutrality, the competitive impact

of proposals to provide Internet access on a tiered basis, recent legal and regulatory developments that affect broadband competition, and whether current legislative proposals being considered by Congress promote or undermine net neutrality.

Today's hearing marks the first in a series by the Committee's Task Force on Telecom and Antitrust. Over the next several months, the task force will conduct a number of hearings to examine competitive aspects of the telecom industry and to consider legislation to ensure that Americans are provided with the innovation and consumer choice that unrestrained market competition preserves and promotes.

I want to thank the witnesses for appearing before today's panel and yield to the Ranking Member for his remarks. Mr. Conyers?

Mr. CONYERS. Thank you, Chairman Cannon. I'm happy to welcome the witnesses, as you have, and begin a Judiciary Committee undertaking of the subject of net neutrality.

I begin by noting that our colleagues Zoe Lofgren and Rick Boucher, as well as many other Members, have been working on this subject for quite a while, and I want to commend them and the Chairman of this Committee for making sure that our jurisdiction in this matter is put forward and that we can hold these kinds of hearings, because this is a very important subject, and it has to do with the issues that affect the state of competition in the telecommunications industry as applied to the Internet. And unless we have instances of a problem, it's not clear to me that we ought to be moving forward. But here, on the subject of net neutrality, I think everyone agrees that it has to be addressed. And without going into the Committee on Commerce's work in this area, it I think is to the credit of this Committee that we begin to examine the issues that are put forward in this matter.

As far as I'm concerned, we have telecom companies that have indicated that they do not intend to let companies like Google and Yahoo! or next generations of Internet entrepreneurs go free or use the pipes without significant payments. We have some very interesting quotations from Mr. Seidenberg at Verizon and Mr. Ed Whitacre at AT&T that illustrate that things are changing, and what we are trying to do with this hearing is to help determine what kind of changes should be made and whether or not we should allow the FCC to make the decisions through sometimes rather general statements as to what the policy ought to be, whether content should be controlled by those who are delivering the services.

It's an important hearing. Network neutrality is something that should be very carefully considered as we move forward, and I think that the role of the Judiciary Committee is going to be very important, especially in the backdrop of a larger consideration of the questions involving commerce and communications. There are some large issues as we move toward the end of the 109th session of Congress that I'm not sure if we can handle all of this in the closing months. But there is no better and appropriate way to begin this than examining the question of net neutrality, and I'd like to have permission to put my statement in the record and welcome our witnesses and begin a very important hearing.

And I thank you, Mr. Chairman.

Mr. CANNON. I thank the gentleman from Michigan, who has worked together with me—and I've worked with him, I should say, at his feet learning on this issue for a very long period of time and look forward to working with him on this Committee. And without objection, his full remarks are entered in the record, and at this point, without objection, all Members' opening statements may be included in the record. Hearing no objection, so ordered.

Let me introduce our witnesses—would anyone like to make an opening statement?

[No response.]

Mr. CANNON. Good. Thank you.

Let's go ahead and introduce the witnesses. The first witness is Paul Misener. Mr. Misener is the Vice President for Global Public Policy at Amazon.com. Prior to joining Amazon.com, Mr. Misener worked in both the Government as the senior legal advisor to FCC Commissioner Harold Furchgott-Roth and in private industry as a partner at Wiley, Rein & Fielding. He has the unique perspective of being both an engineer, graduating with a degree in electrical engineering and computer science from Princeton, and a lawyer, graduating from George Mason University. I thought that those were like incompatible. I gave up my law degree—or not the degree but my practice, largely because I love engineers. It's nice to see someone who actually embodies both.

Our second witness is Earl Comstock, the President and CEO of COMPTEL. Mr. Comstock previously served as the chief counsel and legislative director for Senator Ted Stevens, former Chairman of the Senate Commerce, Science, and Transportation Committee, and later served as the special counsel for telecommunications for the Senate Commerce Committee, where he negotiated and drafted key provisions of the Telecommunications Act of 1996. Mr. Comstock graduated with a political science degree from the University of California at Santa Barbara and earned a law degree from George Mason University.

Our third witness is Walter McCormick, President and CEO of the United States Telecom Association. He has previously served as the general counsel for the Department of Transportation and then Under Secretary Andrew Card. Mr. McCormick also has extensive congressional experience with over 10 years serving in the Senate, holding numerous positions including general counsel, chief counsel, and staff director for the Senate Committee on Commerce, Science, and Transportation. He obtained his undergraduate and law degree from the University of Missouri, studied international economics and political science at Georgetown University, and has completed the program for senior managers in government at Harvard University's John F. Kennedy School of Government.

Our final witness is Timothy Wu, Professor of Law at Columbia University. He currently teaches copyright and trade and advance intellectual property and telecommunications at Columbia. Mr. Wu was formerly the Director of Corporate Marketing at Riverstone Networks, Inc., in Silicon Valley. He has written extensively on telecommunications and the issue of net neutrality and has been published in the Supreme Court Review as well as a number of Law Review journals, including those at Michigan, Virginia, and Harvard. Mr. Wu obtained his undergraduate degree from McGill

University and graduated magna cum laude from Harvard Law School.

It is the practice in this Committee to swear in all witnesses, so if you wouldn't mind standing and repeating after me, raising your arm.

[Witnesses sworn.]

Mr. CANNON. The record should indicate that all of the witnesses indicated in the affirmative.

We will now proceed with witness opening statements. I think you all have probably testified here before, but we have a little system of lights. The first light will be green and that goes on for 4 minutes. You have a yellow light, and when the light turns red, we won't tap you down, but given the possibility that we may have to recess, we suggest—we would hope that you would keep it near 5 minutes.

Thank you and, Mr. Misener, would you please proceed.

TESTIMONY OF PAUL MISENER, VICE PRESIDENT FOR GLOBAL PUBLIC POLICY, AMAZON.COM

Mr. MISENER. Yes, sir. Good afternoon. It is on. Thank you. Good afternoon, Chairman Cannon, Mr. Conyers, and Members of the task force. Amazon belongs to a coalition of companies that includes eBay, Google, IAC, Microsoft, and Yahoo! that is working closely with the growing assembly of well over 100 consumer groups, associations, and companies which share concerns about the topic of this hearing. I respectfully request that my entire written statement, which lists the organizations in this assembly, be including in the record. Thank you very much for inviting me to testify.

Mr. Chairman, we are here because things have changed. Within the past few years, the phone and cable companies have acquired the technical means, market power, and regulatory permission to restrict consumers' access to broadband Internet content, such as movies and music, and they've clearly announced their plans to do so. In short, the phone and cable companies will fundamentally alter the Internet unless Congress acts to stop them. And yet the response so far from Congress, the bill being considered in the House Energy and Commerce Committee, is wholly inadequate. Worse than failing to confront the threat, this bill would tie the hands of the expert agency. Surely, as it did a few years ago with the Tax Freedom Act, Congress can better thwart this clear and present danger to the Internet.

Mr. Chairman, rather than read all or part of my written statement, I would like to use my allotted time to describe what will happen if Congress fails to reinstate essential consumer safeguards recently abandoned by the FCC.

For the next 5 to 10 years, phone and cable companies will maintain their duopoly market power over consumer broadband Internet access. The phone and cable companies also will continue to invest and deploy broadband, as they have for many years under nondiscrimination rules. And they will continue to realize returns on their investments by being handsomely paid for access by consumers and content providers alike. Although the network operators will continue to promise that they won't, quote, block access

to websites, they will firm up their plans to degrade access to some websites as a consequence of giving priority, fast-lane access to others.

The telcos also will start providing proprietary video service and will continue to seek accelerated franchise grants without build-out requirements, based in part on the existence of Internet video competition which, simultaneously, they are moving to quash.

At some point, the phone and cable companies will present a simple ultimatum to major Internet content providers: Pay us for prioritization, or if you don't pay, your content will be degraded relative to those who do pay. Similar deals may be struck based on political or religious viewpoints or other non-technical discriminatory factors. In this way, the network operators will extend their market power over access to market power over content. They will use their monopolies to monopolize. A bidding war will quickly ensue. The top-tier Internet content companies will bid up the price of prioritization on each of the half dozen or so major Internet access networks. Smaller companies will recognize that they have no hope of competing in this bidding war, and independent venture capital for new online businesses will dry up.

The new way for an entrepreneur to take a business online will be to seek permission from the phone and cable companies. A flurry of antitrust actions will then be filed against the network operators, but even if the courts don't find that the plaintiffs failed to state a claim, these actions will take far too long to be effective.

Meanwhile, the foreign network operators, such as Deutsche Telekom, almost all of which are wholly or partially owned by a foreign government, will follow through on their already announced plans to use discrimination as a great way to make more money off the world-leading American Internet content companies. In effect, foreign network operators will restrict access of American Internet companies to foreign markets.

Congress or the FCC will soon thereafter realize that it was a mistake to allow the network operators to control Internet content and will rush to pass remedial legislation. Unfortunately, it will be too late because the lost years of innovation will be forever lost, the network operators will have wastefully invested in equipment designed for discrimination instead of speed, and the foreign governments certainly won't reverse themselves just because America reconsidered.

So the result of Congress' unwillingness to address this clear and present danger will be to leave American consumers with dramatically reduced content choice, to stall American online innovation, and to wound U.S. global Internet competitiveness.

Mr. Chairman, this sorry tale is eminently avoidable. I urge you and your colleagues to recognize that, despite how much we wish it were otherwise, the market for broadband Internet access is not competitive and that the network operators, both domestic and foreign, fully intend to extent their market power over access to market power over content. I, therefore, urge that Congress act now to reinstate meaningful, enforceable, bright-line safeguards that preserve consumers' longstanding freedom of Internet content choice.

Thank you again for inviting me to testify this afternoon, and I look forward to your questions.

[The prepared statement of Mr. Misener follows:]

PREPARED STATEMENT OF PAUL MISENER

Good morning, Chairman Sensenbrenner, Mr. Conyers, and Members of the Task Force. My name is Paul Misener. I am Amazon.com's Vice President for Global Public Policy. Amazon belongs to a coalition that includes eBay, Google, IAC/InterActiveCorp, Microsoft, and Yahoo!, that was formed to express our shared concerns about the topic of this hearing. Thank you very much for inviting me to testify on this important matter. I respectfully request that my entire written statement be included in the record.

I. INTRODUCTION

Mr. Chairman, the phone and cable companies will fundamentally alter the Internet in America unless Congress acts to stop them. They have the market power, and regulatory permission to restrict American consumers' access to broadband Internet content, including music and movies, and have announced their plans to do so.

Amazon.com is an Internet-based retailer and retail platform with over fifty million customers worldwide. We merely want to ensure that our customers retain their longstanding freedom to access the broadband Internet content of their choice, including that content available from Amazon.com. Currently, consumers pay network operators for Internet access, and have the freedom to select lawful content from providers like Amazon, who pay network operators millions of dollars a year for Internet access.

In essence, we fear circumstances in which broadband network operators with market power are permitted—based on payments, political or religious viewpoints, or any other non-technical discriminatory factors—to prefer some content and thereby restrict consumer access to other content.

As already noted, many large Internet content companies including Amazon.com, eBay, Google, IAC/InterActiveCorp, Microsoft, and Yahoo! are very concerned about network operators' ability and plans to restrict content choice. Earlier this month, the chief executive officers of these companies, Jeff Bezos, Meg Whitman, Eric Schmidt, Barry Diller, Steve Ballmer, and Terry Semel, wrote the Honorable Joe Barton, Chairman of the House Committee on Energy and Commerce to say that

> Until FCC decisions made last summer, consumers' ability to choose the content and services they want via their broadband connections was assured by regulatory safeguards. Innovators likewise have been able to use their ingenuity and knowledge of the marketplace to develop new and better online offerings. This "innovation without permission" has fueled phenomenal economic growth, productivity gains, and global leadership for our nation's high tech companies.

These six CEOs then urged that, in order "[t]o preserve this environment," a bill should be passed "that directly addresses broadband network operators' ability to manipulate what consumers will see and do online. It is equally important to pass a bill that fleshes out these consumer freedoms via rules of the road that are both meaningful and readily enforceable." Lastly, the CEOs expressed their desire to work for legislation "to protect millions of Americans' legitimate expectations in an open Internet, as well as the innovation and competitiveness that it creates."

Our companies believe that Congress must act to preserve longstanding consumer freedoms. The telco and cable operators must not be allowed to extend their market power over broadband Internet access to market power over broadband Internet content.

This is not just a "big Internet company" issue, however. Ultimately, this is a consumer and much broader industry issue, and a coalition of well over 100 organizations have joined together to support legislative safeguards to preserve the openness of the Internet. These organizations include the AARP, Acopia Networks, Adaptive Marketing LLC, Adobe, Advancedmultimedia.com, Aegon Direct Marketing Services, Airespring, Amazon.com, American Association of Libraries, AnalogZone, AngleBeds.com, Ask.com, Association of Research Libraries, Awow Communications, Bandwidth.com, Bloglines, Borsetti & Co., BT Americas Inc., Business Software Alliance, CALTEL, Cendant, Chemistry.com, CinemaNow, Circumedia LLC, CitySearch, CommPartners Holding Company, COMPTEL, Comunicano, Inc., Consumer Electronics Association, Consumer Federation of America, Corliant, Cornerstone Brands, Inc., Dagdamor Media, Dave Pettito Direct, DiMA, Domania, Downstream, Dreamsleep.com, Dresses.com, EarthLink, eBay, eBrands Commerce Group, Economics & Technology, Inc., Educause, Elaine P. Dine, Electronic Retailing Association, Entertainment Publications, Evite.com, Excite, Expedia, Free Press, Free World Dialup, GetSmart, Gifts.com, Google, GotVoice, Inc., Graceline Canada, Haw-

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I hope that all of these entities' views and, most importantly to Amazon.com, the interests of our customers, will be thoroughly considered.

Moreover, this is not merely a dispute between American network operators on one hand, and American consumers and content providers on the other. Rather, it is the first and precedent-setting battle in a worldwide conflict. Recent news reports confirm that foreign network operators such as Deutsche Telekom and Telecom Italia also are interested in extending their market power over their networks to market power over content. Thus, if U.S. policymakers were to allow American network operators to extract oligopoly rents from American content providers, our policymakers would be simultaneously setting a precedent for allowing foreign operators to exercise the same leverage over world-leading American Internet content companies and their customers.

In my time this afternoon, I will describe the market power of network operators and the details of how they intend to extend that market power to limit consumer choice of content, such as movies, television, and music. I then will describe the need for Congress to require adoption of regulations to confront this clear and present danger; how failure to act will set a dangerous international precedent that will harm American competitiveness overseas; and how legislation that would grant national video franchising relief should not be enacted without such provisions. Lastly, I will propose modest safeguards to preserve Americans' longstanding freedom of Internet content choice.

II. NETWORK OPERATORS HAVE MARKET POWER: CONSUMERS HAVE LITTLE OR NO CHOICE OF BROADBAND INTERNET ACCESS

Mr. Chairman, as much as we wish it were otherwise, consumers have little or no real choice of broadband Internet access. For the foreseeable future, nearly all Americans will have two or fewer providers available: the phone company, the cable company, or both. And, unfortunately, consumers will continue to face discouragingly high costs of switching between them; equipment swaps, inside wiring changes, technician visits, long term contracts, and the bundling of multiple services all contribute to these costs.

Despite the common misconception intentionally perpetuated by the network operators, the Internet did *not* grow up in an unregulated environment; its growth and success were due in large measure to the longstanding rules that governed its infrastructure until last year's FCC decision. Although many of the rules were outdated and worthy of deregulation, the Commission erred by completely abandoning nondiscrimination requirements before the market became competitive.

The Commission's own semi-annually reported data on the competitive availability of broadband access are fundamentally misleading. These data, which purport to show multiple broadband service providers in many areas of the country, completely obscure the realities faced by individual consumers. Unfortunately, however, these data also were the basis for the Commission's recent actions.

In the first place, the data count as high-speed broadband any services that deliver as little as 200 kbps in one direction. Although this may have been a reasonable definition of broadband a decade ago, it is preposterously slow today, incapable of delivering even typical TV quality video, let alone HDTV, and is but one five-hundredth the speed being provided to millions of consumers in Korea and elsewhere. Second, the geographic areas analyzed are zip codes, not individual neighborhoods or households. So while there may be three or four true broadband network operators (for example, two telcos and two cable companies) serving small separate areas

in a zip code, no one consumer may have access to more than two of them (one telco and one cable company).

The result of these misleading FCC data is that the amount of broadband consumer choice is wildly overstated, particularly when the aforementioned high switching costs are considered. If it really were easy for Americans to switch among five, six, or more true broadband Internet access providers, the market would be competitive and legislated consumer safeguards would not be necessary.

Unfortunately, what exists for the vast majority of Americans is, at best, a duopoly of the local phone and cable companies. Widespread deployment of alternative broadband technologies capable of high quality video remains a distant hope and, with yet another mega-merger in the works (this time AT&T and BellSouth), the promise of inter-regional local phone company competition is all but dead. In such oligopolistic conditions, consumers are left with fewer services, higher prices, or both.

The FCC's most recent semi-annual broadband deployment data, released earlier this month, verify this bleak assessment. Perhaps the most salient fact revealed in the data is that, of the 34.3 million advanced services broadband lines serving primarily residential end users, *only one half of one percent* use other than telco or cable technology. Given that telco-telco and cable-cable overbuilds are so very rare, this fact confirms that nearly all American consumers are stuck with the telco-cable duopoly.

To be clear, we don't begrudge the phone and cable companies their current market power over broadband Internet access networks. Despite the longstanding desires and noble aspirations of policy makers, America is stuck with this super-concentrated market for the foreseeable future.

Moreover, although we oppose the collection of oligopoly rents, we certainly don't seek to deny network operators a healthy return on their investments. But there are two obvious considerations: what are their investments and are they getting a return? While it is true that there are new investments being made (well before any discriminatory pricing regime has been established), even the operators like to remind regulators that they are, in Verizon's words, potential video service providers "who already have access to the rights-of-way" around the country. But, of course, they did not obtain these incredibly valuable rights-of-way on the competitive market but, rather, by government grant to a monopoly service provider. In sum, much of their "investment" was either given to them or explicitly protected from competition by the government.

Just as importantly, content providers currently pay network operators for the amount of connection capacity they use, and network operators can charge consumers different prices depending upon how much bandwidth they use. This sort of connectivity "tiering" makes perfect sense. And, of course, network operators will charge consumers for the provision of any ancillary services, such as affiliated video content.

Perhaps the best way to gauge whether they believe their investments without discrimination are providing an acceptable return is to note that the FCC data indicate that telco and cable broadband services are being deployed and taken by consumers at a rapid pace. Given the network operators' claims (which I believe) that they are not *currently* engaged in much, if any, content discrimination, this is a clear indication that network operators need not discriminate to deploy broadband in America.

We also welcome broadband network operators' innovations within the network. With Moore's Law at work, network operators ought to be able to deploy innovative new technologies and services that, with increasing efficiency, provide benefits to operators and users alike. And we certainly don't oppose network operators' entry into competing businesses so long as they are not allowed to leverage their market power over broadband Internet access to favor these ancillary endeavors.

What we seek is more modest, yet far more important: We ask that Congress keep the telco and cable operators from taking their market power over broadband Internet access and extending it to market power over broadband Internet content.

III. UNLESS CONGRESS ACTS SOON, NETWORK OPERATORS WILL USE THEIR MARKET POWER OVER ACCESS TO RESTRICT CONSUMER CHOICE OF BROADBAND INTERNET CONTENT

Mr. Chairman, unless Congress acts soon, American consumers will receive artificially restricted choice of broadband Internet content. Leveraging their market power, phone and cable companies plan to restrict American consumers' access to such content based in large part on lucrative deals they intend to cut with third parties. And it will be just as easy for the operators to favor content based on polit-

ical or religious viewpoints or other non-technical discriminatory criteria. By constraining consumer access to content providers, the network operators also would create an artificial "channel scarcity"—essentially a bandwidth cartel—where none previously existed.

After years of administrative proceedings and litigation, last year the FCC reclassified broadband Internet access by wireline service providers, both telco and cable. Although the Commission simultaneously adopted a policy statement that confirms the agency's statutory authority and possible intentions to act, the statement fails to address some likely discriminatory behaviors and, in any case, is explicitly unenforceable. So, with the exception of weak merger conditions that apply the FCC's equally weak policy statement to a few network operators, and expire for no apparent reason in 18 months (the market certainly won't be competitive by then), telcos and cable companies may restrict consumer access to content at will. Because American consumers' access to Internet content is in jeopardy, Congress needs to act.

Just as it is clear that the network operators have the market power to restrict consumers' choice of broadband Internet content, it has become equally clear that they fully intend to do so. Not only have the telcos and cable companies stridently and steadfastly opposed any meaningful network neutrality rules, their most senior executives have, over the past six months (noticeably, beginning only after the FCC's final reclassification actions), issued scary yet refreshingly honest statements that reveal their plans for restricting consumer access to content. Simply put, the network operators are planning to restrict consumer choice of broadband Internet content based on deals they intend to strike with content providers and, perhaps, editorial viewpoints or other non-technical discriminatory criteria. This is precisely the opposite of "a la carte" pricing being sought from current, vertically integrated video service providers. Indeed, rather than enhancing consumer choice and flexibility, the network operators are moving retrograde to constrain such choice and flexibility and create an artificial scarcity of content outlets.

Although the network operators have been somewhat less clear on exactly *how* they intend to limit consumer access, their FCC filings and public statements reveal that they plan to do so in three key ways. But before I describe these, please allow me to summarize their technology plans. There are many differences among the technologies the duopoly network operators intend to use (hybrid fiber-coax by the cable operators and either fiber-to-the-home or fiber-to-the-node plus DSL over copper twisted pair by the telco operators), but all three technologies have been designed to operate the same way in practice, with two downstream components: a very high capacity ("fast lane") cable-like private network component, and a much lower capacity ("slow lane") downstream broadband Internet access component. The fast lane will be operated as a closed network, while the slow lane will be more (but not entirely) open.

A. Specific Network Operator Plans

The network operators apparently plan to restrict consumer choice of broadband Internet content in three essential ways: by providing (1) a closed fast lane and an open slow lane; (2) paid 'police escort' *within* the slow lane; and (3) preferential "local on-ramps" *into* the slow lane.

1. *Closed Fast Lane and Open Slow Lane.* First, as noted before, each network operator has or is constructing a fast lane for their affiliated broadband content provided by a sister company and a slow lane for broadband Internet content provided by others. The fast lane they reserve for themselves is a closed, private network. This has always been the case for cable operators and, even for the telco operators deploying broadband, make no mistake: the overall broadband pipes they're deploying are mostly just another version of cable TV, not broadband Internet. Consumers should recognize that despite the nearly ubiquitous and puffy advertising, it's not about "your world, delivered," it's mostly about *their* world.

2. *Paid Police Escort within the Slow Lane.* Second, the network operators intend to offer Internet content providers paid prioritization (essentially a paid "police escort") in the slow lane. Their plan is that, as content enters the operators' slow lanes from an Internet or other network access point, the speed with which this content transits their network will be determined, in part, based on whether the content owner paid for prioritization. The terms of art the network operators use to describe this prioritization include "quality of service" and "tiering." Each term is intentionally confusing. I am not suggesting that certain types of services be denied prioritization, just like certain kinds of road traffic, like emergency services, deserve police escort. But such police escort should not be made available for a fee; otherwise those unable to pay the fee will always be stuck in traffic. Put another way, to prioritize some traffic is to degrade other traffic. It's a zero-sum game at any bottleneck. This fact is intentionally obscured by network operators, who incorrectly

claim that they will not degrade anyone's content. Neutral prioritization (for example, network management whereby all live video streams receive priority above all text files) would be perfectly acceptable. But for an operator to sell priority to the highest bidder, the degradation of service to content providers who can't or don't pay would be anticompetitive. Fortunately, it also is predictable and, with modest legal safeguards, avoidable.

As should be obvious, small businesses will have a very hard time innovating if they need to pay for 'police escort' prioritization to compete. When some companies like mine have noted this previously, some of the network operators respond with something to the effect of "beware when big companies are looking out for the interests of little ones." That response seeks to change the subject and obscure three key points. First, it doesn't change the underlying fact that small entrepreneurs—facing a possible bidding war among big companies—are going to be hurt unless Congress does something now. Second, many of the big companies noting this imminent throttle on small company innovation were, indeed, innovative small companies only just a few years ago. And, third, on behalf of our customers, we want to ensure that our innovations—essentially new businesses operating in start-up mode by our employees—are not hindered in the same way. We merely want, as Internet pioneer Vint Cerf so clearly puts it, "to innovate without permission" of the network operators.

3. *Preferential Local On-Ramps into the Slow Lane.* Lastly, the network operators intend to offer downstream content injection (essentially "local on-ramps" to the broadband slow lane) to content providers who are willing to pay. This would enable content to be delivered from geographic locations closer to consumers and provide better user experiences. Such local on-ramps already are provided in a competitive access market by companies such as Akamai, which has servers distributed throughout the United States so that content can be delivered quickly to consumers, rather than having to traverse great distances on the Internet. Although content providers have no expectation that such local on-ramps must be provided for free, network operators must not offer local on-ramps on discriminatory terms.

B. Network Operator Claims

So how do the network operators discuss these plans? They obfuscate. For example, most network operators say they won't, quote, "block" websites. This relatively new concession is neither noble nor comforting and, in fact, is quite misleading. While they may not actually block access to a particular website, they easily could make that site's content unusable, either by overly constraining capacity (making the slow lane too slow); by providing prioritization only to those willing and able to pay (the paid "police escorts" that make everyone else wait); or by providing downstream injection (the local on-ramps) only on unreasonable or discriminatory terms. So it's a matter of semantics: they may never block content, but still could make it unusable.

Wireless network operators and their representatives are seeking exemption from any non-discrimination requirement enacted, but it is difficult to see on what basis such an exemption would be justified. Technology neutrality dictates equal treatment of copper, glass, and the ether. Consumers need not, and should not, have their access via such various means treated differently by regulation, unless there is some difference among them that legitimizes disparate treatment. The possible differences for wireless are bandwidth, mobility, "closed network," and competition.

If the concern is bandwidth or mobility, wireless providers can rest assured that a non-discrimination requirement would neither require certain levels of bandwidth or performance but, rather, that all sources of technically-similar Internet content be treated equally. And if a wireless carrier wants to offer a purely private network, without Internet access, then non-discrimination rules would not apply.

It is important to recognize that, as competitive as the mobile wireless market may appear on the surface, it would not exist on this issue because the competing wireless providers are almost all owned by the uncompetitive telcos who oppose non-discrimination rules. Although Sprint/NexTel is independent, T-Mobile is owned by Deutsche Telekom (which has announced its intention to discriminate), Cingular is owned by AT&T and BellSouth, and Verizon Wireless is owned by Verizon. On the issue of Internet content non-discrimination, therefore, policymakers cannot expect the wireless market to behave competitively.

Other network operators say, dismissively, that this is a "solution in search of a problem," or that policymakers should wait for a problem to arise before acting. This wait-and-see approach was endorsed by the FCC last year. But what further proof is needed? The time to act is now. To ignore the network operators' market power, their strident and steadfast opposition to meaningful safeguards, their boldly announced intentions, and their increasingly clear specific plans, is truly to turn a blind eye to a clear and present danger to consumers.

This situation is eerily similar to that facing Congress a few years ago with respect to Internet access taxes. Congress correctly foresaw the future problem of state and local governments imposing burdensome taxes on Internet access and moved peremptorily to ban such taxes by enacting then extending the Internet Tax Freedom Act. Today, the functional equivalents of the state and local tax collectors are the oligopolistic telco and cable network operators, and Congress should likewise recognize and peremptorily thwart the threat they pose to the Internet.

IV. FAILURE TO PROTECT AMERICAN CONSUMERS ALSO WILL ENABLE FOREIGN NETWORK OPERATORS' ANNOUNCED PLANS TO RESTRICT AMERICAN CONTENT COMPANIES' ACCESS TO OVERSEAS MARKETS

To make matters worse, foreign broadband Internet access network operators have plans to restrict world-leading American content companies' access to overseas consumers. Deutsche Telekom and Telecom Italia have already announced their plans. Earlier this year, for example, Kai-Uwe Ricke, the CEO of Deutsche Telekom said that "the Googles, Yahoos, eBays and Amazons" "need infrastructure"; that "[i]t cannot be that infrastructure providers like [Deutsche] Telekom continue to invest, while others profit from it"; and that "Web companies that use infrastructures [sic] for their business should also do their part." But, of course, Amazon.com and others already do their part by paying for Internet connections. What Mr. Ricke actually wants, of course, is exactly what our domestic network operators want: to use market power to charge consumers once and American content providers twice, all for the same thing.

American policymakers must consider the effects of our domestic regulatory actions on our global competitiveness. American content companies like Amazon.com are world leaders today, in part because our access to consumers in other markets has not been impeded. If foreign network operators, almost all of which face no competition and are fully or partly owned by foreign governments, with obvious incentives to favor non-American content companies, are allowed to extract discriminatory rents from American content companies, our competitiveness both as an industry and a nation will suffer. Put another way, even if it were sound policy for Congress to allow American network operators to extract oligopoly rents from American content companies, it could not be sound policy to set the precedent for foreign network operators to extort payments from world-leading American content companies. How could our trade representatives challenge such actions abroad if we permit them here at home? Clearly, we must not lay the groundwork for every network operator around the globe to extort payments from American Internet companies. The only way we can hope to prevent this outcome is to hold the line domestically: we must not allow consumer choice of content to be artificially restricted by network operators with market power.

V. ANY LEGISLATION GRANTING VIDEO FRANCHISING RELIEF MUST ALSO AFFIRMATIVELY PRESERVE CONSUMER FREEDOM OF CHOICE OF INTERNET CONTENT

Mr. Chairman, the preservation of American consumers' longstanding freedom of choice of Internet content should be addressed in the context of national video franchising relief. The reason for granting such relief is, of course, the introduction of additional video competition for consumers, so it would be counterproductive to facilitate the delivery of content of one additional competitor (the phone company), while limiting the availability of thousands of other competitors via the Internet.

Moreover, in support of their opposition to requirements for system build-out and service to rural areas, the telcos recently have repeatedly cited the competition from Internet content providers ("Internet streaming video" and "Internet-downloaded video," in AT&T's words). As Verizon reported to the Commission in opposition to video build-out requirements, there is "significant competition in access to video programming through myriad means, including internet and satellite sources. . . ." BellSouth went so far as to tell the FCC that Internet content competition would diminish unless telcos were given video franchising relief: "[i]f LFAs [local franchising authorities] are permitted to delay or prevent broadband providers from also [in addition to cable] offering video service, then competition will be greatly (and probably permanently) impeded. This is particularly true given the plethora of new [Internet-based] video offerings that require robust broadband networks."

So the network operators have the temerity to cite the presence of competitive Internet-based video programming as justification for preempting local government rules and dodging reasonable build-out obligations, all while planning to quash that competition by restricting consumer access to Internet content.

In the interests of competition and consumer choice, therefore, video franchising relief must not be granted without meaningful broadband Internet content safeguards; otherwise, consumers will receive *less,* not more, choice of content.

These safeguards must keep the network operators from cutting "paid police escort" deals that would adversely affect the traffic of other content providers who can't or don't pay. And they also should keep the operators from insisting upon unreasonable or discriminatory terms for leasing "local on-ramps." In short, the most likely and dangerous anti-consumer discriminatory behaviors of broadband network operators must be thwarted in advance by legislation and regulation.

Mr. Chairman, your Committee's interest in this matter is greatly appreciated. We seek bright line rules that would avoid unnecessarily lengthy litigation, especially given how easily foreseen—even forthrightly announced—the network operators' anticompetitive actions are. As I noted in testimony before Congress almost three years ago, and as the FCC recognized in its final broadband reclassification order last August, that agency does not need new authority to act in this area. Congress needs either to *direct* agency action under current authority, or to enact another mechanism for protecting American consumers and competition.

VI. CONGRESS SHOULD REINSTATE LONGSTANDING REGULATORY SAFEGUARDS TO PRESERVE CONSUMER FREEDOM OF CHOICE OF INTERNET CONTENT

Mr. Chairman, we respectfully ask that Congress enact modest but effective safeguards to reinstate limited protections that the FCC recently abandoned, and thereby preserve American consumers' longstanding freedom of choice of Internet content. Without much effort, these regulatory safeguards can be narrowly drawn so that operators' private networks are not invaded and so that operators are appropriately compensated for the services they provide.

Two essential consumer safeguards we seek can be summarized as follows:

(1) Content transiting an operator's broadband Internet access network may be prioritized only on the basis of the type of content and the level of bandwidth purchased by the consumer, not ownership, source, or affiliation of the content. (That is, for traffic within the broadband network's Internet access lane, "police escort" may be provided only based on the technical nature of the traffic or whether the consumer has a paid more for a somewhat higher speed limit.)

(2) The terms for local content injection must be reasonable and non-discriminatory; network operators must not be allowed to give preferential deals to affiliated or certain other content providers. (That is, "local on-ramps" into the Internet access lane need not be free, but the road owner must not charge unreasonable or discriminatory rates to favor their own or only some others' traffic.)

Note that we are not seeking to have broadband Internet access reclassified as common carriage. To the contrary, we think that with modest safeguards, appropriately drafted and clarified, and with mandatory and meaningful agency enforcement, American consumers could be confident that their longstanding choice of lawful Internet content will not be limited by network operators.

VII. CONCLUSION

In conclusion, Mr. Chairman, the phone and cable companies will fundamentally alter the Internet in America unless Congress acts to stop them. They have the market power, technical means, and regulatory permission to restrict American consumers' access to broadband Internet content, and they've announced plans to do so.

For the foreseeable future, American consumers will have little or no real choice of broadband Internet *access.* And—unless Congress acts soon to reinstate modest and longstanding consumer safeguards—consumer freedom to choose broadband Internet *content* will be artificially limited. I urge you and your colleagues to recognize that, despite how we wish it were otherwise, the market for broadband Internet access is not competitive and that the network operators—both domestic and foreign—fully intend to extend their market power to restrict consumer choice of content by discriminatorily constraining consumer access to American content companies. I also urge that, simultaneous to any grant of video franchising relief, Congress enact safeguards to preserve American consumers' longstanding freedom of Internet content choice.

Thank you. I look forward to your questions.

ATTACHMENT

DON'T MESS WITH THE NET!

The Internet deserves *REAL* Net Neutrality.

We are the Internet. We represent small, medium, and large Internet companies, and millions of Internet users across the nation. Telecommunications legislation currently being considered by the House Energy and Commerce Committee would change the one thing that has made the Internet the single biggest platform for innovation in a century – the freedom of anyone to go anywhere at anytime on the Internet.

We call on Congress to protect that American-made freedom and support real Net Neutrality.

AARP
Acapia Networks
Adaptiva Marketing, LLC
Adobe
Advancedmultimedia.com
Aegon Direct Marketing Services, Inc.
Airespring
Amazon.com
American Association of Libraries
AnalogZone
AngleBeds.com
Ask.com
Association of Research Libraries
Awaw Communications
Bandwidth.com
Bloglines
Borsetti & Co.
BT Americas, Inc.
Business Software Alliance
CALTEL
Cendant
Chemistry.com
CinemaNow
Circumedia, LLC
CitySearch
CNET.com
CommPartners Holding Company
COMPTEL
Comunicano, Inc.
Consumer Electronics Association
Consumer Federation of America
Consumers Union
Corliant
Cornerstone Brands, Inc.
Dagdamor Media
Dave Petito Direct
DiMA
Domania
Downstream
Dreamsleep.com
Dresses.com
EarthLink
eBay
eBrands Commerce Group
Economics & Technology, Inc.
Educause
Elaine P. Dine
Electronic Retailing Association
Entertainment Publications
Evite.com
Excite
Expedia
Free Press
Free World Dialup
GetSmart
Gifts.com
Google
GotVoice, inc.
Graceline Canada
Hawthorne Direct
Home Shopping Network
Hotels.com
Hotwire
HSE24
IAC/InterActiveCorp
Iceland Health, Inc.
iFreedom Communications
iNest
InPulse Response
INS
Interactive Travel Services Association
InterMetro
Internet2
Internet International
Intervox.com
IntraISP
Invens Capital
Isen.com, LLC
IVR Technologies
iWon
J. Arnold & Associates
JohnnyZip
Lafayette Group, Inc.
Law Offices of James Tobin
LendingTree
Lingo, Inc.
Listyourself.net
Livemercial
Match.com
McFadden Associates
MCM Telecom
Media Access Project
Media Partners Worldwide
Mercury Media
Microsoft
Miller & Van Eaton
National Retail Federation
Nationalblinds.com
NetCoalition
Objectworld
Pac-West
PointOne
PRC
Primus Telecommunications
Product Partners, LLC
Public Knowledge
Pulver.com
RealEstate.com
ReserveAmerica
Ringtone.com
S & B Technical Products
Savvier
Savvier
ServiceMagic
Shelcomm
Shoebuy.com
Skype
Sling Media, Inc.
SOHOlutions
Sonus Capital Management
Sony Electronics, Inc.
SurRocket
Symercy Financial Corp.
TechNet
Techviser
Telekom Austria
Telephia
TELLO
Ticketmaster
Tier1Research
TiVO
TNS
toptickets.com
Tranquilitymattress.com
Travelocity
udate.com
VI Technologies
Vivox
WCW Networks
Yahoo!

The Net Neutrality Coalition

DONTMESSWITHTHENET.COM

Keep the Internet Free!

Mr. CANNON. Thank you, Mr. Misener, for a very compelling statement. We appreciate that.

Mr. Comstock?

TESTIMONY OF EARL W. COMSTOCK, PRESIDENT AND CHIEF EXECUTIVE OFFICER, COMPTEL

Mr. COMSTOCK. Thank you, Mr. Chairman and Members of the Committee. It's a pleasure to be here. I'm Earl Comstock, the President and CEO of COMPTEL. We represent a diverse mix of competitive providers. We have everything from cable overbuilders to wireless companies to Internet companies. We basically represent the entire spectrum of application and network operators that seek to serve consumers.

I would like to build a little bit on what Mr. Misener just said. I think, you know, he is speaking from an Internet content company side, and now we're looking at the folks that are primarily in my organization, actually seek to provide competing transmission services. Many of them do have their own facilities, and the keys that are here and the reason why Congress needs to act is that the reality of the situation today is in this United States we have two facility-based operators that reach essentially all homes and one facility-based operator that reaches essentially all businesses. And that has not changed. Both of those operators built their networks in a protected environment. They had at least a decade, if not several decades, in which to build out their facilities with the guarantee that if they built those facilities, they would get the customers. And here I'm talking about not only the incumbent phone companies, but the incumbent cable companies as well.

And I think it's important for the Committee to recognize that the network dynamics lead to inevitable discriminatory practices if Congress sets the law the wrong way. Right now today, you have the possibility that residential consumers might actually enjoy two facilities-based options while most businesses enjoy only one. Without some kind of rules that provide access to that infrastructure that was built across public rights-of-way and using public spectrum, we will not have competition that allows the content providers that Mr. Misener was speaking about, the innovators of all the innovative services and applications that everyone seeks to get access to today, we won't have any competition in the provision of the vital transmission. That's the key ingredient that everyone needs, the essential facility, in antitrust terms, that has to be available. And it's something that can't easily be duplicated. It took a lot of time and a lot of money to build out infrastructure throughout the United States. The thought that a competitor in the face of an entrenched incumbent would be able to not only gain the capital but then construct facilities—which, again, can't magically appear everywhere at once but have to be built out over time. In the face of someone who has an entrenched revenue stream and an entrenched network and the very customers that competitor is seeking to serve, that's an incredible barrier to entry unless there are some rules that make it possible for you to do that.

Now, this Committee doesn't necessarily set the common carrier rules, but you do have oversight over the antitrust rules. And I'd point out the parallels here between what's happening now and

we're seeing the re-establishment of the very kind of monopoly that led the Reagan administration Antitrust Division to break up AT&T. It was an effort that actually started 10 years before in the Nixon and Ford administrations and was carried through to the Reagan administration, and thankfully they followed through it. And what that case illustrated—the divestiture from AT&T illustrated was the incredible loss to this country, the lost opportunity that came about from having that kind of monopoly control of a network. It wasn't until after the divestiture that we saw all the benefits, the innovation of the Internet, wireless companies, all kinds of new broadband services, none of which the incumbent would have employed or deployed because it would have threatened their revenue stream.

And the same is true of cable operators. Cable modem service came about largely because of an opportunity that Congress provided in the 1996 act, where the cable industry believed that the phone companies were going to come into their market immediately, so they sought to respond to that potential competition by offering Internet access service.

Now they're in a situation where, gee, if I just continue to do what I'm doing, maybe the Bell Company gets in and offers video, but I'd much rather have a cozy duopoly than I would see competition. So what you're seeing is an effort to get the cable rules applied to everybody, and those rules tie transmission and content, and that's what's so dangerous to the United States. If you allow that essential facility, the transmission, to be tied together with the content you will create the very gatekeepers that we broke up the AT&T monopoly to prevent.

So I hope that you'll look at enforcing some antitrust provisions, and I think antitrust is a possible remedy. But to do that, you really need to spell out some very clear violations, because I think as Mr. Misener said, the problem for most start-up companies is it's a matter of time. If they don't know up front that there's going to be some relief from the kind of anticompetitive abuses, the exclusionary practices that network operators traditionally will engage in, then they've got no opportunity to get in the market in the first place.

So it's the opportunity foregone, the opportunity lost, that really is at issue here, and it is going to take some rules to make the Internet work. The Internet grew up on common carriage, and if we're not going to have common carriage, we need a stronger antitrust remedy to solve that problem.

Thank you.

[The prepared statement of Mr. Comstock follows:]

PREPARED STATEMENT OF EARL W. COMSTOCK

Before the United States House of Representatives

Committee on the Judiciary

Telecommunications and Antitrust Task Force

Testimony of

Earl W. Comstock

President and CEO

COMPTEL

April 25, 2006

Mr. Chairman and members of the Task Force: My name is Earl Comstock and I am the President and CEO of COMPTEL. COMPTEL is a non-profit trade association that was formed by the merger of three trade associations, each of which represented segments of the competitive communications industry. Today COMPTEL has 180 voting member companies and stands as the only trade association representing a broad cross section of the competitive industry. Our members are taking action to advance communications through innovation and open networks, and are responsible for introducing many of the innovative services that consumers and businesses take for granted today.

Introduction

It is a pleasure to be here to testify about Net neutrality and its importance to the preservation of the Internet and America's competitive position in the global marketplace. As a former Senate staff attorney who worked on the Telecommunications

Act of 1996, I can hopefully provide some insight into how the world has both changed and stayed the same in the 10 years since that landmark legislation was enacted.

COMPTEL would like to commend the Judiciary Committee for its creation of this Task Force and for its recent letter to Chairman Majoras of the Federal Trade Commission asking the FTC to re-examine its role in protecting consumers and competitors from abuse by entrenched network operators. As that letter notes, the Committee's inquiry was spurred by the Supreme Court's recent decision in *Brand X*[1] and actions by the Federal Communications Commission that severely limit the FCC's authority over broadband communications services. The FTC's response was encouraging, and stated that they believe the *Brand X* decision supports the conclusion that the FTC is now the primary enforcement authority with respect to Internet access services because the common carrier exclusion in the Federal Trade Commission Act no longer applies to the provision of those services. The FTC's involvement provides a backstop, but its role needs to be strengthened if the Internet as we know it today is to be preserved.

Since the Committee's letter to the FTC was written, the Chairman of the FCC on March 19 used a provision in section 10 of the Communications Act[2] to allow a forbearance petition by Verizon to take effect without any written decision by the FCC. As a result of that action, Verizon was relieved of common carrier obligations that the FCC had previously preserved in the *Wireline Broadband Order*, and is now subject to less regulation that any of its far smaller competitors. This unprecedented dereliction of

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[1] *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005).
[2] 47 U.S.C. 160.

the FCC's duty to protect consumers and promote competition further highlights the need for active oversight and intervention by Congress.

Unfortunately, the subjugation of the economic rights of the many to the interests of the few has not been limited to the FCC. The Department of Justice abandoned the Reagan administration's commitment to telecommunications competition at a particularly sensitive juncture. Given the FCC's recent decisions to abjure historical conduct regulation of firms with market power, the DOJ's decision to abandon a commitment to competitive market structure, by allowing –virtually unopposed – the recent AT&T/SBC and Verizon/MCI mega-mergers and with minimal divestiture of certain unused assets, could not have come at a worse time. The anticompetitive effects of vertical integration in the telecommunications industry were starkly revealed only after divestiture—when services that relied on the divested, but regulated, local networks flourished. Long distance prices plummeted, because competitors were free to build more efficient long distance networks, and the local monopolies had to interconnect with them in a nondiscriminatory manner, which finally brought the benefits of price competition to consumers. Perhaps even more importantly, though, the divestiture allowed for the development of new industries which the integrated Bell system would have found little use for—the wireless market and the Internet.

The original 1984 divestiture, with its equal access and non-discrimination requirements, showed the enormous social and economic benefits of network neutrality as applied to the communications industry. In only 20 years, the way people communicate has changed dramatically for the better, and in ways that no one could have predicted as the result of that original decision in favor of network neutrality. As the

Committee considers the importance of network neutrality on innovation, consumer welfare, and American competitiveness, the most important point that the Committee should keep in mind is the nature of the harm to be avoided—in this case exclusion from the market. Exclusionary conduct is especially pernicious, because there is seldom an adequate ex post remedy. Thus, ex ante rules are the preferable way to address exclusionary behavior. We have voting rights legislation, because, when some Americans can't vote, democracy suffers. Similarly, when efficient firms are foreclosed from the Internet market, America's information services economy suffers.

The opponents of network neutrality rules – what we now refer to as "Net neutrality"—will say there are no costs to not adopting fair access rules, and that there is no reason to address this issue at this point. These opponents will flippantly argue that Net neutrality is a "solution in search of a problem." However, as our recent history has shown, the costs that we can't quantify—the costs of innovation, opportunity, and efficiency foregone—are often the most expensive for society to bear. Indeed, as we've seen through the original network neutrality rules at work over the last 22 years, when welfare loss can be avoided, and productivity and innovation can be promoted through rational economic rules, then there is no excuse to deny American consumers and innovators the benefits of such rules.

Nonetheless, before divestiture and the first network neutrality rules, the apologists for market power told us that "the system is the solution." Now, as before, in order to justify an unprecedented accretion of market power we are told by Ed Whitacre, the head of AT&T, that "no partnership between two independent companies, no matter how well run, can match the speed, effectiveness, responsiveness and efficiency of a

solely owned company."[3] In light of history, Mr. Whitacre's quote should be a clarion wake-up call to legislators, law enforcement, and regulators. This Committee has a key role to play in taking steps to ensure history does not repeat itself.

Net Neutrality—What It Is and Is Not

First, let me explain briefly what I mean by Net neutrality. It is a term that is often heard these days, but most people don't explain exactly what they mean when they use the term. What COMPTEL means by Net neutrality is reinstatement of the basic legal requirements that the Internet was founded on – nondiscrimination, interconnection on reasonable terms and conditions, service upon reasonable request, the right to attach devices to the network, and the right to innovate and provide service without having to obtain the permission of the network operator. This is not to say that the network operator is without rights – many COMPTEL members are themselves network operators, and in order to remain in business they all expect to be paid for their services. Network operators are entitled to charge, on a non-discriminatory basis, for the transmission services they provide and to charge more for larger amounts of bandwidth. Network operators are also entitled to offer consumers whatever content and services they want. What Net neutrality would not allow a network operator to do, however, is to favor transmission of their own or affiliated content or services, to act as gatekeepers on who can provide content or services, to discriminate against unaffiliated content and services in the allocation of transmission capacity, or to force consumers to buy unwanted content and services in order to obtain basic transmission services.

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[3] *AT&T, BellSouth to Merge*, Press Release, available at http://att.sbc.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=22140

It is also helpful to consider some of the mischaracterizations of Net neutrality. For example, as I've noted, the Bell companies and the cable operators say that Net neutrality is "a solution in search of a problem" and then tell you that Net neutrality rules would hurt broadband deployment. But they never say exactly what Net neutrality means or how it would hurt broadband deployment. They also don't mention that data reported to the FCC shows that, as of June 30, 2005 (almost a year ago), high-speed cable modem service was available to 91 percent of the homes passed by cable and that high-speed Digital Subscriber Line (DSL) service was available to 76 percent of the homes that have telephone service.[4] Those numbers indicate to me that the United States already has significant deployment of broadband facilities. Where the United States is falling behind other developed countries is in broadband *penetration* (i.e. subscription to broadband service), which is largely due to the lack of significant price competition in the provision of broadband services.[5] Again, a point neither the Bell companies nor cable representatives tend to make.

To make this point, regarding price competition and broadband penetration, I want to highlight for you part of a news article in Communications Daily just last week:

> Verizon's recent price increase for its low-end DSL service is "rational" and highlights that the market is less competitive than expected -- not a bad thing, according to an industry briefing released Mon. by Wachovia. Jacking the price up to $18 from $15, plus a $19.95 activation charge, shows the competitive environment for broadband is "more rational than anticipated," Wachovia said. The bank said "the last mile operates under an attractive duopoly structure" which will inevitably push competition

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[4] *High –Speed Services for Internet Access: Status as of June 30, 2005*, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, April 2006, at 3.
[5] *See* D. Turner, "Broadband Reality Check: The FCC Ignores America's Digital Divide", Free Press (2005), at 8, available at http://www.hearusnow.org/fileadmin/sitecontent/broadband_report_optimized.pdf

> away from irrationally low prices. It added it had heard rumors that Verizon was having trouble meeting demand for its $15 offer.[6]

Restricting output is indeed "rational" if you are "having trouble" meeting demand—if there are too many customers at a given price point, it is much easier to just raise the price to make less customers, than to hire more workers and buy more equipment in order to produce more of the service. However, it is the "attractive duopoly structure" of the market that gives Verizon this luxury of choice. In a market with a competitive structure, the choice would belong to the consumer, and not the producer. Thus, it appears that with or without Net neutrality rules, the network operators have a lot to say about whether penetration rates will improve in the near future.

The FCC hasn't defined Net neutrality either, but has decided that Net neutrality can be addressed by issuing a "policy statement" that has no legal force or effect.[7] That policy statement, while acknowledging that the Internet "has had a profound impact on American life"[8] and that the Internet "plays an important role in the economy,"[9] simply offers "guidance and insight"[10] into the FCC's approach to ensuring "that broadband networks are widely deployed, open, affordable, and accessible to all consumers…"[11] The FCC's four principles are that consumers are entitled to: 1) access lawful Internet content of their choice; 2) run applications and use services of their choice, subject to the needs of law enforcement; 3) connect their choice of legal devices that do not harm the

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[6] Communications Daily, April 18, 2006.
[7] *In the Matter of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, CC Docket 02-33, FCC 05-151, released September 23, 2005 (*FCC Policy Statement*).
[8] *Id.* at 1.
[9] *Id.* at 2.
[10] *Id.*
[11] *Id.* at 3.

network; and 4) competition among network providers, application and service providers, and content providers.[12] Because the Commission decided in the order that was the subject of the *Brand X* case, and more recently in the *Wireline Broadband Order*,[13] that any network operator (both cable and telephone) that *forces* consumers to purchase transmission services as part of a bundled offering with an information service is no longer a common carrier (i.e., the network operator is not a common carrier so long as it *refuses* to offer the transmission service on a stand-alone basis for a separate price), it is not clear what legal authority the Commission has left itself to implement these principles should it chose to attempt to do so.

While the FCC's principles are a good start, they fall woefully short of the mark when you consider the fact that the FCC has now abandoned the common carrier framework that allowed the Internet to flourish. It is the recent loss of that framework, combined with the unprecedented (in the Internet age) vertical integration between the dominant "last mile" providers and the dominant Internet backbone providers, that is generating the sudden interest in Net neutrality by so many consumer groups, competitors, and content providers. This unprecedented vertical integration, has substantially increased the ability and incentives of these large dominant firms to exclude competitors, restrict output, and raise prices across an even larger range of services. Thus, at the very time that access rules are most needed, the FCC has abandoned its role

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[12] *Id.*

[13] *See In the Matter of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005), consolidated appeal pending *sub nom Time Warner v. FCC*, 05-4769 (3rd Cir. Oct. 26, 2005) ("*Wireline Broadband Order*").

as regulator, and the antitrust agencies have only allowed this now-unconstrained market power to concentrate further through larger and larger acquisitions.

Given the FCC's ongoing efforts to abdicate the responsibilities that Congress gave it in Title II of the Communications Act, and the Supreme Court's apparent willingness to allow the FCC's irresponsible behavior, it is imperative that Congress provide new guidance to the courts and the Federal agencies that are supposed to protect the public. One way Congress could do that would be to re-instate the common carrier rules that the FCC has abandoned. Unfortunately, it appears from the subcommittee markup in the House Commerce Committee on April 5th that, for the moment at least, the Bell companies and the cable operators have prevailed in convincing that Committee not to adopt meaningful Net neutrality requirements or re-instate common carrier requirements. Another way Congress could address Net neutrality falls squarely in this Committee's jurisdiction, and that would be to provide meaningful antitrust remedies against network operators who abuse their market power.

Congress is at a Crossroads in Communications Policy

America currently leads the world in high technology. The question that is being increasingly asked today is whether our changing national communications policy will allow America to stay at the cutting edge of the Information Age. Our economy is increasingly service oriented, and new information services based on computer applications are a critical driver of our future growth. If businesses and consumers have access to reasonably priced transmission capacity, then any person can invent the next

Google, Amazon, eBay, or Yahoo and hope to succeed. If rural areas can get access to adequate transmission capacity, then rural States and communities can share in that economic opportunity and growth.

Whether or not America will continue to be a world leader in the 21st century's Information Age economy will depend in large measure on if, and how, Congress rewrites our communications and antitrust laws. The Supreme Court's *Trinko*[14] decision has been interpreted by some courts as limiting the availability of the antitrust laws to protect consumers and competition in the communications arena. The Court reasoned that no antitrust action arose because the FCC and a State regulatory body were actively regulating the anti-competitive behavior being complained of, and dismissed the case without ever examining the effectiveness of that presumed regulatory oversight. Yet the FCC has recently made significant changes to the structure of our Nation's communications laws through its interpretations of specific provisions Congress added in the Telecommunications Act of 1996, effectively removing any regulatory constraints on the behavior of incumbent telephone and cable network operators, and the Supreme Court in *Brand X* appears to support the FCC's decision not to regulate.

As a result of the FCC's abdication of authority and the Court's apparent indifference, Congress has a basic choice to make. In rewriting the law, it can reaffirm the pro-competitive policies that led to the creation of the Internet and the tremendous explosion of innovation and growth that accompanied the Internet by re-imposing common carriage and antitrust remedies, or it can reaffirm the FCC's recent decision to abandon those policies and trust that the private business interests of a few network

[14] *Verizon v. Trinko*, 540 U.S. 398 (2004).

operators – namely the Bells and the cable companies – will protect consumers, provide access to competing content and service providers, and enable the next generation Internet to be built. If history and basic business behavior are any guides, the approach taken by the FCC will prove catastrophic.

The Internet Depends on a Common Carrier Framework

The FCC's new approach will prove catastrophic precisely because the Internet depends on basic common carrier rules to ensure the availability of an essential facility, namely the transmission networks over which Internet applications reach businesses and consumers. Those basic rules required all common carriers – incumbents and competitors alike – to provide non-discriminatory service upon reasonable request, to permit attachment of devices to the network, and to interconnect their networks with other operators on a non-discriminatory basis. Without this historic legal foundation, the Net neutrality principles that the FCC has articulated to "protect" the Internet fall well short of that goal, and the robust competition in information services that has been the hallmark of the past 25 years will soon be replaced by the limited innovation and higher prices that are the hallmarks of duopolies and monopolies.

Congress' decision to act or not to act will in many senses determine America's economic future. Communications is increasingly at the heart of America's economy. Companies depend on communications networks to offer content and services to consumers, advertise, manage inventory, and transmit voice, video, and data between locations. Today everyone takes for granted that they will be able to buy transmission services and use those services without interference. That is no longer the case under the

FCC's new approach. Under the FCC's new interpretation of existing law, no longer will AT&T, BellSouth, or other companies that use public rights of way and spectrum to offer service to the public be required to act as common carriers with an obligation to offer non-discriminatory service upon reasonable request.

Without that obligation, network operators like AT&T will be able to refuse service to, or discriminate against, anyone offering competing content or services, just as the cable operators do today. The CEOs of the various Bell companies have already been saying publicly how they intend to do just that – namely that the Bell companies will decide who can get content or service delivered via the Bells' "higher" quality "private" networks.

This will cause a radical change to the Internet and the information services market. Information services – the content and services made possible by computer applications – all depend on transmission networks to reach consumers. The information services market has been robustly competitive – with tremendous innovation as a result – because the FCC in its1980 *Computer II* order[15] required all public network operators (both incumbents and competitors) to provide their transmission services to anyone who wanted to buy them on non-discriminatory terms and conditions. By regulating the much smaller class of transmission networks – which everyone needs in order to offer their services to users – the FCC did not have to regulate any person's (even an incumbent network operator's) provision of information services. The FCC's recent decision to abandon its *Computer II* unbundling requirements now makes it possible for the small

[15] *Amendment of Section 64.702 of the Commission's Rules and Regulations*, 77 FCC 2d 384 (1980) and subsequent orders on reconsideration, *aff'd sub nom. Computer and Communications Industry Ass'n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983) (collectively "*Computer II*").

class of network operators to become gatekeepers on the Internet and use their network control to dominate the much larger information services market.

The FCC's Reliance on Inter-Modal Competition is Unfounded

The FCC's reversal of its 25-year old *Computer II* decision is predicated on a flawed assumption, namely that the barriers to entry for transmission networks are so low that anyone who wants to compete can build their own network. Nothing is further from the truth. The truth is that all three of the wired networks that exist today – telephone, cable, and power – were each built in a monopoly environment. The builders were protected from competition by law, and could build their networks with the assurance that they would get every customer who wanted service over those networks. Each of those entities is now entrenched in their market with ubiquitous facilities and 70 percent or more of the customers, and therefore a substantial revenue stream. Further, to improve their transmission capability incumbents merely have to upgrade existing infrastructure using ongoing customer revenue.

In contrast, in the absence of any rules requiring access to and sharing of existing infrastructure on reasonable terms and conditions, a new entrant has to build entirely new facilities from scratch with no customers and no revenue, and then has to win any customers from the incumbent. That is a very high barrier to entry. Even the FCC has acknowledged that, when it preempted a pre-1996 Texas statute that required certain large entrants to "build out" to each customer in a 27 square mile area,

> enforcement of the build-out requirements would 'have the effect of prohibiting' [competitors] from providing service contrary to section

> 253(a) due to the substantial financial investment involved and the comparatively high cost per loop sold by a new entrant.[16]

The Bells have made the same arguments with respect to Congressional proposals for limited geographic area build-outs with respect to video franchising. It goes without saying that the larger the geographic territory concerned the higher the entry barrier created by a mandatory facilities build. It is, thus, well recognized that even dedicated, high-capacity telecommunications networks (such as those deployed to serve a central business district) are characterized by substantial economies of scale and scope.[17] Moreover, the "sunk" aspect of the high capital costs that are characteristic of competitive fiber deployment are additional entry barriers.[18]

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[16] *In the Matters of the Public Utility Commission of Texas, et al., Petitions for Declaratory Ruling and/or Preemption of Certain Provisions of the Texas Public Utility Regulatory Act of 1995*, CCB Pol. Docket Nos. 96-13, 96-14, 96-16, and 96-19, Memorandum Opinion and Order, (Rel. October 1, 1997) at ¶ 78.

[17] In one of the early antitrust cases it was determined, "that there are three reasons for [incumbent] defendants having achieved such clear economies of scale. First, as [the incumbent] defendants' witnesses explained, higher levels of demand allow efficient use of high-capacity facilities and technologies which provide transmission service at progressively lower unit costs. Second, the process by which the network is configured allows for the fullest utilization of these high-capacity, low-cost facilities. Finally, [the incumbent] defendants supply the entire spectrum of communications services, and through the networking principle, demand for all those services is concentrated or pooled so that it can be transmitted and switched over the same facilities. This last phenomenon is referred to by economists as "economies of scope". Economies of scope exist when it is cheaper to produce two or more goods or services together than to produce each one separately. *Southern Pac. Communications Co. v. American Tel. & Tel. Co.*, 556 F. Supp. 825, 861-862 (D. D.C 1982). Furthermore, the FCC has found, "competitive carriers with lower amounts of traffic aggregation, such as new market entrants, face economies of scale that can act as a barrier to entry." *In the Matter of Unbundling Obligations of Incumbent LECs,* Order on Remand, 18 FCC Rcd. at ¶ 377 & n. 1155.

[18] The existence of high, or proportionately high, sunk costs is generally recognized as a barrier to entry. *See, e.g.*, Larson, *An Economic Guide to Competitive Standards in Telecommunications Regulation*, 1 CommLaw Conspectus 31, 52 ("if entry requires the incurrence of capital costs, and a 'high' proportion of these are sunk costs for entrants, then entry barriers exist.") *c.f.*, Bolton, Brodley, and Riordan, *Predatory Pricing: Strategic Theory and Legal Policy*, 88 Geo. L.J. 2239, 2265 (August, 2000)("if

The FCC points to satellite, terrestrial wireless and powerline operators (all of which own facilities that reach the end user directly) as potential competitors. But an examination of the facts regarding satellite, broadband over powerline (BPL), and terrestrial wireless make clear they are not real competitive threats for the foreseeable future. First and foremost, there is the empirical evidence. The US is not the only testing ground for new technology. Nowhere in the world are BPL or terrestrial wireless being commercially used as the primary means for data or video communications. In the US, the annual FCC reports on broadband show that wireless, BPL, and satellite account for less than 3 percent of the market, and that their share of the market is actually declining.[19] The reality is that there are significant technical difficulties that remain to be resolved with BPL, and you also need significant investment to deploy the needed facilities.

Likewise, a review of the empirical evidence shows that terrestrial wireless is a complement to wired services, and not a replacement. First and foremost, both satellite and terrestrial wireless services are more expensive on per-minute (in the case of voice) or per-byte (in the case of data and video) basis. People are willing to pay more for wireless because of the mobility, but almost no one uses wireless to replace wired service where wired service is an option. The number of business users that rely entirely on wireless is limited to those that can only get service by satellite, and in the consumer market fewer than 5 percent of customers have chosen terrestrial wireless only.

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challenged by new entry, the incumbent will rationally disregard such [sunk] costs in its pricing decisions rather than lose the business. The entrant . . . must now incur such costs, and therefore faces risk of underpricing by an incumbent with sunk costs. Thus, as a result, sunk costs may act as an entry barrier, giving the incumbent the ability to raise price above the competitive level.")

[19] FCC Reports on High-Speed Services for Internet Access, available at http://www.fcc.gov/wcb/iatd/comp.html

The FCC also likes to cite WiMax (a wide area wireless network standard) as a potential wireless competitor providing broadband service. Again, the facts don't support its enthusiasm. WiMax, which like BPL and fixed wireless many of COMPTEL's members are seeking to use, has numerous barriers to entry that must be crossed. First, a final standard needs to be agreed to. Second, any competitor needs to obtain spectrum rights, which must be acquired at auction. Third, a competitor would need to build out a regional or national network. Fourth, any customers competitors gain must be won over from a Bell company or a cable company. And finally, this must be done in the face of competition from incumbent wireless companies owned by the Bells.

Put simply, the FCC is betting America's future on the good will of the Bell companies and large cable operators. Counting on companies to act for the public good against their own financial interest has been tried before, and it has never worked. The FCC believes that robust competition between these two entrenched incumbents will ensure that unaffiliated content and service providers will continue to get access to consumers. Yet in the 10 years since the passage of the 1996 Act not one large cable company has voluntarily let any competitor offer competing service over its network, and not one Bell has voluntarily negotiated an interconnection agreement with a cable company or a large competitor.

The reason is understandable – no CEO is going to voluntarily help a competitor. In fact, it would be a violation of the CEO's fiduciary duty to his investors and shareholders if the CEO voluntarily helped the competitor take market share or drive down prices. In the absence of some legal duty to permit competitors to use their networks on reasonable terms and conditions, the reality is that any network operator

with market power – and the incumbent local exchange carriers and cable operators each have 70 percent or more of the customers for the core service provided by their respective networks – is going to use that market power to restrain competition. That is why action by Congress is needed.

The Risk is Not Hypothetical

Network operators have already demonstrated on many occasions that, in the absence of regulatory restraints, market forces will lead them to discriminate. The refusal by AT&T to connect its long lines network with competing carriers was one of the driving forces behind section 201 of the Communications Act of 1934[20], and anticompetitive actions by AT&T resulted in three different antitrust actions by the United States government over the course of 70 years. In fact, Judge Greene, who oversaw the implementation of the 1984 Consent Decree that resulted from the most recent of those actions, cogently observed fifteen years ago that:

> "In the opinion of this Court, informed by over twelve years of experience with evidence in the telecommunications field, the most probable consequences of such entry by the Regional Companies into the sensitive information services market will be the elimination of competition from that market and the concentration of the sources of information of the American people in just a few, dominant, collaborative conglomerates, with the captive local telephone monopolies as their base. Such a development would be inimical to the objective of a competitive market, the purposes of the antitrust laws, and the economic well-being of the American people." *U.S. v. Western Electric Co.*, 767 F. Supp. 308 (D.D.C. 1991) at 326.

As members of this Task Force will recall, section 601 of the Telecommunications Act provided that "all conduct or activities that are currently subject to [the 1984 AT&T Consent Decree, the GTE Consent Decree, and the McCaw Cellular Consent Decree]

[20] 47 U.S.C. 201.

shall, on and after the date of enactment [of the 1996 Act] be subject to the requirements and obligations of the Communications Act and shall no longer be subject to the restrictions and obligations of the respective consent decrees."[21] Given the FCC's decision to no longer enforce the provisions of the Communications Act that replaced the restrictions in the AT&T Consent Decree (for example, non-discrimination and reasonable prices under section 201, interconnection and unbundled network elements under section 251, and the local competition checklist under section 271, among other requirements)[22] with respect to the Bell companies, it is appropriate for this Task Force and the Judiciary Committee to re-examine the need for antitrust oversight of the rapidly re-emerging Bell monopoly.

And the Bell companies are not alone. Since the 1996 Act, cable operators have largely excluded independent Internet service providers (ISPs) from providing service over their cable networks by refusing to negotiate agreements to provide transmission services and by requiring consumers to purchase the cable operators' affiliated ISP service as part of the price of buying cable modem transmission service. The cable companies were able to do this because the FCC refused to apply common carrier regulation to the cable companies' provision of transmission service used for Internet access and voice services, even though Congress clearly anticipated, and in fact sought to facilitate, cable company entry into phone services (including data transmission) and telephone company entry into cable services as part of the 1996 Act.[23]

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[21] House Report 104-458, "Conference Report to Accompany S. 652" (1996) at 198.
[22] *See* 47 U.S.C. 201, 251, and 271.
[23] *House Report, op cit,* at 201 ("in the future, the conferees anticipate that cable companies will be providing local telephone service and the [Bell operating companies] will be providing cable service. Mergers between these kinds of companies should not be

Even Internet backbone network operators that do not control the last mile connections to consumers are not immune from market forces that prompt discriminatory behavior. Late last year an Internet backbone network operator, Level 3, disconnected another network operator, Cogent, with which it had a dispute, causing disruptions to customers on Cogent's network.[24] Voice over Internet Protocol (VoIP) providers have also experienced discriminatory behavior by network operators, for example in one particular case where the FCC actually took enforcement action to stop port blocking by a small incumbent local exchange carrier. In that case, which the FCC resolved prior to issuing its *Wireline Broadband Order* by using its Title II authority over common carriers, the FCC forced the offending common carrier to agree in a consent decree not to engage in the practice in the future.[25] In the aftermath of the *Wireline Broadband Order* and the FCC's determination that the broadband Internet access services over which the VoIP service at issue is provided is no longer a common carrier service, it is not clear under what legal authority the FCC could prevail should it attempt to use the same approach again.

New Antitrust Amendments Are Necessary

While the antitrust laws have been used to successfully promote telecommunications competition in the past, some changes will be necessary if the

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allowed to go through without a thorough antitrust review under the normal Hart-Scott-Rodino process.").

[24] *See* "The Cogent-Level 3 Peering Dispute" *available at* http://www.isp-planet.com/business/2005/cogent_level_3.html (visited April 5, 2006) ("My feeling is this is more of a competitive attack on Cogent," Berninger said. "These are two companies that have opposite business models. Cogent is a low-cost player that essentially undercuts the price of the market. Level 3 is an elite player that charges a premium to connect to them.").

[25] *See Madison River LLC and Affiliated Companies*, File No. EB-05-1H-0110, Order, FCC Rcd 4295 (Enf. Bur. 2005).

antitrust laws are to become the primary means through which competition will exist. There are at least three changes to the existing antitrust laws that this Committee should consider over the next several months.

First, while competition is undeniably being eliminated and concentration is increasing at alarming rates, for antitrust standing purposes, we are not yet back to the era of the one, fully-integrated, Bell system. In that era, everyone was a direct customer of the Bell system; thus, standing was not an issue. Now, however, it is quite conceivable—even likely—that the Bells' will target their anticompetitive refusals to deal, or efforts to raise rivals' costs/reduce rivals' revenue to firms that are not direct customers of the Bells, but whose Internet backbone providers must be able to obtain interconnection on fair and reasonable terms with the Bell companies. These firms—if preyed upon by the Bells—will potentially face an indirect purchaser barrier to antitrust standing. The Committee should consider a limited exception to the "Illinois Brick" line of precedent to grant standing for those indirect-purchaser private litigants bringing cases against formerly-regulated dominant firms.

Similarly, for dominant carriers for which the FCC has eliminated common carrier regulations, this Committee should introduce legislation clarifying that these firms no longer enjoy the liability limitations they currently enjoy under the "filed rate doctrine" where the rates in lawfully-filed tariffs are presumed reasonable. Rather, if the de-regulated monopolies are engaging in anticompetitive conduct that forecloses entry, unlawfully restricts output, or otherwise leads to supra-competitive pricing as a result of antitrust violations, then the damages—which are subject to trebling—must be based on

the difference between the supracompetitive rate and the competitive rate that the Bell company has foreclosed.

Finally, the Committee must clarify that anticompetitive exclusionary conduct carries significant anticompetitive consequences and should be vigilantly enforced. The *"Trinko"* precedent in favor of tolerating increasingly aggressive exclusionary behavior, for fear of deterring "efficient" monopoly behavior, must be repudiated. As one scholar has presciently observed, "[p]recisely because it can be so difficult for courts to restore competition once it has been lost, the true cost of exclusion to consumer welfare--and its benefit to dominant firms--are likely to be understated."[26]

Thus, the modifications described above are necessary to ensure that the antitrust laws continue to allow efficient firms to freely enter and vigorously participate in the free-enterprise system as it relates to our information economy. Similarly, the suggested modifications will ensure that the antitrust laws are fully enforced as originally intended by Congress, with respect to this vital segment of our economy. The antitrust laws are unique in that they create a critical role for "private attorneys general"—through tremendous rewards for successful private litigants. Furthermore, the antitrust laws rely on vigorous private enforcement—in partnership with federal and state antitrust enforcement agencies to ensure that the antitrust laws are fully implemented.

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[26] Issue 1 Symposium: Integrating New Economic Learning with Antitrust Doctrine, Gavil, Andrew I., 72 Antitrust Law Journal 3 (2004) Professor Gavil goes on to explain that the costs of tolerating exclusionary conduct "may be especially aggravated in cases of new and resourceful entrants and may be particularly acute in fast-moving technology industries, where once an opportunity for competitive challenge is lost, the conditions that produced it may be difficult, if not impossible, for courts or enforcement agencies to recreate. Indeed, the convergence of factors that spawned that competition may never come again--the competitive "moment" may be lost, and the dominant firm's position fortified for years to come."

Conclusion

Everyone who provides content and services over the Internet requires access to transmission networks in order to reach consumers. Ownership of the essential transmission network leads to tremendous market power with respect to each individual consumer served by that network and with respect to unaffiliated providers who need to use that network to reach those consumers. Transmission networks are a limited resource in part because they require access to limited public rights of way and spectrum in order to reach consumers. Perhaps more important, transmission networks are a limited resource because the presence of entrenched incumbents makes competitive entry by new network operators difficult, even with rules that promote that entry.

With government protection from competition, incumbent local exchange carriers had sixty years to construct and upgrade networks that reach every home and business in this country. Likewise, incumbent cable operators enjoyed more than 15 years of government protection from competition and more than 25 years of below cost access to poles, ducts and conduits in which to build and upgrade their cable networks to nearly every home in this country. That is a tremendous head start over the competitors that Congress hoped to encourage to enter the phone and cable marketplaces with the passage of the 1996 Act.

Now, ten years after the passage of the 1996 Act, instead of seven Bell operating companies and one large independent local company (GTE) there are now only four, and that number will drop to three if the AT&T- Bell South merger is approved. Two of the three major long distance operators at the time of the 1996 Act have been swallowed

whole by the two largest Bell operating companies, further diminishing the ranks of the competitors. Those same two Bell operating companies, AT&T and Verizon, own the two largest wireless carriers, further enhancing their market power and their ability to use bundled service offerings to cross subsidize and engage in anti-competitive pricing in areas where they do face competition.

Anti-competitive behavior is already rampant in the business markets, where the Bell companies enjoy a virtual monopoly on transmission services. Cable companies and unaffiliated wireless companies, along with competitive local exchange carriers and large businesses who operate their own private networks for internal use, all have to depend on getting special access services from the incumbent Bell companies. The FCC has largely abandoned any oversight of special access pricing or terms and conditions, leaving the Bells free to raise competitors' costs with impunity. This increase in costs will ultimately be borne by consumers, not only in terms of increased price, but also in terms of diminished options as competitors are forced out of business. Competitors have sought relief from the Commission in a pending proceeding on special access, but to date the FCC has given no indication as to when, or even if, it will issue an order to provide relief.

COMPTEL hopes that the Task Force will schedule further hearings to look specifically at the Bell companies' behavior in the business marketplace. In the meantime, the record is clear that the Task Force and the Judiciary Committee should take affirmative steps to protect the Internet. COMPTEL urges the Committee to introduce and adopt legislation creating a specific antitrust remedy to enforce Net neutrality by prohibiting anticompetitive behavior by transmission network operators. By

using the private enforcement mechanisms and treble damages available under the antitrust laws, Congress can create an effective alternative to the FCC's apparent unwillingness to implement the pro-competitive rules adopted by Congress in the 1996 Act.[27] Further, the Committee should also include specific language to address the misperception created by the *Trinko* case, and adopt new legislation that makes clear that the antitrust laws continue to apply in addition to any regulatory regime that may or may not be implemented by a regulatory agency. Compliance with a specific regulatory regime that is actually being enforced by a regulatory agency should be available as an affirmative defense to an antitrust claim, but the mere presence on the books of a regulatory regime that is not being enforced should not be allowed to nullify the pro-competitive effect of the antitrust laws.

Thank you. I look forward to answering any questions.

[27] Unfortunately, this unwillingness is not new behavior on the part of the FCC. It was similar inaction by the FCC that led Judge Greene to actively oversee the 1984 AT&T Consent Decree. *See* P. Weiser, "The Relationship of Antitrust and Regulation In a Deregulatory Era", Antitrust Bulletin, Vol. XX (2005) at 8 ("Judge Greene examined the actual capabilities of the FCC with regard to regulating the Bell System and concluded that, as demonstrated by years of regulatory indecision, 'the Commission is not and never has been capable of effective enforcement of the laws governing AT&T's behavior.")(footnote omitted). It appears history is once again repeating itself.

APPENDIX

Ways Network Operators Can Discriminate

There are many ways in which a network operator can discriminate. As a result, the concept of Net neutrality must deal with each of them. Some, like bit discrimination and port blocking, are addressed by both the narrow FCC approach and the broader neutral network approach. However, the FCC approach stops there, far short of what is needed. To ensure that the Internet we have today continues to grow and flourish, there are several other discriminatory tactics that need to be addressed. These include:

Attachment of devices is a concept that refers to the ability to attach devices to a transmission network. Telephone network users generally have the right to attach any device to the network without obtaining the network operator's permission so long as the device will not harm the network or other users of the network and conforms to certain minimal specifications. In contrast, cable network operators can control what kind of devices are allowed to attach to their network, and that is the reason there is limited competition in set top boxes and cable modems and why many cable users still rent their devices. The ability to attach devices without approval or interference from the network operator is essential for continued innovation.

Bit discrimination is a term used to describe actions by the network operator to either favor its own content and services or to degrade the content or services of other providers by using information conveyed in the individual bits of a message to identify which messages to favor or degrade. Bit discrimination can be accomplished in any one of several ways. A network operator could, for example, instruct its routers (machines which direct the flow of information to its destination) to delay all traffic bound for

Google.com by sending it to another network operator rather than carrying it directly to the address. In the alternative, the network operator could use the sender's address to favor its own services by instructing its routers to give priority to all packets that originate from a Verizon.net address.

Port blocking is a term used to describe a specific form of discrimination in which the network operator uses information in the message header which tells the receiving computer which software application to use to open the information. The computer knows which software to use by the "port" through which the message enters the computer's communications hardware. If a network operator wishes to block a particular application, for example a Voice over Internet Protocol (VoIP) telephone call, it can do so by blocking messages destined for the port used by that application.

Quality of service is a term that is generally used to describe service offerings in which the transmission component is managed with respect to bandwidth, latency, jitter, priority, or other technical aspects of the transmission in order to ensure the quality of a particular service offering. Quality of service (QoS) is used to differentiate service offerings from the baseline standard for Internet transmissions, which operate on a "best-efforts" basis. In cases where bandwidth constraints or other factors result in congestion in the transmission network, QoS can be used to prioritize the delivery of certain types of services (for example VoIP or video services).

Many network operators are attempting to market QoS as an alternative to the "best efforts" approach of the Internet. Best efforts means that all traffic has the same priority, and the network uses its best efforts to deliver all of the traffic. The problem

created by QoS is that it requires additional protocols and network management software in order to provide it, thus increasing the cost and complexity of the network.

Perhaps more importantly, QoS negates one of the key benefits of the Internet, which is the use of a common protocol (IP) to allow unimpeded transmission across multiple networks. When QoS is added, it helps balkanize the Internet because transmissions across multiple networks require cooperation among the network operators to ensure that each is using the same QoS protocols. Six years ago Internet2 (an organization tasked with designing and testing next generation Internet technologies) took a close look at QoS technology, and concluded that the cheaper solution to congestion problems was to add bandwidth and continue to use best efforts.

Bandwidth starvation is a term used to describe actions by a network operator to degrade or block applications or services by limiting the bandwidth (capacity) available to provide those services. One way to think of bandwidth starvation is in terms of trying to drink through a straw instead of a garden hose. Bandwidth starvation can be accomplished in a number of ways. At the consumer end, network operators can limit the upstream (sending) capability of user equipment in order to prevent consumers from providing content to other users, or can limit the bandwidth available for downstream content in order to prevent consumers from being able to access competing content. Examples of this would be limiting upstream transmission so that large bandwidth transmissions like digital video content takes much longer to send, thus limiting consumers ability to send movies, or limiting downstream transmission so that video streaming can't compete with the network operator's cable offerings. On the network end, the network operator can create bandwidth starvation by limiting the capacity of its

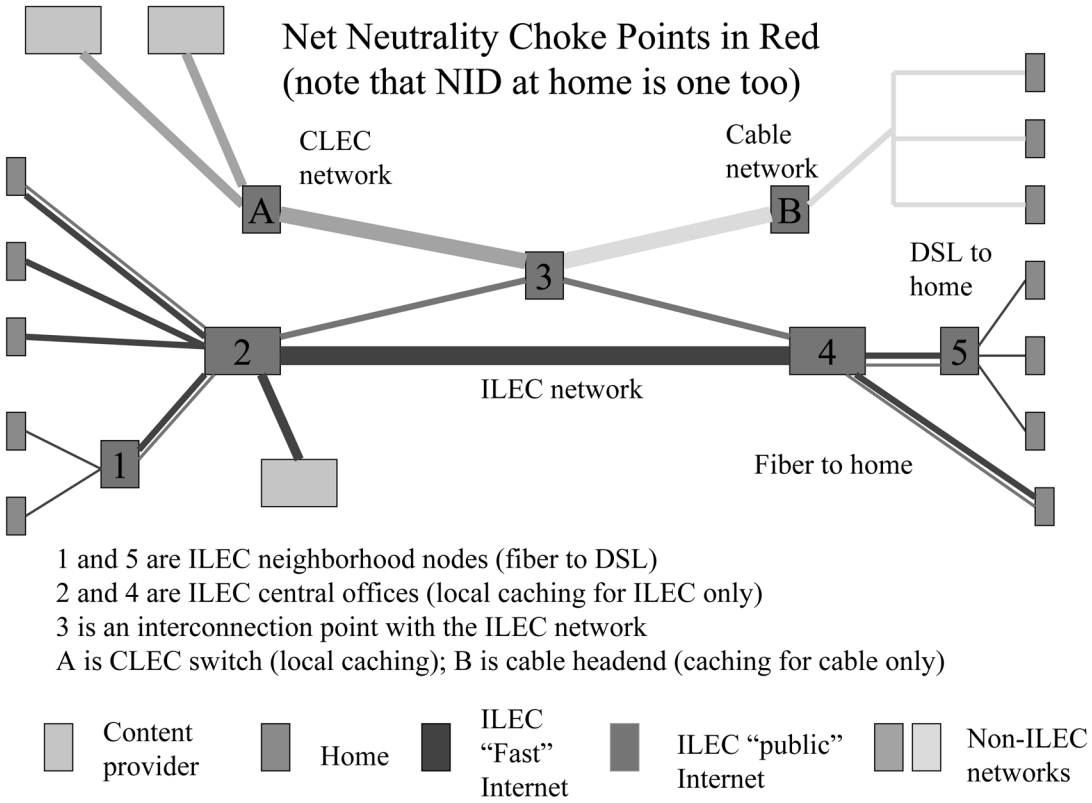
interconnection points, so that content coming from a competing network provider has to squeeze through a narrow choke point, or by creating a two-tier network (as some Bell company officials have proposed) where the bulk of the bandwidth is reserved for the network operator's "private" network and remainder is allocated to the "public" network.

Interconnection is a term used to describe the physical linking of two transmission networks. The Internet is a series of interconnected transmission networks that all use a common addressing protocol (the Internet Protocol or IP) to facilitate seamless transmission across the disparate networks. The primary issues with respect to interconnection are the bandwidth (capacity) of the interconnection and where the interconnection will occur. If the connection between the two networks is too small for the amount of traffic being sent from one network to the other, congestion will occur and transmissions can be degraded or lost. Likewise, if a network operator can only interconnect with another operator at a single location or at distant locations, congestion and/or degradation can occur because of the concentration of traffic across a single point or the additional distance traffic must travel. Historically, if a network operator is under no legal obligation to interconnect its network, voluntary interconnection rarely occurs.

Caching is a term that refers to the local storage of information that is frequently requested by an end user. By storing frequently accessed information, in particular large files like pictures or graphics, at a local storage site near the end user, caching allows the content provider to reduce network congestion (to the extent there is any) and reduce the time needed to run an application (for example, web pages appear faster and file downloads take less time). Caching arises as an issue in net neutrality discussions in two ways. First, because caching must be done on devices located closer to the end user, in

general these devices are physically located in a facility under the control of the local network operator (for example in a central office or a cable head end). In the alternative, if the caching is done at a physical location not under the network operator's control, then the local storage device needs to be interconnected with the local network. As a result, in the absence of a right for competitors to physically collocate equipment or to interconnect with a local network, a network operator could use local caching to favor their own content and services.

Each of these potential discriminatory actions by themselves would be sufficient to seriously inhibit, if not prevent entirely, competition in the provision of information services. The **attached diagram** illustrates in red the many different potential choke points that can come into play in the absence of strong Net neutrality requirements. Interconnection issues occur at the incumbent local exchange carrier (ILEC) central offices (numbers 2 and 4) and at the interconnection point with the ILEC network (number 3). Bandwidth starvation is illustrated by the narrow red "ILEC public Internet" lines connecting homes to the central offices and the central offices to the interconnect point. The broader blue pipes of the ILEC illustrate how the ILEC reserves more capacity for itself and its service offerings.



1 and 5 are ILEC neighborhood nodes (fiber to DSL)
2 and 4 are ILEC central offices (local caching for ILEC only)
3 is an interconnection point with the ILEC network
A is CLEC switch (local caching); B is cable headend (caching for cable only)

Mr. CANNON. Thank you. I appreciate that. That was also very insightful.

And now for a slightly different perspective, I believe, Mr. McCormick?

TESTIMONY OF WALTER B. McCORMICK, JR., PRESIDENT AND CHIEF EXECUTIVE OFFICER, UNITED STATES TELECOM ASSOCIATION

Mr. MCCORMICK. Thank you, Mr. Chairman. Chairman Cannon, Congressman Conyers, Members of the Committee, thank you for the opportunity to be here today and to appear before this task force to discuss net neutrality.

Mr. CANNON. You know, I think that box will slide closer to you, if you'd like.

Mr. MCCORMICK. Is that better? Okay.

As you know, our association represents about 1,200 innovative companies that range from the smallest rural telecoms in the Nation to some of the largest corporations in the United States economy.

What unites us is that we have a 100-year tradition of connecting people to each other over networks. We are 100 percent committed to this tradition as we invest billions of dollars building out our new, next-generation broadband networks that are capable of meeting America's rapidly increasing "need for speed."

Today, I make the same commitment to you that our companies have made to their customers: We will not block, impair, or degrade content, applications, or services.

If you can go there today on the Internet, you'll be able to go there tomorrow. The functionality that you have today on the Internet, you will have tomorrow.

For more than a century, our businesses have connected customers with those whom they choose to connect with. If a customer wants to call Sears, we don't connect them to Macy's.

And the FCC has made it abundantly clear that it will move swiftly to protect consumers' right to be in control of their Internet experience.

But more fundamentally, consumers' Internet experience is today unimpeded—in the absence of virtually any regulation of the Internet—because there exists a powerful consumer mandate for Internet freedom.

In a new communications era defined by multiple choices—numerous communications pathways—consumers simply will not continue to purchase Internet service from a provider that seeks to block or restrict their Internet access.

When consumers have choices in the marketplace, consumers have control. There is vigorous competition between DSL, cable modem, wireless, satellite, and other Internet access providers. In some areas free Wi-Fi access is available. In others, access over powerlines is available. This results in numerous benefits to consumers, including DSL prices as low as $12.99 a month. These benefits, of course, contribute to the FCC's recent announcement of a 60-percent year-over-year increase in U.S. broadband subscriptions, which is, of course, good news for our Nation's economy and global competitiveness.

But continued progress, continued technology advancements, continued expansion of consumer communications and entertainment choices, rests on continued investment in these next-generation networks.

Mr. Chairman, the Internet exists today on networks. That is, in fact, what the Internet is—networks connecting with networks. Have network operators sought to control or restrict the Internet? No. Our companies have invested and grown and sought to increase the scale and the scope of the Internet. And we have sought public policy that encourages increased investment in networks that will make the Internet even more robust tomorrow than it is today.

All sides of the network neutrality debate agree that what will be required in the future is more investment in networks. Indeed, Internet traffic is multiplying. Network traffic is now growing about 100 percent annually. Further acceleration is expected soon. Cisco CEO John Chambers predicts that broadband video and other bandwidth-intensive applications will drive a four-fold to six-fold increase in network traffic over the next decade.

The answer is investment, not legislation that would discourage it.

Congress has an important role in promoting competition. It should facilitate investment in next-generation broadband, investment from across today's competitive landscape, along the lines of the legislation that's now being developed by the Energy and Commerce Committee. We appreciate the vigilance of this task force, and we look forward to our continued work together.

Thank you, Mr. Chairman.

[The prepared statement of Mr. McCormick follows:]

PREPARED STATEMENT OF WALTER B. MCCORMICK, JR.

Statement of Walter B. McCormick, Jr.
President and CEO of the United States Telecom Association
To the Telecom and Antitrust Task Force of the
House Committee on the Judiciary
April 7, 2006

Mr. Chairman, and members of the Committee, I am Walter McCormick, president and CEO of the United States Telecom Association (USTelecom). I appreciate the opportunity to appear before this task force to discuss net neutrality.

USTelecom, as you know, represents more than 1,200 innovative companies ranging from the smallest rural telecoms in the nation to some of the largest corporations in the U.S. economy.

Our companies have a 100-year tradition of connecting people to each other over networks. We are 100% committed to continuing this tradition as we invest billions of dollars—nearly $15 billion in 2006 alone—building out new, next-generation broadband networks capable of meeting America's rapidly increasing 'need for speed.'

Today, I make the same commitment to you that our member companies make to their customers: We will not block, impair, or degrade content, applications, or services.

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But continued progress…continued technology advancements…continued expansion of consumer communications and entertainment choices…rests on continued investment in these next-generation networks.

Mr. Chairman, the Internet exists today on networks. That is, in fact, what the Internet is–networks interconnecting with other networks. Have network operators sought to control or restrict the Internet? No. Our companies have invested, grown, and increased the scale and scope of the Internet. And, we have sought public policy that encourages increased investment in networks that will make the Internet even more robust tomorrow than it is today.

The next-generation Internet holds virtually unlimited promise to enhance our nation's economic opportunities and quality of life. It will deliver not only movies and entertainment, but telemedicine advancements that can improve the accessibility, affordability and quality of health care, particularly in rural communities … telecommuting opportunities that can enhance our environment, reduce America's dependence on foreign oil and give us more time with our families … educational advancements that make a range of learning opportunities widely accessible … and other innovations that our best minds have yet to imagine.

To take this next step in the Internet's evolution requires vast investment in new networks with substantial bandwidth capacity. These networks will require multi-billion-dollar investments that must be paid for by someone.

All sides of the net neutrality debate agree that consumers should be in control of their Internet experience. Where we differ: is on whether

consumers alone should foot the bill for the advanced networks that drive the Internet's growth and evolution. Our side believes that businesses that seek to profit on the use of next-generation networks should not be free of all costs associated with the increased capacity that is required for delivery of the advanced services and applications they seek to market.

If you want more, then you pay more, is as American as it comes. It is a straightforward market proposition. As companies move into live video and gaming and advanced services, they will be seeking more bandwidth.

If an online movie service wanted to purchase that additional bandwidth capacity to speed movie downloads for those of its customers who do not opt for a higher bandwidth service, is this not good news for the consumer?

If this allows a consumer on a fixed income to buy a lower-cost Internet service and the movie service to pay for the bandwidth boost needed to download the occasional movie—how is this not an attractive choice to offer consumers in the marketplace? Why should public policy pre-empt it?

Consumers' online habits are very diverse. Consumers don't need the government mandating a 'one size fits all' approach. What we all want are choices. Our companies want to deliver these choices to consumers as well as to companies whose business model requires exceptional amounts of bandwidth. We will deliver these choices to the marketplace, so long as public policy encourages investment in the advanced networks that make them possible.

Should Congress limit the ability of Internet access providers to differentiate among different streams of information traveling over their networks?

We believe such action would be premature and could trigger substantial, negative unintended consequences. The Internet is the success it is today because the government has maintained a vigilant, hands-off approach that has allowed companies to innovate in direct response to the evolving wants and needs of their customers. Regulatory or legislative solutions wholly without justification in marketplace activities would stifle, not enhance the Internet. Laws can be inflexible and difficult to fine-tune—particularly when applied to technologies that are rapidly evolving.

Instead of new laws, we believe in the discipline of the marketplace – customers voting with their dollars – alongside the continued, proven vigilance of the FCC.

Mr. Chairman, bandwidth is a finite resource. If you have spent any time on the Internet, you have likely experienced this. Some days the pages load faster than other days. This has nothing to do with management of the Internet. It's supply and demand—which is exactly why we need to ensure U.S. policy encourages vigorous investment in continually upgrading network capacity.

One visionary technologist recently compared the Internet to a Los Angeles freeway:

"Traffic jams happen," he wrote. "The more we upload and download and share:

- standard definition video,
- high definition video,
- home movies, and
- multiple megabit photos,

the more bandwidth we consume. The more PCs and servers we backup online… the more bandwidth we consume. The more bandwidth we consume, the more Internet traffic jams we have. The more Internet traffic jams we have, the worse our Internet applications perform."

Internet traffic is multiplying. Network traffic is now growing about 100 percent annually. Further acceleration is expected soon. Cisco CEO John Chambers predicts broadband video and other bandwidth-intensive applications will drive a four-fold to six-fold increase in network traffic over the next decade.

The answer is investment, not legislation that would discourage it.

Congress has an important role in promoting competition. It should facilitate investment in next-generation broadband, investment from across today's competitive landscape, along the lines of legislation now being developed by the Energy & Commerce Committee. We appreciate the vigilance of this Task Force and look forward to our continued work together.

Mr. CANNON. Thank you, Mr. McCormick.

And now for sort of the higher view, I suspect. Mr. Wu, you're recognized for 5 minutes.

TESTIMONY OF TIMOTHY WU, PROFESSOR OF LAW, COLUMBIA LAW SCHOOL

Mr. WU. Thank you, Mr. Chairman, Mr. Conyers, and Members of the Committee. Thanks for having me testify, and thank you very much also for directing your attention to this issue.

What I want to emphasize in my remarks today is, as you suggested, the long view. I want to suggest that the issue the Committee faces here and the Congress faces here is really not a new issue, despite the fancy label of "net neutrality." It is a very old problem that this Nation has always had—the problem of the abuse of market power on information networks. This is a problem that's been confronted as far back as the telegraph, through the Bell networks, through every stage of telecommunications history, and it has at every stage been important that Government do the minimum that it needs to do to prevent the worst anticompetitive practices from occurring.

Now, I want to start by discussing why there's been such a popular reaction to this issue of network neutrality, and I think we live in an era where the Internet has become part of the infrastructure of American life. That is to say, people rely on the Internet the way they rely on the electric network, the way they rely on the roads, the way they rely on the telephone. They plan their lives around it. They plan weddings. They buy airplane tickets. People use this network for their daily life. And I think that's why there was such a surprise and reaction when the Bells began to announce plans that they would be considering plans and situations where they would be picking and choosing favorites, trying to decide which companies should get favored access and which should get less favored access. And I think that cannot fail but to provoke a reaction.

You know, if you allow an analogy, it might as if pne day the electric company were to say from here on forth your refrigerator you purchased from Samsung isn't going to work quite as well as the one purchased from General Electric. That might make more money for the electric company. It might make more money for General Electric. But it's obvious that this would be a bad outcome for competition between refrigerators. And that's exactly the situation we face today.

The problem with network discrimination is it is inherently a tax and a distortion on competition in the network. The situation we have today, the basic layout, is that you have an extremely vigorous market operating on top of the Internet, operating on top of the infrastructure. It's a market where someone with very little resources, just a good idea, a website, and people willing to invest, can almost overnight become a billion-dollar company. Companies like Amazon, companies like eBay, companies like Google started very, very small, with almost nothing. Today, if you write a good blog, if you're clever and smart enough to say funny things or have insight into politics, you can get more readers than the Washington Post or the New York Times.

This is how the free market is supposed to work. The markets on top of the Internet are probably the best examples in our current economy of markets working the way the free market is supposed to work. They're low barriers to entry, they're entrepreneurial, they're innovative, and they are a driving part of the American economy.

The only problem with this market is it has one Achilles heels, and that is the infrastructure. The access side of this market has never been competitive. It is not competitive today. Over 90 percent of Americans have a choice between one or two companies. And the threat, the real threat, is that the anticompetitive, the noncompetitive side of this network will spill over into what is the best functioning market in the United States today, the infrastructure—the market that is on top of the Internet's infrastructure. That is the trade-off.

Now, Mr. McCormick and the Bell Companies will explain that greater profit is needed because they need to make investments in their network, and no one denies that. The question for the Committee and the question for Congress is: What is the best way to fund these kind of things? And I suggest to you the worst way is to tax innovation and tax competition. I suggest that among the alternatives to Government, the worst way to try and promote a network build-out is allow the network owners, as gatekeepers, as crown corporations, to distort what is the strongest and one of the most vigorous parts of the American economy.

Now, not all the plans that have announced are so bad, but some of the worst ones amount to what I would call a Tony Soprano model of networking; that is to say, they're simply a threat by companies who are in a position to hurt other companies to make their life difficult. If you are offering some companies better service and degrading others, you are saying pay us or we will ruin your business. That's simply a protection scheme and not a market strategy. That's anticompetitive conduct, a threat of anticompetitive conduct, and even if you believe, as I do, in limited Government, there must be a role of Government to guarantee the very basics of a fair market and prevent the worst anticompetitive conduct.

Thank you very much.

[The prepared statement of Mr. Wu follows:]

PREPARED STATEMENT OF TIM WU

INTRODUCTION

Mr. Chairman, and Members of the Committee,

Over the last several months, the debate over Network Neutrality has provoked rather more of a reaction than I think anyone might have thought, and I want to begin by considering why.

I think there are several reasons. First and foremost, this is an issue that affects people directly. Once upon a time the internet was a kind of toy, used by hobbyists, scientists, and geeks. But today it's something different: it has become part of America's basic infrastructure. It has become as essential to people and to the economy as the roads, the electric grid, or the telephone. It's an infrastructure that people and firms depend on for everyday activities, whether planning weddings, managing investments, or running a small business.

Given this infrastructure, Americans are accustomed to basic rights to use the network as they see fit. That's why there's been surprise and indignation over plans, advanced by the Bells, to begin deciding what consumers want, by slowing down disfavored companies, and speeding up favored companies. It's as if the electric company one day announced that refrigerators made by General Electric would hence-

forth not work quite as well as those made by Samsung. That would be a shock, because when it comes to the electric grid and the internet, people are used to a network that they are free to use as they wish.

Second, whatever AT&T and others may claim as motives, the potential for abuse of market power is obvious to everyone. Ninety-four percent of Americans have either zero, one, or two choices for broadband access.[1] Many of us wish things were otherwise, but they are not.

Given today's market, it's obvious that a firm like AT&T may earn, at the margin, more money by distorting competition among internet firms. It can, through implicit threats of degradation, extract a kind of protection money for those with the resources to pay up. It's basically the Tony Soprano model of networking, and while it makes some sense for whoever is in a position to make threats, it isn't particularly good for the nation's economy, innovation, or consumer welfare.

The problem faced here is actually not new at all—it is a familiar problem of market power on networks that government has grappled with since the days of the telegraph. What I want to make clear is the central economic tradeoff involved in these kinds of cases. Letting the internet or any infrastructure become discriminatory may offer marginally more profit for operators. But it does so at the cost of a tax on network competition and innovation. Whether it's a nation's ports, roads, canals, or information networks, discrimination comes at a price to the activities that depend on the infrastructure.

That's why at nearly every stage in the history, governments have maintained at least a basic anti-discrimination rule to block the worst forms of anti-competitive behavior. And today, that's all that's needed—a simple ban on the worst kinds of behavior; a basic rule whose goal is simply to guarantee basic consumer rights and let the free market work.

NETWORK DISCRIMINATION PROBLEMS IN HISTORY AND TODAY

Problems of network discrimination are nothing new. Network owners with market power have always been tempted to use their gatekeeper position to discriminate between favored and disfavored uses.

The history, in fact, goes as far back as the 1860s, when Western Union, the telegraph monopolist, signed an exclusive deal with the Associated Press. Other wire services were priced-off the network—not blocked, but discriminated against.[2] The result was to build Associated Press into a news monopoly that was not just dangerous for business, but dangerous for American democracy. As telecommunications historian Paul Starr writes "Western Union had exclusive contracts with the railroads; AP had exclusive contracts with Western Union; and individual newspapers had exclusive contracts with AP. These linkages made it difficult for rival news services to break in."[3] The AP monopoly had an agenda: it didn't just favor Google or Yahoo—it went as far as to chose politicians it liked and those it didn't. As Historian Menahem Blondheim has documented, AP used its Western Union-backed monopoly to influence politics in the late 19th century, even going so far as to exercise censorship on behalf of the State. The method was simple: when faced with messages from disfavored politicians, the wires simply didn't carry them.

A much more recent example comes from the 1960s, when the Bells would not allow anyone to hook up anything to their telephone system other than a Bell telephone.[4] It took the courage of the D.C. Circuit, and later the FCC, to force Bell to accept a consumer's right to attach anything to the network not dangerous to the network. To that courage we owe better choice in telephones, and over time much more. To the freedom of network attachments we also owe the answering machine, the fax machine, and finally the modem and the whole birth of personal networking. I don't want to overstate the point, but freeing network attachments from Bell control, as technical as that sounds, has played a part in making this country the lead-

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[1] Cf. Federal Communications Commissions, "High-Speed Services for Internet Access," as of 12/31/04, available at <http://www.fcc.gov/wcb/iatd/comp.html>.

[2] For more on the early history of the telegraph, see Robert L. Thompson, Wiring a Continent: The History of the Telegraph in the United States 1832–1866 (1947); Daniel J Czitrom, Media and the American Mind: From Morse to McLuhan, ch. 1 (1982); Paul Starr, the Creation of the Media 184 (2005).

[3] Starr, the Creation of the Media, 184.

[4] On this episode, see *Carterfone,* 13 F.C.C.2d 420 (1968); See Jay Atkinson & Christopher Barnekov, A Competitively Neutral Approach to Network Interconnection 3 (Office of Plans & Policy, FCC, Working Paper No. 34, Dec. 2000); Kevin Werbach, Breaking the ICE, 4 J. Telecom & High Tech. L.J. (2005).

er of the world in information technology. Here's what two FCC economists, Jay Atkinson & Christopher Barnekov, said about freeing network attachments from Bell control:

> "we believe that the recent development of the Internet, and of much of Information Technology, would not have happened if CPE (for example, modems) were still marketed only by LECs. The blossoming of the CPE market into a highly competitive industry offering a wide variety of choice at low cost and rapid technological advances, and enabling previously unknown possibilities such as the increasingly numerous Internet services, is arguably a direct consequence of the deregulation of CPE." [5]

So what do we have today? In terms of market structure, you have a range of diverse and highly competitive markets operating on top of the internet's basic infrastructure. These markets are viciously competitive. Invent a new search engine, like Google did, and in a few years you can be a multi-billion dollar concern. Write a popular blog, and if you're lucky you can have nearly as many readers as the New York Times. Conversely, many more businesses and ideas have failed, like the famed "pets.com," but usually on the merits.

These markets functioning on top of the internet are in many ways an economist's dream. Barriers to entry are low. Startup costs are minimal: many successful business began with just an idea and a good web site. Competition is mostly meritocratic—the best online stores win, not the ones with a famous names or the right connections. Meritocratic competition, in turn, leads to Darwinian or what economists call "Schumpeterian" innovation. That just means that new technologies supplant the old, in a constant process of industrial rebirth. In all, today's markets operating on top of the internet's neutral infrastructure may be some of the best examples of markets working like the free markets are supposed to.

But this thriving market has an Achilles heel. For there's one part of the net which isn't competitive at all: broadband access. The access networks are part of the old telecom world—monopolistic, slow-moving, well-connected in Washington, and prone to anti-competitive behavior. They are the "Broadband Bottleneck." And the Bells, who lead the way in their efforts to change the internet, are almost an extension of government, fed and raised on government subsidies and rate-setting since 1913 or so. It is no surprise that they should be leading the way, looking for a way to make the free market of the internet work more and more like the old Bell monopoly.

THE TRADEOFF

In any discussion of neutrality rules, the Bells and even the cable companies will always turn back to their one big argument: we need more money to build the infrastructure, and if you don't give it to us, we won't build it. I think the government needs to learn how to stand up to these kinds of threats. What we have here in truth is a tradeoff. The Bells want permission to discriminate in exchange for a promise that they'll use any money earned to build more infrastructure. But even *if* the Bells make more money, and even *if* that money is actually invested in infrastructure deployments, that doesn't mean the tradeoff costs don't exist. The tradeoff is a distortion, a tax, on the healthy markets that are on top of the basic network.

It is inevitable that a discriminatory infrastructure will affect competition and innovation in the markets that depend on it. Imagine, for a moment, that private American highway companies reserved a lane for Ford cars. That would be good for Ford, but obviously would affect competition as between Ford and General Motors. It would also slow innovation—for it would no longer be the best car than wins, but the one that signs the best deals and slows down their competitors. The race is no longer to build a better car, but to fight for a better deal with the highway company.

That's the threat to innovation on the internet. Today, as I said early, you can start a business on the internet with relatively little capital. But in a world where AT&T or Verizon decides who gets priority access, entrepreneurs get a different message. Its not who has a better product: its who can make a deal with AT&T, Verizon, Comcast or Time-Warner. That's a different kind of market, one more like the old days of telecommunications. That's when starting a network business meant making a deal with a big Telco, or forget it.

In short, the long-term costs to the economy of allowing a discriminatory internet are real. Encouraging infrastructure investments is a serious challenge, but in the end one only tangentially related to the Network Neutrality debate. The real spur

[5] See Jay Atkinson & Christopher Barnekov, A Competitively Neutral Approach to Network Interconnection 3 (Office of Plans & Policy, FCC, Working Paper No. 34, Dec. 2000).

to network deployment and innovation will be market entry—whether municipal broadband, or otherwise, that scares today's providers into offering something better. Indeed, even given the limited competition we have today, it is the superiority of the cable network that has goaded the Bells into beginning fiber optic deployments. For these deployment decisions, facilities-based competition is the strongest answer, and letting gatekeepers tax application competition is really a sideshow. Taxing innovation is hardly the only, and probably the most expensive way to encourage infrastructure deployment.

ON THE CASE FOR MAINTAINING GOVERNMENT'S ROLE

I think many people agree instinctively that an open and neutral internet has been a good thing for the nation. It's been good for consumers, good for entrepreneurs, and good for the U.S. economy. Countries become rich through innovation, and need basic infrastructure to innovate. That's often the difference between rich nations and poor—access to basic infrastructures needed to start a business. In this respect the neutral internet has been a sterling example of an infrastructure that has driven the national economy. Perhaps, in U.S. history, only the early canals, railways, roads, railways and electric networks can compare as boosters to the U.S. economy and the well-being of citizens.

Even if neutrality works better—something the cable operators, to their credit, agree with—there is a different kind of hesitation out there. It is as to whether government should be involved at all. After all, Congress has with some exceptions stayed away from trying to regulate the Net, and for the most part that's been a good thing. There's no rate-setting, and no long battles over "internet unbundling."

But in truth things are more complex. As everyone knows, the essential initial research and build-out of the internet was funded by the Defense Department. That funding of research and development was an astonishing success, in part because the resulting design was so good it hasn't much needed government. The internet is by design diverse and decentralized, making competition on top of the infrastructure viciously competitive. That competition has ironed out many of the problems government might otherwise be needed to solve.

But while Government hasn't acted much to regulate applications, at the infrastructure side the story is completely different. The initial build-outs, as we already said, were all government funded. Thereafter, through the entire history of the internet, the Government has maintained some kind of rules to maintain basic neutrality on the network—to control, in effect, the bottleneck it helped create. We already discussed the deregulation of network attachment in the 1960s—a matter essential for letting consumers buy modems and hook them up, and a right that helped lead to a mass consumer internet. Later, the Federal Communications Commission, through the 1980s and 1990s maintained rules that protected the rights of dialup ISPs to reach customers over the phone lines. That tradition continued when, in the early 2000s, Chairman Michael Powell announced the "network freedoms" rules. In 2005 the FCC fined a regional phone company that was blocking Voice over Internet services, the latest of a long tradition of efforts to protect Network Neutrality.[6]

What do these stories have in common? At each stage, the internet's vigorous competition has relied on one baseline government guarantee: consumers get the use their network as they like. That's the same deregulatory instinct that government needs now—to guarantee consumers access to whatever content and applications they want, free of discrimination and playing favorites.

Some of you may feel hesitant, feel that government's role will necessarily be complex. It need not be. All government needs to say is this: leave things the way they are. It needs merely to recognize consumers' rights to access the content and applications of their choice, free from discrimination, and give meaningful remedies when those freedoms are interfered with.

The best proposals for network neutrality rules are simple. They ban abusive behavior like tollboothing and outright blocking and degradation. And they leave open legitimate network services that the Bells and Cable operators want to provide, such as offering cable television services and voice services along with a neutral internet offering. They are in line with a tradition of protecting consumer's rights on networks whose instinct is just this: let customers use the network as they please. No one wants to deny companies the right to charge for their services and charge consumers more if they use more. But what does need to be stopped is raw discrimina-

[6] "Madison River Communications, LLC Order and Consent Decree," March 3, 2005, <http://www.fcc.gov/voip/>.

tion that is nothing more than a tax on innovation taken by government-supported corporations.

CONCLUSION

This mission—protecting consumer choice against market power—is a minimum and appropriate role of government. I wouldn't be here if there were five broadband providers, each competing to give customers the best and fastest service possible. If that were the case, I am certain that the best service would win out—if one company blocked or slowed some companies, consumers would run away. If a rental car company doesn't let you drive the car where you wanted, you'd choose a different company. The problem is the lack of choice in this market.

Let me close by looking at who's on each side. The Bell companies have taken the lead in moving things back to the world where they pick and choose who gets better access on the network. Who wants that? Very few people. Not bloggers, libertarian, conservative, or liberal, who know that larger media outlets will be favored over them. Not the application makers, among the most active sectors of the nation's economy. Not anyone who dislikes or distrusts excesses of centralized power. Not even cable operators. And, when made aware, certainly not consumers. In fact, no one wants this but the Bells themselves, and perhaps that tells us something.

Mr. CANNON. The Chair would note that all members of the panel concluded their remarks in remarkably good time. We appreciate that.

I'd ask unanimous consent that the following items be made part of the hearing record: testimony from Mark Cooper of Consumers Union; a letter to Chairman Sensenbrenner from the National Broadcasters supporting net neutrality protections; testimony from Kyle McSlarrow; an open letter from small, medium, and large Internet companies opposing the Energy and Commerce bill; and the Federal Communications Commission press release of April 3, 2006. Pardon me. That should be the National Religious Broadcasts. Somehow I skipped over that very important distinction. And without objection, so ordered.

The Chair recognizes himself for 5 minutes to ask questions, and first, a subject dear to my heart that I'd like a quick opinion on from all of you. Should we extend and make permanent the Internet Tax Freedom Act's moratorium on the taxation of Internet access? Let's just go down the line?

Mr. MISENER. Yes.

Mr. COMSTOCK. Yes.

Mr. MCCORMICK. Yes.

Mr. WU. I haven't thought about it before, but why not?

Mr. CANNON. Thank you for the quick answers. Do you have any rationale? This is not exactly the record we're building, but are we going to get investment—is the lack of a permanent moratorium chilling investment in any of your views? Mr. McCormick?

Mr. MCCORMICK. Well, Mr. Chairman, I think that, you know, consumption taxes were typically applied as a matter of policy on those areas of the economy where we want to discourage consumption. Internet is an area of the economy, and particularly the information economy, where we want to encourage further investment and consumption, so that the whole theory of tax policy in that area would be to keep hands off the Internet when it comes to taxation.

Mr. CANNON. Thank you. I note that every other member of the panel is concurring. I agree with that, so let's cut that one off and move on to some other issues.

Mr. McCormick, you mentioned that consumers have a range of broadband options, but can you explain the apparent discrepancy between that in your remarks and the statistics provided by the FCC that 98.8 percent of advanced service lines—the advanced service line marketplace is cable and DSL?

Mr. MCCORMICK. Yes, Mr. Chairman. Under traditional competitive analysis, the immediate choice to the consumer and the contestability of the market are both restraints upon price. Market contestability is very present today. We have access to the Internet today over DSL, over cable modem. There's satellite access wherever you have a view of the Southern sky. There is wireless access to the Internet. There is now unlicensed spectrum available to those who want to invest, unlicensed spectrum through Wi-Fi and Wi-MAX technologies. In fact, Google has now entered into partnerships where it's providing, for a fee, Internet access.

So what you have is you have both consumer choice and you have market contestability. Indeed, even at a convention like the COMPTEL convention, you have individuals like Jeff Compton of Telscape Communications being reported in Communications Daily as saying that it would be a mistake for the Bells to push competitors off of wirelines because, he says, "If the competitive industry is pushed off telecom wires, it will ally with cable, broadband over powerline providers, wireless carriers, or even satellite companies. The Bells will be sitting there with the infrastructure maintained and less of the market share."

I'd like to introduce this article for the record because of the variety of consumer choice.

Mr. CANNON. Without objection.

Mr. COMSTOCK. Mr. Chairman, if I might just respond very briefly to that?

Mr. CANNON. Certainly.

Mr. COMSTOCK. The statistics you cited are absolutely correct. There is no real competition in that, and I'd also note that that's in the residential marketplace. In the business marketplace, without the access rules imposed under the Communications Act, there would be relatively little competition; fewer than 3 percent of the buildings in this country have alternative fiber going into them. And with respect to satellite and broadband over powerline and other services, the reality is less than 1 percent of the services are being provided over that. These are not competitive alternatives at the moment, and they probably won't be in the foreseeable future.

And I'd just like to add for the record, on page 6 of my testimony we cited a Wachovia analysis that basically said there's a cozy duopoly structure here and that's what's allowing Verizon to raise their low-end DSL price from $15 to $18 and tack on a $20 surcharge. So if that's a competitive marketplace, then, you know, I think we're all missing something here.

Mr. CANNON. Does anyone on the panel know how many consumers current access the Internet over powerlines?

Mr. COMSTOCK. According to the FCC's own statistics, it's less than 1 percent.

Mr. CANNON. Right. That's for all——

Mr. COMSTOCK. That's for all access over——

Mr. CANNON. Not just powerlines, which are——

Mr. COMSTOCK. Right.

Mr. CANNON. It seems to me that the point here is that we have lots of potential, but, in fact, we have sort of a duopoly. Can I just ask the panel their views on municipal build-out for access to the Internet? Starting with you, Mr. Misener, if you'd like.

Mr. MISENER. Well, certainly more competition is better. The sooner the better, the better for American consumers, American innovation, American industry. It's just not there yet. It won't be here anytime soon.

Mr. CANNON. Are you familiar with the Swedish model?

Mr. MISENER. The Swedish model?

Mr. CANNON. Yes, of Internet build-out. [Laughter.]

It provides wonderful access.

Mr. MISENER. I have no recollection.

Mr. CANNON. They are—Sweden—— [Laughter.]

It was the after-dinner drinks, I suspect, but thank you. Does anyone know about Sweden, what's happened with the build-out in Sweden?

Mr. COMSTOCK. The municipalities are building out the infrastructure and——

Mr. CANNON. It's actually private, but has done—it's been a very interesting process. Do you have a comment, Mr. McCormick? Do you have any members who are municipals?

Mr. COMSTOCK. Well, we have members that are supplying the service to municipalities, and I second what Paul said. But I think the key point everybody has to remember, regardless of whether it's municipalities or someone else, all of these are smaller networks that need to connect to the larger networks.

Mr. CANNON. Right.

Mr. COMSTOCK. And I think that's really the key, is without strong interconnection rules, a smaller network has no chance.

Mr. MCCORMICK. I guess my point, Mr. Chairman, is that——

Mr. CANNON. Let me just ask it this way, because my time is almost up. You can answer as long as you'd like, but I can't imagine that you guys would be opposed to the municipals building out and adding to your network.

Mr. MCCORMICK. Our view has been that as long as they come in and compete on an equal basis with the private sector. But as I said, I represent 1,200 companies. A number of them are smaller rural companies. In many of these areas, there is not Internet access today. What's standing in the way of Internet access is investment. The technology is there, whether it's broadband over powerline, whether it's unlicensed spectrum, whether it's cable modem or DSL, or whether it's wireless. There is no technological barrier to entry. The only barrier to entry is the willingness to invest and to deploy. And historically in this country, people invest and deploy if they feel that they can get a return on their investment.

So for everyone sitting here at the table, there is an opportunity for them to invest and deploy Internet access.

Mr. CANNON. I think the—could you just—pardon me, I've gone over my time, but just let me ask: Isn't deployment dependent upon many of your members connecting with these smaller networks?

Mr. MCCORMICK. There is a history in the Internet of interconnection on a pairing arrangement. I am not aware of any problems relating to interconnection of Internet networks that has not been—the only one I'm aware of is the one that you mentioned, Madison River, which was dealt with immediately. But every Wi-Fi network that's being deployed is connecting with the Internet. There's been no problem whatsoever.

Mr. CANNON. I plead the panel Members to accept my apology for going over time and hope that none of them follows my example. I yield back now and recognize the senior Member of the Committee, the Ranking Member, Mr. Conyers.

Mr. CONYERS. Thank you, Mr. Chairman. This is a very important and informative set of statements that have come from the witnesses.

Professor Wu, what we're gathered here about in discussing market neutrality, net neutrality, is really a question of whether market power is going to be able to prevail over and intercept and control content; and that at the same time, the Federal Communications Commission has been moving away from this issue, making it very hard for consumers to seek a remedy without having to all get lawyers. Is that a fair interpretation of what I've been hearing from the majority of the witnesses at the table today?

Mr. WU. I think it is, Congressman Conyers, and this is a situation with historical precedent. I'll give you one strong example from history.

In the 1860's, the telegraph companies, which were also a monopoly—Western Union—signed an exclusive deal with Associated Press that only allowed Associated Press to be carried over the wires; that is to say, they only allowed—they didn't actually block other companies. They just discriminated against other companies.

That in turn led to a news monopoly in the late 19th century which was a threat not only to American business and competition but a threat to American democracy, because this was a combined action of the telegraph monopoly plus the news monopoly that would pick political favorites, choose politicians they liked, and run only their news and their information over the wires.

I don't want to suggest we're at that far of a stage, but what I'm suggesting is when network owners pick favorites, that's very dangerous for the American democracy and dangerous for American business.

Mr. CONYERS. Well, the idea of network neutrality, a few years ago I didn't see a problem but—I would argue that there wasn't a problem then. I've got statements now from people in the business who use—who have market power, control the pipes, who are saying we're going to start charging, we're going to start discriminating.

Is that, Mr. Misener, a fair appraisal of what the issues are that bring us to the table here this afternoon?

Mr. MISENER. Yes, sir, Mr. Conyers. Things have changed. It's not the case that this is a static circumstance. The market has radically consolidated over the past few years. Ten years ago, soon after my company started in business, there were dozens of ISPs in any major metropolitan area. Currently, at best, you'll get two broadband ISPs serving an area. As Mr. Comstock pointed out,

something less than 1 percent of consumers are taking broadband Internet access from someone not on cable or a telco.

The other thing is that the FCC has deregulated last year to allow longstanding nondiscrimination principles to be removed from the books before competition arrived. I think we all wish there were competition and all believe that, were there competition, the rules would not be necessary. But the Commission moved first before the competition arrived.

Mr. CONYERS. I just wanted to ask Mr. McCormick, we've got a number of quotations from industry leaders, from SBC—all friends of mine—Verizon—some less friendly—BellSouth. But the whole idea is that they're saying network operators must be free to control the type and quality of service on the system. How does that comport with what you've told us this afternoon, sir?

Mr. MCCORMICK. Mr. Conyers, I think what Mr. Whitacre and others in the industry like Mr. Notebaert have done over the course of the last couple months is respond to—try to respond in a very thoughtful way to that in two ways: First, they have said we will not block, degrade, or impair anyone's access to the Internet. With regard to operating the network, the way we currently operate it, by making sure that certain applications are afforded a level of security or privacy, we have to have the flexibility to do that in the future.

So, for example, today the Federal Government comes to us, and they say——

Mr. CONYERS. But you're telling me that I should sleep comfortably in my bed tonight because I shouldn't take these too seriously.

Mr. MCCORMICK. No. I think that you should take them seriously, but I'm trying to explain what they meant by that.

Mr. CONYERS. Oh.

Mr. MCCORMICK. And what they meant was that there are network applications, for example, Bank of America comes and they want to have a virtual private network that is secured for privacy purposes. That network operates over the Internet, but we plug into that network certain security and quality of service applications. The Federal Government comes to us and needs secured applications for national security. Health care facilities come to us, and they need to have virtual private networks. We need to be able to continue to be able to manage the networks——

Mr. CONYERS. Well, I don't know if Ed Whitacre was thinking about that when he said, "Now, what they"—Google and Yahoo!—"would like to do is use my pipes free, but I ain't going to let them do that." Those are—that's his vernacular.

I don't think he's talking about the concerns that you're explaining to me.

Mr. MCCORMICK. Well, I think that what he is relating is that, as Google and Microsoft and others move into new applications that require enormous amounts of bandwidth, that Google and Microsoft will be looking for what amounts to virtual private networks. And I think, Mr. Conyers, that terms like "toll lanes on the Internet" and others, those have not—that's not been our terminology.

The network neutrality debate has two sides to it: one is the service provider side; the other is the content and application side. This Committee took its first look at search engines in connection with airline reservation systems and said there should be no screen bias. Today, if you wanted to buy a book, Trover Book Shop is about three blocks away. But if you go on Google and plug in that you would like to buy a book near 1st and Independence Avenue, S.E., you will get ten responses; nine of them—eight of them will be Barnes & Noble book stores, as much as 8 miles away, and Trover Books won't be listed until number eight down. If you plug in that you just want to buy a book, the first response you will get is Amazon.com out of more than 1 billion responses.

Now, the reason for that is that they have paid for priority. There is a screen bias in Google, and the screen bias with regard to "buy a book" is a priority that's paid by Amazon.com that disadvantages Trover.

So if the Federal Government is going to get into the business of regulating network neutrality, pursuant to these FCC principles, that applies both to the service providers and to the content providers. And this kind of screen bias is precisely the kind of screen bias that this Committee investigated in connection with computer reservation systems in the airline industry.

Mr. CONYERS. Well, this is—I'm way past my time, but——

Mr. WU. Can I comment?

Mr. CANNON. But asking very interesting questions.

Mr. WU. Can I comment? There's a large difference in the search engine market and the Internet access market. The search engine market is a highly competitive market in which it is truly survival of the fittest. Google comes along, A9 comes along. There's an ongoing battle. And customers go to whoever gives them the best search results.

What we're talking about here is a completely different issue. We're talking about a noncompetitive market with one and two competitors, at most, with some others on the side. It's a completely different situation. The analogy is not apt.

Mr. MCCORMICK. Except the market share of Google in the search engine market far exceeds the market share of the Bell companies with regard to Internet access.

Mr. CANNON. The gentleman's time has expired, and the gentleman from North Carolina, Mr. Coble, is recognized for 5 minutes.

Mr. COBLE. Thank you, Mr. Chairman. Good to have the panelists with us today.

Mr. McCormick, telecom companies provide capital to build out and maintain the Internet's hard infrastructure pipes. Of course, we want more pipes. We want growing Internet access and lowering prices.

If I'm a small businessman or small businesswoman or rural Internet provider paying to use your pipes, competing against one of your companies, is it your belief that that constitutes fair competition in an open market?

Mr. MCCORMICK. Mr. Coble, let me make sure that I understand. What you're saying is that you are a small business owner, like a

furniture store, that would be trying to obtain Internet access over our pipes?

Mr. COBLE. Yeah.

Mr. MCCORMICK. And you want to sell furniture and you're concerned that because you're having to pay the local telephone company in North Carolina for Internet access that you might somehow be disadvantaged?

Mr. COBLE. Yeah, that's the direction in which I'm headed.

Mr. MCCORMICK. I cannot imagine a situation where they would, but I can tell you, just like with Trover Books, if you were to plug into the search engine that you want to buy furniture in a small town in North Carolina, what you're going to find is that out of hundreds of thousands of responses, you're going to get eBay and you're probably going to get Amazon.com and you're going to get a few other large companies that are paying for priority to be listed on that search engine as the first two or three examples.

So this part of net neutrality with regard to content and application providers is a very significant issue in the competitive realm and one that I know the Committee will want to take a look at with regard to the broader issue.

Mr. COBLE. Now, the professor's body language tells me he wants to insert oars into these waters.

Mr. WU. You know, I think you bring up a very important point, which is that small businesses are very dependent on infrastructure. They need roads to get to the rest of the country, they need phone lines, and they now need the Internet. They rely on getting neutral access to whatever they depend upon for the Internet. And the whole problem with the Bell Companies starting to pick and choose favorites is that small businesses cannot be sure that they'll get the access they need to the companies that they partner with. Or if the small business is a company itself that wants to succeed on the Internet, it needs to be in a position where it can enter the market really without having to make a deal with the Bells.

Mr. COBLE. Mr. Comstock, did I detect body language from you as well, or Mr. Misener won?

Mr. COMSTOCK. Absolutely, sir. What I think the important difference is—and while this Committee may well want to look into prioritization of screens and the practices of content providers, it's a totally distinct issue because the infrastructure that's essential for all of the content providers is that transmission network. And that's where the essential facility. That's where there's a bottleneck. This is like—very much like someone owning a road and getting to decide which cars will travel on it. And the problem in the furniture example would be if the Bell Company were also—or the cable company also owned a furniture store and then said, "I'm going to favor my furniture store over someone else," this is becoming an essential medium for people to do their business. They're advertising, they're reaching consumers. And this is about making sure there's rules that allow people to get access to that infrastructure on a nondiscriminatory basis.

Mr. COBLE. I want to ask the professor a question, but I don't want to cut Mr. Misener out. Okay. Professor, let me ask you this before my red light illuminates. Adequate infrastructure is vital to Internet access. How does net neutrality affect rural areas where

smaller telecom providers maintain infrastructure, A? And let me ask you this: In the era—in this era of wireless phones and growing Internet services, what markets or regulatory measures protect the profitability of these rural telecom companies? And I ask that, gentlemen, because I'm subjective. I have rural outfits in my district.

Mr. WU. Right. I don't think that they are the same issues. For rural areas, as much as the rest of the country, it's important that the businesses and people in rural areas get the access they need to a neutral infrastructure, the neutral Internet. They're as dependent on the Internet for economic growth as the rest of the country.

Now, what about the precise situations of rural carriers? I don't know if—I think the network neutrality issue is more or less—is not directly implicated by that. I think it's just a different issue. There are probably—there's a lot of money that needs to be spent to build infrastructure in rural areas. There's no question about that. Government has ways—Government has ways of encouraging companies to build infrastructure. But allowing discrimination as a way to encourage companies to build infrastructure strikes me as one of the worst ways to do so. It's a tax on innovation, it's a tax on the infrastructure that doesn't actually promote what you need. If you want to have rural build-outs, Government needs to subsidize them.

Mr. COBLE. Thank you——

Mr. MCCORMICK. That's not necessarily true.

Mr. COMSTOCK. Mr. Coble, the short answer to your question is these rural companies have all lived under exactly what we're asking for for the last 60 years of their life. They were regulated as common carriers. It didn't in any way impede their ability to provide the service that they offer, which is transmission. So net neutrality is nothing more than the reimposition of common carrier rules or antitrust rules that mimic the common carrier rules. They're flip sides of the same coin. So this is not something that they haven't lived with before.

Mr. COBLE. Thank you, gentlemen. Before the Chairman keelhauls me, I'm going to yield back. Thank you, gentlemen.

Mr. CANNON. I wish there was a bright-line rule about what questions were interesting or not, but I was certainly engaged in what you were asking, Mr. Coble.

The gentlelady from California, Ms. Lofgren, is recognized for 5 minutes.

Ms. LOFGREN. Thank you, Mr. Chairman. I think this hearing proves the value of this task force, and I look forward to additional hearings, because as we've listened to the testimony, at least to me it becomes clearer and clearer the need to make sure that networks remain available to all users and there be some net neutrality rules.

I was on the Committee when we did the Telecom Act in 1996, and really since that time, and especially in the last several years we've seen a reconglomeration, I guess, if that's the right word, of telecom companies. And I think about what the old AT&T monopoly was like in terms of competition. I mean, you couldn't hook up an answering machine or a fax machine to the network. It certainly

disfavored new technology. And since we lessened that death grip, I mean, technology exploded. And in my part of the world, in Silicon Valley, there were—the companies that have really led the economy really were allowed to do that because of the freedom to innovate that the limitation on the monopoly provided. And I worry if we allow, for example, the incumbents to control access to Google, as has been suggested by some company executives, what happens—not just to Google; they're now a pretty big company—but to the next Larry and Sergei in a dorm room coming up with something that will be Google? I mean, we need to make sure that there is an environment for innovation and creativity, and that's what monopolies prevent.

I am concerned—I just want to say one thing about Google. They're just outside my district, and I have thousands of constituents who work for them. And I think I just want to correct the record. It is a mistake to suggest that anything but the algorithm they uses—they use come up with the results. I mean, they have an algorithm that favors hits. They also have paid placements, but I use Google all the time. The paid placements are very—I mean, they're evident. They're marked as paid placements. Everybody knows you can use them or not use them. I just thought it was important to mention that, and as has been mentioned by the witnesses, there are a plethora of search engines. It's a very competitive market. And, for example, the Amazon search engine is for the Amazon site. I mean, and a lot of sites have sell sites. So it's a mistake and misleading to try and mix those two together.

I just—the one issue that has been raised by the incumbent monopolies, and I think we have to discuss them in that way, because—what is it?—94 percent or better of all people get their Internet access or high-speed Internet access from one of two providers, and that's the market situation. The one issue that has been raised to the Congress in opposition to the net neutrality is essentially—I'm paraphrasing—if we don't get to do it our way, we won't build out the remainder of the network.

I took a look at fourth quarter revenues for AT&T, fourth quarter of 2005, and the report was that they added 1.8 million DSL lines in that last year, that the revenues from consumer DSL services went up 21 percent last year, and the penetration rate for DSL services more than doubled in the last 2 years. They also reported that its operating revenues from data services went up more than 43 percent, the highest rate of all its business segments, to an increase of about 30 percent of its operating expenses. And today the reports for the first quarter of 2006 were in, and the data revenues rose 85 percent from the last year compared to a 45-percent increase in company-wide revenues and a 57-percent increase in company-wide expenses.

So I'm looking at really a very positive—I don't think I own any stock in AT&T; I might ask my husband to look at that—a very positive revenue stream. I'm wondering, Professor, you're someone who just looks at this, you don't have any axe to grind, you're an academic. What do you make of their suggestion that if they don't get their way to control access and other users, that they won't build out this network?

Mr. WU. It's something of a regulatory tactic, and my opinion—and I think the statistics bear this out and the economy bears this out—is that this neutral Internet has been good for everybody. It's floated all boats. It's been great for the cable companies. It's been great for the Bell Companies. And it's been great for the application makers and, by extension, the American economy.

You know, I think that the network attachment point you brought up is a great example. The Bells fought tooth and nail to prevent consumers from having a right to hook up things to their telephone lines because they thought that that would destroy their market and that would hurt them. In the end, it turned out to be a giant boom. We owe it to that bravery of the FCC and of the D.C. Circuit in the 1960's to say that consumers have a right to hook up whatever they want to their telephone, such developments as the answering machine, the fax machine, ultimately the Internet itself as a mass medium. And I think today that—you know, even the cable operators take a different position than the Bell Companies. They say a neutral Internet has been great for them, too. They just, you know, feel differently about regulation.

I think that these kind of threats really represent an old style of thinking and a return to a kind of 1960's idea of centralized network build-outs, which has failed. And I think we need to learn the lessons of the 1990's of what has really succeeded for everybody.

Mr. COMSTOCK. I would also note that if they don't deploy their networks, if they don't upgrade their networks, then they can't offer video. And that means the cable companies take more of their market share. So I think there's a strong financial incentive for them to upgrade their networks notwithstanding.

Mr. CANNON. The gentlelady's time has expired.

The gentleman from Texas, Mr. Smith, is recognized for 5 minutes.

Mr. SMITH. Thank you, Mr. Chairman.

Mr. McCormick, let me address my first question to you. The goal of antitrust law is to maximize consumer choice through free markets. How do you think the kind of tiered access that we are talking about today will benefit consumers? And, more specifically, they've been used to a free Internet now for 10 years. How do you think they're going to respond to this kind of tiered approach?

Mr. MCCORMICK. Okay, let's—I'm hearing a lot of—let me respond to that in terms of what really isn't in debate, that the Hushaphone and Carterphone attachments to the Internet, not in debate. I mean, the FCC has said—one of its principles is you can attach any lawful device, and we absolutely agree. What's not in debate is that we would in any way block, impair, or degrade consumers' access to the Internet. Not in debate.

What I also don't think is in debate is that everyone would leave it in control of the consumer to decide how much capacity they want to buy. Do they want to buy one meg? Do they want to buy a T-1 line? What amount of Internet access do they want to buy? If you're paying $12.99 for Internet access as opposed to $100, you're probably getting a much bigger pipe. If you are at home where you're running—you know, a business gets a bigger pipe than does a residence.

I think that what is in debate here is when you have certain application providers who want to move into new areas that will require enormous bandwidth, such as the delivery of huge amounts of video, technology will allow you to do that in one of two ways: either by putting a bigger pipe into the home and requiring everybody to have that bigger pipe, or doing certain network configuration that will allow you to compress and to deliver. So that's a network part.

What's in debate here is who pays for that enhanced portion of the network. There are a variety of application providers out there who would like to say that they'd like to differentiate their product by investing. In the same way today a person, if they want to have home—a phone answering machine, they can connect it at the end of a network, right? Or it can be done inside the network. If you have a cell phone, you probably want to go ahead and have the messages answered inside the network.

So the debate here really is who bears the cost. We believe that the consumers should be in control. We believe that the consumers should decide what costs they want to bear, how much network access they want to buy, and that they should be in control of deciding what sites they want to go visit. Others would like to say that they would like to load all of the costs of their own business plans onto the consumer, which will require us to raise consumer rates to spread out their costs among everybody. That's not a free market, and we don't agree with that approach.

Mr. SMITH. Okay. Thank you, Mr. McCormick.

Mr. Misener, you look like you're ready to answer, but let me ask you a slightly different question that you won't mind, and it's sort of the other side of the coin. The ISPs spent billions of dollars setting up these networks. Companies like yours use these networks. Why shouldn't they be able to charge what the market will bear? And the second part of that question would be: What do you think the consumer reaction is going to be?

Mr. MISENER. Okay. Thank you, Mr. Smith. It's hard to know where to begin, but I'll start with saying that we do pay. Companies like mine pay millions of dollars a year for Internet access, and we pay based on how much capacity we need to pump into the networks.

Secondly, we support what Mr. McCormick has suggested as consumer tiering of services whereby a high user—a gamer, for example, or someone who wants to watch HDTV on the Internet—pays more than someone who occasionally sends e-mail. That makes perfect sense from an economic perspective and a consumer fairness perspective. These consumers expect that. They pay more for what they—to get more.

What we don't like is the concept of taking market power over the network and extending it to market power over content. It's been suggested somehow that there'd be this deal made in which some content is prioritized for a fee and other content is not thereby degraded. That is physically, technically impossible. We've heard several times Mr. McCormick say today that he's not going to degrade content. If that's the case, who on Earth would pay for prioritization that doesn't thereby relatively degrade the competitor's content? No one's going to ever pay for that kind of service.

It's not worthy. The fact of the matter is the way the Internet works is that if you prioritize some content, you put some content in the fast lane, you by definition at bottleneck choke points put other content in the slow lane.

Mr. SMITH. Okay. Thank you, Mr. Misener.

Mr. Chairman, let me just finish with a comment really directed toward our full Committee Chairman, Mr. Sensenbrenner. I just appreciate his having a hearing on this subject because I think it emphasizes once again, quite frankly, that the Judiciary Committee is the proper forum to address questions that involve interstate commerce and monopolization. Whether or not it occurs isn't the point. The point is that this is the proper forum to consider those kinds of issues.

I yield back the balance of my time.

Mr. CANNON. I thank the gentleman. I think the Ranking Member of the full Committee would also thank the gentleman for that focus on the jurisdiction of this Committee, which is very important to all of us.

Before we recognize the gentlelady from Texas, let me ask unanimous consent to include in the record a letter from the FTC Chairman to Chairman Sensenbrenner on the Brand X decision and cable broadband obligations. Hearing no objection, so ordered.

The gentlelady from Texas, Ms. Jackson Lee, is recognized for 5 minutes.

Ms. JACKSON LEE. I thank the Chairman very much and thank the witnesses. I hope that as we probe each of you, as the Members inquire, that this will be what it is. It is fact-finding and it is a recognition that we have a challenge before us and somewhat of a dilemma. And I might echo or associate myself with the words of Chairman Cannon to say that—and Congressman Smith, I believe—that this is the appropriate vehicle and venue to address these questions.

Let me first start with you, Professor Wu, because I liked your comparison of the refrigerator. We all want to get into a refrigerator now and then, and I think the plainness of your explanation of a refrigerator not working because it was one versus another so the electricity worked better for the other one, sort of a biased selection of who ate and who did not. Help me understand—and I will be going to a few of the other panelists very quickly, if you can help me understand that blocking sensation, because we've heard one witness—and, in fact, I will question Mr. McCormick, because he clearly makes the point he will not block, impair, or degrade. What is your sense, Professor Wu, that this will, in fact, happen?

Mr. WU. Thanks. I do think the electric—the electricity network is important because it really does capture some of the feelings that Americans have got—have gotten used to with the Internet, that they plug stuff in and it works or they go to the sites they want to go to and they work. And I think I'm going to disagree with Mr. McCormick, who keeps saying that degradation is not the issue here. Degradation is the central issue here in this case. When Bell Companies, when AT&T in particular—and I've seen AT&T's plans. Their plans are to give favorable treatment to the companies they make deals with. And so it's exactly as if the electric company made a deal with Samsung or made a deal with Kitchenware and

suddenly, you know, your toasters work better, your refrigerator works better, and you want to buy a General Electric refrigerator, and it just doesn't work as well, or, you know, it doesn't function the way you'd like, your iron doesn't get your clothes to be starched or——

Ms. JACKSON LEE. Sooner or later you get rid of it.

Mr. WU. Right, and the obvious point is that it distorts competition. It's not who makes the better refrigerator. It's who has the deal. And so that distorts innovation. It's no longer survival of the fittest. It's no longer who has the best technology. It's a question of who goes golfing with the CEO of AT&T. And I think that's not the American way. I mean, sometimes it is, but it shouldn't be the American way.

Ms. JACKSON LEE. This is the—and thank you, Professor. This is, I think, the large mountain, Mr. McCormick, that we've got to ascend to. And let me first of all acknowledge the reality of life, and that is, we thank you for the massive job creation that this industry has created, and certainly out of that, because of the appetite of consumers, certainly we've had the opportunity for your companies to grow, for jobs to be created, and, of course, for our districts to be made happy. But I do want you to try to, if you will, overcome I think the very succinct argument that has been made. We are fact-finders here today. Block, impair, or degrade the content applications or services, what you've said, but my thought is that if I build a private road and I pay for it, then it is likely—and that is a transportation road. It is likely to have the right to say who travels on that road or not. I don't want the big 18-wheeler—forgive me, truck drivers—that may put potholes in the road. So help me understand and appreciate how you will avoid that situation.

And then I want to—let me do this with Mr. Comstock, because you've said some very viable things. I want you to jump in right after and help me understand why the FCC authority over broadband—recently limited their authority over broadband services, and I think you have another comment in here that said the subjugation of the economic rights of many to the interests of the few has not been limited only to the FCC. So we have some regulatory problems as well. But let me go on to Mr. McCormick, if you would.

Mr. MCCORMICK. Thank you very much. I'd like to stick with your analogy of the road for a moment, because I think it's a very apt analogy. The Internet today remains a relatively new network, like the early road network. And in many areas like the early road network, there's a single lane. And so the way the Internet is built is that the consumers who are going to use that network, that road network, they pay and that covers the cost of the road network.

Now, let's say that somebody comes along and they want to put a bunch of 18-wheelers on that network. So now the network has to be expanded in order to accommodate the shipper who's putting a bunch of 18-wheelers on that network. Think of Amazon.com or Google or some others as that shipper. The consumer—who bears the cost of the ones who are going to now load onto that network a whole bunch of additional traffic? Should the cost be borne by the individual consumer? Should everybody's rates be increased? Or

should the people who want to load that network with a bunch of 18-wheelers have to pay for the network expansion?

We would argue that the analogy with regard to the road network is that if you want to load a whole bunch of traffic onto that network, then you help pay for the network expansion. Don't make all of the consumers at home have to pay for that network expansion, because some of those consumers, they may be only buying things or using the Internet for stuff that's shipped by small trucks or by cars.

So I think that that analogy is absolutely, absolutely apropos and apt.

Mr. CANNON. The gentlelady's time has expired, but I think Mr. Misener is anxious to respond.

Ms. JACKSON LEE. He's anxious and I think Mr. Comstock, if you would indulge me for an additional minute, I ask unanimous consent for them to be able to respond. Thank you.

Mr. COMSTOCK. I'll be brief, but using that road analogy, I think where Mr. McCormick takes you astray is the people who want to load the 18-wheelers on are paying for their access to the Internet, and the question is, if I pay as a consumer for a road that would carry that 18-wheeler to my house, can I get anybody's 18-wheeler or just the 18-wheelers that they say? And what the Bell companies and the cable companies are saying is we may build an 18-wheeler road to your house, but then you're only going to get to use the sidewalk for your public traffic. The rest of it's going to be my 18-wheelers and the people that I say.

So that's the problem with this. What's been abandoned in this—and you mentioned the subjugation of the rights of many. The FCC has said these are not common carrier services. That means that with respect to these services, those companies are no longer obligated to provide nondiscriminatory service upon reasonable request. So they won't block it once they agree to serve you, but as long as they reserve the right to not serve you in the first place, that's how they'll discriminate.

Ms. JACKSON LEE. Mr. Misener?

Mr. MISENER. Ms. Jackson Lee, just one more point on the 18-wheeler analogy. Mr. McCormick misapprehends how the Internet works. Those 18-wheelers don't get there based on the companies' sending them. They only get there when the consumer asks for them. And our simple point is that when the consumer asks, he or she ought to be able to get whatever 18-wheeler they want, not just the ones allowed on by the road owner.

Ms. JACKSON LEE. I thank the gentleman.

Mr. CANNON. The gentlelady yields back.

Ms. JACKSON LEE. I yield back.

Mr. CANNON. The gentleman from California, Mr. Lungren, is recognized for 5 minutes.

Mr. LUNGREN. Thank you, Mr. Chairman. Very enlightening. We've been talking about Swedish models and golf courses and 18-wheelers and sidewalks and streets.

Mr. CANNON. The Swedish model would never—it would never have occurred if Mr. Misener was not so handsome, by the way. [Laughter.]

Mr. LUNGREN. I appreciate that. I hope that wasn't out of my time.

I thought this was relatively simple when I walked in, and it's become more complicated. I try and look at it from the standpoint of a consumer. I'm a frustrated consumer. The house I have here in this area is in Virginia. I keep getting ads from Verizon asking me to join their broadband, and then every time I call I find out their broadband access stops two blocks from my house—close to your house, Mr. McCormick. So I believe I have cable, which is really the only access I've got.

A couple of questions. One is, look, people have paid additional money for broadband over regular telephone lines, and presumably that was to cover the costs of the investment made by the phone company. Presumably we're paying for broadband access for cable to pay for the investment cost here. What I'm trying to understand is Mr. McCormick's statement that you're not going to block, you're not going to degrade, you're not going to interfere with content on the one hand, and on the other hand, the suggestion I get in this analogy that you're only going to allow certain 18-wheelers to come through to my house.

Now, what are we talking about? If, in fact, your industry has no intent to block, degrade, or interfere with, do you have any objection to any legislation that says you can't do that and won't do that?

Mr. MCCORMICK. Congressman, the Chairman of the FCC has already said that they feel that they have the authority to prevent anybody from blocking, impairing, or degrading.

Mr. LUNGREN. Right. But what I'm asking is——

Mr. MCCORMICK. And they——

Mr. LUNGREN. —whether you'd object to language in legislation which would say that——

Mr. MCCORMICK. The House——

Mr. LUNGREN. —irrespective of what they say, but we will make that a matter of law that you can't do that.

Mr. MCCORMICK. The House Energy and Commerce Committee is going to mark up legislation beginning this evening that has specific language in it that tracks the FCC principles. And so—and we are supportive of the language that says that we—the FCC should have authority to make sure that we cannot block, impair, or degrade.

I'm with you. I'm a little confused when we make the statement that we'll not block, impair, or degrade, and then I hear others saying but they're going to block, impair, or degrade. We're not going to block, impair, or degrade. The FCC is not going to allow it.

Mr. LUNGREN. Okay. Well, let me ask the other two panelists to your right, my left. If, in fact, that's true, why are you worried about blocking, degrading, or impairing access to content?

Mr. COMSTOCK. Because there's a long history here of exactly this type of exclusionary behavior. Today in the marketplace, our companies face the situation where they go to seek a customer, and the Bell Company has said, oh, in order for you to get a lower rate on the areas where we have no competition to a business user, you must give us all of your traffic in the areas where there is competition. They use specific exclusionary practices to prevent competi-

tion. And as I said before, what they keep hiding around is the provision that the Energy and Commerce Committee is looking at would restrict the FCC's jurisdiction to a very narrow set of things on an adjudicatory basis, and it is far narrower and far less behavior controlling than the type of antidiscrimination principles contained in the antitrust laws.

Mr. LUNGREN. Well, let me ask Mr. McCormick—I mean, he's just give us a specific example that he claims is where your industry does, in fact, impair access except for a price.

Mr. MCCORMICK. Well, I am unfamiliar with any—what I——

Mr. LUNGREN. I'd like to find out what we're talking about. I mean, I'm tired of talking about 18-wheelers. I'm tired of talking about golf. I'd like to know what we're talking about here. Now, does it exist or doesn't it exist? I'm not going to play games. I'm trying to figure out what we're talking about.

Mr. MCCORMICK. Well, what we know is that there are—that there are hundreds and hundreds of commercial negotiations that have been entered into between companies that I represent and companies that Mr. Comstock represents, and that those have led to finalized deals. We know that at Mr. Comstock's own convention, his people were saying that if the Bells try and push competitors off their networks, it's shortsighted because they can ally with cable, BPL providers, wireless carriers, or even satellite companies.

What we have said is that there's a marketplace out there that's working, that with regard to last-mile access, there are competitive choices and there's a contestable market for anybody who's willing to invest. So it seems to me that a requirement, as the FCC has put forward so far, that says you cannot block, impair, or degrade, an FCC that very aggressively monitors the kind of interconnection arrangements that Mr. Comstock is talking about, and finally, the antitrust laws that he says are strong disincentives to any kind of anticompetitive behavior, I would be one to say it sounds to me like we've already got a belt-and-suspenders approach to this. I'm not sure what problem we're trying to address that hasn't already been addressed.

Mr. COMSTOCK. Once again, we're talking about fiction here. He's talking about provisions of law that the FCC has affirmatively removed, and that's the problem. The world is changing. The FCC as of last August and then through the Verizon decision in March removed the very protections that made the competition possible that he is referring to. That is the problem.

Mr. LUNGREN. Mr. Chairman, could I ask Professor Wu to comment on that?

Mr. WU. You know, what the Bell Companies are basically saying here is, "Trust us." But if I were in their position, if I were the gate—if I was in a strong market position to be a gatekeeper of the Internet, why wouldn't you start wanting to degrade and block content, or at least threaten to do so and extract more revenue. It makes perfect sense. I'm not saying it's evil. I'm just saying it's bad for the economy. I think they're in a logical position to be in a position to advance those kind of business plans. If you look at AT&T's plan specifically, that is their ideas of where to raise and get more marginal revenue, by putting a toll booth on companies like Google, Yahoo! and so forth. So it makes perfect sense, and, you know, they

won't want to call it degradation. They'd want to call it priority or give it some name so it gets around, you know, potential FCC action. But why wouldn't they want to do it? It doesn't—I don't see any reason why not.

Mr. CANNON. The gentleman's time has expired.

The gentleman from California, Mr. Schiff, is recognized for 5 minutes.

Mr. SCHIFF. Thank you, Mr. Chairman. I think this has been a wonderful hearing, and I think the witness testimony has been very helpful.

I wanted to ask just a couple questions, the first of Mr. McCormick. In my district, a lot of the industry involves the creation of content, and we've had a number of discussions over the years about how to protect that content from piracy. And the pretty consistent position of the telecommunications industry has been we just have a pipeline. It's a dumb pipeline. It doesn't discriminate between content, and we really can't be responsible for what goes through our pipeline. But it sounds like here you're now saying we should be able to discriminate on what goes through our pipeline and be able to pick winners and losers, or at least discriminate in a way that helps us recoup the investment necessary to expand the pipeline.

Are you prepared, if you're allowed this ability to discriminate, to also accept the responsibility for illegal content going through your pipeline?

Mr. MCCORMICK. Congressman, first, with regard to the existing network, the FCC principles that we ascribe to say we shall not block, impair, or degrade access to any content or site. So when we say to the creative community, "Don't hold us liable if somebody's going to a site and downloading illegal material," because the FCC principles require that we not block, impair, or degrade.

Now, at the same time—at the same time, you are probably aware that as we have tried to begin to move into video, that we have been trying to work with the content community because their great fear in the Internet space is being able to have security and privacy and being able to have some integrity to control their copyright. So when you start hearing us talking about being able to work with companies like Disney, like Movielink, like a variety of others who are coming to us and saying we would now like to explore some new models where we could provide new services to the consumer, and we would like to work with you in the development of virtual private networks that will offer us security and privacy and a variety of other functionalities, we're met with this kind of opposition that's saying, "Aha, they're going to advantage some and disadvantage others." And so——

Mr. SCHIFF. But if you get into——

Mr. MCCORMICK. —you've hit on one of the issues.

Mr. SCHIFF. If you down the road get into deciding that Grokster or Napster or one of the more modern iterations should be in the fast lane rather than the slow lane, aren't you going to be taking on some responsibility for the fostering of those services if those services are primarily in the business of piracy? Won't it be more difficult for you to claim that we're just a dumb pipeline?

Mr. MCCORMICK. No. I see it the other way. I see companies that are engaged in the development of content and want to protect that content from a Grokster or Napster coming to us and saying, "We would like to distribute this content to consumers over the Internet," being able to utilize what is, in effect, a virtual private network. So——

Mr. SCHIFF. And you'll facilitate making that happen, but what happens when the Groksters of the future come to you and ask you to facilitate the delivery of their pirated work product? I assume you won't be able to fall back on the response we had to allow them to have the fast lane because we can't discriminate?

Mr. MCCORMICK. Well, I guess the response to that would be that, you know, in many respects, people sometimes don't even find those sites without going through an Internet search engine. So, you know, do you go through an Internet search engine and find a Grokster site? And then do you hold liable the Internet search engine, do you hold liable the service provider, if they find the Grokster site by going to Amazon.com and then buying a book that has the Grokster site? I think that the issue has been if people like Grokster or Napster are engaged in the illegal distribution of content, they should be held liable. What we have done in entering into arrangements with the content providers, those who are originating content, their concern with us is that they want to be able to have a secure network.

Mr. SCHIFF. If I can, I because I'm running out of time, I want to pose this one question to Mr. Misener that was posed earlier by Mr. Conyers or by actually your response to Mr. Conyers, and that was the question about the prioritizing of Amazon.com on a search engine. And I understand the point that there's greater competition within the search engines, but let's say that there was that same level of competition among the access providers as are among the search engines, or that the search engines become less competitive because you have two that monopolize. Would you argue that you shouldn't be able to discriminate based on your paying a fee to get to the top of the list? I always naively assumed you got to the top of the list by having more hits than anyone else, but maybe it's a self-fulfilling cycle. But if the number of entrants into the field of access increases, would you allow them to discriminate? If the number of search engines decreases, would you come before us and argue, well, we should no longer have the ability to discriminate in the search engines?

Mr. MISENER. Again, great questions. There are some two dozen search engines out there. If there were two dozen residential broadband Internet access providers, we would not be here seeking legislation. There aren't. There's a duopoly for the present, for the near future, probably even for the distant future. This will be a duopoly. They're seeking to extend their market power. I'm very frustrated by this incredibly obfuscatory argument that somehow this is analogous to a search engine. It's not. A search engine is a destination. Consumers have a choice of going to it. A consumer can get broadband Internet access and never, ever once go to Google if they so choose. There are another two dozen search engines available to them if they want to use a search engine. They don't even have to use one. But in this circumstance they're forced to use ei-

ther the cable or the telephone company. There is no other choice for consumers. It's a radically different proposition, and the law should treat them differently.

Again, if there were some two dozen broadband Internet access providers available to each consumer, we wouldn't be here.

Mr. SCHIFF. And, conversely, if the search engines so whittled down to two major providers, you would——

Mr. MISENER. Hopefully not because we have a stake in one of them.

Mr. SCHIFF. Well, hopefully not to the exclusion of the one you have the stake in, at least.

Mr. MISENER. Thank you.

Mr. CANNON. The gentleman's time has expired.

The gentleman from California, Mr. Issa, is recognized for 5 minutes.

Mr. ISSA. Thank you, Mr. Chairman. And I want to echo and associate myself with my colleague Mr. Schiff. It's always amazing to me that we came in as classmates together, and he was smarter then, and he's still smarter. But I will try to focus on a slightly different area since he did such a good job where he was.

When we talk about a duopoly versus, if you will, the power of a search engine, the selectivity, to me I just have to ask why is it that I shouldn't treat this like a standard antitrust question. You have incredible market power, far past the 10 percent by any stretch of the imagine. And, look, we could pretend that satellite delivery of Internet and a few other ways are going to grow, but it is unlikely, particularly Mr. McCormick, it's unlikely that either of the two entrenched utilities are going to drop below 10-percent market share anytime. But more importantly, in a given neighborhood like mine, it is unlikely that you're going to have all the others available to you anyway. If you have 30 percent, 50 percent, 60 percent, and more importantly, if your companion is doing exactly the same thing, why shouldn't I treat this simply as a utility that has been granted a monopoly, or the equivalent, trying to have a tie-in of less desirable services, leveraging the more desirable service or, if you will, the essential service? Why shouldn't I look at it that way?

Mr. MCCORMICK. I think that—I think to take a traditional antitrust analysis is the way to do it, and a traditional antitrust analysis looks at the existing market and the contestability of the market.

A couple of points. First, the market share of the telephone companies with regard to Internet access is less than the market share of Google with regard to Internet searches. So——

Mr. ISSA. Well, wait a second. With all due respect I'll define the relevant market here.

Mr. MCCORMICK. Okay.

Mr. ISSA. We're talking about the pipe.

Mr. MCCORMICK. And with regard to the pipe, you would have to look at all the ways to access the Internet. So I would take issue with the duopoly. You can access the Internet, DSL, cable modem, wireless—Sprint is offering a full wireless access to the Internet—satellite if you have a clear view of the Southern sky; in some

areas, broadband over powerline, but where it does not exist, it could exist but for investment; Wi-Fi and Wi-MAX technologies.

Now, therefore, a traditional antitrust analysis would take a look at what are existing market shares, what is the ability, you know, of others to enter the market, and what barriers are there to enter the market. So I support——

Mr. ISSA. And I'll follow up on that using, if you will, telcos and cable providers. If we—and this would be Commerce Committee, not Judiciary Committee, I have to be sensitive to. But if we redefined that you were regulated for the last mile, you had to put a green box in, and everybody could have access from there and put T-3 lines in and compete so that you were only selling a very regulated last hook-up to the house, then would you—you know, to be honest, would you see that, in fact, that isn't the way that you have—I mean, to have competition, you would have to essentially recognize that the two wires to leading to the house are the absolutely best way to deliver 8 MP or higher data rates and that in the current technology that's the only way to deliver that kind of bandwidth because you're the only ones, the telephone company or the cable company are the only ones that have the right to tear up the streets to get to my house, and certainly virtually the only ones in most communities to get to a mile away from my house. You don't see that?

Mr. MCCORMICK. Well, Congressman, there are—no, I don't see that because——

Mr. ISSA. Okay. Mr. Wu, do you see that?

Mr. WU. I do see that. You know, the argument—I do see that, and the argument that isn't—market power isn't a duopoly problem is like saying there wasn't a Standard Oil monopoly because they would have invented solar power one day or something.

All these things, wireless, you know, they exist in these——

Mr. ISSA. Or you could have hauled your own oil in from Venezuela.

Mr. WU. Right. You know, and there was always the potential if someone really wanted to, they, you know, could have invented—or taken a bicycle or something. I mean, these are sort of potential technologies that may one day be more competitive, but I think you're exactly right. This is a classic duopoly, a classic antitrust problem, and there are ways that a monopolist can extract extra rents at the cost of the entire economy. And it's the duty of Congress to make sure that doesn't happen and preserve competition.

Mr. ISSA. Mr. Misener, I'd like to hear your comments. I'd also like to tee up another "what if." What if every product that you made was tied in with Microsoft in their package? Would you say that—and if, in fact, they charged a premium if you wanted to be able to access your product using their operating system, would you have a problem with that even though Linux is around?

Mr. MISENER. Yes. I think that was the right answer. More to the point, on the duopoly here, the switching costs are extraordinarily high. When we look at search engines, the switching cost is a click of your finger. You want to go from ask.com to Google.com to Yahoo! to MSN, A9—put in a plug for Amazon's. All these search engines are——

Mr. ISSA. Duly noted.

Mr. MISENER. —a click away. Okay? A click away. To switch between cable and telco broadband is huge. You've got long-term contracts. You've got truck rolls, equipment changes. These sorts of things present very high barriers just switching among them. So consumers don't have the sorts of choices that they have of search engines in the broadband Internet access world. It just is—it simply is not the case.

Mr. ISSA. Thank you, and thank you for holding this hearing, Mr. Chairman.

Mr. CANNON. You're welcome.

The gentleman's time having expired, the gentleman from Maryland, Mr. Van Hollen, is recognized for 5 minutes.

Mr. VAN HOLLEN. Well, thank you, Mr. Chairman. Let me also thank you and the Chairman of the full Committee and the Ranking Member for holding these hearings and thank all our witnesses.

I've been listening for some time, and one thing I think we can all agree on, which is that we all have—clearly the witnesses have different definitions of what it is to block, impair, and degrade. And I am just trying to understand sort of the universe we're operating in here.

I do think that we have to distinguish between future potential and the reality today. The reality today based on the statistics is we have an effective duopoly if it's true that 90 percent of the pipes essentially are through cable and telecom. Clearly, there's potential in the future for a build-out of a greater network, but in terms of the regulatory scheme we have in place, we have to deal with the reality that's in place today.

But I would like to ask the witnesses to respond to issues I understand Mr. McCormick raising here, which is that we have—we don't have enough, you know, broadband, we don't have enough bandwidth today to accommodate all the substance we want to put on the content that we want to put on the network, especially as we're talking about video on demand and those kind of services. So if you have a pipeline and you have already more traffic that is crowding that pipeline, I don't understand the technology completely, but does that mean that if you don't somehow make choices between the different content providers, that everybody's service is going to be somehow degraded.

I mean, the question I have is there seems to be consensus that we have limitations on the size of the pipe——

Mr. COMSTOCK. Well, I think that's——

Mr. VAN HOLLEN. —and then the question is, if that's true, somehow someone is going to either be left out or degraded. And while we don't want people to sort of pay more to play and get preference, there is somebody, according to this analysis I've seen, that is being left out; it's just that we're not being clear as to how they're being left out. If you could all respond to that.

Mr. COMSTOCK. I think that's where we might disagree a little bit. The reality is we have two broadband networks that run by everybody's home today, and as I said, in the business market it's limited to one. But there's a lot of capacity out there. Right now, in the case of cable, they choose to use the bulk of it for their exclusionary video programming, and a lot of this is about protecting

that market share. The Bell Companies would also like to protect market share in video by tying video content to transmission.

If you look at what Verizon is doing to the home today, when they run their FIOS network fiber to your home using commercial technology, there's a minimum of a gigabit coming into that. Yet they've already filed papers at the FCC saying we're going to take the bulk of that and reserve it for our cable service; then we're going to take another big chunk of it and reserve it for our private network, the extra—the pay extra network; and then we'll reserve this tiny little bit for the public Internet.

And the problem that we have in the United States is we've set up incentives for the network operator to restrict transmission capacity in order to protect their core services, particularly video.

And so if you allow competitors to get access to this network, as it going on in Europe today, for example, you'll suddenly find that you can get 25-megabit-a-second DSL service. Cavalier Telephone, one of COMPTEL's members, is doing that in Richmond today. If we allowed more people access to the network, innovators would come along and solve a lot of our transmission problems and expand the bandwidth available.

If you took the capacity that's being reserved for video today and made that available to the end user for purchase, and they could freely buy it, they would have unlimited choice of video content providers. They could go directly to Disney, directly to ABC. That's the nightmare that the cable industry fears and the Bell Companies also fear. They want to reserve that capacity for their exclusive content as a means of leveraging their transmission monopoly into other services.

Mr. WU. Congressman Van Hollen, if I could just try and address your question directly, it is true that for the average broadband connection there is, let's say, one or two megs, a certain amount of capacity there. The fundamental question we're getting at is who gets to decide how that capacity is used. The way the Internet is today, primarily it is the consumer who is deciding. The consumer, if they try to download a movie that they don't have enough bandwidth for, the movie will not function properly. If you have 30 different things running at once, if you are, you know, reading your e-mail, watching movies, and do everything at once, your bandwidth will begin to degrade.

But the critical choice is whether consumers should get to decide how their bandwidth is used or whether the gatekeepers, the duopolists, are going to decide how that bandwidth is used and charge extra to the different companies.

My submission is that consumer choice serves you better—the economy better and is essential to the free market system, and that's why these kind of constraints are something that consumers should solve for themselves.

Mr. VAN HOLLEN. Thank you.

Mr. McCormick, if you could respond, please, to both statements that were made, I'd appreciate it.

Mr. MCCORMICK. As I stated in my testimony, one visionary technologist recently compared the Internet to a Los Angeles freeway. He said, "Traffic jams happen. The more we upload and download and share, standard definition video, high definition

video, home movies, and multiple megabit photos, the more bandwidth we consumer. The more PCs and servers we back up online, the more bandwidth we consume. The more bandwidth we consume, the more Internet traffic jams we have. The more Internet traffic jams we have, the worse our Internet applications perform."

Now, not to oversimplify, but there are two parts to the network. One is the part that goes from the network up to the consumer's house. That's really the amount of bandwidth you're buying to access the Internet network. We're saying we're not going to block, impair, or degrade; whatever the consumer buys, that's how much capacity they're going to have to download their applications.

But the other part of the network is this network that's carrying everything. And as consumers begin to look to obtain more stuff, some consumers may be buying truckloads of material from Amazon.com. So the issue becomes, you know, how do we expand? The network has to be expandable and scalable, and who pays to expand and to scale that network?

If you go to Land's End today and you want to buy five truckloads of clothes, you know, the average consumer sitting in the house next door to you doesn't have to pay for that. You're paying Land's End, and Land's End pays the provider of the service.

So, similarly, we think that the network of the future ought to operate the same way. It should not be spread across consumers who aren't asking for all those applications. It ought to be the consumers that want to make use of it that are paying for it and that they're going to be in a financial arrangement with these companies.

Mr. VAN HOLLEN. All right. Mr. Chairman, if I could, I mean, I don't know if there's a response to that, but as I understand it, let's say I'm, you know, a moderate user or a limited user of the Internet and I use it for certain purposes. I guess the question is: If I'm on the sort of low user end of the Internet, should I be also paying for the costs of building out the major pipelines on the Internet because everybody else wants to have a much higher usage? I mean, these are rough analogies.

Mr. COMSTOCK. That is the analogy.

Mr. VAN HOLLEN. It would be useful for me to get a response from the others very quickly, if I could, Mr. Chairman.

Mr. COMSTOCK. That is the thing, but he's basically reversed it. It is about the last mile to your home. There is so much capacity in the backbone today. There are tons of companies that have unlit fiber. This is not an issue of network congestion in the backbone—unless, of course, you're talking about solely on the AT&T backbone or solely on the Verizon backbone, which they own and control. But nobody is asking consumers to pay for the expansion of that backbone. That is being paid for by the big companies that use it. It's the last-mile connection that they're using to make you drink through a straw when you wanted to pay for a much bigger straw, and that's the issue. I think Mr. Wu said it correctly. It's who controls this. Does the user control the bandwidth or does the network operator?

Mr. VAN HOLLEN. Okay. Thank you. Thank you all.

Mr. CANNON. The gentleman yields back.

Mr. Goodlatte, the gentleman from Virginia, is recognized for 5 minutes.

Mr. GOODLATTE. Thank you, Mr. Chairman.

Mr. Chairman, I have an opening statement I'd ask be made a part of the record.

Mr. CANNON. It's already been agreed to by unanimous consent. I thank the gentleman.

Mr. GOODLATTE. I'd like to direct a follow-up question to Mr. McCormick's comments and Mr. Comstock's comments to Mr. Misener and ask you how you'd respond to Mr. McCormick's arguments that network providers need to find a way to continue to pay for the increased bandwidth that will be necessary to ensure that we don't counter those Internet traffic jams that he and others have described as more and more content is made available to providers. And how would you recommend that the network providers pay for the increased capacity they need to build?

Mr. MISENER. Well, as they're doing today, Mr. Goodlatte. The FCC's biennial report on the deployment of broadband services to American consumers came out earlier this month, the most recent one, and it showed two things. We've been talking about one of them, which is the strong and growing duopoly power of the cable and telco network operators. But something else it shows is the rapid deployment of broadband lines to American consumers, which is a great thing. I think we'd all agree that it is. But it's being deployed in a circumstance where many of the parties actually deploying the lines are precluded from the source of discrimination that they have announced that they intend to engage in. Some are precluded by their merger conditions. AT&T is one; Verizon is another.

So the fact of the matter is that lines are being deployed today. Investment is being made today, even with these nondiscrimination merger conditions imposed upon the companies.

We are fully in favor of consumer tiering, as has been suggested. The person who sends the occasional e-mail should not have to pay as much as someone who games 24/7. That certainly isn't the case. What we oppose is what has been called Whitacre tiering, which is where the network operators take their market power over the network itself and extend it to market power over the content. They essentially extort monopoly rents from content providers who have no other way to get to consumers——

Mr. GOODLATTE. I understand that. You're moving away from my question, though, which is: How do they pay for it in the future?

Mr. MISENER. Well, they're continuing to pay for it. I mean, they've already demonstrated that they're paying for it. How they will pay for it in the future is——

Mr. GOODLATTE. And you think that——

Mr. MISENER. —continue to pay——

Mr. GOODLATTE. —current revenues are sufficient to continue the kind of rapid build-out that's needed?

Mr. MISENER. Yes. It's a demonstrated fact, yes, sir.

Mr. GOODLATTE. All right. Well, let me ask Mr. McCormick a question then. In the future, is it feasible that the Internet could become the ultimate video programming arena and that each website could have programming similar to a current television sta-

tion or channel, like the Discovery Channel's website, it could offer all of its programs via its website? Isn't it a natural instinct for cable companies and now the telephone companies to want to protect their investments in their closed video programming services by resisting such a move to a potentially open Internet video programming model? Are you aware of any telecom companies in your association or any companies that have built into their contracts with content providers any requirements that content providers not offer their video programs on their websites?

Mr. MCCORMICK. I'm not aware of any contractual provisions like that. I would go back to the FCC principles, which say we will not block, impair, or degrade access to any website, that consumers would have the ability to access any website they want. And I think that it—this is going on right now. I mean, if I want to access Movielink or if I want to access Starz, I can do that right now and pay Starz $30 a month, and I can download movies. Disney is going to begin to offer Web-based services. But these companies are coming to us, companies like Disney and others, and they're talking to us about building into our networks certain applications that will enhance their services. I don't think that this is any different than what has been historically done with our networks where we have offered to people the ability to have in the network virtual private network and enhanced services that offer increased security and privacy and we build that into the network and let the companies bear the cost of that rather than having the consumers across the board bear that cost.

Mr. GOODLATTE. Let me ask the other panelists if they want to respond, particularly Mr. Misener, to the comment made earlier by Mr. McCormick that the legislation that may be coming forth from the Energy and Commerce Committee contains language that would effectively codify the FCC's comments regarding having sufficient authority to prevent downgrading.

Mr. MISENER. Yes, Mr. Goodlatte, actually it ties the hands of the agency by precluding them from rulemaking in this area. It's very unfortunate. The Commission currently has the authority to fully enforce using their rulemaking and adjudicatory powers the policy statement that they issued last August. What the Energy and Commerce bill would do, however, is actually remove the rulemaking authority from the Commission over those—over that area.

Mr. GOODLATTE. I wonder if the other—Mr. Comstock?

Mr. COMSTOCK. Yeah, I was just going to point out that, again, we don't have to speculate about some of the behavior, and I appreciate your point about the cable. You know, the reality is in the 10 years since the 1996 act, the cable companies have been free to enter the phone and data market, and people have been free to enter the video market. And the behavior of the cable companies, once the FCC decided not to treat them as common carriers, demonstrates exactly what were concerned about. They ran the ISPs out of business by refusing them access to their network and by bundling their broadband service with their ISP.

So, I mean, this is natural financial behavior. I mean, it's been seen over and over and over again. And so the concern that somehow imposing some of these conditions would result in lost investment isn't borne out in other parts of the world. Europe is imposing

these very same open access requirements that we had in the 1996 act, and people are investing. And the other point is that empirically the evidence is strong that without some kind of behavior constraints, these network operators will use their market power to protect their core services.

So I think that, you know, we have demonstrated over and over again that this is a problem, and what you're hearing from Mr. McCormick is just more promises to listen to us once again, and don't worry, we'll take care of it.

Mr. GOODLATTE. Do you agree with Mr. Misener that the language that is being proposed in the Energy and Commerce markup is counterproductive? I take it that's what your position is.

Mr. COMSTOCK. It is counterproductive and the only qualification I would make on Mr. Misener's statement is I'm not sure that the FCC does, in fact, have any authority now that they've declared them non-common carriers to enforce those principles. They are principles that follow along the line of common carriage, and it's not clear that the FCC's title I authority would be adequate.

Mr. GOODLATTE. Mr. McCormick, do you want to respond? And also, do you want to respond to Mr. Misener's answer to my first question regarding how you pay for all this?

Mr. MCCORMICK. Yeah, I would. First, with regard to Mr. Misener and the House—we'd be happy to see that provision drop out of the House bill. We think that the FCC has sufficient authority today. We don't think that there's a need for the House to move forward and codify it. At the same time——

Mr. GOODLATTE. I found something you all agree on. We could agree to drop——

Mr. COMSTOCK. You'd have to make it stronger.

Mr. MCCORMICK. Secondly, I think one of the reasons that there's such difficulty here is that the whole debate is "what if." You know, what if the Bell Companies do this? What if the cable companies do this? There's no problem out there right now. There's no problem that can be cited that the Congress needs to deal with or that even the FCC needs to deal with. The Chairman of the FCC has said if a problem comes along, I've got sufficient authority to deal with it. But until such time as a problem develops, let's let the marketplace work.

I had begun my testimony today by saying that the net neutrality debate under these FCC principles does, in fact, address not just service providers but content providers, and that this Committee did look at screen bias in connection with the original search engines, which were the airline computer reservation systems. And I would like to insert for the record this search on Google with regard to where you buy books, and the first one that comes up is Amazon.com as a sponsored link—a sponsored link here, a sponsored link over here, too. But for the average consumer, that screen bias is pursuant to a toll that is paid to Google by Amazon.com to list Amazon.com as the very first result. It says so right here, "Sponsored link."

So I would argue that because—there's not a real problem out there right now because the marketplace is exploring this new era of the Internet and companies are beginning to jockey for how to make the right investments, how to find the market.

I would go with what John Chambers of Cisco said, which is now is not the time to legislate. Now is not the time to regulate in this area. First, do no harm. Let's wait and see if a problem develops and then address it.

Mr. GOODLATTE. Mr. Chairman, if I might have leave to allow Mr. Wu to respond to that, I would——

Mr. CANNON. First of all, let me suggest that—or ask unanimous consent that the document you've indicated from Google, the Google search, be admitted to the record.

And without objection, Mr. Wu, you are recognized to respond.

Mr. WU. Yeah, I think that Mr. McCormick is right that 2 or 3 years ago there wasn't a problem. The reason that this hearing is being held, the reason that there's so much popular attention, the reason the blogosphere is alarmed, the reason that gun groups, the reason that conservative bloggers, libertarian bloggers, liberal bloggers are all getting into this is because they've seen the plans of AT&T and Verizon. And, you know, Mr. McCormick uses words like "VPN," virtual private network, which are designed to sound very low key, but they're simply a priority lane for selected companies. That's why we have a problem now, is we have a plan for rollouts of networks that are discriminatory, and that's a change.

As for this question of, you know, who will build the networks, I think the network neutrality issue is almost a side issue to that question. There is marginally more profit that may be made from this priority lane approach, from this degradation approach, which is the same thing, which is why the Bells are interested in it. But the truth is that the neutral and open Internet has floated all boats. That is to say, these companies are making more money than they ever have with the neutral network. And so while there's a possibility of marginally more profit, what the Committee has to really understand is the trade-off. The trade-off is distortion of competition. I said this already about the refrigerator. We're, you know, starting to repeat ourselves. But there is a trade-off from this priority approach. There are other ways for them to make money that are less distortionary, less discriminatory. What the Government needs to do is to urge the less distortion, least discriminatory way——

Mr. GOODLATTE. In that regard, how would you respond to his analogy with regard to Google and Amazon?

Mr. WU. You mean that Google—you know, first of all, I mean, Zoe Lofgren, Congresswoman Lofgren pointed this out. Google actually does run a neutral search. Google search results are neutral. They have advertisements. And what he's referring to is the fact that there are advertisements on the Google website, which he is calling a priority lane. And I think it's a confusing issue. I think it confuses the issue. We've already said over and over again that—we've already said over and over again that the search engine is a competitive market. A9 is a pretty good search engine. I'm thinking of switching myself. It's a completely different type of market, and the analogy is just confusing. It's just this "Blame Google" approach. You know, maybe because Google is in China or something we can get some traction on this. It's a completely different issue. No one thinks the competitive conditions—no economist could come up here and say that competitive conditions for the search engine

market are anything like the access market. So I don't think it's even a good use of the Committee's time to think about it or talk about it.

Mr. GOODLATTE. Thank you, Mr. Chairman. I thank all the panelists. It was great.

Mr. CANNON. I thank the gentleman. The gentleman yields back.

The Chair recognizes the Ranking Member for purposes of a unanimous consent request.

Mr. CONYERS. I want to insert into the record the Chair's of the Federal Trade Commission's letter to myself and Chairman Sensenbrenner dated March 14.

Mr. CANNON. Without objection, so ordered.

The Chair recognizes the gentlelady from California, Ms. Waters, for 5 minutes.

Ms. WATERS. Thank you very much, Mr. Chairman and Members. This has been a very interesting discussion, and it seems to me we need to put a lot more time in on understanding what is taking place with the Internet.

I have some very simple and direct questions I'd like to ask. Is there a capacity problem with DSL, broadband, and cable?

Mr. COMSTOCK. I think it depends on how you define that. The issue today is that because increasingly competitors cannot get access to the infrastructure, you're seeing a degradation, a slowing down of the innovation that goes on that's led to it. As I mentioned, Cavalier Telephone down in Richmond, Virginia, is using DSL circuits to provide voice, video, and data. They're doing that on TV. If you look at in Europe today, DSL is widely used to do IPTV. So it can be done, and that innovation occurs when you unbundle the network.

If you look on the cable side, there is far less innovation going on because they've got an incentive not to expand the capacity too quickly or people might provide video over it.

So I think that the infrastructure is there, broadband deployment is there. The issue broadband penetration, which means you need to bring down the price, and the way you bring down the price is by having competition. And that's why Americans are paying so much more today for broadband than people are in other parts of the world, and that's why we're dropping in the OECD statistics. It's not broadband deployment we're dropping in. It's broadband penetration that we're dropping in, which is a function of people buying the service.

Ms. WATERS. Mr. Misener, you said when there was some discussion about charging and paying, you say, "Well, we do pay." Would you explain?

Mr. MISENER. Yes, ma'am. Companies, content companies like Amazon.com, have large servers in which we—servers and content in which we've invested billions of dollars of capital. And to connect those servers to the Internet backbone, we have contracts with many companies, including many of Mr. McCormick's members, in which we pay millions of dollars a year just to connect our content to the Internet.

Ms. WATERS. However, that does not give you any priority, just the connection. Is that right?

Mr. MISENER. That's correct.

Ms. WATERS. I'd like also again for you to explain why the consumer is being squeezed and why there's less access or potentially less access for the average consumer, small consumers, not the big guys?

Mr. MISENER. Yes, Ms. Waters. Thank you. It's because there are only two available service providers. Right now and for the foreseeable future, there will be this duopoly of only cable and telephone companies providing broadband Internet access to American residential consumers. We see the same thing overseas as well, in fact, and one of the things that I think has come out in this hearing is that not only is there this strong potential—in fact, announced intentions of the network operators in America to try to extract monopoly rents from American Internet companies, we're actually seeing announcements from foreign Internet companies. In my testimony, there's some quotes from the CEO of Deutsche Telekom. He intends to go after Google, eBay, Yahoo!, and Amazon. Those were the companies he named. Certainly no German companies were on that list.

American Internet companies are world-leading, and so foreign carriers are going to follow the example here in America and try to extract the same sorts of rents except it won't be foreign Internet companies that they're getting it from. It'll be American Internet companies.

Ms. WATERS. Thank you. I guess it would Mr. McCormick, will you counter the argument that consumers are being squeezed, that they will have less access and they will basically be competing for space with the huge companies that can afford to pay, like Disney?

Mr. MCCORMICK. I guess I'm still—I can't even comprehend how the consumer is going to get squeezed. The FCC has said that there are four principles: consumers are entitled to access lawful Internet content of their choice; consumers are entitled to run applications and use services of their choice subject to the needs of law enforcement; customers are entitled to connect their choice of legal devices that do not harm networks. In the case of those who are offering voice over Internet protocol services, the FCC has already shown that if consumers are in any way blocked or impaired from being able to use the VOIP provider of their choice, that the FCC will act. The Chairman of the FCC has said that he believes he continues to have legal authority in that regard.

So I don't know how the consumer is going to get squeezed.

Ms. WATERS. Okay. Well, thank you.

Do you know how, Mr. Wu?

Mr. WU. I do, and it comes from—it comes from the problem of network stagnation; that is to say, if we have a situation, if we move towards—which is the plan of the Bells, to move toward a discriminatory Internet, consumers—the applications which consumers may prefer may not be the ones that run best. I'll turn it back to the electric network. You know, let's say you really prefer General Electric products over Samsung. But you go out and buy and General Electric's refrigerator just doesn't operate as well. That is, the applications the consumers like best, whatever their idiosyncratic preferences may be, may not work as well on the network, and that's the threat—that's the short-term threat to consumers. The long-term threat is that when competition on the net-

work becomes a question of who has the best connections with the gatekeepers, you no longer have the kind of innovative market which has been good for consumers. Consumers every year can look forward to new search engines, for better or for worse—I keep talking about A9, have these strange ways you can search block by block. There's constant arrival of new innovations in Internet space, and that is what's at threat. That's something that's very important for consumers, very good for the national economy. And that's what's at threat, the innovative dynamic nature. That's the trade-off of allowing discrimination.

Ms. WATERS. Thank you. Mr. McCormick, I would take it you would just flatly disagree with Mr. Wu.

Mr. MCCORMICK. Well, I would flatly disagree. I mean, let's take—let's take his refrigerator example and let's say that you've got some refrigerator that you can now make telephone calls on and watch TV on and maybe Samsung will come up with that kind of refrigerator. What the FCC principles say is that the consumer has the right to attach that device to the network and that the network operator will in no way block, impair, or degrade service to that Samsung refrigerator that you can watch TV and get telephone calls over. So with those——

Ms. WATERS. So you're basically saying electricity is electricity, that if you have access to it, you can buy as much as you need or want, but that electricity works well for everybody.

Mr. MCCORMICK. It works well very everybody.

Ms. WATERS. Thank you, Mr. Chairman. I don't know if I know any more than I knew before I came in here about this argument, but it has been interesting. Thank you.

Mr. CANNON. As long as your heart is pure, it will work. The Chair would ask unanimous consent to include in the record a document by John Windhausen, Jr., dated February 6, 2006, "Good Fences Make Bad Broadband." Without objection, so ordered.

The Chair would ask unanimous consent that he be allowed an additional 5 minutes to ask questions of the witnesses without going into a second round. Without objection, so ordered.

I really do this because I'd actually like to flesh out the record a little bit. And, Mr. Misener, you talked about the Commerce bill, which I take it you're somewhat familiar with. In your view, what would happen to antitrust enforcement if the Commerce bill is passed?

Mr. MISENER. Mr. Chairman, I'm no expert on antitrust, but I am concerned that if that were to be passed, then the holding in Trinko might actually prevent antitrust enforcement in this area. We certainly would like to see bright-line rules adopted, however they're adopted and however they're enforced, to be in place and advanced so that we're not engaged in long, spread-out litigation post hoc.

My company is all of 11 years old. Seven years of an antitrust case don't get us very far, especially in this circumstance where there is such an obvious clear and present danger that is, as I say, eminently avoidable by bright-line rules in advance.

Mr. COMSTOCK. I think, Mr. Chairman, if I might comment, I think the concern specifically with the Commerce bill is, as drafted, it appears to provide exclusive authority to the FCC and then limit

that authority specifically to these wonderful principles that Mr. McCormick keeps referencing, which are that—they're principles, they're very vague, and there's no rulemaking authority.

So I think the concern would be that it might be interpreted, particularly in light of Trinko, to have preempted antitrust enforcement, and that's a major concern. You know, these entities, particularly the Bell Companies, are claiming protection under the filed rate doctrine. There's issues having to do with whether or not I'm directly buying service from them, what if I'm an indirect purchaser, with respect to the antitrust laws that we'd need clarification on. And I think having that Commerce Committee language that says the FCC has exclusive authority to deal with these matters might pose some problems as well.

Mr. CANNON. Thank you. I'm holding the document, the proposed bill, the legislation in front of me, and section 3 talks about this adjudicative authority, which you have quoted precisely. Mr. McCormick, would you like to respond to that?

Mr. MCCORMICK. Yes. I'm sure that if there is a concern that that language would have any negative impact on antitrust enforcement, we could probably reach an agreement among the three of us to let it drop out and let the antitrust laws govern. I mean, we strongly believe that it's a marketplace today that should be governed like the rest of the American marketplace, and it ought to be governed by the Nation's antitrust laws, and it shouldn't be governed by continued regulation. So if that language in that bill is of a concern to these constituents, we could probably reach an agreement in that regard.

Mr. CANNON. So let me just take it a step further. Based on what you're saying, would your organization support codifying those principles in antitrust law?

Mr. MCCORMICK. No. We believe that the antitrust laws are very explicit with regard to illegal restraints of trade and anticompetitive behavior, that the antitrust departments and agencies that are overseen by this Committee—the Federal Trade Commission, the Department of Justice—are very aggressive in their enforcement. And as Mr. Issa said earlier, we believe that traditional antitrust analysis ought to be the analysis that's applied to this marketplace.

Mr. CANNON. Are you familiar with the hearing the full Committee had on Trinko sometime ago?

Mr. MCCORMICK. I'm aware of it. I'm not familiar with it.

Mr. CANNON. The industry, the people that you represent today, had representatives here who testified that we really didn't need antitrust oversight. I take it you're now saying something different from that.

Mr. MCCORMICK. Well, I think what the representatives said is that there should not—you shouldn't be subject to double jeopardy. You shouldn't have a belt-and-suspenders approach. There shouldn't be enforcement at the FCC and then once you follow the dictates of the FCC you should be subject to a separate level of enforcement on the antitrust laws, so choose. And I think that what I'm saying today is that if there's concern that this language as applied to broadband would create a situation where the antitrust laws would not apply, then let's not do belt-and-suspenders. Let's

let the antitrust laws govern this segment of the industry, just like they govern every other segment of the American marketplace.

Mr. COMSTOCK. Mr. Chairman, if I just might, I think it's important to note that when the antitrust action that broke up AT&T was taken, the common—the Communications Act applied to AT&T just as well. So the issue that really exists here is that you have an industry that has been very successful in manipulating the arms of Government, and what they keep doing is saying, well, that guy's regulating me over here so you don't need to worry over here. And then when you flip it around, they say the reverse.

And so if antitrust law is going to be the primary tool—and I think the FTC letter that you entered in the record illustrates this, that now that there's no longer a common carrier obligation, the FTC may well be the primary law enforcement agency. I think it is essential for the American economy and our position in global competitiveness to have a clear set of rules spelled out with respect to the operation of broadband networks in this country, because communications is an essential service that we all need today if we're going to stay competitive. So we need something specific. As Mr. Misener said, 7 years of an antitrust suit isn't going to get Amazon off the ground, if that's what they're trying to do.

Mr. MISENER. Mr. Chairman, if I just may very quickly.

Mr. CANNON. Please.

Mr. MISENER. It may be restating the obvious, but consumers don't care. They don't care how this is accomplished. They just want to ensure that their longstanding Internet freedoms are preserved.

Mr. CANNON. Thank you.

Mr. Wu, did you want to make a comment, please?

Mr. WU. I agree with that. This is an issue about the Nation's economy and about innovation and the future of this country. And richer countries have better neutral infrastructures; poorer countries don't. This is—we risk getting lost in this battle as to whether it should be antitrust or whether it should be telecom law or the FCC. The question—the basic principle is that the engine of the economy has been the applications layer of the Internet, and this incredibly well-functioning market on top of the Internet's infrastructure.

What is needed is minimum action to prevent spillovers from the uncompetitive part of this network from distorting the competitive and highly functioning part of this network, the application side, and that's important to this country's future and to its economic health. And it doesn't matter how you do it.

Mr. CANNON. Thank you. I would like to thank all of you for being with us today——

Ms. JACKSON LEE. Mr. Chairman, would you yield for an inquiry, please?

Mr. CANNON. Certainly.

Ms. JACKSON LEE. I know that you had the last 5 minutes without having a second round, but can I inquire to you, which would then allow the panelists, the very respected individuals, to answer the question and, that is, if I may give the question, that they may ask—answer in writing——

Mr. CANNON. Without objection.

Ms. JACKSON LEE. I would be jumping for joy if they could answer today, but I will yield to that. We have heard a jangling of agencies—FTC, FCC, and the Department of Justice—all around the question of what would be a better regulatory structure for the consumer. I'd be interested in hearing from each of them as to what would be the better regulatory structure—to re-engage the FCC, to put the anchor in the FTC, or whether or not strictly under the Department of Justice, particularly as it relates to the antitrust law. I'd appreciate their response in writing, Mr. Chairman, if I could.

Mr. CANNON. Just a clarification. Would you like them to try and address that now and avoid writing, or would you like——

Ms. JACKSON LEE. Mr. Chairman, only at your kind indulgence would I be grateful if they could.

Mr. CANNON. I would prefer leaving them without the burden, and then you can follow up with——

Ms. JACKSON LEE. Well, I'd be happy to have them answer. I'd be willing to hear their answer on this point.

Mr. CANNON. Why don't we go, Mr. Misener, from you down the——

Ms. JACKSON LEE. Thank you, Mr. Chairman.

Mr. MISENER. Thank you, Mr. Chairman and Ms. Jackson Lee. We certainly would prefer any a priori regulation that communicates directly to the network operators and to American consumers what the rules of the road are. So we're looking for bright-line rules of the road.

It seems to me that since these historically have resided at the FCC, that that likely is the best place to keep them. But ultimately, again, consumers don't and need not care from whence Government rules of the road arise but, rather, that they exist and they do protect these longstanding consumer freedoms.

Ms. JACKSON LEE. Thank you.

Mr. COMSTOCK. I would generally agree. I mean, we had a very effective common carrier regime, and I think the problem that's arisen—and I would note we had a common carrier regime backed up by antitrust enforcement, and maybe not by the FTC but still by the Department of Justice. And I think that was a great model.

I think the problem is then that we've got an agency that, notwithstanding fairly clear instructions from the Congress in the 1996 act, has chosen to abandon those responsibilities. And so I would say the FCC if the FCC is actually going to carry out the law, but in the absence of that—and that's, I think, a lot of the reason we're here—then we've got to find another solution. And, unfortunately, the Department of Justice has also abdicated in their recent approval of the mergers. You know, one industry swallowed the other major competitors whole, and they didn't even blink. So I'm not sure what happened to competition analysis, but, you know, Mr. McCormick keeps saying standard antitrust analysis. Well, there appears to be none. So if it's not going to be either of those two, I'd certainly vote for the FTC. But, again, I think that's only going to happen—they're now an ad hoc enforcement agency, and you can't have something run that way. You've got to have, as Mr. Misener said, the rules set out up front and very clearly stated. And if that's going to happen, then it's imperative for this Com-

mittee, the Congress as a whole, to adopt clear rules with respect to how we're going to deal with these networks. Those rules should make sure you have service upon reasonable request, nondiscrimination, interconnection, attachment of devices—essentially the same things that you have under common carriage because that's the framework upon which this massively successful Internet has been built.

Ms. JACKSON LEE. Thank you.

Mr. MCCORMICK. Congresswoman, today there exists no problem. The FCC has set forth a series of principles and has said that if a problem develops, it has the authority to enforce. We support that.

Recently, you asked the Federal Trade Commission if the Federal Trade Commission believed that it had authority to address anticompetitive behavior, and the Federal Trade Commission responded that it believed that it did have authority, sufficient authority to address any anticompetitive behavior that could result. That we support. We think that the current environment is one where the Government has clearly articulated a policy and has available to it the tools it needs to address any problems should problems arise.

That having been said, we don't think there needs to be new authority created. We think that the existing antitrust laws are sufficiently definite with regard to illegal restraints of trade, attempts to monopolize, and anticompetitive behavior for the Government to have available to it whatever remedies need to be available should a problem develop.

Ms. JACKSON LEE. Professor?

Mr. WU. Yeah, I'd just make one point. These matters have often ended up at the FCC, and part of the problem with that is what are really issues of national economics and macroeconomic policy end up always being seen as these kind of weird, geeky telecom issues, like a battle at the Star Trek Convention or something. And part of the reason for moving the authority, arguably, outside the FCC is that it will be easier to recognize and understand that these are straightforward antitrust issues. And I think this is part of what, you know, the Committee is here today to understand. And so these are issues that affect the entire country and that are straightforward, familiar anything problems that involve industries and involve consumers.

So I think there's a good argument from trying to take this away from this tiny, strange world of telecom policy and into the broader questions of national economic policy, which are just moving things away from the FCC.

Ms. JACKSON LEE. Thank you, Mr. Chairman. I think we have our work cut out for us, but we have had an expansive hearing. Thank you. I yield back.

Mr. CANNON. The Chair's time having expired, let me just thank the panel for being here today. This has been among the most lucid, engaging of all hearings I've been to, certainly of those that I've chaired.

Thank you, and the Committee stands adjourned.

[Whereupon, at 4:28 p.m., the task force was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE JOHN CONYERS, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN, AND RANKING MEMBER, COMMITTEE ON THE JUDICIARY

I want to thank the Chairman for asserting our jurisdiction in this matter. Contrary to what our friends in the Commerce Committee may think, it is the Judiciary Committee that has jurisdiction over issues that affect the state of competition in the telecommunications industry.

When it comes to the Internet, we should proceed cautiously. Unless we have documented instances of a problem, I do not believe the Congress should regulate. I have consistently taken this position. In the area of Internet taxation, I have always sided with those who believe we should oppose multiple and discriminatory taxes on the Internet and need a moratorium on those taxes. In the area of campaign finance regulation of blogs and other Internet communications, I was one of the first in Congress to tell the Federal Election Commission to go slow.

That said, when we do see evidence of a problem, Congress has a duty to act. In some instances, Congress must provide the rules of the road to ensure competition, fairness, and sound public policy.

While I remain open on the issue of network neutrality, I have become more and more concerned that if Congress does nothing, we could be heading in a direction where those who pay can play, and those who don't are simply out of luck.

For example, some telecom companies have indicated that they do not intend to let companies like Google and Yahoo—or the next generations of Internet entrepreneurs—use their pipes without significant payments. Verizon's CEO Ivan Seidenberg said he would not let these companies "sit on our network and chew up our capacity." AT&T's Ed Whitacre said "I ain't going to let them do that."

The network operators say they have a right to charge companies for enhanced services. The content companies and consumers say the Internet should be open to all, regardless of their ability to pay.

Americans have come to expect the Internet to be open to everyone and everything. This is also a key factor in one of the fastest growing areas of our economy—the Internet.

Whatever Congress does, it must protect these aspects of the Internet. One option would be to legislate in the most general way possible, offering only guidelines or principles and punting to the FCC to figure out how or whether to enforce them. I think that approach is not responsible. I think Congress has a duty to do more.

I look forward to hearing from our witnesses today, and I hope we can have a dialogue about how best to ensure and protect the Internet on which we have come to rely.

PREPARED STATEMENT OF THE HONORABLE BOB GOODLATTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA

Thank you, Mr. Chairman, for holding this important hearing.

The Internet continues to be an engine that empowers our citizens and our economy. New and exciting products and services continue to emerge that enhance the quality of life of our citizens and increase the efficiency of businesses.

Part of the reason why the Internet is such a creative forum for new ideas is that there are very few barriers to using the Internet to deliver products, information and services. Startups such as Google, ebay and many others have sprung up and prospered because they had the same access to consumers via the Internet that other, larger and established entities had.

In the 106th Congress, I introduced legislation, along with Congressman Rick Boucher, to ensure competition in the broadband access and services market. Specifically, this legislation amended the antitrust laws to prohibit anti-competitive behavior so that the Internet would remain open to fair competition, free from government regulation, and accessible to American consumers.

I believe that the Internet should remain open and that network operators should not be able to pick and choose who wins and loses in the Internet marketplace. At the same time network operators must be able to manage their networks in a way that allows them to build more capacity so that they can provide more consumers with the Internet sites that continue to grow in size and complexity.

In time, as competition in the provision of broadband Internet access emerges, it is my hope that the market will provide solutions to the questions that we will pose today. In the meantime, we must be vigilant to ensure that the unique benefits of the Internet do not fall prey to anti-competitive pressures. While I continue to grapple with whether legislation is needed in this area in the short-term, I believe that Congress must conduct aggressive oversight on this issue to gather accurate information about what is—and is not—occurring in the marketplace.

I thank the chairman for holding this important hearing today, and I look forward to hearing from our expert witnesses.

PREPARED STATEMENT OF MARK COOPER, DIRECTOR OF RESEARCH, THE CONSUMER FEDERATION OF AMERICA, ON BEHALF OF THE CONSUMER FEDERATION OF AMERICA, THE FREE PRESS, AND THE CONSUMERS UNION

SUMMARY

In amending the Communications Act we do not have to abandon a pro-competitive vision for the future, but we must understand the failures of the anti-competitive past and get back to traditional principles of communications networks that have served the nation well.

First, the commitment to universal service is more important than ever because access to communications is increasingly vital in the digital information age. Second, universals service is an evolving concept that must ensure that Americans can participate in the digital future. Policies that attempt to segregate the "legacy" network from the future network and "ghettoize" universal service are unacceptable. Third, at its heart, communications is local. Global networks are useless without last mile facilities—the local switches/routers and transport facilities that connect the consumer to the world. Fourth, competition is an operational means to serve public interest ends; it is not the end in itself.

Prospects for last mile competition in the converging world of 21st century U.S. communications are not good. There are only two local, last mile communications networks that can provide a fully functional broadband network to the residential consumer and prospects for a third or fourth are bleak. This feeble duopoly we will not accomplish the goals of a ubiquitous, nondiscriminatory network available to all Americans at reasonable rates. America has been falling behind in the global race to the broadband future, not because there is inadequate incentive to invest, not because we are less densely populated than other nations, but because there is inadequate competition to push the "cozy duopoly" to make attractively priced services available and unleash the Internet economy to develop consumer-friendly services.

We urge the Congress to begin from the successful principles of past policies and to learn from the problems and failures of past mistakes.

- Nondiscrimination in interconnection and carriage should be the explicit legal obligation of communications networks that provide last mile connectivity and local network access, as it has been for the last century.
- The commitment to universal service should be strengthened, not weakened, and we should apply the program beyond the dial-tone to broadband capabilities. We support legislation introduced by Members of this Committee to meet this need.
- Congress can promote the goals of competition and universal service simultaneously by making available more spectrum for unlicensed uses and protecting the right of local governments to build last mile networks. We applaud Members of this Committee who have introduced legislation to accomplish both of these goals.
- Congress should recognize the economic reality of the communications market and direct public policy to correct for the abuses of a duopoly market struc-

ture. Without explicit, pro-competitive policy, we cannot expect it to grow of its own accord.

Mr. Chairman and Members of the Task Force,

The Consumer Federation of America,[1] Free Press,[2] and Consumers Union[3] appreciate the opportunity to submit this statement for the record on the issue of concentration and convergence in the high-speed broadband market and the importance of preserving Internet Network Neutrality. My name is Dr. Mark Cooper. I am Director of Research at the Consumer Federation of America.

Dozens of witnesses have testified in Congressional hearings this year about the future of the Internet, telecommunications policy and the need for reform. It is not a pretty picture for consumers. Previous hearings have dealt with specific details of the failure of the competition policy under the Telecommunications Act of 1996 (the 1996 Act). The 1996 Act promised an explosion of competition voice, video, and data communications, and yet today we are witnessing the reconstitution of Ma Bell and the crystallization of a cozy duopoly of cable and telco. The Committee has been told of skyrocketing cable rates and the plummeting position of the United States in the global race to the broadband future. It has been presented with examples of anticompetitive and anti-consumer behaviors of the giant communications companies that now dominate the market. Despite the perverse anti-competitive results of the "pro-competition" policies in 1996 Act, these companies come before you to demand that you legalize discrimination in the provision of access to the communications network of the future, an approach that Congress has rejected for a century.

If future prospects are determined by our success in the broadband market (which few analysts deny), our current position is untenable. We are now 16th in the world in broadband penetration. Virtually none of our broadband lines can sustain even 1 megabit per second of speed in both directions-up and down the network. We pay $15–$20 a megabit for download speed—20 times more than the global leaders. We have a pervasive rural/urban digital divide that is *increasing* as time passes. Our universal service policies have not been updated and reformed to efficiently address our broadband woes. Insufficient spectrum has been opened to facilitate a legitimate, independent wireless broadband competitor. All we are left with is the false promise of competition from 1996 and the farcical declarations from cable and telephone giants that a duopoly market is vigorously competitive.

The parade of horribles with which you have been presented goes on and on and I will not regurgitate them in detail today. I have attached half dozen Appendices to this testimony that contain analyses prepared by our organizations that detail the failure of competition under the 1996 Act. I believe that we have been brought to this sorry condition because:

(1) the 1996 Act tried to do the impossible in some markets, aiming to build competition where conditions could not sustain sufficient competition to protect the public from abuse (e.g. local, last mile access);

(2) the Federal Communications Commission (FCC) and the antitrust authorities mishandled the introduction of competition in markets where it was sustainable, allowing the incumbents to drag their feet, engage in all manner of anti-competitive behaviors, and mergers (e.g. network opening, program access and mergers); and

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[1] The Consumer Federation of America is the nation's largest consumer advocacy group, composed of over 280 state and local affiliates representing consumer, senior, citizen, low-income, labor, farm, public power and cooperative organizations, with more than 50 million individual members.

[2] Free Press is a national, nonpartisan organization with over 225,000 members working to increase informed public participation in crucial media and communications policy debates.

[3] Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the state of New York to provide consumers with information, education and counsel about good, services, health and personal finance, and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is solely derived from the sale of *Consumer Reports,* its other publications and from noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports* with more than 5 million paid circulation, regularly, carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

(3) the FCC misread the 1996 Act in other markets, undermining and threatening competition that actually existed (e.g. allowing network owners to undermine competition in Internet access and services).

In amending the Communications Act (the Act) we do not have to abandon a pro-competitive vision for the future, but we must fully understand the failures of the anti-competitive past. A competition-friendly, consumer-friendly future requires that we return to certain key traditional values and fundamental principles that made the American communications network the envy of the world throughout most of the last century.

SOCIAL, TECHNOLOGICAL AND ECONOMIC PRINCIPLES FOR COMMUNICATIONS POLICY

In order to evaluate competition and convergence in the communications sector in the context of a legislative hearing on amendments to the Communications Act of 1934, there are four basic principles that must be kept in mind.

First, the Act has a specific purpose laid out clearly in the first sentence of Title I, Section I: "to make available, so far as possible, to all people of the United States, without discrimination on the basis of race, color, religion, national origin or sex, a rapid, efficient, nationwide and world-wide wire and radio communications service with adequate facilities at reasonable charges." This commitment is more important than ever because access to communications is increasingly vital in the digital information age.

Second, today's analysis must be forward-looking, in the spirit of the Act, focusing on the broadband communications network that will be the dominant means of communications in the 21st century. Looking to the future does not mean we should ignore the problems or the progress of the past. On the contrary, the right combination of correcting past mistakes and evolving successful policies for the digital era is the only means of satisfying the public interest. Certainly, the track record of competition and the past behavior of market participants are relevant, especially if the same actors play similar roles. These market patterns can give a good indication of what is likely to happen under the various policy regimes under consideration. However, policies that attempt to segregate the "legacy" network from the future network and "ghettoize" universal service are unacceptable. The commitment to universal service needs to include a commitment to an evolving level of service to ensure all Americans participate in the future, as the Telecommunication Act of 1996 (the 1996 Act) explicitly recognized in Section 254.

Third, at its heart, communications is local. Communications starts and ends with a local transmission medium and a local network. In order to make a call from Los Angeles to anywhere in the world, you need a wire or spectrum and a switch in Los Angeles. In order to terminate a call in New York from anywhere in the world you need a wire or spectrum and a switch in New York. The network in between may be national or global, but the last mile is local. Global networks are useless without last mile facilities—the local switches/routers and transport facilities that connect the consumer to the world. The Act recognizes this as well, in the first two sections of Title II, which establish the obligation to provide interconnection and carriage of communications on nondiscriminatory rates, terms and conditions. Technology has not changed this basic fact.

Fourth, competition is an operational means to serve public interest ends; it is not the end in itself. Further, the state of competition is an empirical question, not a theoretical statement of belief or desire. There is an expression in economics used to describe competition in markets—"four is few, six is many.' When there are fewer than the equivalent of roughly six, equal competitors, a market is considered highly concentrated because economic theory, empirical evidence and a century of practical experience shows that markets that are this concentrated do not perform well. In highly concentrated markets, prices are set above costs and innovation declines. With so few competitors, it is easy to avoid vigorous, head-to-head competition, especially when each uses a different technology, specializes in a different service, or concentrates on a different geographic area or user sector. Where competition is lacking, there is little chance that markets will accomplish the goals of the Act. Even where there is vigorous competition, there are circumstances in which the market will not accomplish the broader goals of the Act. It is the responsibility of legislators to conduct a fair assessment of competition thresholds in order to maximize the effectiveness of public interest communications policy. We must not place our trust in the rhetoric of special interests without facts on the ground.

THE CURRENT STATE OF COMPETITION AND CONVERGENCE

In the emerging, converging world of 21st century communications, prospects for vigorous competition in the local segment of the industry are not good. At present,

there are only two local, last mile communications networks that can provide a fully functional broadband network to the residential consumer—the incumbent local telephone companies and the incumbent cable operators. Two is not a sufficient number to ensure vigorous competition, and both sets of incumbents have a miserable record of anticompetitive, anti-consumer behavior.

The best hopes for a third, last mile alternative were undercut when regulators allowed the most likely candidate—wireless—to be captured by dominant wireline firms through ownership or joint ventures. It stretches credible expectation to assume that a wireless provider owned by an ILEC, or in partnership with a cable giant, will market a wireless broadband product that directly competes with its wired product. They will offer premium, supplementary services to be sure—but it will not be a true third broadband competitor. Hope and hype surrounding other technologies cannot discipline anticompetitive and anti-consumer behavior. Mergers such as that proposed by AT&T and BellSouth will only make matters worse. No company with sufficient market power to extract monopoly rents will fail to do so absent proper public policy protections.

On the current trajectory, consumers are falling into the grip of a "cozy duopoly" of cable and telephone giants, which will abuse its market power, abandon it social responsibility and retard the development of our 21st century information economy. We can debate whether a regulated monopoly is better or worse than an unregulated duopoly, but we believe the evidence shows beyond any doubt that the feeble duopoly we have will not accomplish the broad Communications Act goal of a ubiquitous, nondiscriminatory networks available to all Americans at reasonable rates.

The danger of relying on a "cozy duopoly" is already apparent. The harm has already been done, and its impact is severe (see Expanding the Digital Divide and Falling Behind on Broadband: Why a Telecommunications Policy of Neglect is Not Benign—October 2004; Broadband Reality Check: The FCC Ignores America's Digital Divide—August 2005). America has been falling behind in the global race to the broadband future, not because there is inadequate incentive to invest, not because we are less densely populated than other nations, but because there is inadequate competition to push the "cozy duopoly" to deploy attractively priced services and unleash the Internet economy to develop consumer-friendly services. The current jostling for upscale consumers with big bundles of services leaves the majority or Americans behind. On a per megabit basis Americans pay five to twenty times as much for high-speed services as consumers in many other nations. Is there any doubt that the primary cause of the broadband digital divide is price? Now, after leaving the American consumer in a serious predicament, the network giants are insisting on the right to discriminate against content, applications, and services on the Internet, as blackmail for building broadband networks.

The failure of penetration resulting from high prices and the threat of discrimination in network access drives innovation out of the American Internet space and overseas. We should take note that the world's most advance broadband nations have instituted policies that are based on last-mile competition, strategic direct investment in infrastructure, and free market principles of non-discrimination on the network to drive innovation. Not only has the FCC failed to institute pro-competitive policies, the Commission has done precisely the opposite, masking it in rhetorically glowing but substance-less reports on the state of the broadband market.

THE PAST AS PROLOGUE: SUCCESSES AND FAILURES ON THE ROAD TO CONVERGENCE

Telecommunications

The idea behind the break up of AT&T in 1984 was to separate those parts of the industry that could be competitive from those parts of the industry that could not and use public policy to advance competition in the competitive sector. It worked in the long distance industry for most consumers. Requiring the local companies to provide "equal access" to their networks and shifting fixed cost recovery onto consumers, federal regulators created an environment in which long distance companies eventually commoditized long distance—as long as consumers took large bundles—and competed the price down.

The Telecommunications Act of 1996 sought to introduce more competition into last mile markets in telecommunications and cable. In telecommunications, it sought to promote competition by identifying the various elements of the local exchange network and making them available to competitors on terms that would allow competition. The idea was that new entrants would invest in competing facilities where they could, while the monopoly elements were rented from the incumbents. Billions of dollars were invested, but this experiment failed. In the decade since the Telecommunications Act of 1996 was passed, the Federal Communications Commission (FCC) and the antirust authorities failed to enforce the communications

and competition laws of this nation to promote a consumer-friendly competitive environment. The FCC allowed the incumbent local telephone and cable companies to avoid their obligations under the law to promote entry into the communications field, while the Department of Justice (DOJ) and the Federal Trade Commission (FTC) allowed them to buy up their actual and potential competitors. (See Competition at the Crossroads: Can Public Utility Commissions Save Local Competition—October 2003; Broken Promises and Strangled Competition: The Record of Baby Bell Merger and Market Opening Behavior—June 2005).

The Competitive Local Exchange Carriers (CLECs) were strangled by the failure of the FCC to force the incumbent local exchange carriers (ILECs) to open their local markets. And when the possibility of voice over Internet protocol (VOIP) arose, the ILECs slammed the door by tying high speed Internet to VOIP service. In essence, forcing consumers to pay twice, if they wanted an unaffiliated VOIP provider. The two largest CLECs were recently absorbed by the two largest ILECs. The same two dominant local companies also absorbed the two players in largest long distance service and enterprise market, reconstituting the old Bell system as two huge regional entities that dominate their home territories with about a 90 percent share of local service, an 80 percent share of long distance, and over a 50 percent in-region share of wireless service. (See Petition to Deny of the Consumer Federation of America and Consumers Union, *In the Matter of Application for the Transfer of Control of Licenses and Authorizations from AT&T Wireless Services, Inc. and its Subsidiaries to Cingular Wireless Corporation,* Federal Communications Commission, WT Docket No. 04–70, May 3, 2004; Reply, Federation of America and Consumers Union, *In the Matter of Application for the Transfer of Control of Licenses and Authorizations from AT&T Wireless "Services, Inc. and its Subsidiaries to Cingular Wireless Corporation,* WT Docket No. 04–70, May 3, 2004).

Cable

The 1984 Cable Act ended local regulation under the promise of competition. Overbuilders were supposed to enter to compete head-to-head, and satellite providers were supposed to provide intermodal competition. It never happened. The last mile market for cable proved too difficult to crack. Cable rates skyrocketed and the industry was subject to conditions of nondiscrimination in access to programming in 1992. Rates stabilized because of regulation, not competition.

As in telecommunications, the 1996 Act sought to stimulate head-to-head competition in multichannel video programming distribution (MVPD), but failed. Overbuilders could not crack the market—taking a scant 2 or 3 percent of subscribers. Satellite grew, but could not discipline cable's market power nor effectively discipline prices. The local telephone companies were invited into the cable business in a variety of ways, but chose not to enter.

Cable operators still account for about 75 percent of all MVPD subscribers. Regional concentration has reinforced market power at the point of sale. Monthly cable rates have doubled since the 1996 Act and consumers are offered massive, monthly packages which afford them little choice in what to buy (See Time To Give Consumer Real Cable Choices: After Two Decades of Anti-Consumer Bundling and Anti-Competitive Gatekeeping—June 2004; Reply Comments of the Consumer Union and the Consumer Federation of America, *In the Matter of Comment Requested on a la Carte and Themed Tier Programming and Pricing Options for Programming Distribution on Cable Television and Direct Broadcast Satellite Systems,* Federal Communications Commission, MB Docket No. 04–207, August 13, 2004). Geographic consolidation has created a huge obstacle to entry into the programming sector. Cable operators control the programming that reaches the public and discriminate against unaffiliated programmers. The results of these market trends have left consumers and independent programmers at the mercy of the cable giants. (See Comments of Consumer Federation of America, Consumers Union and Free Press, *In the Matter of the Commission's Cable Horizontal and Vertical Ownership Limits and Attribution Rules,* Federal Communications Commission, MM Docket No. 92–264, August 8, 2005.)

Internet

When cable rolled out a telecommunications service—cable modem service—the FCC moved the goal posts, redefining cable modem service into a different regulatory category. It abandoned one of the vital underpinnings of the success of the Internet, the "Computer Inquiries." This was the digital age expression of the principle of nondiscrimination that the FCC applied to computer and data services starting in 1968. As telecommunications in this country have evolved, the FCC established the policy of keeping the network neutral—allowing the intelligence in the network to stay at the edge. This dovetailed with the end-to-end principle of the

Internet and provided an arena for free market innovation, competition and consumer choice that was unparalleled in recent experience.

When the FCC abandoned this policy for cable modem service, America's slide from Internet leadership began. This allowed the cable operators to discriminate against Internet service providers—forcing consumers to pay twice if they preferred an Internet service provider other than the cable affiliate (See The Public Interest in Open Communications in Networks, July 2004). Cable operators have imposed all manner of anti-consumer, anti-innovation restrictions in their customer agreements, which have driven applications developers away from this space. More importantly, the decision to remove Title II obligations of nondiscrimination in interconnections and carriers (common carrier regulations) from cable modem service paved the way for a total cashiering of a century of communications policy. The immediate result will be nothing short of the destruction of the Internet if the Congress does not move to hold the line on the last remaining safeguard-network neutrality. The fundamental mistake in communications policy, which we have made over and over in the last two decades, is to allow a very small number of network owners to control the physical communication system. If we duplicate that mistake again, the result will be the destruction of the vibrant, vigorous competition and burgeoning innovation of the Internet economy.

THE FUTURE

The telephone companies now say they are ready to compete with cable in video, and the cable companies now claim to be ready to compete with telephone companies for voice. But they have demanded the elimination of the fundamental social obligations of the Act—universal service and nondiscrimination—before they do so. The notion that Congress anticipated or would ever have enacted the 1996 Act under belief that we would end up with a duopoly is not believable. The hope was for vigorous competition among many providers.

Two competitors are simply not enough to discipline pricing, as the new entrants just match the high priced bundles of the incumbents. Two are not enough to ensure nondiscriminatory access to the communications network, as the new entrants demand to be allowed to discriminate and exclude Internet service providers and rival services. By traditional economic standards, three or four market players are not enough to assure competition, certainly not when access to the means of communications are at stake. If both network giants in a market adopt the same anti-competitive practices, where will consumers go? They are trapped.

The fundamental importance of nondiscriminatory access to networks and services embodied in the Communications Act was reaffirmed just this month by key members of the "cozy duopoly." Time Warner, the second largest cable company, has petitioned the Federal Communications Commission to impose an obligation of nondiscriminatory interconnection on the incumbent local telephone companies, under Section 251 of the Act. Verizon, the second largest telephone company, has petitioned the Commission to impose an obligation of nondiscriminatory access to video programming under Section 628 of the Act. Yet, both of these entities directly and indirectly through their trade associations, are lobbying the Congress, and have pushed the FCC, to eliminate all such obligation with respect to Internet access and services.

The fact that the anti-competitive and anti-consumer practices of these companies come and go, as political pressure or public attention ebbs and flows, is not a justification to abandon the principles of nondiscrimination. On the contrary, when innovation depends on the whims of network gatekeepers it is stunted and chilled. As Vint Cerf has said: the Internet is about "innovation without permission." When the choices are few, the switching costs for consumers are large, and the gatekeepers decide which services have access to the public, innovative activity will go elsewhere.

Current arguments against obligations to provide nondiscriminatory access are based on the claim that competition exists between two networks and that is all the American economy needs. That claim is wrong as a matter of historical fact and practical experience. The obligation of nondiscrimination came to this country under English common law. From the founding of the Republic, public roads competed against privately owned canals, but they were both subject to obligations of nondiscrimination. Private railroads were added to compete with canals and roads, and when they began to brutally discriminate, refusing to be bound by their common law obligations, they brought a more explicit anti-discrimination approach into the law. "Unjust discrimination between persons, places, commodities, or particular descriptions of traffic" brought common carrier down upon the railroads in the Interstate Commerce Act of 1887. Telegraph and wireline telephone were also expected to be-

have in a nondiscriminatory manner, but when AT&T refused to interconnect with independent companies, common carrier obligations were extended to that industry in the Mann Elkins Act of 1910, thus ensuring nondiscrimination in communications.

In other words, one of the enduring principles of communications in America has been nondiscrimination. We have layered alternative modes of communications one atop another, each using a different technology, each optimized for a somewhat different form of communications and still we imposed the obligation of nondiscrimination. We have accomplished this through both a liability approach and a regulatory approach. The layering of networks subject to the obligation of nondiscrimination makes even more sense today when the importance of the free flow of information is magnified as it is in our digital economy.

CONCLUSION

As this Committee moves forward to construct a new regime of communications policy, we urge the Congress to begin from the successful principles of past policies and to learn from the problems and failures of past mistakes.

- Nondiscrimination in interconnection and carriage should be the explicit legal obligation of communications networks that provide last mile connectivity and local network access, as it has been for the last century.
- The commitment to universal service should be strengthened, not weakened, and we should apply the program beyond the dial-tone to broadband capabilities. We support legislation introduced by Members of this Committee to meet this need.
- Congress can promote the goals of competition and universal service simultaneously by making available more spectrum for unlicensed uses and protecting the right of local governments to build last mile networks. We applaud Members of this Committee who have introduced legislation to accomplish both of these goals.
- Congress should recognize the economic reality of the communications market and direct public policy to correct for the abuses of a duopoly market structure. Without explicit, pro-competitive policy, we cannot expect it to grow of its own accord.

PREPARED STATEMENT OF KYLE MCSLARROW, PRESIDENT AND CEO, NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION

TESTIMONY OF KYLE McSLARROW
PRESIDENT AND CEO
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION

on

NET NEUTRALITY: Competition, Innovation,

and Nondiscriminatory Access

before the

COMMITTEE ON THE JUDICIARY
UNITED STATES HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

April 7, 2006
Testimony of Kyle McSlarrow

President & CEO, National Cable & Telecommunications Association

House Judiciary Committee

Hearing on Net Neutrality: Competition, Innovation,

and Nondiscriminatory Access

April 7, 2006

Good morning, Mr. Chairman and Members of the Committee. My name is Kyle McSlarrow and I serve as the President and Chief Executive Officer of the National Cable & Telecommunications Association. NCTA is the principal trade association for the cable industry, representing cable operators serving more than 90 percent of the nation's cable television households and more than 200 cable program networks. The cable industry is the nation's largest broadband provider of high speed Internet access after investing $100 billion over ten years to build out a two-way interactive network with fiber optic technology. Cable companies also provide state-of-the-art digital telephone service to millions of American consumers.

I would like to focus this morning on three main points.

First, Congress's policy of leaving the Internet unregulated has been a resounding success. The resulting *network flexibility* has encouraged billions of dollars in investment. Companies that include high speed Internet services among their offerings have the freedom to experiment with multiple business models, producing more choices and competition in content and providers for consumers, and more innovation than ever before.

Second, any change to this policy could have serious repercussions to

continued network innovation and investment. Government, by its nature, is ill-equipped to make judgments about the best business models for an industry. This is especially true for a business as dynamic as the provision of high speed Internet services. It is clear that how those business models develop will directly affect the level of investment and innovation we can expect over the next few decades, but no one today can predict which business models will most effectively promote those goals.

Finally, in the absence of any problem calling for a legislative solution -- and since the broadband services marketplace is characterized by robust competition-- Congress should refrain from premature legislative action and allow the marketplace to continue to grow and change so network and applications providers can offer consumers the fullest range of innovative service options.

Congress's Decision to Leave the Internet Unregulated is an Unquestioned Success

Keeping the Internet free of regulation has helped to spur tremendous investment and competition in broadband networks and services. Left free to create new business opportunities and services, broadband providers (including cable operators, DSL, satellite and wireless operators) have invested billions of dollars to bring high-speed Internet access services to consumers across the nation. With bandwidth usage growing at a rapid pace, continued investment will be needed to keep broadband services robust.

If broadband providers are to continue to make these investments, and if consumers are going to be given the levels of services and innovative new products

and features they desire, all at prices they can afford, broadband providers need to have continuing flexibility to innovate in the business models and pricing plans they employ. Likewise, websites and content providers also need the flexibility to experiment with business models, and to partner with broadband providers in doing so.

Many so called "net neutrality" proposals, however, would seek to specify today which business models are permissible, and which ones are not, both for broadband providers and for website owners and content providers. They would impose by government fiat outcomes that are better left to the marketplace. This is especially so where that marketplace is highly competitive, where no real world problems needing a solution have been identified, and where the pace of technological development is breathtaking. There can be no better circumstances than these to leave it to the marketplace rather than government to be the regulator.

It is far too early for us -- or you -- to predict which business approaches will succeed in the long run. Any attempt to do so runs the unintended, but high, risk of promoting an approach that fails in the market. By the time the law catches up to the market, it will be too late to recapture the momentum that characterizes broadband today. The hands-off policy has given us the flexibility to innovate and respond to consumer demand. Abandonment of that policy will undermine -- not promote -- consumer choice.

Internet Regulation Will Direct Resources to Litigation, Not Innovation

Attempts to impose such requirements on broadband network providers also would lead to endless and expensive litigation. Even assuming appropriate regulations could be written – and because this is an area of rapid technological change, we do not think that assumption is warranted – they would still lead to uncertainty as to their actual application. They would also lead to the creation of a new bureaucracy to apply such rules and add layers of additional costs for dealing with the regulations and bureaucracy.

Such costs might be undertaken were there real world problems that needed government intervention to remedy. But again, where no one has yet identified such problems, where such regulations would likely increase costs and stifle innovation, and where there is a vigorously competitive marketplace, one has to ask the question, why take such an enormous risk?

Thank you again for inviting me here today. I would be pleased to answer any questions you may have.

PRESS RELEASE OF THE FEDERAL COMMUNICATIONS COMMISSION, DATED APRIL 3, 2006

Federal Communications Commission
445 12th Street, S.W.
Washington, D. C. 20554

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This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action.
See MCI v. FCC, 515 F 2d 385 (D.C. Circ 1974).

FOR IMMEDIATE RELEASE
April 3, 2006

NEWS MEDIA CONTACT:
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FEDERAL COMMUNICATIONS COMMISSION RELEASES DATA ON HIGH-SPEED SERVICES FOR INTERNET ACCESS

High-Speed Connections to the Internet Increased from 37.9 Million to 42.9 Million Lines in the First Half of 2005

Washington, D.C. – The Federal Communications Commission (FCC) today released new data on high-speed connections to the Internet in the United States. Twice a year, facilities-based broadband providers report the number of high-speed connections in service pursuant to the FCC's local telephone competition and broadband data gathering program (FCC Form 477). Statistics released today reflect data as of June 30, 2005.

All facilities-based providers of high-speed connections to end users were required to report to the Commission basic information about their service offerings and types of customers as of June 30, 2005. Previously, providers with fewer than 250 high-speed connections in service in a particular state were not required to report data for that state. More than twice as many holding companies and unaffiliated entities reported information about high-speed connections as of June 30, 2005 as had reported six months earlier.

For reporting purposes, ***high-speed lines*** are connections that deliver services at speeds exceeding 200 kilobits per second (kbps) in at least one direction, while ***advanced services lines*** are connections that deliver services at speeds exceeding 200 kbps in both directions. The June 30, 2005 data provide more information about the "speeds" of advanced services lines and finer distinctions among technologies than previously reported. They also enable, for the first time in this data collection, estimation of the extent to which high-speed Digital Subscriber Line (DSL) connections are available to households residing in the areas served by incumbent local exchange carriers (ILECs) and the extent to which high-speed cable modem service is available to households residing in the areas served by cable TV systems.

1) **Advanced Services Lines**

- Advanced services lines, which deliver services at speeds exceeding 200 kbps in both directions, increased by 31% during the first half of 2005, from 28.9 million to 37.7 million, compared to a 23% increase, from 23.5 million to 28.9 million lines, during the second half of 2004. For the full twelve month period ending June 30, 2005, advanced services lines increased 60% (or 14.2 million lines).

- Of the 37.7 million advanced services lines reported as of June 30, 2005, 61.8% were at least 2.5 mbps in the faster direction and 38.2% were slower than 2.5 mbps in the faster direction.

- Of the 37.7 million advanced services lines, 34.3 million served primarily residential end users. Cable modem service represented 64.9% of these lines while 33.9% were asymmetric DSL (ADSL) connections, 0.5% were symmetric DSL (SDSL) or traditional wireline connections, 0.2% were fiber connections to the end user premises, and 0.5% used other types of technology including satellite, terrestrial fixed or mobile wireless (on a licensed or unlicensed basis), and electric power line.

2) High-Speed Lines

- High-speed lines, which encompass advanced services lines and also lines that deliver services at speeds exceeding 200 kbps in one, but not both, directions, increased by 13% during the first half of 2005, from 37.9 million to 42.9 million lines in service, compared to a 17% increase, from 32.5 million to 37.9 million lines, during the second half of 2004. For the full twelve month period ending June 30, 2005, high-speed lines increased by 32% (or 10.4 million lines).

- Of the 42.9 million total high-speed lines reported as of June 30, 2005, 38.5 million served primarily residential end users. Cable modem service represented 61.0% of these lines while 37.2% were ADSL connections, 0.4% were SDSL or traditional wireline connections, 0.2% were fiber connections to the end user premises, and 1.1% used other types of technology including satellite, terrestrial fixed or mobile wireless (on a licensed or unlicensed basis), and electric power line.

3) Geographic Coverage

- As a nationwide average, we estimate that high-speed DSL connections were available to 76% of the households to whom ILECs could provide local telephone service as of June 30, 2005, and that high-speed cable modem service was available to 91% of the households to whom cable system operators could provide cable TV service.

- Providers list the Zip Codes in which they have at least one high-speed connection in service to an end user, and 98% of Zip Codes were on the list of at least one provider. Our analysis indicates that more than 99% of the nation's population lives in those Zip Codes. The most widely reported technologies by this measure were satellite (with at least some presence reported in 86% of Zip Codes), ADSL (in 78% of Zip Codes), and cable modem (in 62% of Zip Codes). ADSL and/or cable modem connections were reported to be present in 85% of Zip Codes.

The summary statistics released today also include state-by-state information, and population density and household income information ranked by Zip Codes. As additional information becomes available, it will be posted on the Commission's Internet site.

The report is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, SW, Washington, DC. Copies may be purchased by calling

Best Copy and Printing, Inc. at (800) 378-3160. The report can also be downloaded from the Wireline Competition Bureau Statistical Reports Internet site at www.fcc.gov/wcb/stats.

- FCC -

Wireline Competition Bureau contacts: James Eisner and Suzanne Mendez at (202) 418-0940, TTY (202) 418-0484.

ARTICLE FROM COMMUNICATIONS DAILY SUBMITTED BY WALTER B. MCCORMICK, JR., PRESIDENT AND CHIEF EXECUTIVE OFFICER, UNITED STATES TELECOM ASSOCIATION

Esser's comments on regulation largely echoed other cable operators' stances. He did lash out at what NCTA Pres. Kyle McSlarrow has called "special favors" sought by AT&T and BellSouth, which agreed to a $67 ion merger (CD March 7 p4). "Companies the size of an AT&T/BellSouth don't need any help," Esser said. He said a "level playing field" is his top legislative priority. "Don't create rules that aren't needed." Though he wouldn't rule out offering channels individually, he said: "I don't think it needs govt. intervention... This industry grew up as a package -- that's how we were able to keep prices low for programmers."

Govt. shouldn't enforce net neutrality, Esser said: "I appeal to lawmakers to let the market create winners and losers," which is "no easy task." Cox, like other cable firms, has a "managed" network to avoid slowdowns but doesn't block access to any websites, Esser said. The company may offer premium-priced broadband packages tailored to the bandwidth needs of customers who play lots of video games and users who download music, he said. Top broadband speeds, now about 10 Mbps, could triple over 4-5 years, Esser said: "We're still in a market share game. Speed is still a major differentiator." — *Josh Wein, Jonathan Make*

Bells Shortsighted?

Facilities, Cash Flow Key in Post UNE-P World, CLECs Say

SAN DIEGO -- CLEC business plans in the new regulatory environment were the key issue as CompTel came to a close. Panelists focused on securing funds and shuffling business models after the TRRO unbundling decision. Some CLEC executives were surprisingly critical of other CLECs, even claiming they had abused the 1996 Telecom Act in the time of UNE-P unbundling and carrier access. Other said the change in rules doesn't mean the end of opportunity for competitive carriers.

Only so much of a CLEC's time can be spent on regulatory efforts, said Jeff Compton, Telscape Communications vp-Regulatory and Industry Relations, because "we're entrepreneurs first." He said Telscape, a bilingual provider in Cal., Ariz. and Nev., has adopted the facilities based model. It's necessary for building differentiated products into a network, he said, like Telscape's bilingual character.

The provider quietly continued to build out when "UNE-P was all the rage," he said, and ended up lambasted by analysts for overspending on facilities. He said some CLECs that didn't want to follow this model "prostituted" the Telecom Act for their own goals, and now CLECs and the Bells are saying it doesn't work. "It's alive and well," he said. "We all have to make sure our business models build in to the access rules as they're granted."

Compton said the Bells' strategy to push competitors off wirelines is "very shortsighted." If the competitive industry is pushed off telecom wires, it will ally with cable, BPL providers, wireless carriers, or even satellite companies, he said. Bells will be "sitting there with 100% of the infrastructure to maintain, and 60% of the market share." He compared the Bells' situation to Apple's in the 1980s, when Microsoft opened its operating system, while Apple kept its proprietary: "Microsoft controls 90% of desktops worldwide."

Negotiating Sec. 271 pricing is in the Bells' best interests, said Jim Falvey, Xpedius senior vp, because they would be able to control the outcome, the FCC prefers it, and it would allow them to avoid petitions to eliminate their long-distance authority. Falvey also urged the FCC to let CLECs escape volume and term commitments on grounds that it's the only way they can move into new business models. Those models have had mixed success, he said: Transport routes have had some success, but very few loop routes have been sold, while DSL resale isn't feasible, because of line conditioning limitations and patchy availability.

Certain routes have no near-term competitive alternative, Falvey said. Meanwhile, he said, states like La. are "actively eliminating their own jurisdiction" over 271 unbundling oversight. Seeing southern states

acquiesce this way is very surprising, said Falvey; it's producing pockets without competition through wide swaths of BellSouth territory.

For the most part, UNE competition is alive and well, said Chris McKee of Covad. "There's a giant sweet spot" in small and midsized business and underserved residential territories, he said, though taking advantage will require significant investment and work. But equipment costs are going down, he said, and capital is available. Because ILECs and cable are having the big fights right now, CLECs are entering their first period of regulatory stability in a long time, he said, adding that bodes well for companies looking to adapt their business models and secure investment funds.

There aren't "too many guys [from] the first round" of telecom investment left, said John Siegel of Columbia Capital. Many investors learned the lesson of overvaluing untested business models when the dot-com bubble burst, he said. Calling competitive telecom necessary for the health of the economy, Siegel said investors are much more keenly focused on "management, management, management," with a special appreciation for facilities-based business models. "Capital is available" to CLECs meeting those parameters, especially those with the ability to drive high cash flow rates, he said.

Many alternatives remain in the post UNE-P world, said AT&T Senior Counsel Jim Lamoureux, who said he was speaking for incumbents. Because of the "wide variety" of CLEC business models, Lamoureux said it's hard to determine the cumulative effect of CLECs of AT&T's March 11 decision no longer to provide UNE-P, in accordance with the FCC TRRO. He said carriers can still move to a reseller model; they can migrate to a 3rd-party carrier network model using IP switches or networks, VoIP; or they can still enter commercial agreements with ILECs. AT&T has a "couple hundred" such agreements for line sharing, he said. Rates for UNEs still around and special access services will be stable the next 2 years, he said. -- ***Ian Martinez***

Wireless

The Senate cellphone privacy bill (S-2389) is set for markup March 30, the Commerce Committee said Wed. The bill has attracted several amendments (CD March 21 p6) that have upset consumer groups and, if included, would alter the bill significantly from the House version (HR-4843). Once reported out, the Senate Commerce bill could be merged with already approved companion Judiciary Committee bills (S-2178, HR-4709) for a comprehensive package to go to the floor, Hill sources said. At 11 a.m., the committee is scheduled to convene its hearing on the National Polar-Orbiting Operational Environmental Satellite System (NPOESS) that was originally to start at 10 a.m. -- ***AV***

EarthLink signed a contract to build Milpitas, Cal.'s Wi-Fi network. The 6.5 square mile mesh network will provide affordable, high-speed Web access for residents and visitors in the San Jose suburb, the ISP said Wed.

Nortel Networks proposed to provide a Wi-Fi network for Waukesha, Wis., the *Waukesha Freeman* reported. It letter of intent puts Nortel up against Midwest Fiber Networks, building a $20 million wireless network for its hometown, Milwaukee, and Atlanta-based Cellnet Technologies, working in Madison, as bidders for the Waukesha contract. The city council invited bids in Feb. after being approached by Cellnet. Waukesha is considering whether to back the Wis. Dept. of Administration's Wireless Wisconsin effort, which asks communities considering Wi-Fi to make sure those networks dovetail with others in the state. Milwaukee and Madison have agreed. Meanwhile, a Wi-Fi network in downtown Scottsdale, Ariz., should be live in early April, the *Ariz. Republic* reported. The job is being done by Wildfire Broadband Wireless Communications; the network will be available for consumers at hourly, daily or monthly access fees. The company will pay Scottsdale about $21,000 in fees over 4 years to place its antennas downtown.

LETTER TO THE HONORABLE F. JAMES SENSENBRENNER, JR., CHAIRMAN, COMMITTEE ON THE JUDICIARY, FROM DEBORAH J. MAJORAS, CHAIRMAN, FEDERAL TRADE COMMISSION

THE CHAIRMAN

FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

April 14, 2006

The Honorable F. James Sensenbrenner, Jr.
Chairman
Committee on the Judiciary
United States House of Representatives
Washington, DC 20515-6216

Dear Chairman Sensenbrenner:

Thank you for the letter from you and Ranking Member Conyers regarding the Commission's jurisdiction over broadband Internet access services and related issues. The Commission is responding to your request as an official request of a Congressional Committee, *see* 16 C.F.R. § 4.11(b).

As a general response to your inquiry, the Commission believes that broadband Internet access services are non-common carrier services and are clearly within the FTC's jurisdiction. As you know, common carriers subject to the Communications Act of 1934 and its amendments are exempt from the FTC Act. Common carriage is ordinarily characterized by the offering of a service of carrying for the public generally and without modification of the content of what is carried.[1] Furthermore, an entity is a common carrier under the Communications Act only with respect to services it provides on a common carrier basis.[2] The Communications Act specifically distinguishes between "telecommunications services," which are services provided on a common carrier basis, and "information services," which are not. To the extent an entity provides non-common carrier services such as "information services," the Commission considers the provision

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[1] *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC ("NARUC I")*, 525 F.2d 630, 640-642 (D.C. Cir. 1976); *Nat'l Ass'n of Regulatory Util. Comm'rs v. FCC ("NARUC II")*, 533 F.2d 601, 608-609 (D.C. Cir. 1976); *FTC v. Verity Int'l, Ltd.*, No. 04-5487-CV, 2006 WL 768547, at *7-8 (2d Cir. 2006).

[2] *NARUC I; NARUC II; see also* 47 U.S.C. § 153(43), (44) and (46) ("A telecommunications carrier shall be treated as a common carrier under this chapter only to the extent that it is engaged in providing telecommunications services. . .").

of those services to be subject to the FTC Act's prohibitions against engaging in deceptive or unfair practices and unfair methods of competition.[3]

The FTC is committed to maintaining competition and to protecting consumers from deceptive or unfair acts or practices relating to products and services within its jurisdiction, including non-common carrier Internet-related services. The following discussion addresses your specific questions.

Question #1: Does the FTC interpret the *Brand X* decision and the *Wireline Broadband Internet Access Order* to have shifted any responsibilities from the Federal Communications Commission (FCC) to the FTC?

These two decisions have helped to clarify the status of two particular broadband Internet access services: cable modem Internet access service and wireline broadband Internet access service provided by facilities-based carriers.[4] Other types of Internet access service have long been treated as non-common carrier services. For example, Digital Subscriber Line (DSL) Internet access by non-facilities-based Internet service providers (ISPs) and dial-up Internet access continue to be subject to FTC jurisdiction.

In *Brand X*, the Supreme Court upheld a determination by the FCC that cable modem Internet access service is an "information service" and not a common carrier service under the Communications Act. The Supreme Court reversed a Ninth Circuit decision that found the service to be common carriage and vacated the FCC's determination on this point. Especially in light of this Supreme Court decision, the Commission views the provision of cable modem services as non-common carrier service subject to the FTC Act's prohibitions on unfair or deceptive acts and practices and on unfair methods of competition.

With respect to wireline service, prior to the *Wireline Broadband Internet Access Order*, the FCC had classified wireline broadband Internet access service by facilities-based carriers as a common carrier service. In the *Order*, the FCC re-classified this service as an information service and not a common carrier service.[5] The *Order*, however, permits facilities-based wireline carriers to elect to provide transmission for wireline broadband service on a common carrier basis.

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[3] See discussion in *FTC v. Verity Int'l Ltd.*, 194 F.Supp. 2d 270, 274-277 (S.D.N.Y. 2002), aff'd in part, rev'd in part, No. 04-5487-CV, 2006 WL 768547 (2d Cir. 2006).

[4] Facilities-based carriers own the transmission facilities they use to provide Internet access.

[5] A consolidated appeal of the order is pending in the Third Circuit. *Time Warner v. FCC*, No. 05-4769 (3d Cir. filed Oct. 26, 2005).

Thus, the FTC has authority over the provision of wireline broadband Internet services on a non-common carrier basis. The common carrier exemption in the FTC Act may, however, preclude FTC jurisdiction over transmission services that a wireline carrier elects to provide on a common carrier basis pursuant to the *Order*.

Question #2: What are the FTC's views with regard to the FCC's exercise of Title I ancillary authority over broadband Internet access services?

The FTC takes no position on the FCC's exercise of Title I ancillary authority over broadband Internet access services. The FTC will coordinate with the FCC to the extent that these services are subject to concurrent FTC and FCC jurisdiction.

Question #3: Due to the *Brand X* decision and the *Wireline Broadband Internet Access Order*, does the FTC view itself as the federal agency with primary jurisdiction over consumer protection and competition issues relating to broadband Internet access in the United States? If so, does this also apply in circumstances in which providers can choose whether or not they are common carriers? Also, please explain the extent of the FTC's current jurisdiction over broadband Internet access services.

The FTC is the only federal agency with general jurisdiction over consumer protection and competition in most sectors of the economy, including broadband Internet access services. In particular, we consider the provision of cable-modem and DSL services generally to be subject to FTC jurisdiction. The *Brand X* decision and the *Wireline Broadband Internet Access Order* support this view.

The FTC's combination of consumer protection and competition authority over most of the economy allows the FTC to take action in appropriate circumstances with a uniquely well-rounded perspective on market processes as a whole. The FCC has a special position with respect to certain kinds of telecommunications services, which in our view does not conflict with the FTC's authority over consumer protection and competition issues relating to broadband Internet access. In addition, the Department of Justice (DOJ) shares general antitrust authority with the FTC regarding most sectors of the economy. As detailed below, the FTC routinely coordinates with the FCC and DOJ.

As noted above, some types of Internet access service have long been recognized as non-common carrier services within FTC authority. In fact, for nearly a decade, the FTC has investigated and brought enforcement actions against ISPs for allegedly deceptive marketing, advertising and billing practices. *See e.g., In the Matter of America Online, Inc. and Compuserve Interactive Services, Inc.*, Dkt. C-4105 (Jan. 28, 2004) (consent order); *In the Matter of Juno Online Services, Inc.*, Dkt. C-4016 (Jun. 25, 2001) (consent order); *In the Matter of WebTV Networks, Inc.*, Dkt. C-3988 (Dec. 8, 2000) (consent order); *In the Matter of AOL, Inc.*, Dkt. C-3787 (Mar. 16, 1998) (consent order); *In the Matter of CompuServe, Inc.*, Dkt. C-3789 (Mar. 16,

1998) (consent order). Although all of these cases involved the provision of dial-up Internet access, the orders obtained are not limited by their terms to the offering of narrowband Internet access.

With respect to competition enforcement, the FTC has investigated and brought enforcement actions under the antitrust laws where appropriate in cases involving issues of access to content via broadband and other Internet access services. In one instance, the consent order in the AOL/Time Warner merger requires the merged company to open its cable system on a nondiscriminatory basis to competitor ISPs, including those offering broadband, for all content. *See AOL/Time Warner, Inc.* Dkt. C-3989 (Apr. 17, 2001) (consent order). More recently, the FTC investigated the acquisition by Comcast and Time Warner of the cable assets of Adelphia Communications, and a related transaction in which Comcast and Time Warner swapped various cable systems. The FTC examined, among other things, the likely effects of the transactions on access to and pricing of content. Ultimately, a majority of the Commission concluded that the acquisitions were unlikely to foreclose competitor cable systems in any market, or to result in increased prices for Time Warner or Comcast content, and closed the investigation.[6]

If, however, an entity elects to provide wireline broadband transmission on a common carrier basis pursuant to the *Wireline Broadband Internet Access Order*, the common carrier exemption in the FTC Act may apply to the offering of that service.

Question #4: Does the FTC intend to exercise regulatory jurisdiction over broadband Internet access services provided by cable companies and Incumbent Local Exchange Carriers (ILECs), including complaints from consumers, content providers and other affected parties?

The FTC is primarily a law enforcement agency and exercises its jurisdiction primarily by conducting investigations and bringing enforcement actions; that is, the FTC does not exercise "regulatory" jurisdiction in the sense of economic regulation or industry management. As noted above, the FTC has investigated and brought enforcement actions against ISPs for allegedly deceptive practices and where appropriate has enforced the antitrust laws in cases involving issues of access to broadband and other information access issues. We believe that the FTC has jurisdiction to investigate and bring cases involving broadband Internet access services, including cable modem and DSL services.

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[6] *See* Statement of Chairman Majoras, Commissioner Kovacic, and Commissioner Rosch Concerning the Closing of the Investigation Into Transactions Involving Comcast, Time Warner Cable, and Adelphia Communications, FTC File No. 051 0151 (Jan. 31, 2006); *but see* Statement of Commissioners Jon Leibowitz and Pamela Jones Harbour (concurring in part, dissenting in part). Both statements are available at http://www.ftc.gov/opa/2006/01/fyi0609.htm.

The FTC will continue to take very seriously its responsibility to maintain competition in the high-tech marketplace and to ensure that consumers are protected from unfair and deceptive acts and practices in this area. We welcome complaints and other input from consumers, content providers, and other interested parties regarding possible violations of the FTC Act.

Question #5: Has the FTC communicated with the FCC about jurisdictional responsibilities related to broadband Internet access service? If so, what was the content and outcome of those discussions?

Over the past several years, the FTC and the FCC have had an open-ended dialogue regarding issues in which our interests and jurisdictions connect, such as telemarketing and the pretexting of telephone records. These discussions have not focused specifically on broadband Internet access service. However, staff of the two agencies have engaged in discussions about the nature of common carrier service under the amended Communications Act and about the nature and effects on consumers of the FTC's jurisdictional limitations, issues relevant to broadband service. One outcome of the ongoing dialogue between the two agencies has been cooperation in areas of mutual interest, such as enforcement of the Do Not Call regulations.

Question #6: Has the FTC ever addressed and resolved an issue related to broadband Internet access? Are any complaints, actions, or proceedings that relate to broadband Internet access services currently pending before the FTC? If so, please describe.

As discussed above, the FTC's merger investigation of Time Warner and AOL involved core issues of Internet access. The consent order settling this case addressed Internet access in several markets, including some broadband markets. The relief obtained by the Commission included a requirement that the merged entity open its cable system to competitor ISPs. In addition, the company is prohibited from interfering with content of non-affiliated ISPs and from interfering with the ability of non-affiliated providers for interactive TV services to access the AOL Time Warner system. Further, the company is required to market and offer AOL's DSL services to subscribers in Time Warner cable areas where affiliated cable broadband service is available in the same manner and at the same retail pricing as they do in those areas where affiliated cable broadband ISP service is not available.

The FTC has addressed issues of Internet access in a number of other merger investigations, as well as related issues that often arise in horizontal mergers of cable TV systems and mergers of cable TV companies and content providers. These cases often raise issues of Internet access, both narrowband and broadband. The FTC has also addressed and resolved competitive issues involving media access and issues arising from the mergers of competing cable systems. *See, e.g., Cablevision Systems Corp.*, Dkt. C-3804 (Apr. 27, 1998) (consent order); *Summit Comm. Group*, Dkt. C-3623 (Oct. 20, 1995) (consent order).

The FTC has not brought consumer protection cases that involved specifically the provision of broadband Internet access services. The FTC has brought a wide range of enforcement actions involving other Internet-related activities including deceptive marketing of Internet access services (as detailed above), and other practices allegedly involving misuse of a computer's Internet connections, or unauthorized manipulation of standard Internet navigation tools.

In addition, each week the FTC is contacted by more than 20,000 consumers who seek information and/or submit complaints. The FTC maintains a database of these complaints, and makes those relating generally to fraud available to over 1400 state, federal, and some international law enforcement partners through its secure, online, Consumer Sentinel system. That system now houses more than 3 million complaints (excluding those relating to the Do Not Call Registry). The agency, however, does not categorize complaints that relate to broadband Internet access services as a unique type of complaint.

Question #7: Does the FTC intend to open a proceeding or hold a hearing on its jurisdiction over broadband Internet access services in light of recent judicial and regulatory developments?

The Commission has no plans at this time to open a proceeding or hold a hearing focusing on its jurisdiction over broadband Internet access services. As a law enforcement agency, the FTC generally exercises its jurisdiction through investigations and enforcement actions, and expects to do so with respect to broadband Internet access services as appropriate. The FTC also will continue its extensive consumer and business education and outreach on issues concerning the Internet marketplace. We do view recent judicial and regulatory developments as clarifying our broad authority over Internet-related matters.

The Commission does plan to hold hearings later this year on consumer protection issues in Global Marketing and Technology.[7] The hearings will bring together experts from diverse fields to explore the consumer protection issues and challenges arising from convergence in communications technology and the globalization of commerce. The hearings also will provide an opportunity to examine changes that have occurred in marketing and technology over the past decade, and to garner experts' views on coming challenges and opportunities for consumers, businesses, and governmental bodies. Various issues regarding broadband Internet access services will likely arise in the context of those hearings.

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[7] Federal Trade Commission, 2006 Hearings on Global Marketing and Technology, http://www.ftc.gov/bcp/workshops/globalmarketing/index.html.

Question #8: Is there anything the FTC would ask of Congress in order to clarify jurisdictional divisions and/or facilitate the FTC's work with regard to protecting consumers in the broadband Internet access marketplace?

During the two most recent reauthorization hearings, the Commission opposed the gap in its jurisdiction created by the telecommunications common carrier exemption, noting that the exemption is outdated.[8] As illustrated by the broadband Internet access marketplace, technological advances have blurred the traditional boundaries between telecommunications, entertainment, and high technology.

Further, as Congress considers legislation on broadband Internet access, the Commission believes that any such legislation should clearly preserve the FTC's existing authority over activities currently within its jurisdiction, such as broadband Internet access. We note that some recent legislative proposals would assign to the FCC specific competition and consumer protection authority regarding such activities, and could be misread to oust the FTC from its established jurisdiction. Over the past decade, the FTC successfully has prosecuted a wide range of enforcement actions involving activities related to Internet access. We would be concerned that any explicit or implicit diminution of the FTC's existing jurisdiction would restrict our ability to protect consumers from harm and ensure robust competition.

In addition, as you know, this Committee passed the International Consumer Protection Act, H.R. 3143, at the end of the 108th Congress. A similar bill recently passed the United States Senate as S. 1608, the "US SAFE WEB Act." The Commission continues to recommend that Congress enact the US SAFE WEB Act, which would address limitations in the FTC's ability to investigate cross-border fraud, particularly fraud with an Internet component, and has issued a report titled "The US SAFE WEB Act: Protecting Consumers from Spam, Spyware and Fraud."[9] Although not focused specifically on broadband Internet access services, the proposed legislation would, among other things, help the FTC fight deceptive spam and spyware by allowing the

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[8] *The Reauthorization of the Federal Trade Commission: Positioning the Commission for the Twenty-First Century: Hearing Before the Subcomm. on Commerce, Trade and Consumer Protection of the House Comm. on Energy and Commerce*, 108th Cong. (2003) ("*FTC 2003 Reauthorization Hearing*") (statement of the Federal Trade Commission), *available at* http://www.ftc.gov/os/2003/06/030611reauthhr.htm; *see also FTC 2003 Reauthorization Hearing* (statement of Thomas B. Leary, FTC Commissioner), *available at* http://www.ftc.gov/os/2003/06/030611learyhr.htm; *FTC Reauthorization Hearing: Before the Subcomm. on Consumer Affairs, Foreign Commerce and Tourism of the Senate Comm. on Commerce, Science and Transportation*, 107th Cong. (2002) (statement of Sheila F. Anthony, FTC Commissioner), *available at* http://www.ftc.gov/os/2002/07/sfareauthtest.htm.

[9] Federal Trade Commission, *The US SAFE WEB Act: Protecting Consumers from Spam, Spyware, and Fraud: A Legislative Recommendation to Congress*, (June 2005), *available at* http://www.ftc.gov/reports/ussafeweb/USSAFEWEB.pdf.

agency to investigate more fully messages transmitted through facilities outside the United States.

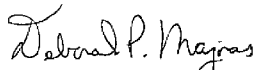
Question #9: Currently, most broadband Internet access services are provided over either a cable or traditional telecommunications infrastructure. Concentration clearly affects market dynamics in network industries that require cooperation, such as interconnection. Do you believe it would be appropriate for the same government agency to have merger review authority for all broadband Internet access service-related mergers?

Mergers in nearly all industries are reviewed by one of the two federal antitrust agencies, the FTC and DOJ. In addition, some specialized agencies, such as the FCC, the Federal Energy Regulatory Commission, and the banking agencies, have certain nonexclusive authority to review mergers, potentially taking into account issues outside the antitrust laws. We do not believe it is necessary to assign a single agency to review all mergers relating to broadband Internet access services. The federal antitrust statutes are flexible enough to account for unique industry characteristics, including those aspects of network industries that differentiate them from some more traditional industries. The two antitrust agencies have long-standing coordination procedures that both allow them to consider those complex issues and keep them from pursuing inconsistent or duplicative efforts. The FTC's and DOJ's clearance procedures ensure that only one antitrust agency investigates a particular merger.

The Commission notes that none of the information in this letter is exempt from mandatory public disclosure under the Freedom of Information Act, 5 U.S.C. § 552. Therefore, we do not request that the Committee give confidential treatment to the letter.

We appreciate your consideration of our views.

By direction of the Commission.



Deborah Platt Majoras
Chairman

A PUBLIC KNOWLEDGE WHITE PAPER BY JOHN WINDHAUSEN, JR., ENTITLED "GOOD FENCES MAKE BAD BROADBAND, PRESERVING AN OPEN INTERNET THROUGH NET NEUTRALITY"

Public Knowledge

February 6, 2006

Good Fences Make Bad Broadband

Preserving an Open Internet through Net Neutrality

A Public Knowledge White Paper
by John Windhausen, Jr.

Executive Summary

The genius of the Internet is its promise of unlimited accessibility. With very limited exceptions, any consumer with an Internet connection and a computer can visit any web site, attach any device, post any content, and provide any service.

While the openness of the Internet is universally praised, it is no longer guaranteed, at least for broadband services. Recent Supreme Court and FCC rulings define broadband networks as unregulated "information services," which means that the operators of broadband networks are no longer under any legal obligation to keep their networks open to all Internet content, services and equipment.

Broadband providers now have the same authority as cable providers to act as gatekeepers: the network owner can choose which services and equipment consumers may use. Network operators can adopt conflicting and proprietary standards for the attachment of consumer equipment, can steer consumers to certain web sites over others, can block whatever Internet services or applications they like, and make their preferred applications perform better than others.

This concern is not just theoretical – broadband network providers are taking advantage of their unregulated status. Cable operators have barred consumers from using their cable modems for virtual private networks and home networking and blocked streaming video applications. Telephone and wireless companies have blocked Internet telephone (VoIP – Voice over the Internet Protocol) traffic outright in order to protect their own telephone service revenues. Equipment manufacturers are marketing equipment specifically designed to "filter" out (*i.e.* block) VoIP traffic. Wireless companies often write limitations into consumers' service agreements that have nothing to do with excessive bandwidth consumption.

The problem is likely to become worse in the near future. One telephone company executive threatened to put a stop to on-line providers that use the telephone network "for free" (even though on-line providers pay to connect to the network). Another telephone company executive openly announced that his company intends to establish a higher-priced "tier" of service reserved *exclusively* for content providers chosen by the network operator. This raises the concern that consumers and start-up application providers will be relegated to the "slow lane" on the information superhighway.

These examples of discrimination, which this paper shows are greater in number than the network operators like to acknowledge, are on the increase because network operators have economic *incentives* to discriminate. Network owners today are more than just passive providers of transmission capacity (the "conduit"); they also own and provide services, applications and equipment (the "content"). By giving their own (or their affiliated) applications and content preferential access to the network, they can extract greater profits than if they operate the network on a non-discriminatory basis.

As a result, several groups have called upon Congress to enact, or the FCC to adopt, an enforceable "Net Neutrality" rule to ensure the Internet remains open and accessible to all. Not surprisingly, the network owners object, arguing that such a policy is unnecessary and will delay their deployment of broadband technologies.

This paper analyzes the Net Neutrality debate in more detail. The paper is divided into four parts:

Part I is a reference guide on the Net Neutrality issue. It reviews the rights at stake, describes the terms used in the debate, provides a brief legal history of broadband network regulation, summarizes the positions of the parties, describes documented examples of discrimination or blocking, and includes matrices that compare the differences among parties and proposals for action.

Part II makes the case in favor of a Network Neutrality rule. It describes the enormous societal and economic benefits of keeping the broadband Internet network open to all users. Broadband networks are fast becoming the essential lifeline of our economy and society, carrying on-line commercial transactions, current events, local and national advertising, telemedicine and distance learning, music and entertainment, interactive games, and videoconferencing. Allowing the increasingly concentrated cable and telephone industries to have unchecked control over our access to these sources of information, entertainment and commerce is cause for great concern.

Net Neutrality is also important for our high-tech manufacturing industry. Billions of dollars are invested every year at the "edge" of the network by the high-tech computing industry, the on-line commerce industry, the gaming industry, the news and information industry, and the research community. A statutory Net Neutrality rule will give investors the confidence to support new, innovative

applications. On the other hand, giving network operators the *potential* to block competing applications from getting on the network may be enough to frighten investors away from otherwise worthy new Internet applications.

In short, open broadband networks are vitally important to our society, our future economic growth, our high-tech manufacturing sector, and our First Amendment rights to information free of censorship or control. Even if an openness policy imposes some slight burden on network operators, these microeconomic concerns pale in comparison to the macroeconomic benefits to the society and economy at large of maintaining an open Internet.

Part III responds to four arguments against Net Neutrality raised by the network operators:

1) *Network operators allege that Net Neutrality is a "solution in search of a problem" because there is only one documented case of blocking.* In fact, network operators have already engaged in at least 8 known cases of blocking in the U.S. and are likely to block or interfere with more traffic in the future. Network operators have incentives to leverage their control over the network to reap additional profits in upstream markets.

2) *Network operators allege that Net Neutrality will interfere with their ability to manage their networks, for instance, to prevent spam, viruses and congestion.* In fact, there is no reason to believe that a simple non-discrimination policy should interfere with the operators' network management responsibilities. Telephone companies have always managed their networks to protect against unlawful use even under a much more onerous common carriage regime.

3) *Network operators allege that Net Neutrality will interfere with their ability to earn a return on their broadband investment and that it will stifle their deployment of broadband networks.* In fact, Net Neutrality *promotes* broadband deployment because it increases the value of services and applications over the Internet, which increases consumer demand for broadband networks. The greater the demand, the more network operators will invest in broadband to meet it. Furthermore, there remain many opportunities for network operators to profit from their broadband investment that do not involve blocking or discrimination. For instance, network operators can continue to develop their own content and/or enter joint marketing arrangements or other promotional arrangements with other content providers.

4) *Network operators maintain that Net Neutrality will prevent them from creating "tiers" of service, or a "private Internet."* In fact, Net Neutrality does not necessarily prevent network operators from offering levels of access, at higher rates, as long as the tier is offered on a nondiscriminatory basis to every provider and as long as all broadband customers are offered a minimum

level of broadband service. A Net Neutrality principle does, however, prohibit the creation of a "private Internet" that grants *exclusive* access to the higher bandwidth levels to certain providers selected by the network operator.

Part IV provides an outline of a possible Net Neutrality rule or statute. Net Neutrality does not require detailed rules that require network operators to obtain government pre-approval to manage their networks. Network Neutrality can be enforced through a simple complaint process, as long as the network operator bears the burden of demonstrating that any interference with traffic is necessary.

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Attachment A	Letter dated November 18, 2002 from Members of the Coalition of Broadband Users and Innovators to Michael K. Powell, Chairman, Federal Communications Commission ("CBUI November 18 Letter")
Attachment B	Remarks of Michael K. Powell, Chairman, Federal Communications Commission, Voice on the Net Conference, Boston, Massachusetts, October 19, 2004 ("Chairman Powell October 19 VON Speech")
Attachment C	NARUC Resolution Regarding Citizen Access to Internet Content, Sponsored by the Committee on Telecommunications, Recommended by the NARUC Board of Directors November 12, 2002, Adopted NARUC Convention November 12, 2002 ("NARUC November 12 Resolution")
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Attachment E	In re Madison River Communications, LLC and affiliated companies, Consent Decree and Order, March 3, 2005 ("Madison River March 3 Consent Decree")
Attachment F	Kevin J. Martin, Chairman, Federal Communications Commission, Comments on Commission Policy Statement, August 5, 2005 ("Chairman Martin August 5 Comments")
Attachment G	Letter dated May 7, 2003 from Ryan G. Wallach, Willkie Farr & Gallagher, to Marlene H. Dortch, Secretary, Federal Communications Commission ("Comcast May 7 *Ex Parte* Letter"); Letter dated May 15, 2003 from Ryan G. Wallach, Willkie Farr & Gallagher, to Marlene H. Dortch, Secretary, Federal Communications Commission ("Comcast May 15 *Ex Parte* Letter"); Letter dated April 7, 2003 from Alexander V. Netchvolodoff to Marlene H. Dortch, Secretary, Federal Communications Commission ("Cox April 7 *Ex Parte* Letter"); Letter dated May 1, 2003 from Alexander V. Netchvolodoff to Marlene H. Dortch, Secretary, Federal Communications Commission ("Cox May 1 *Ex Parte* Letter")

Attachment H	SMS/800 News Flash, Bulletin No. NWS-05-40, Release 16.3 Implementation, December 7, 2005 ("SMS/800 December 7 News Flash")
Attachment I	Qwest High-Speed Internet Subscriber Agreement ("Qwest Subscriber Agreement")
Attachment J	Paul Kapustka, *Clearwire May Block VoIP Competitors*, Advanced IP Pipeline, March 25, 2005 ("Clearwire March 25 Article")
Attachment K	Press Release, *Verso Introduces Carrier Grade Skype Filtering Technology*, September 14, 2005 ("Verso September 14 Press Release")
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Attachment N	OpenNet Initiative: Bulletin 010, *Telus Blocks Consumer Access To Labour Union Website and Filters An Additional 766 Unrelated Sites*, August 2, 2005 ("Telus August 2 Article")
Attachment O	Ben Charny, *Mexico Telephone Operator Under VoIP Fire*, CNET, April 25, 2005 ("Telmex April 25 Article")

Introduction

The genius of the Internet is its promise of unlimited accessibility.[1] With very limited exceptions, any consumer with an Internet connection and a computer can visit any web site, attach any device, post any content, and provide any service.

While the openness of the Internet is universally praised, it is no longer guaranteed, at least for broadband services. Recent Supreme Court and FCC rulings define broadband networks as unregulated "information services," which means that the operators of broadband networks are no longer under any legal obligation to keep their networks open to all Internet content, services and equipment.

Broadband providers now have the same authority as cable providers to act as gatekeepers: the network owner can choose which services and equipment consumers may use. Network operators can adopt conflicting and proprietary standards for the attachment of consumer equipment, can steer consumers to certain web sites over others, can block whatever Internet services or applications they like, and make their preferred applications perform better than others.

As a result, Public Knowledge has joined with consumer electronic equipment providers, Internet content and application providers, VoIP providers, and consumer and public interest groups to ask Congress and the FCC to restore the rule that requires network operators to provide nondiscriminatory access to all lawful content, services and equipment. The call for legislation may be termed "net neutrality," although other terms have also been used.[2]

Not surprisingly, the network operators, dominated by the cable and telephone companies,[3] generally oppose any legislation or FCC rule. They maintain that such a rule will discourage investment, will create burdensome regulation, and is unnecessary because network operators already have incentives to keep their networks open.

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[1] I would like to thank Public Knowledge interns Neil Chilson and Mike Larmoyeux for their assistance in researching and drafting this paper.

[2] The issue of "Net Neutrality" for broadband networks is one subset of the general principle of "openness" that Public Knowledge believes should guide policymakers as they consider a variety of communications issues in the future. *See*, Principles for an Open Broadband Future, a Public Knowledge White Paper, issued July 6, 2005, available at http://www.publicknowledge.org/content/papers/open-broadband-future.

[3] As of 2003, 97% of broadband consumers received their broadband connections either from a cable modem or from DSL. *See*, A Nation Online: Entering the Broadband Age, a Joint Report of the National Telecommunications and Information Administration (NTIA) and the Economic and Statistics Administration, U.S. Department of Commerce, September, 2004. Available at http://www.ntia.doc.gov/reports/anol/

This paper examines these issues in more detail.[4] Part I is a reference guide on the Net Neutrality issue. It reviews the consumer rights at stake, describes the terms used in the debate, provides a brief legal history of broadband network regulation, summarizes the positions of the parties, describes the documented examples of discrimination or blocking, and includes matrices that compare the differences among parties and proposals for action.

Part II makes the case in favor of a network neutrality rule. It describes the enormous societal and economic benefits of keeping broadband Internet networks open to all users. Even if an openness policy imposes some slight burden on network operators, these microeconomic concerns pale in comparison to the macroeconomic benefits of maintaining an open Internet to the society and economy at large.

Part III responds to four arguments against Net Neutrality raised by the network operators.

1. Though network operators maintain Net Neutrality is a solution in search of a problem, there are many documented cases of blocking and discrimination, and these problems are likely to increase because network operators have incentives to discriminate.

2. Though network operators claim that Net Neutrality will interfere with their ability to manage their networks, the history of telephone companies under much more onerous common carriage rules demonstrates that Net Neutrality does not conflict with network management.

3. Though network operators claim that Net Neutrality will delay their deployment of broadband, Net Neutrality actually increases the value of broadband networks and promotes broadband deployment.

4. Though network operators claim that Net Neutrality will prevent them from creating tiers of service, Net Neutrality can permits operators to create tier as long as they are not made available exclusively to parties selected by the network operator and as long as broadband consumers are guaranteed a minimum level of broadband service.

Part IV provides an outline of Net Neutrality legislation. Net Neutrality does not require detailed rules that require network operators to obtain government pre-approval to manage their networks. Network neutrality can be enforced through a simple complaint process, as long as the network operator bears the burden of demonstrating that any interference with traffic is necessary to support a lawful goal.

[4] This paper does not address the issues regarding filtering or blocking access to indecent or obscene material.

PART I
A Reference Guide to Net Neutrality

A. Broadband Rights Under Net Neutrality

The discussion of Net Neutrality generally focuses on three rights:

1. the right (of users and providers) to use and attach equipment of their choice,
2. the right (of users) to access the content, services and applications of their choice, and
3. the right (of providers) to offer content, services and applications of their choice.

Some statements have included two additional rights:

4. the right to have access to service plan information, and
5. the right to have competitive choices.

Each of these rights is explained briefly below:

1. *Right to Attach Equipment*: This right ensures that consumers can purchase equipment off the shelf, or make their own equipment, and connect it to any broadband network. If network operators are allowed to set the standards governing what equipment can be used, they could easily adopt proprietary standards or designs that favor one manufacturer over another. Broadband network operators should not be allowed to set electronic design standards or require pre-approval before a consumer can attach any particular equipment.[5]

There are two models for this principle in current law:

a) The "Carterfone" rules: "Carterfone" refers to the initial effort by Tom Carter to attach a device to the subscriber's telephone. AT&T opposed the attachment of any non-AT&T manufactured device to the network on the grounds that it would harm the operation of the network. The FCC rejected AT&T's argument in 1968 and the courts later affirmed that decision.[6] The FCC then established equipment certification rules in Part 68 of its rules that allow any manufacturer to develop and sell equipment as long as it meets

[5] Although the term "attach" is often used, it means more than simply plugging the device into the network. The equipment must be able to work and interact with other devices through the broadband network.

[6] *Use of the Carterfone Device in Message Toll Telephone Service*, 13 F.C.C.2d 420(1968), *recon. denied*, 14 F.C.C.2d 571 (1968).

minimum technical requirements.[7] The FCC's attachment rules laid the groundwork for a multi-billion dollar high-tech computing industry.

Because of the FCC's recent rulings (see subsection C below), the attachment principles for subscriber equipment no longer apply to broadband networks.

b) The "set-top box" rule: Section 629 of the Communications Act directs the FCC to adopt regulations to ensure that consumers can purchase the cable set-top box of their choice and that the box will work with any cable system. The rules are intended to allow for competition among manufacturers of set-top boxes that convert cable or satellite programming signals into signals that can be displayed on consumers' television sets.

2. *Right to Access Content and Applications*: This right ensures that Internet users can reach any web site of their choice, without interference or degradation by the network operator. Under current law, telephone companies are obligated to allow consumers to make any phone call or use their dial-up Internet connection to reach any Internet Service Provider (ISP). But this obligation no longer applies to broadband services. Now that the FCC and the courts have defined broadband services as "information services", the telephone and cable companies are under no obligation to allow consumers to reach the web site of their choice over a broadband connection.

Codifying this right would give broadband consumers the same right as telephone and dial-up consumers to reach the destination and access the content and services they choose. According to this principle, network operators would not be permitted to re-direct traffic once a consumer chooses a certain web site, or block or degrade certain applications such as telephone calls over the Internet (VoIP). In other words, this right would prohibit network operators from blocking or unreasonably impeding the user's ability to obtain access to the information, applications and services that are made available over the Internet.[8]

3. *Right to Provide or Offer Applications and Services*: This right is similar to the right to use the Internet, as in 2. above, except that it addresses the issue from the perspective of a provider, rather than a user.[9] "Providers" include VoIP companies

[7] *See*, 56 F.C.C. 2d 593.

[8] A commonly used example of potential discrimination was included in the *Washington Post* as follows: "Imagine the outcry if a local phone company started preventing customers from calling Lands' End to place an order and redirected their calls to L.L. Bean, which had paid the phone company to be the exclusive purveyor of down jackets to its customers." S. Pearlstein, Policy Watch, Wash. Post, Nov. 24, 2002, at H3.

[9] This paper avoids characterizing principle 2. as the "consumer" principle and principle 3. as the "business" principle because consumers are increasingly posting their own content, running their own applications, and providing their own services on the Internet. So a residential consumer may be both a "user" of information/applications/services and a "provider". The same is true of business consumers.

such as Vonage, Pulver and Skype; on-line web portals such as Google and Yahoo; applications such as home banking, interactive gaming; news and information sites, and virtually any other service that offers interaction with the user.

Network operators may have even greater reason to discriminate against these application and service providers because they compete on a retail level with the services provided by the network operator. For instance, VOIP providers offer voice telephone service over the Internet that competes with the voice services offered by telephone companies and cable companies. Similarly, Internet-based video providers may soon be able to offer video services that compete with cable and telephone companies' video offerings. Any list of rights must specifically protect those who run applications or offer services in order to ensure that the Internet remains open to these uses.

4. *Right to Information about Service Plans*: This right would ensure that consumers have access to information about their broadband service plans. Broadband providers often impose service limitations on the proper uses of their broadband connection. Such restrictions could prohibit certain uses, limit the quantity of traffic or speed of service, impose premature termination penalties, specify compatible equipment, etc. These service limitations vary quite substantially from company to company, possibly creating significant customer confusion. This right would help consumers understand these service limitations.

5. *Right to Competition for Network Providers, Applications and Service Providers and Content Providers*: This right appears in the FCC's August 2005 policy statement,[10] stating that consumers have a right to competition for network, application service and content providers.[11] Though the FCC provided no further explanation of its thinking in the Policy statement, it presumably refers to the FCC's asserted desire to promote the ability of power line companies, satellites and other wireless networks to provide facilities-based competition to the cable and telephone companies.[12]

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[10] Action by the Commission August 5, 2005, by Policy Statement (FCC 05-151). Chairman Martin, Commissioners Martin, Abernathy, Copps, and Adelstein, with Chairman Martin issuing a statement.

[11] Public Knowledge has separately supported competition in a White Paper released in 2005. *See*, "Principles for an Open Broadband Future", available at http://www.publicknowledge.org/content/papers/open-broadband-future.

[12] At the time the FCC adopted this rule, Chairman Martin stated that these principles were not enforceable. The FCC may have initially included this "right" to competition in its Policy statement because of its belief that competitive supply of alternative network operators would make it unnecessary to adopt an enforceable openness rule. Since then, the FCC has decided that SBC and Verizon must comply with an openness requirement as an enforceable condition of their mergers with AT&T and MCI, respectively, possibly because of the diminution in competition resulting from those mergers. *See*, Action by the Commission October 31, 2005, by Memorandum Opinion and Order (FCC 05-183) SBC/AT&T Docket No. 05-65, Chairman Martin and Commissioner Abernathy, with Commissioners Copps and Adelstein concurring; and Action by the Commission, October 31, 2005, by Memorandum Opinion and Order (FCC 05-184)

(Subsection G below contains matrices comparing the positions of a variety of parties.)

B. The Terms of the Debate.

1. *Net Neutrality*

The term "Net Neutrality", which Professor Lawrence Lessig is credited with coining, was first used at the FCC by the Coalition of Broadband Users and Innovators (CBUI), a coalition of on-line content companies and retailers, users and ISPs. (See Attachment A) The coalition filed its first comments with the FCC in November 2002 arguing that the FCC should adopt policies to prevent network owners from discriminating against web sites, applications, services or equipment that are not affiliated with the network operator. CBUI included several large on-line content companies, consumer groups and equipment manufacturers, including Yahoo!, E-Bay, Amazon, Microsoft, Apple, Radio Shack, Disney, the Information Technology Association of America (ITAA), the Consumer Electronics Association (CEA), the National Association of Manufacturers (NAM), the Media Access Project (MAP), and others.

Other terms have also been used to describe the problem of network discrimination. The origins of each term are explained briefly below:

2. *Connectivity Principles*

The term "Connectivity Principles" was first used in a filing to the FCC by the High-Tech Broadband Coalition (HTBC) in June 2002. The HTBC includes the Business Software Alliance (BSA), the CEA, the Information Technology Industry Council (ITIC), the NAM, the Semiconductor Industry Association (SIA), and the Telecommunications Industry Association (TIA). In brief, the HTBC said that consumers should have the right to:

a. meaningful information about their service plans;
b. access lawful content;
c. run applications and services of their choosing;
d. attach their choice of communications devices.

3. *Internet Consumer Freedoms/Four Freedoms*

The term "Internet Consumer Freedoms" (also called the "Four Freedoms") describes the four principles laid out by then-FCC Chairman Powell in his speech to the Voice on the Net (VON) Conference in October 19, 2004. (See Attachment B) These "Four Freedoms" track almost exactly the four "Connectivity Principles" filed by the HTBC. Chairman Powell called for:

Verizon/MCI Docket No. 05-75. Chairman Martin and Commissioner Abernathy, with Commissioners Copps and Adelstein concurring.

(a) *Freedom to Access Content*: Consumers should have access to their choice of legal content;

(b) *Freedom to Use Applications*: Consumers should be able to run applications of their choice;

(c) *Freedom to Attach Personal Devices*: Consumers should be permitted to attach any devices they choose to the connection in their homes; and

(d) *Freedom to Obtain Service Plan Information*: Consumers should receive meaningful information regarding their service plans.

4. *Openness Principles*

The terms "Open Broadband Future", "Open Attachment of Equipment" and "Open Network for all Applications and Content" were used in a White Paper issued by Public Knowledge in June 2005. The issue of "Net Neutrality" for broadband networks is one subset of the general principle of "openness" that Public Knowledge believes should guide policymakers as they consider a variety of communications issues in the future.[13] Under this concept of "openness", all communications networks should be open to all users and equipment and competitors, and spectrum should be open to both licensed and unlicensed uses.

5. *Bit Discrimination*

The term "Bit Discrimination" has also been used informally by some advocates to refer to the potential that network operators could give some types of (digital) traffic preferential treatment over other traffic on the network.

6. *Packet Prioritization*

Packet prioritization has emerged recently as an important new term of art. Network operators claim that packet prioritization is a standard business practice and is necessary to ensure that the network operates properly. For instance, they claim that network operators need to give priority to video streaming packets to avoid any degradation in the quality of the video received by the consumer, while e-mail traffic can encounter brief delays without degradation. Net Neutrality advocates, however, express concern that granting network operators unlimited authority to engage in packet prioritization could allow them to prioritize traffic based on the content of the traffic or the identity of the user and thereby sanction discrimination.

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[13] *See*, Principles for an Open Broadband Future, a Public Knowledge White Paper, issued July 6, 2005, available at http://www.publicknowledge.org/content/papers/open-broadband-future.

C. A Brief Legal History of Broadband Network Regulation

The United States became the world leader in high-technology industries under a common carrier legal regime that required network operators to keep their networks open to all uses and users that do not interfere with the operation of the network. Since its inception, the Internet has operated under a similar model of interconnection and open standards. Anyone may register for a domain name, connect a server and provide content, applications and services.

In 2005, however, the Federal Government reversed decades of successful communications policy by finding that most broadband services are "information services" instead of "telecommunications services." These decisions effectively bring an end to the openness regime and allow broadband network owners to control who can connect and offer services over the Internet. The open, public and interconnected broadband networks of today could well become closed, private and potentially exclusive networks tomorrow.

The following section describes these regulatory changes in more detail.

1. The Nexus Between the Internet and the FCC's Regulation of Networks.

When Congress first enacted the 1934 Communications Act, it granted the FCC authority to regulate all telephone companies as common carriers under Title II. Over time, as the telephone network came to be used for data or "value-added" communications as well as voice phone calls, the FCC needed a regulatory approach to distinguish between the underlying common carrier network and the services riding over that network.

In three *Computer Inquiry* decisions in the 1970's and 1980's, the FCC eventually settled on two categories of service: 1) "basic" services, such as transmission capacity and voice phone calls, would remain regulated under Title II, and 2) "enhanced services", or value-added information services, would be defined as non-common carrier services and would only be subject to the FCC's generic oversight authority under Title I. The FCC essentially maintained its regulation over the common carrier telephone network and deregulated the equipment and information services using that network. The FCC required the owners of telecommunications networks (AT&T and then the Regional Bell Operating Companies – the RBOCs) to unbundle their networks and provide the underlying basic transmission services to all enhanced service providers on a nondiscriminatory basis. In effect, the FCC strengthened its common carrier rules by requiring the telephone companies to make their common carrier telephone networks available to independent equipment manufacturers and to interconnection by Internet Service Providers (ISPs).

These *Computer Inquiry* decisions essentially gave birth to the Internet.[14] Competition among ISPs flourished; thousands of entrepreneurs purchased "basic" telephone lines from the phone company, hooked them up to their own servers to provide connections to the Internet. According to Vint Cerf, known as the "father of the Internet", the *Computer Inquiry* decisions allowed thousands of users to "unleash their creative, innovative, and inspired product and service ideas in the competitive information services marketplace, without artificial barriers erected by the local telephone companies." [15]

The *Computer Inquiry* rules also had a dramatic impact on the equipment market. The FCC initially adopted equipment certification rules in 1975 (the Part 68 rules). The *Computer Inquiry* decisions added strength to these Part 68 rules by removing the telephone companies' equipment from their regulated rate base so that the telephone companies could not cross-subsidize their equipment and thereby gain a regulatory advantage over competitive equipment suppliers. These decisions effectively launched the growth of computer networking, fax machines, answering machines, videoconferencing and many other hardware and software industries.

2. The FCC Defines Broadband Services as "Information Services."

Under the *Computer Inquiry* decisions, basic transmission services were regulated under Title II as common carrier services regardless of transmission medium. The telephone companies' transmission services, whether provided over copper, microwave, fiber optic cable, wireless or any other media, were all regarded as telecommunications services because their function was to act as a passive and neutral conduit for messages generated by others. In contrast, enhanced services were defined as those services that manipulate, store or alter the information. These same definitions were essentially adopted by Congress in the Telecommunications Act of

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[14] According to Robert Cannon, Senior Counsel for Internet Policy in the FCC's Office of Strategic Planning and Policy Analysis, the *Computer Inquiry* rules were "a necessary precondition for the success of the Internet" because they involved "affirmative and aggressive regulation of communications networks, specifically for the benefit of the computer networks." Jonathan Weinberg, Professor of Law at Wayne State University, notes that the *Computer Inquiry* decisions were "wildly successful in spurring innovation and competition in the enhanced-services marketplace" because "government maintained its control of the underlying transport, sold primarily by regulated monopolies." Phil Weiser, Associate Professor at the University of Colorado Law School, writes that the FCC's non-discriminatory access obligations ensured that the telecom network "could be used for a variety of services (*e.g.* Internet access) and that rival companies could market equipment like modems that could connect to the network." (Quoted in "A Horizontal Leap Forward" by Richard S. Whitt in *Open Architecture as Communications Policy*, edited by Mark N. Cooper, Center for Internet and Society, Stanford Law School.)

[15] Professor Lessig has observed that, without the government's role in ensuring an open network, the design of the Internet would have been more like the French analogue – Minitel – a centrally-controlled information service whose usefulness was rapidly surpassed by the Internet. *See*, "The End of End-to-End," by Mark A. Lemley and Lawrence Lessig, available in *Open Architecture as Communications Policy*, edited by Mark N. Cooper, Center for Internet and Society, Stanford Law School, pp. 41-91.

1996 (although the terms "basic services" and "enhanced services" were changed to "telecommunications services" and "information services").

Nonetheless, after years of drawing this clear separation between conduit and content – a line that was relatively clear and enforceable – the FCC recently adopted a new boundary for broadband services. The FCC determined that both cable modem services and telephone company DSL offerings should be considered "information services" because they provide a bundle of both transmission services and access to the Internet.

Cable Modem Services

After the *Computer Inquiry* decisions and with the rise of the Internet, thousands of ISPs entered the market to provide dial-up local access to the Internet over local phone lines. When cable modem service was introduced in the late 1990's, ISPs sought to have the same right to serve cable customers as they provided to telephone customers. The cable industry refused. Cable providers generally only permitted customers to connect to the cable companies' own ISP affiliate. The cable industry argued that its cable modem services were inextricably intertwined with their Internet service. In 2002, the FCC agreed and classified cable modem service as an information service.[16] After initially being overturned by the Ninth Circuit Court of Appeals, the FCC's view was affirmed in 2005 by the Supreme Court in a split decision.[17]

Telephone Company DSL services.

Soon after the Supreme Court upheld the FCC's decision to classify cable modem services as information services, the FCC reached a similar conclusion for phone company DSL services. In its *Wireline Broadband Order*, adopted in August 2005, the FCC found that facilities-based wireline broadband Internet access service is an "information service", not a "telecommunications service". The FCC ruled that the telephone companies were no longer required to offer the wireline broadband transmission service (*i.e.*, transmission in excess of 200 kilobits per second (kbps) in at least one direction) as a stand-alone telecommunications service under Title II of the Communications Act. As a result, most of the telephone companies' broadband offerings are no longer subject to the FCC's Title II and right to attach rules.[18]

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[16] *See In re* 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, *Declaratory Ruling and Notice of Proposed Rulemaking*, FCC 02-77 (2002) ("Cable Modem Decision").

[17] *See, National Cable and Television Ass'n v. Brand X Internet Serv.*, 125 S. Ct. 2688 (2005).

[18] In the Matters of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-52, 02-33, 01-337, 95-20, 98-10, *Report and Order and Notice of Proposed Rulemaking*, FCC 05-150, released Sept. 23, 2005, para. 96

Effect of the FCC's Information Services Rulings

The competitive ISP and competitive telephone industries have already suffered under these decisions. Will the on-line content service provider industry be next?

The independent ISP industry flourished in the dial-up world. But the FCC's information services decisions mean that neither cable nor telephone companies are required to allow independent ISPs access to their customers. The cable and telephone companies have, in most cases, taken advantage of these decisions and have refused to allow independent ISPs to provide service over their broadband networks. As a result, while there are hundreds of independent ISPs offering dial-up access to the Internet, there are very few independent ISPs providing broadband connectivity.[19] As consumers increasingly shift from dial-up service to broadband, the independent ISP industry is facing a difficult future.

The competitive local exchange carrier (CLEC) industry has encountered a similar downturn. The Telecommunications Act of 1996 required the Regional Bell Operating Companies (RBOCs) to permit competitors to lease component parts of the telephone network on an unbundled basis. Hundreds of CLECs entered the market in after the Telecommunications Act of 1996 providing lower-cost service to both business and residential subscribers. In a series of decisions between 2001-2005, the FCC and the courts ruled that telephone companies have no legal obligation to sell access to their broadband facilities to CLECs on an unbundled basis. As the telephone companies withdrew access to these facilities, many CLECs filed for bankruptcy, and others cancelled their expansion plans. The FCC's 2005 decision to classify DSL as an "information" service continues the trend to close the telephone companies' broadband services to interconnection by competitors.

The history of the independent ISP and CLEC industries is troubling to the VoIP, on-line and equipment industries. They are concerned that the network owners treatment of ISPs and CLECs may foreshadow the treatment that they will receive in the absence of a Net Neutrality rule.

3. The FCC Proposes Title I Ancillary Authority over Broadband Services.

Though the FCC has defined cable modems and DSL as exempt from Title II regulation, it has asserted that it retains authority to oversee, and perhaps regulate, both services under its Title I "ancillary authority". Title I allows the FCC to impose requirements "reasonably ancillary to the effective performance of [its] various responsibilities." The Supreme Court stated in dicta in the *Brand X* decision that the FCC has authority under Title I, although the full scope of its Title I authority has yet to be determined.

[19] In the dial-up world, Dr. Mark Cooper found an average of 15 ISPs per 100,000 customers, while there are now less than 2 ISPs per 100,000 customers of broadband connections. For more discussion of the dominance of the phone and cable companies over the broadband ISP market, *see* section III.A below.

In its recent *Wireline Broadband Order*, the FCC sought another round of comment to consider whether to impose a variety of consumer protection requirements on broadband network operators under its Title I "ancillary" authority. The FCC specifically requested comment on whether it should apply its Title II policies for privacy, slamming, service discontinuance, truth-in-billing, network outages and others. The FCC did not, however, propose to apply its Part 68 rules regarding the attachment of network equipment or open access to Internet content/applications/services under its Title I authority.

The FCC has at times used its Title I authority to protect consumers and competition. For instance, it required voice mail to be accessible to persons with disabilities, and it required VoIP providers to provide E911.

Nonetheless, the scope of its Title I authority is in doubt. Title I authority is not unlimited; the Commission's action must be "ancillary" to a specific statutory purpose. The Communications Act generally recognizes the FCC's authority over "all interstate and foreign communications by wire or radio" in section 152(a), but Congress has not granted the FCC specific statutory authority to promote the openness of broadband networks.[20]

Twice in the recent past, the FCC's decisions based on Title I have been overturned by the courts. In *American Library Association v. FCC*,[21] the court overturned the FCC's "broadcast flag" rules, finding that the FCC had no authority under Title I to regulate receiver equipment after the transmission and receipt of the broadcast transmission had ended. In *Motion Picture Ass'n of America v. FCC*,[22] the court found that Title I did not grant the FCC authority to regulate program content, given the First Amendment issues at stake.

Any action taken by the FCC under Title I is certain to be challenged and, because the issue goes to the heart of the FCC's governing statute and could impact many other industries, could well be heard by the Supreme Court. Thus, now that the FCC has found that cable modems and DSL services are classified as information services, it is unclear whether or not it has the authority to enforce a Net Neutrality requirement unless Congress specifically grants it such authority.

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[20] Congress has recognized that the FCC should promote the Internet, but not necessarily the "openness" of the Internet. In section 230(b) of the Communications Act of 1934, Congress stated that it is the policy of the United States "to promote the continued development of the Internet" and "to preserve the vibrant and competitive free market that presently exists for the Internet."

[21] 406 F.3d 689 (D.C. Cir. 2005).

[22] 309 F.3d 796 (D.C. Cir. 2002).

D. Government Actions and Statements of Government Officials Concerning Net Neutrality.

In general, the government has recognized that Net Neutrality is an important issue but has yet to establish a permanent and enforceable Net Neutrality rule. The following section reviews the government's actions and statements on Net Neutrality to date. The source documents for each of the following are contained in the attachments.

NARUC Resolution: On Nov. 12, 2002, the National Association of Regulatory Utility Commissioners (NARUC) adopted a resolution urging the adoption of certain openness principles. The resolution noted that providers of broadband services or facilities have the technical capability to create a "walled garden" or "fenced prairie" that is "designed to attract customers to preferred content but that also could keep consumers from reaching content other than those of the providers' choosing." The resolution did not request any action from the FCC. Rather, it issued a general resolution that consumers should be able to access the lawful content of their choice (including applications) without discrimination and that consumers should have the information they need about their service plans. The resolution also declares that nothing prohibits an ISP affiliated with a broadband facilities provider from promoting or preferring particular content. (See Attachment C)

Commissioner Copps Speech: On October 9, 2003, Commissioner Michael Copps gave an influential speech expressing his concern that the operators of broadband networks were lobbying the FCC to close down the Internet by exercising their control over the chokepoints in the network. He said that the founders' vision of the Internet was being exchanged for a constricted and distorted view of technology development, entrepreneurship and consumer preferences. He warned that the FCC appeared to be buying into the warped vision that open networks should be replaced by closed networks. If this vision were to become reality, he suggested, entrenched interests would have even greater power than they have today to design and control the Internet of the future. (See Attachment D)

Chairman Powell Speech: On October 19, 2004, then-FCC Chairman Powell gave a speech to the Voice on the Net (VON) Conference in which he endorsed the four "Internet Freedoms" and called upon the industry to adhere to these principles. He cited the enormous benefits that the IP revolution is bringing to the American economy and consumers and urged the broadband industry to abide by these openness principles. Chairman Powell, however, stopped short of declaring that the FCC would enforce these principles. (See Attachment B)

Madison River Blocking Complaint: In early 2005, Vonage alleged that Madison River Telephone Company was blocking consumers from obtaining access to Vonage's VoIP service. The FCC initiated an investigation of the allegations that Madison River had violated the requirement to interconnect and carry traffic in section 201(b) of the Communications Act. On March 3, 2005, the FCC's Enforcement Bureau reached a

settlement agreement with Madison River (See Attachment E). The agreement prohibits Madison River from blocking the "ports" for VoIP traffic, and Madison River agreed to pay $15,000.

This is the only known enforcement action taken against any blocking of VoIP calls. Chairman Powell noted that it was an important demonstration of the FCC's ability to enforce its "Internet Freedom" policy without the need for explicit FCC rules. However, the FCC did not affirmatively grant the complaint or make a precedential ruling. Madison River entered into the settlement agreement voluntarily and did not pursue an appeal of the order. Thus, the scope of the FCC's authority to order a company to stop blocking has not yet been decided. (See Attachment E)

S.1504 (Ensign-McCain bill): On July 27, 2005, Senators Ensign and McCain introduced legislation to reform the nation's communications laws. Section 7 of the bill contains an open Internet provision. Subsection (a) of the bill says that:

- a consumer shall not be denied access to "content," and a broadband provider will not "willfully and knowingly block" access to content;
- a network operator may nevertheless engage in blocking if the content is illegal, the blocking is in compliance with state or federal law, or the denial of access is consistent with the subscriber's service plan.

Subsection (a) allows broadband providers to customize a service offering for consumers that may include differential access to certain content, applications and service plans.

According to subsection (b), the FCC may take enforcement action against any broadband provider that "intentionally restricted access to content" in violation of the above policy. Broadband providers, however, will not be subject to enforcement if they are performing network management, or traffic prioritization, or taking other action to protect the security and integrity of the network, or preventing illegal conduct.

The provision says that nothing in the bill affects parental controls to block certain content of the user's choosing. It specifically protects the consumer's right to attach any device to the broadband network. Finally, the provision says that nothing in subsection (a) allows a broadband provider to prevent a customer from receiving VoIP from a competitor.

FCC's Wireline Broadband Order: On August 5, 2005, the FCC explicitly refused to adopt a rule to enforce net neutrality. Although it agreed that active interference with consumer's access to lawful Internet content would be "inconsistent with the statutory goals of encouraging broadband deployment," it "did not find sufficient evidence in the

record before us that such interference . . . is currently occurring." The FCC pledged that it would "not hesitate to take action to address" any action violating the four principles.[23]

FCC Policy Statement: On August 5, 2005, the same day that the FCC adopted the *Wireline Broadband Order* classifying DSL services as information services, the FCC issued a "Policy Statement" articulating four principles to "encourage broadband deployment and preserve and promote the open and interconnected nature of public Internet." The Four principles are: (1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers. The Commission pledged to "incorporate these principles into its ongoing policymaking activities."[24]

Chairman Martin's statement issued the same day says "policy statements do not establish rules nor are they enforceable documents." Chairman Martin expressed his confidence that "the marketplace will continue to ensure that these principles are maintained" and that "regulation is not, nor will be, required." (See Attachment F)

FCC Merger Orders: On October 31, 2005, the FCC approved the two mergers of the major long distance companies with RBOCs (SBC and AT&T; MCI and Verizon). In approving the mergers, the FCC adopted a number of conditions, one of which was an "enforceable" condition that obligates the merging parties to comply with net neutrality rules for 2 years. The FCC's Press release states:

> The Commission also adopted in the Order **as enforceable conditions** certain voluntary commitments made by the applicants.
>
> . . . . .
>
> - The applicants committed for a period of two years to conduct business in a way that comports with the Commission's Internet policy statement [adopted in August and] issued in September.[25]

Chairman Martin's statement did not address this particular Net Neutrality condition (although he did say that he thought many of the conditions were not necessary).

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[23] In the Matters of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-52, 02-33, 01-337, 95-20, 98-10, *Report and Order and Notice of Proposed Rulemaking*, FCC 05-150, released Sept. 23, 2005, para. 96.

[24] Action by the Commission August 5, 2005, by Policy Statement (FCC 05-151). Chairman Martin, Commissioners Martin, Abernathy, Copps, and Adelstein, with Chairman Martin issuing a statement.

[25] "FCC Approves SBC/AT&T and Verizon/MCI Mergers," Oct. 31, 2005, SBC/AT&T Docket No. 05-65, Verizon/MCI Docket No. 05-75, p. 2-3.

Commissioner Copps, however, had much to say about Net Neutrality. He first noted the following:

> *Net Neutrality:* Two years ago I urged the Commission to ensure that its policies protect the openness that makes the Internet such a vibrant place. Two months ago, I pushed for this Commission to approve an Internet Policy Statement outlining the freedoms consumers have a right to expect in the digital age. Today, we make these principles enforceable. As a result, consumers will have an enforceable right to use their bandwidth as they see fit, going where they choose and running the applications they want on the Internet.

Commissioner Copps later went on to explain why Net Neutrality was an important issue for the FCC to adopt in conjunction with the mergers:

> No less a source than the *Wall Street Journal* pointed out less than two weeks ago that large carriers "are starting to make it harder for consumers to use the Internet for phone calls or swapping video files." The more powerful and concentrated our facilities providers grow, the more they have the ability, and perhaps even the incentive, to close off Internet lanes and block IP byways. I'm not saying this is part of their business plans today; I am saying we create the power to inflict such harms only at great risk to consumers, innovation and our nation's competitive posture. Because, in practice, such stratagems can mean filtering technologies that restrict use of Internet-calling services or that make it difficult to watch videos or listen to music over the web. The conditions we adopt today speak directly to this issue—***before*** increased concentration of last mile facilities and the Internet backbone make it intractable. This is why stand-alone DSL, enforceable net neutrality principles, and peering in the Internet backbone are so vital. [26]

E. Examples of Blocking or Discrimination by Network Operators.

The problem identified by network neutrality proponents has been described as theoretical or "a solution in search of a problem." This pithy phrase cannot be reconciled with the growing evidence of blocking and discrimination. Significant examples of discrimination were first submitted to the FCC in 2002, and examples of blocking have continued to accumulate since then. While the first examples of discrimination or usage limitations principally involved cable companies, recent violations of openness principles have involved telephone and wireless companies. Moreover, technologies are being marketed to network owners to assist them in blocking or screening out certain undesirable traffic.

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[26] *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control, Memorandum Opinion and Order, WC Docket No. 05-75,* Statement of Commissioner Michael J. Copps, concurring.

Before turning to the specific examples, it is useful to review a survey of broadband operators taken in 2002 by Tim Wu, a law professor at Columbia University Law School who has been writing about Net Neutrality for several years. Professor Wu found that most broadband subscriber agreements imposed explicit limits on a consumer's use of his or her broadband connection. Professor Wu also found that both cable and telephone companies used their subscriber agreements to impose such limitations, although cable operators tended to impose more limitations than telephone companies. For instance, nearly every cable operator and one third of DSL operators barred consumers from using their broadband connection to operate a server and/or provide content to the public. Such restrictions allow consumers and businesses to be "consumers" but not "providers" of information. (In contrast, one service provider explicitly allowed users to run a web server, demonstrating that there was no technical reason to prevent users from operating their own servers.) Most cable and a few DSL providers also prevented "commercial" or "enterprise" use of residential broadband connections and also banned home networking, maintaining that such uses were a "theft of service."[27]

The following discussion describes the specific examples of blocking known to date; the documentation for these examples is contained in the attachments.

a. Cable Companies

i. Virtual Private Networks

A few years ago, the Coalition of Broadband Users and Innovators (CBUI) brought to the FCC's attention that cable modem providers prohibited residential consumers from using their broadband connections to log into virtual private networks (VPNs). A VPN allows the residential consumer to have all the functionality of the workplace from the comfort of their homes. According to CBUI, these restrictions had little to do with concerns about excessive use of the network; CBUI filed an affidavit showing that VPN users do not generate significantly more traffic than other users. Nonetheless, this practice violated the terms and conditions of the cable companies' subscriber agreements concerning approved uses. Some cable operators banned VPN usage outright, or demanded additional fees. For instance, Cox Cable said that residential consumers who wished to use their broadband service for commercial grade purposes could purchase a different offering at a "slightly higher price point." The National Cable and Telecommunications Association (NCTA) attempted to defend the restriction by asserting that the VPN restrictions were necessary to differentiate between "static" and

[27] *See*, "Network Neutrality, Broadband Discrimination," by Tim Wu, available in *Open Architecture as Communications Policy*, edited by Mark N. Cooper, Center for Internet and Society, Stanford Law School, pp. 197-229.

"dynamic" IP addresses.[28] Expert witnesses brought forth by CBUI rebutted this defense. The cable operators later eliminated these VPN restrictions.[29]

ii. Home Networking

One cable provider prohibited residential consumers of its broadband service from engaging in "home networking." Home networking allows a consumer to connect several computers in the home to one broadband connection. In this case, the consumer used a Network Address Translator (NAT) that connects several computers to the one computer on the broadband network. This allows multiple computers to share the same IP address, so that the cable operator believes there is only a single computer. The cable provider, AT&T, considered this to be a "Theft of Service" under its contract with the consumer. According to Multichannel News, AT&T sent out letters to certain customers saying customers must either pay for the extra Internet-protocol address or AT&T would disable the second computer connection.[30] This policy was abandoned once AT&T sold its cable business.[31]

b. Telephone Companies

i. Madison River Settlement Agreement

In early 2005, Vonage alleged that Madison River Telephone Company was blocking consumers from obtaining access to Vonage's VoIP service. The FCC initiated an investigation of the allegations that Madison River had violated section 201(b) of the Communications Act. On March 3, 2005, the FCC's Enforcement Bureau reached a settlement agreement (See Attachment E). The agreement prohibits Madison River from blocking the "ports" for VoIP traffic, and Madison River agreed to pay $15,000 to the U.S. Treasury.

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[28] Letter from National Cable Television Association to FCC Secretary Marlene H. Dortch, FCC Docket 02-52, Sept. 8, 2003.

[29] Letters from Ryan G. Wallach on behalf of Comcast Corporation, stating that the VPN restriction had been removed from Comcast's subscriber agreements as a normal course of transitioning its customers from the @Home network to its own network. *Ex Parte* letters in Docket 02-52, May 7 and May 15, 2003. Letters from Alexander Netchvolodoff of Cox Communications to the FCC, first defending the VPN restriction and then stating that Cox had changed the language in its subscriber agreements to delete the prohibition on using virtual private networks. *Ex parte* letters in Docket 02-52, April 7, 2003 and May 1, 2003 (included in Attachment G).

[30] Multichannel News, Sept. 23, 2002, as cited in a filing with the FCC made by the HTBC on Jan. 30, 2003 in CC Docket No. 02-52.

[31] *See, Ex Parte* Letter from Professors Lawrence Lessig and Tim Wu in Docket 02-52, August 22, 2003, pp.7-8.

ii. Bell Companies propose blocking of certain carrier codes.

On December 7, 2005, the Bell Companies' organization that administers the system used for routing toll free numbers (the 800 Service Management System, commonly referred to as SMS/800) announced that it intends to give its members a new system tool that would enable them to block certain 800 calls transmitted by competitive VoIP service providers.

If the FCC permits this plan to be implemented, carriers will be able to block calls of VoIP competitors that use the 0110 Carrier Identification Code (CIC). The Bell Companies claim that this 0110 CIC is their code, even though the Ordering and Billing Forum (OBF – a neutral industry organization) specifically states that the "0110" code is available to non-carriers. While some carriers have stated their intent to use the blocking functionality to demand that VoIP competitors pay access charges, one Bell Company has publicly announced that it intends to block the traffic of all non-affiliated companies irrespective of whether the VoIP competitors agree to pay access charges.

Many VoIP service providers that use this code provide enhanced services, and are thus not required to pay access charges under the FCC's rules. There are currently several unresolved FCC proceedings that will clarify whether, and under what circumstances, access charges might apply to other VoIP services. If the Bell Companies activate this feature, consumers that purchased conferencing services, prepaid calling cards, paging services and other services will likely find their calls blocked with no advance notice. Literally millions of consumers could be adversely impacted through service disruptions and higher rates if this feature is implemented.

Implementation of this new blocking feature is scheduled to take place in two phases, on February 5, 2006 and March 5, 2006.[32]

iii. Qwest imposes limits on broadband users.

Qwest (one of the four RBOCs) recently issued an acceptable use policy (AUP) that imposes limits on its DSL customers, including those who receive service from third party ISPs. Qwest prohibits, among other things, the use of a DSL line by a business to provide a wireless hotspot for its customers. It also prohibits all users from setting up any sort of server at all, either for personal or commercial use. (See Section 7(a) of the AUP in Attachment I). These limits apply even if Qwest is merely providing the line, and the consumer's Internet service is coming from a third party. The AUP also states that the user agrees to be liable for $5.00 for each spam message sent from his or her machine even if the machine was taken over by a worm or by spyware.

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[32] *See* SMS/800 Bulletin No. NWS-05-40, released Dec. 7, 2005, concerning Release 16.3 Implementation (contained in Attachment H).

c. Wireless Companies

i. Clearwire reserves right to block Vonage

The service agreement used by Clearwire, a start-up Wi-Max company owned by Craig McCaw, allows it to block large bandwidth uses, which might include VoIP and streaming video. Clearwire maintains that such reservations are necessary to allow it to manage its network so that large uses by some users do not overwhelm its capacity to serve all its customers. However, Clearwire also is preparing to offer its own VoIP service after signing an agreement with Bell Canada. (See Attachment J).

ii. Verizon Wireless

Verizon Wireless appears to block customers from using its wireless services for VoIP, streaming video and other uses. The following Acceptable Use Policy applies to Verizon Wireless's wireless broadband users:

> **Unlimited NationalAccess/BroadbandAccess.**
> Subject to VZAccess Acceptable Use Policy, available on www.verizonwireless.com, NationalAccess and BroadbandAccess data sessions may be used with wireless devices for the following purposes: (i) Internet browsing; (ii) email; and (iii) intranet access (including access to corporate intranets, email and individual productivity applications like customer relationship management, sales force and field service automation). **Unlimited NationalAccess/BroadbandAccess services cannot be used (1) for uploading, downloading or streaming of movies, music or games, (2) with server devices or with host computer applications, including, but not limited to, Web cameras posts or broadcasts, automatic data feeds, Voice over IP (VoIP), automated machine-to-machine connections, or peer-to-peer (P2P) file sharing, or (3) as a substitute or backup for private lines or dedicated data connections.** NationalAccess/BroadbandAccess is for individual use only and is not for resale. We reserve right to limit throughput or amount of data transferred, deny or terminate service, without notice, to anyone we believe is using NationalAccess or BroadbandAccess in any manner prohibited above or whose usage adversely impacts our network or service levels. Verizon Wireless reserves the right to protect its network from harm, which may impact legitimate data flows. We also reserve the right to terminate service upon expiration of Customer Agreement term.

d. Network Equipment Manufacturers

i. Verso

On September 14, 2005, Verso Technologies, Inc. (Nasdaq: VRSO) introduced a new carrier grade application filter that offers a bandwidth optimization and content management specifically for telecom carriers. The company advertised that its product allows cable operators and Internet service providers (ISPs) to "selectively disable undesirable network traffic" such as Skype, Peer-2-Peer (P2P) messaging, streaming media and instant messaging.

The company noted that Skype calls consume large amounts of bandwidth and can cause congestion and interrupt or degrade service for other critical applications. The company says that "[t]his traffic runs outside the traditional carrier revenue generation models and is therefore highly undesirable for them. Furthermore, carriers currently do

not have a feasible way to separately monitor and restrict this type of traffic on their network. Verso's new technology would fill this void."

The company's President and COO, Monty Bannerman, notes "[t]he application should be of great interest to any facilities based carrier in the world." (See Attachment K).

ii. OvisLink

A company called OvisLink currently advertises a VPN Router that provides a variety of security features including a firewall and "bandwidth management." The company is headquartered in Taiwan and has several offices around the world, including one in the U.S. (City of Industry, California). The company's promotional materials explicitly state that the product can be used to block MSN messenger, Yahoo Messenger, Skype and other traffic. (See Attachment L).

> **Messenger and Skype Blocking**
> One of the biggest headaches for system administrators is to block messenger and Skype traffic. Because these applications use dynamic ports that are hard to block, it is usually difficult to block those particular applications. With the RS-2000, it can block MSN messenger, Yahoo Messenger, ICQ, QQ messenger, and Skype traffic with a click of a button.

e. Consumer Equipment

It is not yet clear whether consumers will enjoy the freedom to attach their own equipment to broadband networks in the future. Network operators sometimes require equipment providers to undergo significant pre-approval processes before permitting the attachment of equipment. In addition, at least nine states have enacted laws that would permit broadband providers to restrict the types of equipment that consumers could attach to a broadband line.[33] These examples are provided below:

i. Xbox

Microsoft cites its experience with its Xbox gaming device as an example of the need for principles to ensure the ability to attach equipment to broadband networks. Xbox is a piece of equipment that consumers use at home to play an interactive, multi-subscriber game, generally over broadband networks. Microsoft told the FCC that, before introducing the product, it had to negotiate with cable operators individually to obtain their approval, despite the fact that Xbox already met established industry standards. Microsoft believes that the burdensome process of clearing technology through the cable companies delays the rollout of new products, stifling innovation and harming consumers.[34]

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[33] *See*, http://www.freedom-to-tinker.com/superdroca.html.

[34] Letter from the Coalition of Broadband Users and Innovators to FCC Secretary Marlene H. Dortch, FCC Docket 02-52, July 17, 2003.

ii. State Laws Limiting Consumers' Right to Attach Equipment

State laws have been enacted in Arkansas, Delaware, Florida, Illinois, Maryland, Michigan, Pennsylvania, Virginia and Wyoming to curtail consumers' use of equipment. While these laws differ in the details, these bills have been enacted at the request of industry to protect against the "theft" of their service or copyrighted material. In so doing, however, these overly-broad laws prevent consumers from making legitimate and lawful use of their equipment. For instance, many of these statutes make it illegal to use customer equipment for virtual private networks, for firewalls, or for networking multiple computers.[35] The language of these statutes often puts the communications provider, not the consumer, in control of the uses of the broadband network. For instance, in Michigan, it is illegal to possess a device with the intent to receive or transmit any telecommunications service without the express authority of the telecommunications service provider. In effect, this statute prohibits consumers from attaching devices to the network without permission of the provider.[36]

f. International Examples

This paper provides several examples of blocking in foreign countries. These examples of abuse are obviously beyond the jurisdiction of U.S. laws. The paper nevertheless includes them for three reasons. First, they provide additional evidence that network operators have the ability and incentive to block traffic. Second, many U.S. companies, and certainly most major Internet companies, operate worldwide. These practices in foreign countries are sure to affect the ability of American companies to do business outside the U.S. Third, to prevent the practice of blocking undesirable traffic from spreading around the world, the U.S. should set an example for the rest of the world by adopting a Net Neutrality policy today. The U.S. will be in a poor position to convince other nations that they should allow American Internet-based companies to operate in those foreign markets if the U.S. does not adopt a Net Neutrality policy of its own.

In the examples below, the actors are all privately owned network operators that are either blocking or engaging in exclusive bundling that prevents other providers from obtaining the same quality of access to the network.[37]

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[35] For instance, several state bills make it illegal to delete the information showing where a communication originates, despite the fact that deleting this information is an extremely common service provided by firewalls to prevent unauthorized users ("hackers") from gaining access to proprietary computer networks.

[36] *See*, http://www.legislature.mi.gov/(zavxobjt2ayfpx55zta3zy55)/mileg.aspx?page=GetMCLDocument&objectname=mcl-750-540c

[37] This paper does not include the many examples of foreign governments engaging in censorship to control the information available to the citizenry. Several studies of foreign government censorship are available at http://www.opennetinitiative.net.

i. E-Plus bundling Skype, excluding other VoIP providers.

Skype recently announced a partnership with E-Plus, the third largest mobile network in Germany, in which Skype VoIP services are to be bundled with E-Plus' mobile data network. Most significantly, the press release states that "Skype will be the only company offering calls over the Internet on the E-Plus mobile network." (See Attachment M). This language appears to mean that E-Plus will not allow other VoIP providers to use its data network.

ii. Canadian ISP blocks labor union web site, and others.

On July 25, 2005, Canadian Internet Service Provider (ISP) Telus unilaterally blocked a Web site set up by an employee labor union intended to publicize the union's views about its contract dispute with Telus. Telus is one of Canada's largest ISPs, with over one million customers. According to one analysis, Telus's decision to block traffic to the Internet Protocol (IP) address of the labor union site caused collateral damage to at least 766 additional, unrelated Web sites. Telus restored access to the IP address hosting the sites on July 28, 2005. (See Attachment N)

Telus claimed that it blocked the site because of illegal material on the web site that threatened or intimidated workers if they broke the strike. The parties later reached a court-supervised agreement in which Telus agreed not to block the web site as long as the union removed any photographs or information threatening workers.[38]

iii. Mexico's Telmex Blocks VoIP web sites and degrades VoIP calls.

In March 2005, the U.S. Trade Representative (USTR) accused Mexico's dominant telephone company, Telmex, of taking "inappropriate" action against VoIP companies. Several VoIP consumers complained that Telmex was degrading the voice quality of their VoIP calls, while Skype alleged that Telmex was blocking its web site, possibly in order to discourage consumers from signing up for service. While it was unclear at the time whether or not the actions were deliberate, the evidence was apparently strong enough for the USTR to cite the Mexican telephone company's actions as "inappropriate" in a report it issued in March, and for an unidentified USTR official to suggest that Telmex's action was "anticompetitive." (See Attachment O)

F. Positions of the Parties.

Retail equipment manufacturers want to ensure the commercial availability and nationwide portability of devices that attach to broadband services and video services in particular. Their concern is that network owners may adopt conflicting proprietary standards and protocols that limit manufacturers' ability to build and market devices

[38] The court settlement is available at http://www.voices-for-change.com/documents/vfc_settlement.pdf.

that attach to the network. For this reason, the Consumer Electronics Association (CEA) supports legislation ensuring the commercial availability of video devices manufactured by parties unaffiliated with any network operator. It believes the same protection currently codified in the FCC's right-to-attach rules and Section 629 of the Communications Act that ensures the commercial availability of set-top boxes for cable services should be extended to broadband video services.

Network equipment manufacturers support keeping the Internet open, but generally oppose legislation or FCC rules. Network equipment manufacturers, including Intel and Cisco, are concerned that burdensome regulations on network owners may discourage them from purchasing and constructing broadband networks.

VoIP Providers, such as Vonage, Skype and Pulver, support legislation and/or FCC rules that will prevent broadband network operators from blocking VoIP traffic. VoIP providers are concerned that network owners will block or degrade VoIP "ports" in order to protect their revenues from their own telephone services. Early in 2005, the FCC reached a consent agreement with one telephone company (Madison River) to stop blocking VoIP traffic, but other companies have alleged that they have the right to block VoIP traffic, both domestically and overseas. Furthermore, it is not clear whether the FCC has authority to impose penalties for blocking VoIP traffic (which is generally considered an information service, not a telecommunications service).

Retail On-line Content and Service Providers, such as Google, Yahoo!, E-bay and Amazon, support legislation or FCC rules to ensure that network owners do not discriminate against unaffiliated on-line providers. These companies are concerned that network operators may slow down the transmission speeds to unaffiliated providers, or otherwise degrade the consumers' access to certain web sites in order to favor the web sites in which the network operator has a financial interest. On-line providers are also beginning to develop their own voice services, which may also cause them to share the concerns of VoIP providers (above).

Competitive Local Exchange Carriers (CLECs) support a broad definition of net neutrality to ensure that network operators are required to serve every user and interconnect with other network providers on a nondiscriminatory basis. They express concern that a narrow approach that only requires the network operators to treat all bits fairly will still give network operators the freedom to deny service or interconnection altogether to certain providers or customers.

Consumer and public interest organizations support the unlimited right of consumers to access information, applications and services of their choice over the Internet. These organizations believe that consumers and application providers, not the network operators, should control how the Internet is used. These organizations generally believe that the Internet is a vehicle for many lower-cost, higher-value services for consumers, and they are concerned that network owners will try to limit the availability of these choices in order to protect their own services. The Internet

provides consumers with enormous freedom and choices, and thereby promotes democracy and freedom of speech.

The Regional Bell Operating Companies (RBOCs) (Verizon, BellSouth, SBC and Qwest) argue that they already have incentives to keep the Internet open and legislative or regulatory requirements are unnecessary. Each RBOC wrote to the FCC in the fall of 2003 to support the High-Tech Broadband Coalition's principles, but no company supported rules to enforce those principles. The companies claim that new rules could impose additional costs on them and discourage their broadband deployment. One RBOC (Verizon) is working to develop an agreement among the other industry members to abide by the principles of Net Neutrality on a voluntary basis, but the company also expressed its opposition to legislation.[39]

Cable companies, much like the RBOCs, oppose a Net Neutrality rule. They suggest it is a "solution in search of a problem" – that there is insufficient evidence of blocking or discrimination to warrant any government action. Cable companies are concerned that government legislation or rules could interfere with how they manage their networks. Furthermore, since cable modem services have not historically been subject to regulation, they argue that new rules would be especially burdensome.

[39] *See*, http://www.pff.org/issues-pubs/pops/pop12.29netneutrality.pdf and http://rnjtelecomupdate.com/denyal/telco/live/fb-PGMG113865200404 9.html.

G. Matrices Summarizing Parties' Positions and Rights.

The following matrix summarizes the consumer rights included in various parties' proposals:

Consumer Rights ⇨ / Party ⇩	Right to Attach Equipment	Right to Access Lawful Content	Right to Run/Offer Applications/ Services	Right to Information About Service Plans	Right to Competition for Network, App'n, Serv., & Content Providers
Net Neutrality (CBUI)	×	×	×	×	
Connectivity Principles (HTBC)	×	×	×	×	
Internet Consumer Freedoms (Ch. Powell)	×	×	×	×	
Nat'l Ass'n Reg'y Util'y Comm'ers (NARUC)		×		×	
Broadband Policy Statement (FCC)	×	×	×		×
S.1504 (Ensign)	×	×			

The following matrix summarizes some of the specific protections and exceptions included in various parties' proposals:

Specific Prohibitions and Exceptions ⇨ / Parties ⇩	Network Operator May Not Impair or Interfere	Individual Service Plans Permitted	Exception for Network Management	Exception for Network Integrity/ Security/ Traffic Prioritiz'n	Exception for Theft of Service	Complaint Must Show that Broadband Operator "Knowingly" or "Intentionally" Blocked Access
Net Neutrality (CBUD)	×	×	×			
Connectivity Principles (HTBC)		×	×		×	
S.1504 (Ensign)		×	×	×	×	×

The positions of the parties on the range of government actions is summarized in the following chart:

FCC should monitor industry and only take further action if the policy is violated.	Cable companies, RBOCs, network equipment manufacturers
Net Neutrality requirements should be imposed on large companies as a condition of their merger.	FCC
FCC should enforce the policy on a case-by-case process through the complaint process.	Some VOIP Providers, some on-line providers
FCC should establish specific rules and standards of interconnection.	Some VOIP providers, some application providers, some retail equipment manufacturers
Congress should clarify FCC's Title I authority to ensure it has enforcement/rulemaking authority to correct any problem that arises.	Some network equipment manufacturers.
Congress should codify Net Neutrality.	VOIP providers, retail equipment manufacturers, on-line content providers, consumer organizations.

PART II
The Case for an Enforceable Net Neutrality Principle

A. Interpreting the Evidence: Is there a Net Neutrality Problem?

The following points summarize the information presented above and explain why Public Knowledge believes a Net Neutrality statute or rule is necessary:

1. Network providers have blocked or limited consumers from making legitimate uses of the Internet in at least 8 known cases in the U.S. alone. The cases involved cable companies, telephone companies, and wireless companies.

2. These examples appear to be unrelated to excessive bandwidth usage causing congestion on the network. The examples involve limits on streaming video, home networking, VoIP, and attachment of a server at the end user's premises. The blocking appears to be motivated by the network operator's desire to prevent users from competing with the network operators' own services.

3. It is unknown whether or not the FCC has authority to enforce a Net Neutrality rule under current law (except with respect to two companies for a limited amount of time).

    i. The FCC has classified both cable modem services and telephone company broadband services as "information services". Broadband providers now have no obligation to serve all users and have no obligation to treat all traffic in a nondiscriminatory manner. In other words, broadband network operators may pick and choose which users to serve and which content to carry over their broadband networks.

    ii. The FCC's Madison River decision does not provide "proof" that the FCC has authority to enforce net neutrality. The Madison River case was a consent decree that Madison River entered voluntarily. Furthermore, the case was decided before the FCC issued its Wireline Broadband Order classifying wireline broadband services as information services.

    iii. While some allege that an aggrieved party can always file a complaint at the FCC, the FCC has not established any Net Neutrality rule. It is difficult for a user to complain successfully that the network operator has committed a violation if there is no rule to violate.

iv. AT&T and Verizon agreed to abide by a Net Neutrality rule as an enforceable condition of approving their mergers, but this provision was adopted for only two years and expires in September 2007.

v. The FCC's authority to impose a Net Neutrality principle under its Title I authority is uncertain. Two recent questions have overturned the FCC decisions based on its Title I authority.

4. Blocking and Discrimination are Likely to Worsen over time.

i. At least two equipment manufacturers are actively marketing equipment that permits blocking of "undesirable" traffic.
ii. Several economic studies point out that the network operators have increasing incentives to block traffic in order to reap additional profits in upstream markets (this point is addressed in more detail in Part III, Section 1 below).
iii. Two RBOC executives have given public statements that they intend to change their open Internet policies. (See Part III, Section 1 below).

B. The Benefits of Net Neutrality.

Some observers may yet ask, "Why should we care?" One answer is that broadband networks are quickly becoming the essential lifeline of our economy and society, carrying on-line commercial transactions, interactive games, news and information on current events, local and national advertising, telemedicine and distance learning, and videoconferencing.[40] Broadband service providers increasingly provide many of the same services as public libraries, local and national

[40] Jon Liebowitz, a Commissioner at the Federal Trade Commission, describes the benefits of an open Internet this way:

> In this day and age, Internet access is even more vital than some traditional government services because the Internet is both a repository of information, like a library, and a shared public space, like a park, to which everyone should have access. However delivered, inexpensive or free high speed Internet access is essential to bridge the digital divide and boost technological literacy. High speed access, particularly wireless access, benefits students, parents, small businesses, emergency workers and anyone else who values the enhanced portability, flexibility and speed that comes from not having to be tethered to a modem. And as the *New York Times* noted just this weekend, a Wi-Fi mesh could be the most promising and reliable emergency communications technology in the wake of a disaster like Hurricane Katrina. Finally, the economic benefits of more broadband are potentially enormous: computer, hardware, software and e-commerce businesses would grow exponentially if we could increase penetration by, say, 50 percent. "Municipal Broadband: Should Cities Have a Voice?," Remarks to NATOA, Sept. 22, 2005, available at http://ftc.gov/speeches/leibowitz/050922municipalbroadband.pdf.

newspapers, banks, and broadcasters.[41] Allowing the dominant cable and telephone industries to control our access to these sources of information, entertainment and commerce could endanger our First Amendment rights as well as our high-tech economy.

The following discussion highlights the primary benefits of maintaining an open Internet:

a. *Expanded E-Commerce and Economic Growth*: The nation's future economic growth is clearly linked to the expansion of the Internet and the information technology (IT) industry. Former NTIA chief Michael Gallagher cited the following statistics recently to demonstrate the link between U.S. economic growth and the IT sector:

- U.S. productivity grew 4.7% in Q3-2005 and grew3.1% over the prior four quarters.
- From December 2000 to December 2004, [U.S.] productivity grew at its fastest 4-year rate in over 50 years.
- From 1Q03-1Q05, major segments of IT investment spending grew between 22% and 48%.
- IT contributed 8.0% in 2003 and 12.0% in 2004 to the rise in GDP.
- During the period 1995-2003, US average labor productivity (ALP) increased at an average annual growth rate of 3.06% - more than double that of the previous 22 years (1973-1995).[42]
- Nearly half (47%) of ALP growth was due to IT contributions to capital deepening and total factor productivity (TFP).[43]

Furthermore, a recent study presented to the Telecommunications Policy Research Conference by four economists found a direct link between broadband adoption and economic growth. The study concludes:

> [We find evidence that] broadband positively affects economic activity in ways that are consistent with the qualitative stories told by broadband advocates. Even after controlling for community-level factors known to influence broadband

[41] At the University of Texas, nearly all of the 90,000 volumes contained in the undergraduate library have been removed to other libraries on the campus to make room for an on-line library -- a growing trend at colleges and universities around the country.

[42] Federal Reserve Chairman Alan Greenspan said "arguably, the pickup in productivity growth since 1995 largely reflects the ongoing incorporation of innovations in computing and communications technologies into the capital stock and business practices." Remarks by Chairman Alan Greenspan, *Productivity, at* the U.S. Department of Labor and American Enterprise Institute Conference, Washington, D.C. October 23, 2002, http://www.federalreserve.gov/boarddocs/speeches/2002/20021023/default.htm.

[43] Speech by NTIA Administrator Michael Gallagher to the European American Business Council, 2005 Digital Economy Workshop, Dec. 19, 2005, available at http://www.ntia.doc.gov/ntiahome/speeches/2005/MGallagher_DEW_12192005_files/frame.htm.

availability and economic activity, we find that between 1998 and 2002, communities in which mass-market broadband was available by December 1999 experienced more rapid growth in (1) employment, (2) the number of businesses overall, and (3) businesses in IT-intensive sectors.[44]

If broadband network operators are permitted to limit the user's choice of computers or ability to network computers, as they have in the past, many of the productivity benefits from computing and communications technologies could disappear.

b. *Enhancing the Marketplace of Ideas and Information*: From video updates, to blogs, to newsgroups, to e-mail updates, to RSS feeds, to on-line journals, more and more Americans obtain their information about the world over the Internet rather than through newspapers or through broadcast TV. According to one recent study by the Pew Internet and American Life Project, the percentage of Americans who "regularly" get their news from the Internet rose to 29% from virtually 0% one decade ago. At the same time, the percentage of people who receive their news from broadcast TV fell to 59% from near 70% in 1994, while newspaper usage declined to 42% from 58%.[45] If these trends continue, the owners of the broadband connections into our homes could exert greater control over the news and information we receive than broadcasters and newspaper-owners do today.

c. *Increased Investment in Innovative Applications:* New applications of broadband technology are being developed every day. On analyst has predicted that businesses need to be prepared for the coming of a second Internet revolution based on podcasting and blogging.[46] Furthermore, a Net Neutrality rule would provide a level of certainty for the future that encourages new investment today. Professors Lessig and Wu have argued that the clarification of the rules of the road concerning broadband technologies will itself stimulate even greater investment in new applications, as investors will have greater certainty that their new services will have access to the network.

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[44] "Measuring Broadband's Economic Impact," by William Lehr, Carlos A. Osorio, Sharon E. Gillett, Massachusetts Institute of Technology, and Marvin A. Sirbu, Carnegie Mellon University, Presented at the 33d Research Conference on Communication, Information and Internet Policy (TPRC) Sept. 23-25, 2005, Arlington, VA, available at http://www.tprc.org/TPRC05/Sat1046Sess05.htm#BroadDeploy.

[45] Americans' Consumption of News & Information, April 1, 2005, available at http://www.pewinternet.org/PPF/r/38/presentation_display.asp.

[46] "During the next year, chief information officers (CIO) should pay acute attention to how technologies such as blogging and podcasting will affect their businesses and be ready for innovation with those technologies by their competitors, Gartner analysts said Thursday. Those innovations are driving a second Internet revolution, a time when businesses can't afford to be content that they are simply online, said Mark Raskino, a research fellow at Gartner. Podcasting and blogging are affecting businesses both internally and externally, he said." Quoted in "Gartner: CIOs should prepare for 'second' Internet: CIOs need to pay attention to innovations using technologies such as blogging, podcasting." By Jeremy Kirk, IDG News Service, December 08, 2005.

> The question an innovator, or venture capitalist, asks when deciding whether to develop some new Internet application is not just whether discrimination is occurring today, but whether restrictions might be imposed when the innovation is deployed. If the innovation is likely to excite an incentive to discrimination, and such discrimination could occur, then the mere potential *imposes a burden on innovation today* whether or not there is discrimination now. The possibility of discrimination in the future dampens the incentives to invest today.[47]

d. *Increased Investment in Consumer Devices and Equipment*: An open Internet policy pushes the opportunity for innovation from inside the network to the "edge" of the network. As the cost of processing power, storage and transmission have decreased, entrepreneurs have invested huge sums of capital in innovative devices, equipment and software, outside of the control of the network owners. The consumer electronics (CE) industry has enjoyed consecutive years of double-digit growth, and the impact on the U.S. economy is huge. Sales to dealers of all CE products reached $113.5 billion in '04, an 11 percent increase over 2003. Sales in 2005 are projected to top $125 billion.

Open attachment protects the consumers' ability to obtain the most innovative equipment at the most competitive prices. Broadband equipment can empower consumers to control their broadband experience. MP3 players, like the iPod, allow consumers to be their own record producers; personal video recorders (PVRs), like TiVo, allow consumers to become their own network-programming executives. If broadband service providers are free to dictate which equipment can be connected to their networks or require customers to use only equipment purchased from the broadband provider, the equipment market will be less diverse, less innovative, and less responsive to the needs of customers.

e. *Expanded Educational Opportunities*: Educational institutions are among the most direct and innovative beneficiaries of broadband technologies. Colleges are increasingly exploring applications such as blogs, courseware sites, electronic facebooks, calendaring, Web conferencing, digital repositories (e.g., DSpace), e-portfolios, and peer networking to enable greater student collaboration and learning. According to the Economist magazine, a new technology called "collaborative filtering", when applied to peer-to-peer services, can be used to share links to reference sites, sources, and research tools.

Educational institutions are not just beneficiaries of broadband innovation; they are also driving it. For instance, the Internet2, a consortium of over 200 universities, is developing and testing new revolutionary Internet applications such as digital libraries, virtual laboratories, distance-independent learning and tele-immersion. A primary goal of Internet2 is to ensure the transfer of new network technology and applications to the broader education and networking communities.

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[47] *Ex Parte* filing by Professors Lawrence Lessig and Tim Wu, Aug. 22, 2003 to the FCC in CS Docket No. 02-52, pp.8-9.

Why would a Net Neutrality rule benefit educational institutions? At first blush, it might seem counter-intuitive that network operators would block usage by schools. But consider this: many private, for-profit schools compete with non-profit schools. An educational institution might seek to expand its reach, and its revenues, by reaching an exclusive arrangement with the network operator to distribute its educational materials to the disadvantage of other schools. Arguments for efficiency might lead to plans to replace our network of local and regional schools with a single nationwide school with preferential broadband access. Losing this diversity of thought and research would be disturbing and threatening to our democracy.

f. *Increased Video Programming and other Entertainment*: The letters "VoIP" usually translate into Voice over the Internet Protocol, but in the near future they could stand for something much more exciting – Video. Some telephone companies are now expanding their service offerings to include video – either as a cable-like programming service or as video on demand. What will happen when the technology arrives to allow competitive video providers to send programming over the Internet? Phone companies have already tried to block Voice over IP. Will the cable companies exercise their control over the network to stop cable modem subscribers from obtaining competitive cable service? Will the phone companies?

These questions are largely theoretical today, given the capacity limitations of today's broadband networks. Yet, many telephone and cable companies are deploying fiber and are otherwise upgrading their systems to make bandwidth available at upwards of 100 Mbps, far beyond the FCC minimum of 200 kbps designation for "high speed" Internet. As bandwidth increases, questions involving discrimination in broadband service will move to the forefront.

While the most well known application for video streaming is cable-like programming service, there are also many educational uses of video streaming. Old Dominion University (ODU), located in Norfolk, Virginia, operates TELETECHNET, one of the largest university distance learning programs in the country. Though it began as a satellite based program, TELETECHNET now offers live courses over the Internet via video streaming. Distance-learning students unable to attend a class at its regular time may access the archived transmission two days after the session.

The above discussion reviews only some of the many benefits of broadband technologies. The growth of broadband Internet services stimulates phenomenal economic growth, especially in the high-tech sector; provides a world of information and current events; enhances educational opportunities for on-campus and off-campus students; and creates new opportunities for entertainment and video services. The cable and telephone industries are becomingly increasingly concentrated, which could allow them to increase their control over the information carried over their broadband facilities. Without a firm Net Neutrality policy, the network owners could curtail the economic, social, and educational benefits summarized above.

PART III
Responses to the Objections of Network Operators to an Enforceable Net Neutrality Principle

Network operators raise a variety of arguments against Net Neutrality. The following section analyzes and responds to these arguments.

A. Do Network Operators Already Have an Incentive to Keep Their Networks Open, Making a Law or Regulation Unnecessary?

Some network operators maintain that no legislation or regulation is necessary because they have no incentive to discriminate. They maintain that discrimination will drive away customers, reducing the network operators' subscriber base and producing fewer profits. The telephone and cable companies argue that market forces, without regulation, will drive them to keep their networks open.

This argument has not resonated in part because of a recent statement made by one of the leading Bell Company executives. Edward Whitacre, the Chief Executive Officer of AT&T (formerly called SBC) gave the following statement in a BusinessWeek interview:

> **How concerned are you about Internet upstarts like Google, MSN, Vonage, and others?**
> How do you think they're going to get to customers? Through a broadband pipe. Cable companies have them. We have them. Now what they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital and we have to have a return on it. So there's going to have to be some mechanism for these people who use these pipes to pay for the portion they're using. Why should they be allowed to use my pipes? The Internet can't be free in that sense, because we and the cable companies have made an investment and for a Google or Yahoo! or Vonage or anybody to expect to use these pipes [for] free is nuts![48]

While Mr. Whitacre did not directly state his intention to block on-line companies from using his company's network, his comments clearly reveal that he is frustrated that on-line companies are not paying a more for the use of his company's networks. On-line companies responded vigorously to the notion that they use the networks for free; they point out that they pay significant amounts to connect to the network. Whether or not AT&T acts on Mr. Whitacre's sentiments is yet to be seen, but it certainly reveals the company's desire to stop on-line content and service providers from riding his network.

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[48] "At SBC, It's all About 'Scale and Scope': CEO Edward Whitacre talks about the AT&T Wireless acquisition and how he's moving to keep abreast of cable competitors." BusinessWeek Online, Nov. 7, 2005.

More significant than this anecdote is that several analysts disagree with the argument that network operators have economic incentives to keep their networks open. They note that, in the absence of specific rules requiring openness, network operators have significant economic incentives to promote certain users, web sites, or content providers. The following summarizes three papers that find network owners are likely to engage in discrimination unless Congress or the FCC adopts a Net Neutrality policy:

Dr.-Ing. Barbara van Schewick, an economist, has written a thoughtful theoretical paper on the incentives of network operators to discriminate in upstream markets in order to maximize profits. She begins by noting that, in most cases, a monopolist has no incentive to monopolize a complementary product in a competitive market because it can capture all the monopoly rents by charging a high price for its primary good. She then identifies several reasons why the traditional "one-monopoly-rent" theory does not apply to the Internet market. For instance, she notes that there are significant upstream profits, such as selling advertising on web sites, that cannot be captured simply by raising the price of network access. She finds that the network owner may also have incentives to discriminate in order to protect a favorable market position in the upstream market (for instance, a network owner has incentives to discriminate against a VoIP provider to protect its telephone service revenue). She further finds that a network operator has an incentive to discriminate against an application even if the provider does not manage to drive all other applications providers from the market. This makes "the threat of discrimination more relevant than commonly assumed."[49]

Mark A. Lemly and Lawrence Lessig offer another reason why network operators may discriminate. They note that even if rational economics would dictate that a network operator should open the network to all comers, network operators may nonetheless discriminate because signing contracts and selling service to lock in large customers are standard, if perhaps irrational, business practices.

> The rationality assumption has historically been central to law and economics, but it has recently come under fire even within the discipline of economics. . . . Rather, systematic biases can infect decision making. In the business context, these biases often take the form of what might be called a "corporate endowment effect." Businesses have core competencies – areas in which they are experienced and in which they know how to make money. They may discount the value of radically new ideas that would require them to move their business in a new direction, particularly when the proposed shift would cannibalize an existing revenue stream.[50]

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[49] "Towards an Economic Framework for Network Neutrality Regulation," Paper presented at the 33d Research Conference on Communication, Information and Internet Policy (TPRC) 2005) Sept. 23-25, 2005.

[50] "The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era," by Mark A. Lemly and Lawrence Lessig, in *Open Architecture as Communications Policy: Preserving Internet*

Dr. Mark Cooper, Research Director for the Consumer Federation of America, found that broadband network providers have used their control over broadband facilities to decimate what used to be a competitive ISP industry. He traces the history of the independent ISP industry from its beginnings in the dial-up world to the growth of broadband. In the dial-up world, he found an average of 15 ISPs per 100,000 customers, but he found fewer than 2 ISPs per 100,000 customers of broadband connections. He also notes that "[a]pproximately 95 percent of high-speed Internet access service customers are served by ISPs affiliated with either cable companies or telephone companies. [footnote omitted] This dominance is not the result of winning in a competitive market; it is the result of leveraging control of physical facilities."[51]

Dr. Cooper warns that independent providers over the Internet face the same dangers of discrimination as the independent ISP industry. He concludes as follows:

> After repeated efforts by telecommunications facility owners to assert control over access to the Internet, it is hard to imagine they will willingly adopt an open architecture. The leverage they enjoy in a blocking technology and the interest they have in related product markets disposes them to maximize profits by maximizing proprietary control over the network. "One strategy, which is profitable for a dominant firm but wrecks the benefits of the net, is, for instance, to take advantage of network externalities to 'balkanize' the Internet by reducing connectivity." [footnote omitted] Facility owners demand a level of vertical control that creates uncertainty about future discrimination, whose mere existence is sufficient to chill innovation.[52]

B. Will Net Neutrality Prevent Network Operators from Managing their Networks?

The network operators often assert that any rule to ensure the openness of the Internet would interfere with their right to manage the traffic on their networks. Furthermore, they claim that onerous rules governing their operation of the network could ensnare them in such complex regulatory proceedings that their deployment of broadband technologies would be delayed.

Freedom in the Broadband Era, edited by Mark N. Cooper, p. 62-63. The article notes that free market economists argued that cable providers had economic incentives to open their cable networks to competing ISPs in the so-called "open access" debate. The article explains that cable providers, in fact, have not opened their networks to independent ISPs, and offers a variety of explanations why the free market economists were incorrect in predicting that cable operators would do so.

[51] "Anticompetitive Problems of Closed Communications Facilities," by Mark N. Cooper, in *Open Architecture as Communications Policy: Preserving Internet Freedom in the Broadband Era*, edited by Mark Cooper, page 172.

[52] Id., pp 176-177.

Network operators cite the following network management activities:

- They must monitor and perhaps limit illegal traffic, such as spam or viruses.
- They must limit excessive use of the network by certain users so that traffic congestion does not degrade service to all other users.[53]
- They must have the right to store ("cache") the most popular web sites at locations closer to the consumer in order to provide back-up and improve customer service speeds.
- They must have the right to offer different speeds of service to customers, at different rate schedules to reflect the consumers' needs.[54]

An openness rule need not conflict with these legitimate network management functions. Network management is perfectly compatible with Net Neutrality:

- Telephone companies have for decades capably managed their networks for telephone (and, more recently, dial-up Internet) services despite operating under common carriage rules that are much more demanding than a simple openness requirement. The telephone companies simply built these common carriage requirements into their business plans and designed their networks accordingly.
- An openness rule does not mandate that the network operator give access to illegal or harmful traffic. Users generating spam, viruses, or excessive congestion can be blocked or shut down just as the telephone companies have always been allowed to block prank telephone calls. The FCC's Part 68 rules, for instance, allow the attachment of any equipment as long as the equipment does not harm the operation of the network. Critical network management capabilities can be built into any rule to enforce openness.

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[53] For instance, Cox Communications claimed in its first response to the CBUI that "[d]ue to the shared nature of Cox's network, excessive use by one or a small group of customers can have a negative impact on the quality of service that other customers receive. As a consequence, Cox must have the right to make adjustments to its network and service from time to time to address these issues." Ex Parte Letter from Alexander Netchvolodoff to the FCC, April 7, 2003, in CS Docket No. 02-52,p. 5.

[54] "When [customers] are connected to the Internet, moreover, they can run any applications they want, play games, or do whatever else they choose, subject only to content-neutral usage management by cable operators to make sure that customers are not exceeding the capacity they have paid for, running a business over a residential connection, or impeding the quality or speed of service of other paying subscribers." Letter from NCTA President and CEO Robert Sachs to the FCC Commissioners, December 10, 2002, in CC Docket Nos. 02-52 and GN Docket No. 00-185.

An openness rule does not necessarily require that the network operator provide every user or provider with the exact same quality of access. The operator should be permitted to offer different types of access, at different price levels, to users and providers, as long as these options are made available equally to all consumers and providers. The customer should be able to make this choice for him or herself, not the network operator on the customer's behalf. For instance, particularly heavy users of the broadband connection may be willing to pay an additional fee to transmit or receive a greater quantity of traffic or at faster speeds. A Net Neutrality rule does not necessarily preclude differential pricing as long as the prices are made available equally to all users and as long as the service provider ensures a minimum level of service (See Part III. Section 4 below).

A Net Neutrality regime certainly will affect the business practices of a network operator in one way -- Net Neutrality will prevent network operators from giving preferential access to some users over others. This is exactly the point. Network operators should not be permitted to give exclusive access to certain users or certain web sites; should not give faster access speeds to some providers and not others when both providers have paid for the same level of access; and should not block or degrade service providers that compete with the services offered by the network owner.[55] These limitations are not unfortunate by-products of an openness regime; they are the intended result.

In short, an openness requirement does not conflict with network management. The history of both telephone and cable operations demonstrate that network operators can continue to manage their networks while ensuring that others can use their networks in a nondiscriminatory manner.

C. Will a Net Neutrality Rule Create Burdensome Regulation that Discourages Deployment of Broadband Networks?

Network operators allege that a Net Neutrality rule will discourage them from deploying broadband networks. They maintain that any regulation of their networks imposes costs that will reduce their economic incentives to deploy broadband. They argue that the FCC removed broadband networks from Title II (common carriage) regulation in order to promote broadband investment, and that Network Neutrality would effectively reverse that decision.

This argument makes the false assumption that Net Neutrality would replicate Title II (common carrier) regulation. Net Neutrality can instead be enforced through one simple rule and a streamlined complaint process (See Part IV below) that would impose minimal, if any, costs on the operator. There would be no need for detailed rules governing network management, no need for pre-approval by the regulators for technology deployment, and no need for tariff filings – all of which are required

[55] To give one hypothetical example, a network operator should not be permitted to give MovieLink enhanced, higher-speed access to its customers while denying a competitor such as Netflix the same opportunity.

under Title II. It is difficult to see how an FCC complaint process – with short time deadlines for a decision – would impose such tremendous costs as to delay broadband deployment.

Telephone companies and cable companies have invested substantially in broadband networks over the past decade, even while under various degrees of regulation. Telephone companies invested billions of dollars in capital to deploy telephone wires under a much more onerous common carriage regime during the past century.[56] As a result, the U.S. telephone system is regarded as one of the best in the world.

Today, both the cable and telephone industries are making substantial investments in fiber and wireless broadband technologies in part to keep up with each other. In fact, telephone company executives acknowledge that fiber optic networks are cheaper to operate than the old copper networks.[57] In other words, companies are likely to make the decision to deploy broadband networks for economic reasons, regardless of whether they must abide by Net Neutrality rules. Thus, there is no reason to think that Net Neutrality will discourage broadband investment.

In fact, Net Neutrality is likely to promote – not retard – broadband deployment for several reasons. First, Net Neutrality increases the value of the broadband connection. If the consumer can truly reach any web site, use any equipment, and access any service he or she wants, then the value of the connection is more valuable than if the consumer can only reach the services and use the equipment that the network owner chooses. If the consumer sees the connection as valuable, consumer demand for broadband networks will increase, and network operators will have incentives to build networks to meet that demand. Second, Net Neutrality increases the investment in applications and services delivered over the Internet. The existence of a Net Neutrality rule provides certainty to innovators and entrepreneurs who will be more willing to invest to develop new services if they have confidence that, once developed, access to the network will be available. Increasing innovation

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[56] In fact, economists frequently maintained that rate of return regulation encouraged the telephone companies to over-invest in their network. Rate of return regulation was largely replaced by price cap regulation at both the federal and state level in the early 1990's at the request of the large telephone companies.

[57] The Washington Post recently quoted a senior Verizon executive about their fiber deployment program:

> [Verizon's] second-ranking official, Lawrence T. Babbio Jr., the vice chairman and president, said Verizon has made significant progress in cutting the cost of installing fiber -- which it initially estimated at $1 billion for the first 1 million homes. Babbio said this fell by about 30 percent last year and is likely to drop another 15 to 20 percent this year, so that by the end of 2006, "we will probably have cut the cost in half" from the start of 2005. He also said many investors do not grasp how much cheaper a fiber-optic network is to run than the old copper-based system, in place for decades.

"Verizon Lays It on the Line: CEO Sticks By Costly Rollout of Fiber-Optic Network" By Arshad Mohammed, Washington Post, P. D01.

will also increase the value of the broadband network, stimulating greater demand and deployment.

Nevertheless, the operators claim that the U.S. lags behind the rest of the world in investment in broadband and frequently cite the statistic that the U.S. ranks 16th worldwide in broadband deployment. Network operators claim that only by deregulating broadband services will they have the proper incentives to invest more funds into building broadband networks.

This argument misinterprets the data. The International Telecommunications Union (ITU) ranks the U.S. 16th in the world based on level of broadband adoption, not deployment. Broadband services are currently available to over 90% of consumers' homes today, largely via either the cable or telephone company. Yet only about 30% of American consumers currently subscribe to broadband services. Many consumers do not have a computer, and many others believe that the price is not affordable.[58] These figures suggest that the U.S. policymakers should focus less of their energy on deployment issues and more of their energy on ways to increase the value of existing broadband connections to consumers.

Nevertheless, to the extent that broadband investment is a concern, several revenue opportunities are available to network operators that do not involve blocking or discrimination. Network operators may offer differential pricing for different access speeds, engage in joint marketing agreements, or other promotional agreements. These agreements would not violate Net Neutrality as long as operators make network access available under nondiscriminatory terms to all users and guarantee a minimum level of broadband service.

D. Will Net Neutrality prevent network operators from creating different tiers of service, or creating a "private Internet", that will allow them to earn a return on their broadband investment?

Finally, network operators maintain that Net Neutrality will interfere with their ability to maximize revenue from the use of their broadband networks. In particular, one RBOC publicly stated its desire to implement a "pay for performance" system that allows the network operator to strike deals to give certain Web sites or services priority in reaching computer users. The executive said that this enhanced access speed for certain web sites would be on top of a baseline service level that all content providers would enjoy. The concept could be described as differentiating

[58] A Nation Online: Entering the Broadband Age, a Joint Report of the National Telecommunications and Information Administration (NTIA) and the Economic and Statistics Administration, U.S. Department of Commerce, September 2004, available at http://www.ntia.doc.gov/reports/anol/.

between a "private" Internet – available to a few companies selected by the network operator – and a slower-speed "public" Internet that is available to everyone else.[59]

Net Neutrality, however, does not necessarily prevent network operators from offering different levels of access, at different rates. In fact, the offering of different levels of services, at different rates, is a traditional practice in the telecommunications industry. Telephone companies have offered a variety of services, such as basic local service, DSL, and T1 access services under tariff.

On the other hand, the notion of a "private Internet" is potentially quite disturbing. The term, which has not been defined but has often been used by representatives of the network operators , may reflect a desire on the part of the industry to grant exclusive access to a portion of the Internet to certain parties. This would be a radical departure from the historically public nature of the Internet. An "intra-net" is a legitimately private network by which members of a closed group – employees of a corporation or students attending a certain university – can communicate among themselves. The Internet, however, is something different – it is by definition a public resource for all users. Those who seek to wall of portions of the Internet to create a "private Internet" may effectively appropriate a portion of this public capacity for the exclusive benefit of parties chosen by the network operator. The notion of a "private Internet" is fundamentally in conflict with the Internet and should not be permitted.

If network operators create tiers of service, they must also ensure that there is enough bandwidth for customers who choose the "basic" tier. If many providers choose to pay for the faster tier, the capacity on the basic tier available to the general public could be squeezed out. According to one report, Verizon is seeking to use 80% of its broadband capacity for its own video service, leaving its customers to fight for the remainder.[60] Verizon vigorously disputes this claim and argues that, in fact, its video and data streams of traffic ride on two separate lasers on its fiber cables and that these lasers do not interfere with each other. Verizon further maintains that its fiber network can be "upped" to carry unlimited amounts of traffic because its fiber runs all the way to the home. Even if this is true of the Verizon network, other network operators are not deploying fiber to the home, and their capacity is inherently

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[59] "Executive Wants to Charge for Web Speed: Some Say Small Firms Could Be Shut Out of Market Championed by BellSouth Officer," *By Jonathan Krim,* Washington Post, Thursday, December 1, 2005; Page D05

[60] "According to Marvin Sirbu, an engineering professor at Carnegie Mellon University who examined [Verizon's documents filed with the FCC], more than 80% of Verizon's current capacity is earmarked for carrying its service, while all other traffic jostles in the remainder. PAYING FOR PRIORITY. Leading Net companies say that Verizon's actions could keep some rivals off the road. As consumers try to search Google, buy books on Amazon.com (AMZN), or watch videos on Yahoo! (YHOO), they'll all be trying to squeeze into the leftover lanes on Verizon's network." *Is Verizon a Network Hog? The telecommunications giant wants to devote most of its capacity to its own traffic, to Internet companies' dismay.* By Catherine Yang, BusinessWeek, Thursday, Feb. 2, 2006, available at http://www.businessweek.com/technology/content/feb2006/tc20060207_061809.htm.

limited. Copper, coaxial cable and fiber to the node systems, which are the technologies used by virtually every cable and telephone company except Verizon (and even includes those Verizon territories that have not yet been upgraded to fiber to the home), have limited capacity and could suffer congestion as usage grows.

To summarize, a properly tailored Net Neutrality rule would not allow network operators to create an exclusive "private Internet" but would allow network operators to offer different tiers of service on two conditions:

1. The company could not offer *exclusive* access to the higher bandwidth levels to providers selected by the network operator. Allowing network operators to grant premium capacity on the network by contract to a few parties could be disastrous to the public nature of the Internet. The network operators should be required to offer access to the faster tiers of service on the same terms and conditions that it makes such capacity available to its own services. Otherwise, the company would not be offering service on a nondiscriminatory basis to all users.

2. The company must provide enough bandwidth so that those entities that do not subscribe to the higher bandwidth levels receive a sufficient level of service. If permitted to do so, network operators could easily allocate such a large amount of capacity on the network to its higher-paying customers that the remaining public users of the Internet suffer congestion and diminished quality of service. If a company is going to offer tiers of service, the company should be required to offer a minimum level of broadband service in order to ensure that the general public does not get squeezed out.

Of course, ideally, the network operators would enhance their networks to such a degree that there are no shortages of capacity. The incremental costs of adding the electronics to move from 1 megabit to 1 gigabit are small compared to the public benefits. Policymakers should make every effort possible, including the use of financial incentives, to encourage network operators to build the largest, highest-capacity network available, in order to ensure that the benefits of an open Internet are available to everyone without discrimination.[61]

[61] Such financial incentives can include tax credits for the deployment of broadband infrastructure, expensing of broadband equipment, streamlining the franchise process for using the rights-of-way, and others.

PART IV
A Model for Net Neutrality Legislation

Net Neutrality does not require detailed rules or require network operators to obtain government pre-approval to manage their networks. Network neutrality can be addressed with three relatively straightforward provisions:

1. A statement of the network operators' obligations on a nondiscriminatory basis to carry any traffic, to permit any use and provision of any applications and services, and to allow the use of any equipment.

2. A statement that recognizes the legitimate needs of the network operator to prevent harm to the network, comply with laws regarding access to unlawful content, and engage in legitimate network management.

3. A statement that the principle in 1. shall be enforced through a complaint process and that the network operator has the burden of proof of justifying within a few days of a complaint being filed that any blocking or discrimination is necessary to comply with 2.

Statement 1 is necessary to establish the principle of nondiscriminatory service and use. This principle establishes the general obligation to keep the broadband network open to all providers, content, and equipment. It also would require the network operator to offer service on a non-discriminatory basis; this means that, if the network operator offers different levels of access connections at different prices, it must offer the same levels of access equally to all users. Statement 1 does not reinstate the common carrier regulatory regime; that regime included over 90 pages of detailed statutory provisions in Title II and called for extensive FCC rules. Statement 1 simply states the network operators' obligations in order to allow the complaint process to be used.

Statement 2 recognizes that network operators retain the authority to manage their networks. Network operators will continue to have the responsibility to design their networks to operate efficiently, protect against unlawful uses, and prevent congestion. The responsibilities that are recognized in Statement 2 are not exceptions to the principle in Statement 1 because they are not inconsistent. Technically, Statement 2 may not even be necessary because the principle established in Statement 1 does not conflict with these important network management functions. Nonetheless it is helpful to recognize them by statute. At the same time, the scope of the network management authority recognized in Statement 2 must not be drafted so broadly as to undermine the principle set forth in Statement 1.

Statement 3 recognizes that the principle established in Statement 1 shall be enforced through a complaint process at the FCC. The FCC will interpret statement 1 on a case-by-case process as complaints are filed (much like the "common law" system used by the courts).

Once a complaint is filed, it is vitally important for the network operator to bear the burden of proving that any blocking or discrimination is justified. Without such a burden, network operators might be emboldened to discriminate based on a purported need for network management when its real purpose might be to discriminate against a competitor. Placing the burden of proof on the consumer or on-line service provider is unworkable because the complaining party generally does not have access to the information to determine whether or not the blocking was justified. Furthermore, by the time the FCC could gather this information through its investigative process, the harm to the consumer or service provider may be irreparable. In the fast paced world of the Internet, a service that is shut down for 60 or 90 days could well be put out of business. Placing the burden of proof on the network operator to demonstrate the need for the blocking within a short amount of time (i.e. 3-10 days) places the burden on the party with the best ability to provide an explanation for the blocking.

Any legislation should begin by assuming that any Internet traffic is legitimate and lawful, in part for the simple reason that most of it *is* legitimate and lawful. The presumption should be that the traffic should flow, that the network is open and available to all. It provides greater certainty and confidence to potential innovators and entrepreneurs that the deck is not stacked against them as they begin to develop new services and applications. The network operator should not be permitted to decide on its own what is in the best interest of the consumer or provider. The provision requires the FCC to act as an independent check to make sure that the network operator does not abuse its network management rights. As long as the network operator satisfies its burden of proving that the network operator's action is justified, its network management rights remain fully intact.

It is important to understand what this approach would NOT do:

1. This approach does NOT require the network operator to obtain pre-approval from the FCC before blocking/impairing/interfering with traffic. The FCC review is only triggered upon the filing of a complaint.

2. This approach does NOT prevent the network operator from blocking spam, viruses, or threats to national or network security. The network operator can take immediate action to block unlawful traffic as long as it can justify its action to the FCC within days of the day a complaint is filed.

3. This approach does NOT prevent network operators from providing their own content and applications or engaging in promotional arrangements with or providing enhanced services to certain application, service or content providers. It only prevents them from discriminating in favor of their proprietary content or services in their operation of the network.

4. This approach does NOT bar the network provider from providing different tiers (access speeds) at different price levels, as long as these tiers are made

available equally to all users and the network operator provides a minimum level of broadband service. If the network operator chooses to make different tiers available, this provision requires that it may not discriminate for or against certain users, or choose who is eligible to purchase those tiers.

CONCLUSION

At its best, the Internet is an enabling and empowering technology – it enables consumers to use whatever equipment they desire to access whatever information, services, and applications they choose, and it enables innovators and entrepreneurs to invest in new equipment, content and applications. But the openness of the Internet is no longer guaranteed. Network operators have already blocked some traffic and are likely to block more in the future. Economic studies indicate that network owners can reap additional profits by favoring their own or their affiliated traffic, and some companies are marketing equipment to make blocking or discrimination even easier in the future. The longer policy-makers wait before adopting a Net Neutrality rule, the harder it will be to do so because existing forms of discrimination will become entrenched. If net discrimination becomes a standard business practice, the Internet as we know it will become effectively disabled.

GLOSSARY

ANALOG
Information represented by a continuous electromagnetic wave encoded so that its power varies continuously with the power of a signal received from a sound or light source.

APPLICATION
Used interchangeably with program and software, this is a general term for a program that performs specific tasks, such as word processing, database management, e-mail sending or retrieval, or Web browsing. Unlike system software, which maintains and organizes the computer system (such as the operating system), an application is an end-user program.

BANDWIDTH
Bandwidth describes the capacity of a data-transfer connection. Usually measured in bits-per-second (bps). A full page of English text is about 16,000 bits. A fast modem can move about 57,000 bits in one second. Full-motion full-screen video would require roughly 10,000,000 bits-per-second, depending on compression.

BIT
Contraction of the term binary digit. The smallest unit of information a computer can process, representing one of two states (usually indicated by "1" or "0").

BIT DISCRIMINATION
Network operators giving preferential treatment to specific digital traffic over other traffic on the network.

BLOG
Contraction of the term web log. A blog is basically a journal that is available on the web. "Blogging" denotes the activity of keeping a blog, and someone who keeps a blog is a "blogger." Blogs are typically updated daily using software that allows people with little or no technical background to update and maintain the blog. Postings on a blog are almost always arranged in chronological order with the most recent additions featured most prominently. Blogs are often available as RSS feeds.

BROADBAND
Broadband is a descriptive term for evolving digital technologies that provide consumers a single switched facility offering integrated access to voice, high-speed data service, video-demand services, and interactive delivery services. Generally refers to connections to the Internet with much greater bandwidth than you can get with a modem. There is no specific definition of the speed of a "broadband" connection but in general any Internet connection using DSL or via Cable-TV may be considered a broadband connection.

CHANNEL
A signal path of specified bandwidth for conveying information such as voice, data and video.

COALITION OF BROADBAND USERS AND INNOVATORS (CBUI)
A coalition of the National Association of Manufacturers, the Consumer Electronics Association, and the Information Technology Association of America teamed up with individual companies including Microsoft, Apple Computer, Amazon.com, the RadioShack Corp., and the Walt Disney Corp, in addition to the Media Access Project.

CODEC
Contraction of the term coder-decoder. A video codec converts the analog video signals from a video source to digital signals for transmission over digital circuits and then converts the digital signals back to analog signals for display. An audio codec converts the audio signals to digital signals for transmission over digital circuits and then converts the digital signal back to analog for reproduction.

COMMON CARRIER
The term "common carrier" or "carrier" means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this chapter; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier.

CONTENT
A somewhat bland name for the creative contribution of the writers, artists, animators, and musicians whose work makes up the text, artwork, animation, and music on the Net. Usually thought of as simply the textual and graphical information contained in a Web site, content also refers to the structure and design in which the information is presented. Content is one of the three big C's (content, commerce, and community), and Web sites often get judged and rated on the quality, quantity, and navigational flow of this information. A favorite quote in the industry is "content is king" because without the content, there would be nothing to read or view on the Internet.

DIGITAL
Digital refers to discrete bits of information in numerical steps. A form of information that is represented by signals encoded as a series of discrete numbers, intervals or steps, as contrasted to continuous or analog circuits.

DIGITAL SUBSCRIBER LINE (DSL)
DSL describes a method for transmitting data over regular phone lines. A DSL circuit is much faster than a regular phone connection, and the wires coming into the subscriber's premises are the same (copper) wires used for regular phone service. A DSL circuit must be configured to connect two specific locations, similar to a leased line (however, a DSL circuit is not a leased line.). A common configuration of DSL allows downloads at speeds of up to 1.544 Mbps, and uploads at speeds of 128 Kbps.

DIGITAL TELEVISION (DTV)
A new technology for transmitting and receiving broadcast television signals. DTV provides clearer resolution and improved sound quality.

DOMAIN NAME
The unique name that identifies an Internet site. Domain Names always have 2 or more parts, separated by dots. The part on the left is the most specific, and the part on the right is the most general (*i.e.*, publicknowledge.org).

FEDERAL COMMUNICATIONS COMMISSION (FCC)
An independent US government agency charged with regulating interstate and international communications by radio, television, satellite and cable.

FIBER OPTICS
A communications medium utilizing laser or "light" transmission. Uses a glass or plastic fiber carrying light to transmit voice, data and video signals. Each fiber can carry from 90 to 150 Mbps.

HIGH DEFINITION TELEVISION (HDTV)
An improved television system that provides approximately twice the vertical and horizontal resolution of existing television standards. It also provides audio quality approaching that of compact discs.

HIGH TECH BROADBAND COALITION (HTBC)
A coalition including The Business Software Alliance, the Consumers Electronics Association, the Information Technology Industry Council, the National Association of Manufacturers, and the Telecommunications Industry Association.

INFORMATION SERVICE
The term "information service" means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.

INTERNET
The vast collection of inter-connected networks that are connected using the TCP/IP protocols and that evolved from the ARPANET of the late 60's and early 70's. The Internet connects tens of thousands of independent networks into a vast global Internet and is probably the largest Wide Area Network in the world.

INTERNET PROTOCOL (IP)
IP is a term used to describe a packet-based protocol for delivering data across networks.

INTERNET SERVICE PROVIDER (ISP)
An ISP is an institution that provides access to the Internet.

IP TELEPHONY
A set of technologies that enables voice, data and video collaboration over existing IP-based LANS, WANs, and the Internet. IP technology uses open IETF and ITU standards to move multimedia traffic over any network that uses IP.

KILOBITS PER SECOND (KBPS)
A unit of measure of data of 1,000 bits per second.

LOCAL AREA NETWORK (LAN)
A computer network limited to the immediate area, usually the same building or floor of a building.

MEGABITS PER SECOND (MBPS)
A unit of measure of data of 1,000,000 bits per second.

NETWORK
Any connection of two or more computers that enables them to communicate. Networks may include transmission devices, servers, cables, routers and satellites. The phone network is the total infrastructure for transmitting phone messages.

PACKET
The name for a unit of data sent across a network. Information is sent over the Internet (and many other networks) in packets.

PACKET SWITCHING
The method used to move data around on the Internet. In packet switching, all the data coming out of a machine is broken up into chunks, each chunk has the address of where it came from and where it is going. This enables chunks of data from many different sources to co-mingle on the same lines, and be sorted and directed along different routes by special machines along the way. This way many people can use the same lines at the same time. You might think of several caravans of trucks all using the same road system to carry materials.

PART 68
Part 68 of the FCC rules (47 C.F.R. Part 68) governs the direct connection of Terminal Equipment (TE) to the Public Switched Telephone Network (PSTN), and to wireline carrier-owned facilities used to provide private line services. Terminal Equipment must meet certain technical criteria to prevent four proscribed harms:

1. Electrical hazards to operating company personnel
2. Damage to network equipment
3. Malfunction of billing equipment
4. Degradation of service to customers other than the TE user and that person's calling and called parties

Part 68 empowers the Commission (through the FCC Enforcement Bureau) to conduct hearings and proceedings based on formal complaints for alleged violations of Part 68.

PIPES
A term used to describe the physical connection to the Internet. Usually used in regard to any type of high bandwidth connection via high-capacity wiring, fiber-optic cable, cable modems, or DSL.

ROUTER
A special-purpose computer (or software package) that handles the connection between two or more Packet-Switched networks. Routers spend all their time looking at the source and destination addresses of the packets passing through them and deciding which route to send them on.

SERVER
A computer, or a software package, that provides a specific kind of service to client software running on other computers. The term can refer to a particular piece of software, such as a WWW server, or to the machine running the software, e.g. "Our mail server is down today, that's why e-mail isn't getting out." A single server machine can (and often does) have several different server software packages running on it, thus providing many different servers to clients on the network.

SLAMMING
"Slamming" is the illegal practice of changing a consumer's telephone service without permission.

TELECOMMUNICATIONS SERVICES
The term "telecommunications service" means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

UNBUNDLED NETWORK ELEMENTS
The FCC requires incumbent phone companies to make their network facilities available to competitive phone companies at rates determined by state public utility commissions. The general theory behind the requirement is that it maintains fair competition among local carriers. The elements includes any "facility or equipment used in the provision of a telecommunications service," as well as "features, functions, and capabilities that are provided by means of such facility or equipment."

VIRTUAL PRIVATE NETWORK (VPN)
Usually refers to a network in which some of the parts are connected using the public Internet, but the data sent across the Internet is encrypted, so the entire network is "virtually" private.

VOICE OVER INTERNET PROTOCOL (VoIP)
A specification and various technologies used to allow making telephone calls over IP networks, especially the Internet. Just as modems allow computers to connect to the Internet over regular telephone lines, VoIP technology allows humans to talk over

Internet connections. Costs for VoIP calls can be a lot lower than for traditional telephone calls. Because the IP networks are packet-switched this allows for vastly different ways of handling connections and more efficient use of network resources.

WIDE AREA NETWORK (WAN)
Any network that covers an area larger than a single building or campus.

WIRELESS FIDELITY (WI-FI)
A popular term for a form of wireless data communication, basically Wi-Fi is "Wireless Ethernet."

Sources:
1. Federal Communications Commission: http://www.fcc.gov/glossary.html; http://www.fcc.gov/web/iatd/part_68.html; http://www.fcc.gov/slamming/
2. Interactive Multimedia Collaborative Communications Alliance: http://www.imcca.org/glGeneral.asp
3. Matisse's Glossary of Internet Terms: http://www.matisse.net/files/glossary.html
4. NetLingo Dictionary of Internet Terms: http://www.netlingo.com/
5. United States Code: 47 U.S.C. § 153
6. Webopedia - Online Computer Dictionary: http://www.webopedia.com/