



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

on

THE FUTURE OF THE INTERNET

before the

Committee on Commerce, Science and Transportation

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PRESIDENT & CEO, NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION

Good morning, Chairman Inouye, Ranking Member Stevens and Members of the Committee. My name is Kyle McSlarrow and I am the President and Chief Executive Officer of the National Cable & Telecommunications Association. NCTA represents cable operators serving more than 90 percent of the nation's cable TV households and more than 200 cable program networks. The cable industry is the nation's largest provider of high speed Internet access, making cable broadband service available to 92 percent of Americans, and has invested \$130 billion to build a two-way interactive network with fiber optic technology. Cable companies also provide state-of-the-art digital telephone service to more than 15 million American consumers. Cable operators are committed to delivering an open and satisfying Internet experience to their customers, and the dramatic growth in cable broadband subscribers is evidence of their success in doing so.

The cable industry has consistently demonstrated its commitment to policies that ensure all Americans have access to affordable broadband. We supported, for example, proposals advanced by Senator Dorgan and Senator Stevens to create a fund tailored to expanding broadband into unserved areas. We support Senator Inouye's Broadband Data Improvement Act, because we believe that improving federal data collection and dissemination regarding where broadband services have been deployed in the United States is necessary in order to achieve the goal of ubiquitous broadband availability for all Americans. And we continue to support:

- Tax credits or other tax incentives to providers that build out in rural areas that are unserved by an existing broadband provider.

- Reform of the RUS broadband loan program so that funding is targeted specifically to unserved areas.
- Expansion of the FCC's Lifeline and Link-Up Programs to help ensure that broadband access is extended to low-income households.
- Public-private partnerships to provide broadband in unserved areas.

We support these initiatives because we recognize that the government can play an important role in making certain that the economic and social benefits of broadband connectivity are extended to all areas of this country, and we look forward to working with you further to achieve these goals.

But while broadband deployment to every community in America merits the full attention of policymakers, legislation calling for “network neutrality” or government intervention into the operation of networks would undermine the goals of broadband deployment and adoption. The development of the Internet, expansion of broadband networks, and creation of innovative Internet applications we have seen would not have occurred at such a rapid pace if providers were restricted in how they could engineer their networks to accommodate these dynamic developments. The government’s consistent light regulatory touch since the introduction of broadband has worked. And only that continued regulatory freedom is likely to spur the investment and innovation that consumers have come to expect.

Today, I would like to focus on three points that illustrate why the Internet and broadband services should not be subject to greater and more intrusive government regulation.

First, cable broadband providers have demonstrated and remain committed to providing Americans the very best broadband service available.

Second, every cable modem subscriber today can access the content he or she seeks over the Internet. Broadband providers do not block access to content. Reasonable network

optimization techniques not only enable the growth and development of the Internet, they protect consumers and their legitimate expectations.

Finally, the national policy of leaving the Internet unregulated has been a resounding success. Government intervention in broadband network management would only slow the pace of innovation and prevent the natural development of traffic solutions that is already occurring today.

I. Cable Brought Broadband to America

The industry's commitment to the deployment of broadband is reflected in the plain statistics. By any benchmark, the cable industry is leading efforts to spur broadband use and deployment.

Investment. The cable industry has done more to stimulate broadband growth and innovation than any other industry. Cable operators have invested \$130 billion in private capital since the passage of the Telecommunications Act of 1996 to build broadband networks across the United States. Today 92% of American households, or about 117 million homes, have access to cable broadband service,^{1/} including 96% of American homes to which cable television service is available.^{2/} This investment and expansion took place without any government subsidies.

Competition. The cable industry's efforts to deploy broadband have stimulated tremendous investment in the provision of Internet access by competing providers, first by

^{1/} National Cable & Telecommunications Association, Broadband Deployment Statistics (reporting that cable broadband had passed 117,700,000 U.S. housing units as of December 2007) *available at* <http://www.ncta.com/Statistic/Statistic/CableBroadbandAvailability.aspx>.

^{2/} *High-Speed Services for Internet Access: Status as of June 30, 2007*, Report, Industry Analysis & Tech. Division, Wireline Competition Bureau, at 3 (Mar. 2008) *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-280906A1.doc (“2007 High Speed Internet Access Report”).

telephone companies and now wireless and satellite companies. This competition has spurred cable broadband providers and their competitors to develop better and better networks and applications to meet consumer demand and compete for their business. As former FTC Chairman Timothy Muris has explained, “competition [among providers] spurs producers to meet consumer expectations because the market generally imposes strict discipline on sellers who disappoint consumers and thus lose sales to producers who better meet consumer needs. These same competitive pressures also encourage producers to provide truthful information about their offerings.”^{3/}

Most notably, as the availability of broadband service has grown, the price-per-megabit has fallen significantly, and the speeds cable broadband offers have shot up dramatically. When cable first offered high-speed broadband service as an alternative to dial-up access in the mid-90s, the speeds were approximately 1-1.5 Mbps. Today, most cable operators offer broadband speeds topping 5 Mbps and some operators, such as Cablevision and Comcast, offer speeds up to 50 Mbps. Comcast and Cox Communications also offer a service that provides for “boosts” of higher speeds that double the throughput on an on-demand, capacity-available basis.

Now the cable industry is on the verge of making the next leap -- from “broadband” to “wideband” -- with a technology which can enable dramatically higher download and upload speeds well above 100 Megabits per second. Several weeks ago, for example, Comcast launched

^{3/} Statement of Timothy J. Muris, Foundation Professor, The George Mason School of Law, before the Workshop on Broadband Connectivity Competition Policy, U.S. Federal Trade Commission, Feb. 28, 2007, at 12; *see id.* at 13 (“Introducing new sellers -- i.e., competition -- can only improve things from the consumer’s perspective. Either the new producer offers the consumer a better deal (e.g., lower price, better quality), or it does not get the sale. This ability to shift expenditures imposes a rigorous discipline on each seller to satisfy consumer preferences.”); *id.* at 14-15 (“Competition motivates sellers to provide truthful, useful information about their products and drives them to fulfill promises concerning price, quality, and other terms of sale...In a competitive market, a consumer deceived by one seller on one purchase can always turn to a different seller the next time.”) (internal citations omitted); *id.* at 16-17 (noting significant competition in broadband access market).

a “wideband” service in Minneapolis-St. Paul that offers speeds of 50 Megabits per second. Comcast expects to have wideband available to 20% of its systems by year-end 2008 and to all homes passed by mid 2010.

Increased Use and Demand. The high quality and easy availability of cable broadband has led to the widespread adoption of broadband use. Today, the cable industry has more than 35 million broadband customers.^{4/} Overall, approximately 64 million broadband households nationwide have broadband service, and that number continues to grow.

New Content, Web Services, and Applications. The efforts of broadband network providers to build larger and faster networks have helped ensure the success of countless numbers of new Internet businesses and applications -- online video services, social networking websites, data-sharing services, and online interactive game services, to name a few. Despite concerns about alleged limited access to broadband, use of Internet video on demand has grown at the most dramatic rate. In July 2006, 107 million Americans watched video online and about 60% of Internet users downloaded more than 7 billion videos off the Internet.^{5/} In February 2008, nearly 135 million U.S. Internet users spent an average of 204 minutes viewing 10.1 billion online videos. YouTube represented 34% of those online videos, or nearly 3.5 billion in

^{4/} National Cable & Telecommunications Association, Broadband Deployment Statistics (reporting that the total cable high-speed broadband customers reached 35,600,000 as of December 2007) *available at* <http://www.ncta.com/Statistic/Statistic/Statistics.aspx>

^{5/} FCC Adopts 13th Annual Report to Congress on Video Competition and Notice of Inquiry for the 14th Annual Report, *News Release* at 4 (Nov. 27, 2007) *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-278454A1.pdf

total.^{6/} To put it into context, in 2006, YouTube consumed as much bandwidth as the entire Internet consumed in the year 2000.^{7/}

Television networks are now offering cable modem and other broadband customers video online, such as NBC Universal and News Corp.'s new Hulu service. Book retailers are now offering online digital novels; and music sales websites, such as iTunes, continue to grow. Social networking websites, where users share home videos, pictures, and music content, are also on the rise -- in 2007, an estimated 126.5 million people in North America participated in an online social networking website.^{8/} Internet commerce also continues to grow. Last year, over \$135 billion was spent purchasing goods and services over the Internet.^{9/}

For years, net neutrality proponents have argued that without government intervention, broadband providers would stifle competing services and content providers; Internet development and usage would stagnate; and consumers would be unable to use their broadband connections to download video or access other emerging applications. In fact, cable's investment in broadband has driven innovation and investment in new content and applications at the edge -- the exact opposite of what was predicted by advocates of net regulation.

There is no better proof that there presently exists no "problem" needing a "solution" than YouTube. YouTube would have been a pipe dream in 2002. Six years later, however, YouTube -- the proverbial "two guys in a garage" who allegedly could not survive, let alone

^{6/} Todd Spangler, Net Video Views Topped 10 Billion in February, MULTICHANNEL NEWS, Apr. 16, 2008.

^{7/} Michael Dell, Founder and Chairman, Dell Inc., Keynote Address at 2007 Consumer Electronics Show (Jan. 9, 2007) (transcript available at media.podtech.net/media/2007/01/PID_001851/Podtech_v_1875-ces-2007-dell-launches-.html).

^{8/} Jon Swartz, *Social-networking sites going global*, USA TODAY, Feb. 10, 2008.

^{9/} *Quarterly Retail E-Commerce Sales, 4th Quarter 2007*, U.S. Census Bureau News Release (Feb. 15, 2008) available at <http://www.census.gov/mrts/www/data/pdf/07Q4.pdf>

thrive, unless the Internet were regulated -- has become a multi-billion dollar enterprise. And YouTube is now owned by Google, which itself has grown to become one of the largest companies in the world with a market capitalization of \$169 billion.

Here's an incontrovertible truth: the staggering growth of these companies would not have occurred without cable's investment in and deployment of the reliable high-speed broadband service that provides the ecosystem in which Google, YouTube, Yahoo! and other Internet services can flourish.

II. Network Optimization Enhances and Enables the Internet Experience

In 2006, I testified before this Committee and stated that cable operators do not and would not block subscribers' access to any lawful content, applications or services. That statement remains true today. Cable modem subscribers have the ability to do anything they want to on the Internet. They can download or stream videos, upload and send pictures to friends, or call family across the world. They can also attach gaming devices, or any other computing device they want to use to the network. They can use file-sharing software from peer-to-peer networks. If they couldn't do what they wanted, they would soon not be cable modem subscribers. They would go to our competitors.

Cable subscribers can enjoy the most advanced and cutting-edge Internet sites and applications because of the extensive efforts cable operators constantly undertake to make all content and applications flow smoothly and work seamlessly together over the network. In 1999, there were only 2 million households with broadband service in the United States; today there are approximately 64 million. This is a great success story -- but with this success comes the need to manage the network so that every household has good user experience.

Cable providers built a smart infrastructure that has the capability to evolve and meet the challenges of multimedia, file sharing, and other bandwidth-intensive applications. But cable broadband subscribers currently enjoy the full benefits of broadband only because cable operators manage their networks on a content-agnostic basis to provide seamless connectivity, deter spam and viruses, and make sure that a tiny minority of users don't slow down the Internet for everyone else. Various estimates are that as few as 5% of customers use from 50 to 90% of the total capacity of the network. In Japan, it is estimated that 1% of Internet users consume 47% of the total Internet traffic.^{10/} Faced with these voracious bandwidth consumers, cable operators may engage in reasonable, content-agnostic network management practices -- triggered by objective criteria based upon network traffic levels -- to ensure that the relatively few customers who utilize bandwidth-heavy applications do not degrade or otherwise adversely affect broadband Internet access for the vast majority of customers.

There have been some recent concerns that network management practices affecting certain high-bandwidth-consuming peer-to-peer (P2P) applications are "discriminatory." P2P traffic can consume a disproportionately large amount of network resources -- far, far more than any other Internet use. If even a small fraction of customers are using these bandwidth-intensive applications at the same time, it can interfere with the ability of the vast majority of all other customers in that area to surf the web, watch streaming video, make voice-over-IP calls, or engage in other routine uses of the Internet.

Providers can't build their way out of this problem -- in spite of increasing capacity, many P2P protocols are written specifically to commandeer as much bandwidth as is available. Instead, providers optimize their networks in order to balance the needs of all of their customers.

^{10/} George Ou, citing Haruka Saito, Japanese Counselor for Telecom Policy, <http://blogs.zdnet.com/Ou/?p=1063>.

Far from inhibiting access, smart network techniques protect the ability of our customers to make the greatest and most flexible use of the Internet. They are a reasonable response to an identified congestion problem that has the benefit of allowing all other applications -- particularly latency-sensitive applications like VoIP and streaming video -- to work better. As the Institute for Policy Innovation recently stated, “[i]n almost all cases, network management today is unnoticed by consumers. The opposite, a total lack of management, would not be true. If network operators were precluded from managing their networks, consumers would be negatively affected.”^{11/} Sound network management is essential to ensuring a stable broadband platform. Google, Yahoo!, Amazon, and service providers like Vonage could not carry on their businesses if bandwidth-consuming applications were allowed to block customers from accessing their Web sites or completing their transactions. Because of network management, such businesses can develop business models that hinge on the expectation that their service will not be crowded out by congestion caused by heavy bandwidth-using software. Far from being “neutral,” a network that is not managed simply allows those who want to demand all the bandwidth for themselves to do so unchecked.

Reasonable network management practices are also vital to combating the well-documented, illegal distribution of copyrighted material on the Internet. We cannot ignore the problem of piracy. It is a problem that affects not just broadband service providers, legitimate broadband application providers and content providers, but also law-abiding consumers. Ultimately they are the ones that bear the burden of congestion caused by those who abuse their network access to engage in the widespread distribution of infringing works. Technology is

^{11/} *Broadband Industry Practices*, WC Docket No. 07-52, Institute for Policy Comments at 2 (filed Feb. 13, 2008).

agnostic, but, according to one source, 90 percent of P2P downloads are pirated material.^{12/}

Broadband providers, content owners and others all have a stake in exploring technology solutions that address piracy in ways that respect our customers' expectations and respect the copyright owner's rights, not simply to curtail congestion but for reasons of fairness to those who invest in content and make an important contribution to our economy. Government action that would inhibit development of innovative approaches to thwarting piracy and enhancing the online experience for the vast majority of Internet users would harm content creation and ultimately consumers.

So, is there evidence that these challenges are insurmountable and require more government regulation? Quite the contrary. The same technological innovation that gives rise to some of these challenges has produced creative ways to fight spam and viruses. The same private sector collaboration that allowed the countless number of networks that make up the Internet to exchange traffic and engage in peering, has and continues to focus on new challenges.

Some P2P developers are creating new ways to make that technology more bandwidth-efficient and network-friendly, so that it may continue to emerge as a useful way to distribute legal content. Cable companies and other broadband providers are working hard to find ways to address concerns about network congestion and create consumer-friendly options that allow the majority of users to access content at the speeds needed. The "P4P Working Group" -- a collaborative industry effort to develop network management solutions that benefit cable and other broadband operators, P2P software firms, and consumers -- is one such effort.

Broadband providers have also begun testing and dialogue with P2P applications providers to make networks and P2P applications friendlier to one another. For example,

^{12/} Associated Press, *Peer-to-peer networks go legit, but piracy is still rampant*, siliconvalley.com, March 14, 2008, available at http://www.siliconvalley.com/latestheadlines/ci_8575851.

Verizon has been working with Pando Networks, a P2P software developer, and the P4P Working Group to develop a more bandwidth efficient file sharing protocol.^{13/} Just last week, Comcast and Pando announced their intention to lead an industry-wide effort to create a “P2P Bill of Rights and Responsibilities.”^{14/} And Comcast and BitTorrent recently reached an agreement in which Comcast pledged to adopt a capacity management technique based on individual users’ consumption during peak periods rather than based on a particular protocol.

Broadband providers and Internet content and service providers have mutual incentives to develop workable solutions that enhance customers’ Internet experiences. Cable operators’ tremendous investments have laid the foundation for robust broadband networks that have spurred the remarkable explosion of new services and innovations on the Internet. In turn, the vast array of applications and services now available on the Internet drive more and more people to become broadband users.

III. The Government Should Continue to Refrain From Regulation

Congress should resist calls to interfere with broadband providers’ freedom to manage their respective networks in order to satisfy the evolving needs of American consumers. Cable modem service has never been subject to regulation. Six years after the FCC classified cable’s broadband offering as an unregulated information service^{15/} and nearly three years after the FCC determined that no regulation was needed to encourage broadband deployment and preserve and

^{13/} Peter Svensson, *Verizon Gets Cozy With P2P File-Sharers*, March 14, 2008, available at http://biz.yahoo.com/ap/080314/p2p_verizon.html.

^{14/} Stephen Lawson, *Comcast, Pando Call for Pact on P2P Rights*, Apr. 15, 2008, available at http://news.yahoo.com/s/pcworld/20080416/tc_pcworld/144680.

^{15/} *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 F.C.C.R. 4798 (2002), *aff’d sub nom. Brand X Internet Servs. v. FCC*, 545 U.S. 967 (2005).

promote Internet usage and demand,^{16/} there has been no evidence of any practices that would change those conclusions or warrant government intervention generally or specifically with respect to permissible network management activities. The disaster scenarios voiced by network neutrality proponents for many years have never happened. In fact, the opposite has happened -- the Internet is booming without regulation. There is quite simply no problem requiring a government solution.

Under the guise of preventing discrimination, “net neutrality” proponents would have the government determine which network management techniques are permissible. But putting every network management strategy up for debate before regulators would severely hamper the ability of network providers to ensure high-quality and reliable Internet access for their subscribers. Depriving network operators of certain bandwidth management tools only makes the network less efficient for everyone. Ultimately, interfering with an operator’s ability to manage its network would harm consumers and prevent them from accessing the content they desire. Adept network optimization techniques are fundamental to creating and preserving the stable “ecosystem” for online service providers that ensures an optimal customer experience.

Government intervention in a fast-changing technological world could result in very real problems developing very quickly. Network management practices are constantly changing and evolving -- as networks grow, consumer usage patterns change, and new technologies emerge. It would be impossible for any regulation to keep up with these changes. Nor does the government

^{16/} *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements; 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*, Policy Statement, 20 FCC Rcd 14986, ¶ 4 (2005); FCC Press Release, “FCC Adopts Policy Statement; New Principles Preserve and Promote the Open and Interconnected Nature of Public Internet” (rel. Aug. 5, 2005).

have the expertise or resources to second-guess the thousands of network management decisions broadband network engineers must make every day. It is far more likely that government interference in the development of the market could foreclose or prevent the emergence of cross-industry efforts that are more likely to get the solutions right.

CONCLUSION

Misplaced concerns over legitimate and reasonable network management practices do not justify the enactment of open-ended regulation of the Internet, particularly where the costs of such regulation are foreseeable and substantial. Given the growth of broadband competition and the breathtaking pace of technological change, government intervention is unwarranted. As the Federal Trade Commission has warned, regulation of Internet access at this stage of market development could have “potentially adverse and unintended effects,”^{17/} including reduced product and service innovation. And net neutrality requirements would frustrate the Federal policy of “preserv[ing] the vibrant and competitive free market that presently exists for the Internet . . . , unfettered by Federal or State regulation.”^{18/} Today’s hands-off policy has given us the flexibility to innovate and respond to consumer demand. By contrast, proposals for “net neutrality” amount to regulation of the Internet that would undermine -- not promote -- consumer choice and welfare.

Thank you again for inviting me to speak to you today.

^{17/} *Broadband Connectivity Competition Policy*, Federal Trade Commission Staff Report, at 11 (June 2007) available at <http://www.publicknowledge.org/pdf/FCC-05-151A1.pdf>.

^{18/} 47 U.S.C. § 230(b)(1).