

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of the Petitions of)	
Free Press et al.)	
for Declaratory Ruling that Degrading an Internet Application Violates)	
the FCC's Internet Policy Statement and Does Not Meet an Exception)	RM- _____
for "Reasonable Network Management")	
and)	
Vuze, Inc.)	
to Establish Rules Governing Network Management Practices by)	RM- _____
Broadband Network Operators)	
Broadband Industry Practices)	WC Docket No. 07-52
Commercial Availability of Navigation Devices)	CS Docket No. 97-80
)	

COMMENTS

of

**Free Press; Public Knowledge; Media Access Project; Consumer Federation of America;
Consumers Union; New America Foundation; Participatory Culture Foundation**

Marvin Ammori, Adam Lynn, Ben Scott
Free Press
501 Third Street NW, Suite 875
Washington, DC 20001
202-265-1490
mammori@freepress.net

Andy Schwartzman, Harold Feld, Parul Desai
Media Access Project
1625 K Street, NW
Suite 1000
Washington, DC 20006

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Summary of Comments

Free Press et al. commend the Commission for taking comment on the petitions filed by Free Press et al. and Vuze, Inc. and we urge the Commission to act swiftly to clarify that network providers cannot degrade, block, or discriminate against content, applications or devices, or undermine competition and freedom of speech.

Free Press focuses these comments on two topics: network discrimination and required disclosure.

Regarding network discrimination, Free Press et al. urges the FCC to declare that discriminatory tactics, such as those employed by Comcast, violate federal policies and will not be tolerated. First, we demonstrate that four relevant sources of law prohibit broadband discrimination: 1) The FCC Internet Policy Statement, 2) The Communications Act, 3) Precedent in a recent order and 4) The FCC orders eliminating ISP open access. Second, we refute the arguments advanced that discrimination is merely “reasonable network management.” Arguments based on bandwidth, “delaying,” and anti-competitiveness are as dangerously wrong as they are irrelevant. Moreover, we show that Comcast’s actions are anticompetitive.

Regarding disclosure, Free Press et al. demonstrate that, while network providers must be required to disclose their network management practices, disclosure is not enough. First, network providers should be required to disclose their network management practices so that consumers, the tech community, software providers, and the FCC can respond accordingly. Second, while we generally prefer a competitive market solution, which disclosure can often promote, disclosure alone will not result in pro-consumer or pro-innovation market outcomes here. The market is too concentrated for disclosure to discipline the market participants or

empower consumers. Third, network providers have repeatedly made a deal with the public and the FCC in merger reviews, sworn declarations, and FCC proceedings—the network providers were relieved of competition and in exchange promised not to discriminate, not merely to disclose their discrimination. Similarly, the FCC pledged it would ensure for consumers an open Internet, not mere disclosure, should the network providers break their vows. The rubber has now hit the road.

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COMMENTS

Free Press; Public Knowledge; Media Access Project; Consumer Federation of America; Consumers Union; New America Foundation; Participatory Culture Foundation¹ (“Free Press et al.”) respectfully submit these Comments.

Free Press et al. commend the Commission for taking comment on the Petition for Declaratory Ruling filed by Free Press et al. on November 1, 2007 and the Petition for Rulemaking subsequently filed by Vuze, Inc. We urge the Commission to act swiftly to clarify

¹ A description of the Commenters is attached at Appendix 1.

that network providers cannot degrade, block, or discriminate against content or applications or undermine competition and freedom of speech.

The Commission should declare through a ruling or rules, that network providers cannot engage in discrimination against particular applications and that network providers must disclose their network management policies.

I. Facts

These proceedings—on the Broadband Industry Practices, navigation devices and Comcast’s exposed broadband discrimination—are part of a larger debate to determine the future of American communications, media, and innovation.

A. Clash of Civilizations: Open Vs. Closed

This larger debate is often framed as the need for a “national broadband strategy,” or a strategy to ensure all Americans have open, affordable access to “broadband,” or high-speed Internet. The debate over “broadband,” however, is actually a debate about all communications, because the same wires and airwaves can deliver the same video programming (television, on-demand, video-conferencing, *etc.*), audio (voice calls, music), and text and data to the same devices. People will watch television, make voice and video calls, send texts/emails, and access the Internet from any of a range of screens, using wires (fiber and copper) or wireless (satellite, terrestrial, licensed or unlicensed) transmission. The network providers understand this convergence and the stake of the broadband debate.² The stakes involve who will control potential uses of these communications: all citizens or the few network providers. Will consumers be able to use communications platforms to exercise freedom of speech and

² Comcast announced a strategy meant “to bring more content to people across *all platforms* at home and on the go.” Press Release, *Comcast CEO Brian L. Roberts Announces Project Infinity: Strategy to Deliver*

individual liberty to the fullest extent, or will they be constrained in what they can say, read, watch, do, and create?

Historically, certain companies could control some combination of communications content, applications and end-user devices using their control of the “pipes”—wired or wireless communications networks. *Consider the cable television model.* Cable carriers like Comcast were protected from competitive entry by a natural monopoly cost structure and, initially, long exclusive franchises (and the resulting first-mover advantages). Controlling the pipe, cable operators were able to control the content (i.e. channels) going through those pipes, the “applications” on the pipes (one-way streaming video programming and video-on-demand), and the particular, limited devices connecting to the network (cable set-top boxes).³ *Consider the television and radio broadcaster model.* Television and radio broadcasters, both terrestrial and satellite, control transmission pipes through holding scarce, government-issued licenses,⁴ and have used this control to determine the content, applications, and devices offered to consumers.⁵ *Consider also the wireless telephone model.* Wireless phone carriers determine the applications running on and the devices attaching to their networks, resulting in complaints from consumer groups, scholars, and competing voice providers.⁶ *Even consider the wireline telephone model.* For decades, telephone carriers like AT&T could refuse to interconnect with competitors,

Exponentially More Content Choice on TV, January 8, 2008,
<http://biz.yahoo.com/bw/080108/20080108005577.html>

³ There are minor limitations on a cable carrier’s discretion, such as must-carry rules, leased access channels, and (depending on locality, PEG access channels). *Turner Broadcasting Sys., Inc. v. FCC*, 520 U.S. 180 (1997); *Time Warner Entm’t Co., L.P. v. FCC*, 93 F.3d 957, 967-73 (D.C. Cir. 1996).

⁴ *See, e.g.*, Robert W. McChesney, *Telecommunications, Mass Media, And Democracy* (1993) (discussing the early history of broadcasting).

⁵ *See, e.g.*, J.H. Snider, *Speak Softly and Carry a Big Stick: How Local Broadcasters Exert Political Power* (2006).

⁶ *See, e.g.*, Tim Wu, “Wireless Carterfone,” 1 *International Journal of Communication* 389 (2007), available at SSRN: <http://ssrn.com/abstract=962027>; Petition of Skype Communications S.A.R.L. to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks, RM-11361,

controlled the voice application, and could control all the devices on the network—which were merely phones wired directly into the wall and rented to consumers.⁷ In all of these networks, innovation proceeded at a glacial pace—in example, for broadcast radios, telephone handsets, and the uses of these networks.

The dial-up Internet represented a radical break with this model. With the dial-up Internet, network providers did not control of content, applications, and devices—Internet users did. Users, not network providers, controlled which devices they could attach to the network because FCC decisions, such as *Hush-a-Phone* and *Carterfone*, that ended phone carriers’ control of all devices on the network. So consumers could attach any device, sparking innovation and giving birth to fax machines, answering machines, and dial-up Internet modems.⁸ In addition to devices, users had robust competition among Internet Service Providers (ISPs), leading to openness in applications and content. Consumers could choose their ISPs, and did not have to use the ISP affiliated with their network provider—whether BellSouth or Ameritech. Because of robust competition among independent ISPs, no ISP (not even AOL or a Verizon ISP) could implement a “walled garden” strategy and block consumers’ access to applications and devices.⁹ Businesses and individuals creating software, devices, or content didn’t have to get a “permission slip to innovate” from network providers and could compete on a level field.¹⁰ The dial-up Internet showed the world that economic innovation and democratic participation

filed February 20, 2007; Testimony of Ben Scott, Policy Director--the Free Press, before United States Senate Committee on Commerce, Science and Transportation (April 24, 2007).

⁷ See, e.g., Wu, “Wireless” (cited in note 6)

⁸ See *id.*

⁹ See, e.g., Jonathan L. Zittrain, “The Generative Internet,” 119 Harv. L. Rev. 1974, 1992-94 (2006) (discussing the failed “walled garden” approaches of CompuServe and America Online).

¹⁰ Mark Lemley & Lawrence Lessig, “The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era,” 48 *UCLA L. Rev.* 925 (2001); Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* 34-35 (2001); Yochai Benkler, “From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access,” 52 *Fed. Comm. L.J.* 561 (2000).

flourish with an open platform for devices, applications, and content. Indeed, almost every innovation to create and expand the Internet did not come from the network providers, but from outside innovators.¹¹ The Internet showed the world what it was missing because of closed platforms.

Importantly, the dial-up Internet showed that it was *not* technology *but bad policy*, and the lack of competition resulting from bad policy, that kept networks closed. Consumers want openness—as network providers concede,¹² in fact advertise,¹³ and as is evident by how quickly Americans adopted Internet services compared to other communications services, and pro-competitive government policies can give consumers what they want and can support open, competitive networks. Otherwise, if the FCC bends to incumbents' lobbying power and to misguided assumptions about network control, unsound policies can relegate our nation to closed, crippled, and slow-innovation networks.¹⁴

Peer-to-peer applications are, in fact, paradigmatic examples of the clash of civilizations and how the open Internet model turns the closed-networks model on its head. With peer-to-peer applications, users can share their content with others without a permission slip from a network

¹¹ See wikipedia pages for MySpace, Weblog, Internet radio, History of YouTube, Social Bookmarking, Adobe Flash, Ruby on Rails, Ajax, Internet browser, TCP/IP, HTML

¹² Comments of Comcast Corporation, at p. 31, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, GN Docket 00-185 (filed Dec. 1, 2000), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6512159396 (“The openness that really matters to consumers – and what makes the Internet so special and remarkable – is the ability to go anywhere, to access any information with a single click of a mouse.”)

¹³ See Laura M. Holson, “Verizon Plans Wider Options for Cellphone Users,” *New York Times*, Nov. 28, 2007, Available at <http://www.nytimes.com/2007/11/28/technology/28phone.html>; Even Hessel, “Comcast’s Open Pledge,” *Forbes*, Jan. 10, 2008, Available at http://www.forbes.com/2008/01/10/comcast-cable-tru2way-technology-cx_0110comcast.html; Appendix 2.

¹⁴ See, e.g., Lessig (cited in note 10); Benkler (cited in note 10).

provider. And P2P is open even for network providers—Verizon can use peer-to-peer applications, just as Hollywood studios and average users can.¹⁵

Both Congress and the FCC have declared a policy favoring openness, but the FCC must do more than it has to date to implement openness. In 1996, Congress declared that “it is the policy of the United States to encourage the development of technologies which maximize user control over what information is received by individuals, families, and schools who use the Internet and other interactive computer services.”¹⁶ This policy favors an open Internet, with control in the hands of users not network providers. In 2005, with its Internet Policy Statement, the FCC expressed a commitment to openness that would guarantee consumers access to competitive markets and the content, applications, and devices of their choice.¹⁷

This proceeding is just one front, though an important one, to advance the federal policy favoring open networks. On the wireless side, several proceedings reflect the clash between open or closed networks, including proceedings over open unlicensed uses,¹⁸ open wholesale,¹⁹ open devices,²⁰ and open applications/network neutrality requirements.²¹ On the wireline side,

¹⁵ “Verizon is trying to incorporate P2P content distribution in FiOS, Chief Technology Officer Mark Wegleitner said in an IEEE Globecom keynote. “This is not typically something telcos talk about as a good thing, but fundamentally this technology is very promising and a way to very cost effectively move information from one place to another,” Adam Bender, *Communications Daily*, Nov. 28, 2007; “The company is even considering using P2P on its set-top boxes to more efficiently distribute movies on demand, Verizon’s Pasko said.” Marguerite Reardon, “Harnessing the power of P2P,” CNET News, Jan. 24, 2008, Available at http://www.news.com/Harnessing-the-power-of-P2P/2100-1034_3-6227406.html; Free Press et al. Petition at 17-20.

¹⁶ 47 U.S.C. § 230(b)(3).

¹⁷ See Federal Communications Commission, “Policy Statement,” Aug. 5, 2005, http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-05-151A1.pdf (“FCC Policy Statement”).

¹⁸ In Unlicensed Operation in the TV Broadcast Bands, Further Notice of Proposed Rulemaking, Federal Communications Commission, ET Docket No. 04-186, October 18, 2006, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-156A1.pdf.

¹⁹ Ex Parte of Public Interest Spectrum Coalition, April 5, 2007, WT Docket No. 06-150, Available at <http://www.publicknowledge.org/pdf/pisc-0a700mhz-exparte-20070405.pdf> (“PISC Comments”); Ex Parte of Google, July 9, 2007, WT Docket No. 06-150, Available at http://64.233.179.110/blog_resources/ex_part_via_efiling.pdf.

²⁰ In Service Rules for the 698-746, 747-762, and 777-792 MHz Bands, Second Report & Order, 22 FCC Rcd. 15,289, 15,370-71 (August 10, 2007) (“700 MHz Auction Order”); PISC Comments.

²¹ See Skype Petition (cited in note 6).

the FCC can choose wireline ISP open access,²² open devices (such as through the cable set-top box proceeding),²³ and open applications/net neutrality.²⁴

In addressing the specific allegations giving rise to the Free Press et al. Petition, we must keep in mind the stakes of choosing network control over open platforms and user control over all platforms and through all pipes.

B. Facts Giving Rise to Free Press et al. Petition

On January 14, 2008, the FCC announced²⁵ it would seek comment on petitions filed by Free Press et al.²⁶ and Vuze, Inc.,²⁷ and directed that comments be filed in the open docket gathering information on Broadband Industry Practices and network discrimination.²⁸

Until October 19, 2007, Comcast had repeatedly, point-blank denied throttling BitTorrent and other peer-to-peer connections.²⁹ Then tests by the Associated Press revealed that Comcast was spoofing traffic and terminating peer-to-peer connections—in ways designed to go

²² Jennifer L Schenker, “Vive la High-Speed Internet!,” *BusinessWeek*, July 18, 2007, Available at http://www.businessweek.com/print/globalbiz/content/jul2007/gb20070718_387052.htm; “Open up those highways,” *The Economist*, Jan. 17, 2008, Available at http://www.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=348963&story_id=10534573; Blaine Harden, “Japan’s Warp-Speed Ride to Internet Future,” August 29, 2007, Available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/08/28/AR2007082801990.html>.

²³ In the Matter of Commercial Availability of Navigation Devices, CS Docket No. 97-80.

²⁴ FCC Policy Statement

²⁵ Public Notice, Comment Sought on Petition for Declaratory Ruling Regarding Internet Management Policies, WC Docket No. 07-52, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-91A1.pdf; Public Notice, Comment Sought on Petition for Rulemaking to Establish Rules Governing Network Management Practices by Broadband Network Operators, WC Docket No. 07-52, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-92A1.pdf.

²⁶ Free Press, Public Knowledge, Media Access Project, Consumer Federation of America, Consumers Union, Information Society Project at Yale Law School, Professor Charles Nesson, Co-Director of the Berkman Center for Internet & Society, Harvard Law School, Professor Barbara van Schewick, Center for Internet & Society, Stanford Law School, Petition for Declaratory Ruling, CC Docket Nos. 02-33, 01-337, 95-20, 98-10, GN Docket No. 00-185, CS Docket No. 02-52, WC Docket No. 07-52, Nov. 1, 2007, available at http://www.freepress.net/docs/fp_et_al_nn_declaratory_ruling.pdf (“Free Press et al. Petition”).

²⁷ Vuze, Inc. Petition for Rulemaking to Establish Rules Governing Network Management Practices By Broadband Network Operators, WC Docket No. 07-52, Nov. 14, 2007, Available at <http://www.publicknowledge.org/pdf/vuze-petition-20071114.pdf> (“Vuze Petition”).

²⁸ In The Matter of Broadband Industry Practices, WC Docket No. 07-52.

²⁹ See Free Press et al. Petition at nn. 30-33.

undetected.³⁰ Tests by the Electronic Frontier Foundation and Robb Topolski confirmed the AP's analysis.³¹

On November 1, 2007, Free Press, other consumer organizations, and legal scholars from Harvard, Yale, and Standard filed a Petition for Declaratory Ruling asking the FCC to declare that Comcast's activities were clear violations of the FCC's Internet Policy Statement and did not qualify as "reasonable network management."³² The same day, Free Press and Public Knowledge filed a Formal Complaint against Comcast, urging the Commission immediately to enjoin Comcast from interfering with peer-to-peer protocols and to impose considerable forfeitures upon Comcast.³³ Subsequently, an online distributor of high quality video that uses the BitTorrent protocol, Vuze, Inc., filed a Petition seeking a rulemaking to define what is and what is not reasonable network management.³⁴

While Comcast has not detailed exactly how its algorithms determine when to block connections, the AP,³⁵ EFF,³⁶ and declarations to our petition³⁷ suggest that Comcast blocks P2P uploads by forging and inserting reset packets meant to look like they come from the other computer and seek to end the connection. The AP was blocked from uploading the King James Bible and EFF from uploading a file of less than 1mb, meaning that Comcast blocks uploading

³⁰ Peter Svensson, "Comcast Blocks Some Internet Traffic," *Associated Press*, October 19, 2007, Available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2007/10/19/financial/f061526D54.DTL>; Free Press et al. Petition at 12

³¹ Electronic Frontier Foundation, "Packet Forgery By ISPs: A Report On The Comcast Affair," Nov. 28, 2007, Available at http://www.eff.org/files/eff_comcast_report2.pdf ("EFF Report"); Seth Schoen, "EFF Tests agree with AP: Comcast is forging packets to interfere with user traffic," October 19, 2007, Available at <http://www.eff.org/deeplinks/2007/10/eff-tests-agree-ap-comcast-forging-packets-to-interfere>.

³² Free Press et al Petition.

³³ Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation, Nov. 1, 2007, Available at http://www.freepress.net/docs/fp_pk_comcast_complaint.pdf ("Free Press et al. Complaint").

³⁴ Vuze Petition.

³⁵ Peter Svensson, "Comcast Blocks Some Internet Traffic," *Associated Press*, October 19, 2007, Available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2007/10/19/financial/f061526D54.DTL>

³⁶ Electronic Frontier Foundation, "Packet Forgery By ISPs: A Report On The Comcast Affair," Nov. 28, 2007, Available at http://www.eff.org/files/eff_comcast_report2.pdf ("EFF Report").

even of small files from users who are not engaging in multiple or continuous uploading of large files.³⁸

Peer-to-peer applications are used for a wide range of legal uses, generally to share and transfer large files quickly. As detailed in six pages in the Free Press et al. Petition, these legal uses include, notably, online delivery of television programming and video downloads, music downloads, transferring and developing software (like Linux), and providing large image files (like NASA's Visible Earth photographs, which uses the BitTorrent protocol).³⁹ BitTorrent is used to deliver high-quality video programming over the Internet, and this video competes with cable companies' legacy television offerings, their video-on-demand offerings, and their online video offerings. Scholars and companies like Verizon and SBC/AT&T have long pointed out that broadband represent a "competitive threat to the significant market power of the cable industry" over video programming.⁴⁰ Indeed, as early as 2006, consumers watched more online video than digital cable's video-on-demand.⁴¹

Caught red-handed, Comcast claimed it merely "delayed" some traffic, and that its actions were, using the words of a footnote in the FCC's Policy Statement, mere "reasonable network management" because its consumers' peer-to-peer uses required considerable

³⁷ Free Press et al. Complaint, Declaration of Robert Michael Topolski, Declaration of Peter Eckersley.

³⁸ See Cite at n. 35; EFF Report at 7

³⁹ Free Press et al. Petition 17-22; Linux BitTorrents, Linux Tracker, <http://linuxtracker.org>; Get openSUSE Distribution, openSUSE,

<http://software.opensuse.org/>; NASA's Visible Earth Project, <http://visibleearth.nasa.gov/faq.php?e=4>.

⁴⁰ Petition To Deny of Verizon Telephone Companies and Verizon Internet Solutions D/B/A Verizon.net, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 15-24, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513188037; Comments of SBC Communications, Inc, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 2, 16-18, 33, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513189221.

⁴¹ Todd Spangler, "Survey: More Internet Users Watch Web TV Than Cable VOD," *Multichannel News*, Feb. 4, 2008.

bandwidth.⁴² Comcast claimed it was managing bandwidth, yet, as Princeton Computer Science professor Ed Felton wrote, managing bandwidth is “not quite what they’re actually doing...Comcast’s measures are not aimed at heavy users but rather at users of certain protocols such as BitTorrent.”⁴³ Indeed, the Electronic Frontier Foundation specifically tested when this interference occurred and found “an attempt to seed a 500KB file to a single BitTorrent downloader, instigated after the seeding Internet connection had been idle for the preceding day, triggered the injection of forged RST packets.”⁴⁴

Once Free Press et al. filed their Complaint and Petition, more than 15,000 Americans followed with their own complaints through a Free Press link. Months later, when the FCC put the Petition out for notice, hundreds more filed, urging the FCC to take swift action.⁴⁵ As one online technology publication wrote, in reviewing the comments, “there’s no shortage of angry users who feel cheated and want the tampering to stop”;⁴⁶ moreover, “most of the filers in this proceeding have written their own comments rather than rely on Web auto forms.”⁴⁷

These hundreds of commenters have provided evidence that Comcast is blocking far more than just BitTorrent and Gnutella. Commenters point to interference with video chat and video conferencing software (such as iChat), open source software (including open source business software), custom chat servers, FTP (file transfer protocol), VoIP (from companies

⁴² “We engage in reasonable network management to provide all of our customers with a good Internet experience, and we do so consistently with FCC policy,” Andy Patrizio, “Comcast Again Denies P2P Throttling,” InternetNews.com, Nov. 2, 2007, Available at <http://www.internetnews.com/bus-news/article.php/3708751>.

⁴³ Ed Felten, “Comcast Blocks Some Traffic, Won’t Explain Itself,” Freedom To Tinker Blog, Oct. 23, 2007, <http://www.freedom-to-tinker.com/?p=1217>.

⁴⁴ They stated further: “If Comcast had carefully engineered its interventions to prevent certain users from contributing disproportionately to network congestion, we would expect to see jamming only after subscribers consumed large amounts of bandwidth, or when they were participating in large numbers of connections in a short period of time.” EFF Report at 7.

⁴⁵ Ken Fisher, *P2P Users Blast Comcast in FCC Proceeding*, ars technica, Jan. 29, 2008, <http://arstechnica.com/news.ars/post/20080129-p2p-users-blast-comcast-in-fcc-proceeding.html>.

⁴⁶ *Id.*

⁴⁷ *Id.*

other than Comcast, including Skype and AT&T), Lotus Notes, encrypted traffic using Secure Shell or SSH, and VPN software (used generally by telecommuters to encrypt traffic in “virtual private networks”).⁴⁸ Because Comcast has not disclosed its management practices, it is unclear how much of this is the product of Comcast’s actions, but such blocking would affect families communicating with one another.⁴⁹

This proceeding has also shed light on a surprising fact: such illegal discrimination may not be limited to Comcast but may involve several leading network providers. On the same day Comcast replied to Free Press and Public Knowledge’s complaint, Comcast updated its online terms of service, and stated that Comcast uses network management practices “that are consistent with industry standards.”⁵⁰ Comcast claimed, further, that “many” large Internet service providers “use the same or similar tools that Comcast does.”⁵¹ Comcast does not explain how an industry standard had already developed pertaining to activity Comcast had long denied engaging in and that network providers repeatedly pledged not to adopt.

⁴⁸ See, Comments of Gregg Levethan, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838377; Comments of Robert Pederson, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838374; Comments of Matt Blecha, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838372; Comments of Michael Kobiela, Jan. 29, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838302; Michael Ortega-Binderberger, Jan. 29, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838206; Brock M. Tice, Jan. 28, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519837883; Dan Dinolfo, Jan. 16, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519831790; Christopher M. Cote, Jan. 28, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519833550; (quoting a commenter: “Also I see considerable differences in speed ftp sessions vs. html. They are obviously limiting speed in ftp as well.”) Ken Fisher, *P2P Users Blast Comcast in FCC Proceeding*, ars technica, Jan. 29, 2008, <http://arstechnica.com/news.ars/post/20080129-p2p-users-blast-comcast-in-fcc-proceeding.html>.

⁴⁹ “In my specific case my parents live in Florida and they use their Comcast internet service to video chat with their grandchildren. Due to Comcast’s deliberate interference with internet traffic they are no longer able to video chat with their grandchildren” Comments of Gregg Levethan, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838377.

⁵⁰ Comcast, *Terms of Service*, <http://www6.comcast.net/terms/use/> (see “III. Network Management and Limitations on Bandwidth Consumption”).

Nor does Comcast explain what it means by “industry,” but the reports now indicate that many carriers such as Time Warner, Cox, and Charter may similarly degrade P2P.⁵² Because violations of federal policy may implicate several large network providers, this declaratory ruling is appropriate and requires immediate attention.

C. History of Proceeding

Free Press et al. filed its Petition seeking clarification of the Policy Statement in the string of FCC proceedings giving rise to the Policy Statement. These proceedings, running from 1998 to 2005, concerned broadband over phone lines (mainly DSL)⁵³ and over cable lines.⁵⁴ As early as 1998, when the FCC first considered ISP open access provisions for cable modem service,⁵⁵ scholars were warning that if the FCC abandoned ISP open access, network operators could threaten an open Internet or what some called “network neutrality,”⁵⁶ because the market and technology would offer, at best, two dominant broadband providers—the local phone and local cable carrier.⁵⁷ The primary argument for ISP open access focused on free speech, open applications and open content—or what became termed “network neutrality.”⁵⁸

⁵¹ Id.

⁵² Janko Roettgers, *Road Runner, Charter and Cox TOS Also Include Anti-P2P Provisions*, NewTeeVee, Feb. 10, 2008, <http://newteevee.com/2008/02/10/road-runner-charter-and-cox-tos-also-include-anti-p2p-provisions/>; Karl, *Cox Confirms P2P Throttling, DSL Reports*, Nov. 19, 2007, <http://www.dslreports.com/shownews/Cox-Confirms-P2P-Throttling-89571?nocomment=1>.

⁵³ Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-33; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services, CC Docket No. 95-20; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements, CC Docket No. 98-10.

⁵⁴ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities and Internet Over Cable Declaratory Ruling, GN Docket No. 00-185; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, CS Docket No. 02-52.

⁵⁵ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Declaratory Ruling, 17 FCC Rcd 4798, 4800 (2002) (“Cable Modem Order”) (“The issue of what, if any, regulatory treatment should be applied to cable modem service dates back to at least 1998”).

⁵⁶ See Benkler (cited in note 10).

⁵⁷ The biggest network providers include AT&T, Verizon, Qwest, Time Warner Cable, Comcast, and Cox.

⁵⁸ Ex parte Submission of Tim Wu and Lawrence Lessig to the Declaratory Ruling & Notice of Proposed Rulemaking in Inquiry Concerning High-Speed Access to the Internet, CS Docket. No. 02-52 (Aug. 22, 2003),

In arguing against ISP open access, the local cable and phone carriers were required consistently and repeatedly to respond to the network neutrality concern that they would use market power to threaten an open Internet. The network providers argued that even though ISP open access should be eliminated, they would maintain a neutral and free Internet service.⁵⁹ As we detail in Part II.A.4 below, and in Appendix 2, the network providers made a consistent deal with regulators in a series of merger reviews, FCC comments, and sworn declarations. The carriers would receive relief from “outdated” common carrier and ISP open access regulation, and the network providers pledged the public would continue to receive unfettered access to the Internet.⁶⁰

In 2005, the FCC abandoned ISP open access.⁶¹ In doing so, at the same time, it adopted an Internet Policy Statement meant to ensure an open Internet platform for applications, content, devices, and competition.⁶² Within a few short months, despite the Policy Statement, the largest network providers, including AT&T and Verizon, began announcing intentions to undermine an open Internet by setting up digital tollbooths, charging content- and applications-providers for carriage, or for “expedited” carriage, and take control of the Internet using “their pipes.”⁶³ America had already suffered the consequences of poor broadband policies with our international ranking for broadband penetration in a free fall, going from 4th place in 2000 to 12th place in

available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514683885; Benkler (cited in note 10).

⁵⁹ See Appendix 2

⁶⁰ *Compare* Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 FCC Rcd 14853, 14855 (2005) (“Wireline Broadband Order”) (removing “outdated regulations”) and *id.* at 14904 (pledging the FCC would act if network providers began “actively interfering with consumer access to any lawful Internet information, products, or services”).

⁶¹ See Wireline Broadband Order, 20 FCC Rcd 14853.

⁶² See FCC Policy Statement; Free Press et al. Petition at 4

⁶³ See Free Press et al. Petition at 4-5; Jonathan Krim, Executive Wants to Charge for Web Speed, *Washington Post*, Dec 1, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/11/30/AR2005113002109.html>.

2005. In the same time period, 14 other countries in the OECD rankings saw higher overall net growth.⁶⁴ Countries in both Europe and Asia began to experience speeds, prices and competition unavailable to the luckiest Americans.⁶⁵

The carrier's declarations sparked intense legislative debate and a widespread consumer movement of millions of Americans. Diverse organizations declared their support for network neutrality; they ranged from the Christian Coalition to Moveon.org, from the Gun Owners of America and the American Library Association to the American Civil Liberties Union.⁶⁶ Indeed, since 1998, dozens of organizations have made their support for an open Internet known to the FCC at one time or another including AARP, Adobe, American Electronics Association, American Association of Law Libraries, Amazon.com, Apple Computer, Inc, Business Software Alliance, Competitive Telecommunications Association, CompTIA, Consumer Electronics Association, Comptel, Digital Media Association, Earthlink, Ebay Inc, Educause, Electronic Retailing Association, Google, IAC/InterActiveCorp (which includes Ask.com, Citysearch, Evite, Ticketmaster, Match.com and others), Information Technology Association of America, Information Technology Industry Council, Intel, Microsoft Corporation, MultiChannel Ventures, National Association of Manufacturers. National Association of Broadcasters, National Association of Regulatory Utility Commissions, National Retail Federation, Qualcomm, Radioshack, Semiconductor Industry Association, SEIU, Skype, Sling Media Inc, Sony, Symantec, Teamsters, Telecommunications Industry Association, The Walt Disney Company, TiVo, TNS, Vonage, and Yahoo!.

As demonstrated in Appendix 2, even the phone carriers have filed with the FCC

⁶⁴ S. Derek Turner, Broadband Reality Check II, August 2006, p. 8.

warning that, without ISP open access, network neutrality is threatened, particularly for online video programming. Also documented are the many pledges from the cable industry. One letter to the FCC from the NCTA, the lobbying arm of the cable industry, sums up the general support for an open Internet: “*Everyone* agrees that consumer should have access to all lawful Internet content unless they choose otherwise.”⁶⁷ Those who recently started disagreeing with this statement—network providers and those making discrimination tools—began openly declaring their opposition only after the FCC eliminated intramodal competition.

II. Network Discrimination is Not Reasonable Network Management

The FCC needs only to issue a narrow declaration that discriminating against any particular application, including to manage bandwidth, violates the FCC’s Policy Statement and is not a reasonable network management practice. The FCC need not necessarily define what a reasonable network practice would be, other than that it must nondiscriminatory.⁶⁸

This section has two parts. First, we detail how the applicable legal standards support this proposed declaration set forth in the FCC Policy Statement, Congress’s statutory policy, FCC precedent on network management, and FCC orders eliminating ISP open access. Second, we refute Comcast’s public “defenses” that claim “reasonable management” includes mere “delaying” of applications or content, delaying based on protocols, and that it matters whether the discrimination against a specific application is driven by the desire to manage bandwidth or anticompetitive concerns. We also explain how Comcast’s actions are highly anticompetitive.

⁶⁵ Id, p. 14-16.

⁶⁶ SavetheInternet.com Coalition, Available at <http://savetheinternet.com/=coalition>.

⁶⁷ Ex Parte Letter from Robert Sachs, President, The National Cable & Telecommunications Association, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, CS Docket 00-185, December 10, 2002, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513399468.

⁶⁸ The FCC could clarify that “reasonable network management” practices includes acting against illegal viruses, spam, spyware, or denial of service attacks. See cite at n. 145.

A. Federal Policy and Precedent Clearly Prohibit Discrimination

Four sources of federal law support our proposed declaration against application-discrimination: the FCC Policy Statement, the Communications Act, the FCC's precedent in a recent wireless order, and a series of FCC orders on ISP open access.

1. A Straightforward Reading of the FCC Policy Statement Prohibits Discrimination

As discussed in our Petition, discriminating against peer-to-peer protocols violates the FCC's Internet Policy Statement. The FCC adopted these four consumer principles in its Policy Statement to foreclose the very type of activity Comcast now claims privileged under the Policy Statement's principles. The FCC declared that it "has jurisdiction necessary to ensure that providers of telecommunications for Internet access or Internet Protocol-enabled (IP-enabled) services *are operated in a neutral manner.*" The FCC stated further that the Policy Statement's goal is "to ensure that broadband networks are ... open,"⁶⁹ as well as to "preserve and promote the open and interconnected nature of the public Internet."⁷⁰

The Policy Statement declares four consumer freedoms. First, "consumers are entitled to access the lawful Internet content of their choice." Comcast is violating this right by interfering with the uploading and downloading⁷¹ of certain content—including the King James Bible.⁷²

Second, "consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement." Comcast is violating this right by interfering with consumers' ability to run the peer-to-peer applications of their choice.⁷³

⁶⁹ FCC Policy Statement at 3.

⁷⁰ *Id.*

⁷¹ See Free Press et al. Petition at 22-23.

⁷² Peter Svensson, "Comcast Blocks Some Internet Traffic," *Associated Press*, October 19, 2007, Available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2007/10/19/financial/f061526D54.DTL>.

⁷³ Free Press et al. Petition at 16-17

Third, “consumers are entitled to connect their choice of legal devices that do not harm the network.” To make clear the breadth of this consumer right, the Policy Statement cites the sweeping, seminal cases of *Hush-a-Phone* and *Carterfone*.⁷⁴ Our petition did not note that blocking P2P interferes with this entitlement, subsequent research convince us that it does. As Pioneer has suggested in its *ex parte* filing, devices can pull video content from online sources and display that content on computer screens *or* television screens. Because Comcast is interfering with online video delivered through peer-to-peer protocols devices similar to what Pioneer envisions will be put at a severe disadvantage or rendered useless.⁷⁵ We provide an in-depth discussion of Comcast’s interference with the open-devices consumer right in Part B below.

Fourth, “consumers are entitled to competition among network providers, application and service providers, and content providers.” Comcast is violating this principle by undermining competition among application providers (by skewing the field against certain peer-to-peer, applications), undermining competition among content providers (by skewing the field against providers of large content files, for whom peer-to-peer solutions could be the most efficient choice), and undermining competition among network providers (through deceptive practices about its offerings).⁷⁶ The FCC stated in its accompanying Wireline Broadband Order that it would not hesitate to enforce these principles.⁷⁷

⁷⁴ FCC Policy Statement, n. 3 (citing *Hush-A-Phone Corp. v. United States*, 238 F.2d 266, 269 (D.C. Cir. 1956); *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968)).

⁷⁵ *Ex Parte* filing of Pioneer North America, Inc., WC Docket No. 07-52, February 7, 2008, Available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519840230.

⁷⁶ Free Press et al. Petition at 24-25.

⁷⁷ *See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 F.C.C.R. 14853, 14904 ¶ 96 (2005).

The last footnote states: “The principles we adopt are subject to reasonable network management.”⁷⁸ Comcast tries to read this footnote as an exception swallowing the four principles—permitting it to violate all four principles. If the FCC sought to gut the four principles with this footnote, it would not have even issued the Policy Statement to begin with. The FCC certainly would not have gutted the four principles—which are prominently bullet pointed and italicized as the heart of the Policy Statement—merely with the word “reasonable” in a footnote. The FCC would have been far more explicit.

Discriminatory measures aimed at specific applications, content or devices have the potential to significantly distort the level playing field between different applications (both with respect to product market competition, but also with respect to incentives to innovate). In addition, they distort user behavior: it drives users away from the application that they would like to use (and that would maximize consumer welfare). This implies that the “reasonable network management” was meant to include non-discriminatory measures that do not target specific applications, content or devices. Singling out specific applications, content or devices should only be justifiable as reasonable network management if it is the only possible solution to a pressing problem such as security.

2. Congressional Policy Prohibits Discrimination

Congressional policy also supports an open Internet without network providers interfering with applications, content, devices, and competition. At least three provisions of the Communications Act of 1934, as amended, reflect this policy.

First, in the Policy Statement, the FCC follows Congressional policy of 230(b)(2). In 230(b)(2), “[s]pecifically, Congress states that it is the policy of the United States ‘to preserve

⁷⁸ FCC Policy Statement, n. 14.

the vibrant and competitive free market that presently exists for the Internet.”⁷⁹ This statutory policy, as the FCC acknowledged⁸⁰, supports an open Internet, and formed the basis for the four Policy Statement principles.

Second, the next provision, Section 230(b)(3) of the Act, states: “It is the policy of the United States ... to encourage the development of technologies which maximize user control over what information is received by individuals, families, and schools who use the Internet and other interactive computer services.”⁸¹ If the FCC interpreted “reasonable network management” to permit networks to single out specific applications, content, and devices, and discriminate against them in order to manage bandwidth on their network, then the FCC would not be following Congressional policy to “maximize user control.” Rather, the FCC would be minimizing user control while maximizing the control by network providers, against Congressional policy.⁸²

Third, in section 706 of the Communications Act, Congress specified a policy favoring two-way, high-speed communications networks—where users can *upload* and download high-quality content—not more of the same old closed, one-way networks that Comcast is championing through its actions and arguments.⁸³ Section 706 requires the FCC to “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion,” while defining “advanced telecommunications capability” to be

⁷⁹ In 1996, when 230(b)(2) was adopted, the Internet content and application markets were “presently” competitive and free because of ISP open access regulation. Policy Statement, at ¶2 (47 U.S.C. § 230(b)(2)).

⁸⁰ *Id.*

⁸¹ 47 U.S.C. § 230(b)(3).

⁸² *See, e.g.*, Benkler (cited in note 10); Free Press et al. Petition for Declaratory Ruling, at 3.

⁸³ For a more detailed discussion of the policies of section 706, see Comments of Consumers Union, Consumer Federation of America and Free Press, *Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45 (filed May 16, 2006), http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519411795.

“high-speed, switched, broadband telecommunications capability that enables users to *originate* and receive *high-quality voice, data, graphics, and video* telecommunications using any technology.”⁸⁴ The accompanying Senate Committee language to a 1994 predecessor bill to the 1996 Act, stated the goal of the eventual Section 706 “will not be achieved if carriers only deploy more of the same service that subscribers already receive today,” such as “more one-way cable service.” Rather, Congress’s policy is to encourage “systems that are capable of both sending and receiving information in *all its forms*”; it described the provision as authorizing the FCC to determine “if the *current trend* in deployment of systems *incapable* of sending and receiving information in *all its forms* (e.g. images, graphics, and video) continues.”⁸⁵ The 1996 Act’s own accompanying Committee Report contains a similar emphasis on two-way platforms.⁸⁶

Interpreting “reasonable network management” to include actions like Comcast’s undermines this Congressional policy. Interfering with peer-to-peer undermines consumers’ ability to originate and receive⁸⁷ “high-quality voice, data, graphics, and video.” BitTorrent and other peer-to-peer protocols are among the primary means of distributing high-quality content; companies such as BitTorrent, Inc., Vuze, and Miro⁸⁸ use BitTorrent to deliver video programming no different from full-length television programming in standard- or high-

⁸⁴ Section 706(b) of the Telecommunications Act of 1996, 104 P.L. 104; 110 Stat. 56; 1996 Enacted S. 652; February 8, 1996 (emphasis added).

⁸⁵ *Id.* (emphasis added).

⁸⁶ Telecommunications Competition and Deregulation Act of 1995, S. 652, Senate Report 104-23, 104th Congress, 1st Session (1995).

⁸⁷ This, of course interferes with those attempting to download from these uploaders, See Free Press et al. Petition at 22.

⁸⁸ See Press Release, *NETGEAR and BitTorrent Collaborate to Deliver High-Definition Movies and TV Shows to HDTVs*, January 7, 2007, <http://www.bittorrent.com/about/press/netgearae-and-bittorrentTM-collaborate-to-deliver-high-definition-movies-and-tv-shows-to-hdtvs> (discussing BitTorrent, Inc.); Cyril Roger, *High Definition Movies and Downloads to Your PC*, Softonic, <http://azureus-zudeo.en.softonic.com/> (discussing Vuze’s high-definition offerings); *Miro hd*, <https://www.miroguide.com/tags/1074>.

definition.⁸⁹ Indeed, Comcast’s tactics specifically involve blocking connections when their consumers are “seeding,” or originating—not downloading—content. As a result, Comcast’s argument flies in the face of Congress’s stated goals to Congress. Comcast designed its networks to limit users’ uploading capabilities and focus on the network’s downloading capabilities, refused to upgrade the uploading capabilities, and then claims it is “reasonable” to manage their already download-friendly network by degrading uploads. As Comcast claims that others in its “industry” do the same, the FCC’s declaratory ruling should remind the industry of Congress’s unmistakable intent.

Here, Comcast’s actions and arguments effectively admit that it has *not* been deploying networks for originating high-quality content. Rather, as discussed below in the video-on-demand discussion, Comcast has been focusing its upgrades on more of the same old “one-way cable service.”⁹⁰

The cable industry lobby, the National Cable Telecommunications Association (NCTA), explained that cable carriers like Comcast deliberately designed their networks to limit uploading and focus on one-way downloading. The lobby stated: “Cable’s upgraded [broadband] networks were designed to provide Internet service primarily to residential customers. Such customers’ data transmission, it was assumed, *would be largely asymmetrical, with much more data traveling downstream to the customer than upstream from the customer.*”⁹¹ This assumption was remarkably short-sighted, as consumers want to use networks both to receive *and transmit* all content, it also disregarded Congressional policy. The NCTA noted that there are short-term,

⁸⁹ There is some debate what qualifies for “high-definition” content online. *What qualifies as HD content?*, Miro, <http://www.getmiro.com/forum/comments.php?DiscussionID=19&page=1> (Miro Forum discussion).

⁹⁰ Section II.4.d.

⁹¹ Reply Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52,

nondiscriminatory means to address this design flaw: carriers could provide “a separate tier of service that is designed to accommodate the use of servers and other high-bandwidth applications” or upgrade networks simply by “reducing the number of subscribers per node.” This upgrade, however, “would make the provision of service to the high-bandwidth users more costly.”⁹²

Because of these poor network design decisions, carriers like Comcast now make the upload problem even worse by targeting traffic relying on upload capacity. If the FCC were to agree with Comcast and decide network providers can “manage” networks by making the networks even *more* “incapable of sending information in all its forms” by degrading applications for uploading, then the FCC would be undermining Congress’ intent.

3. FCC Precedent Interpreting “Reasonable Network Management” Prohibits Discrimination

FCC precedent has already determined that Comcast’s actions are not “reasonable network management.” Though the FCC used the term “reasonable network management” in the August 2005 Policy Statement, the FCC has already provided a short gloss on the term, and that short gloss alone clearly states that *degrading* applications, or interfering based on bandwidth demands, are not reasonable network management.⁹³

On August 10, 2007, the FCC issued its 700 MHz Auction Order, which set out service rules, contours, and auction rules for certain prime frequencies becoming available because of the digital television transition.⁹⁴ The FCC divided the frequencies into “blocks,” and it required

August 6, 2002, pp. 2, 9-15, 34, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513286538.

⁹² *Id.*

⁹³ We first made this argument in *Ex Parte* Letter from Marvin Ammori to Ms. Marlene H. Dortch, FCC Secretary, WC Docket No. 07-52 (filed November 20, 2007), http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519814407.

⁹⁴ 700 MHz Auction Order 22 FCC Rcd. at 15,289.

the eventual winner of one block, the “C Block,” to make wireless services available for all devices that do not harm its network. That is, it imposed the open devices requirement of *Hush-a-Phone*, of *Carterfone*, and of the Policy Statement.

In imposing this requirement, the Commission specified that “reasonable network management” is acceptable but explicitly stated reasonable network management did *not* include (1) discriminating among applications or (2) discriminating based on even “unreasonable” bandwidth demands. The FCC stated:

In addition, C Block licensees cannot exclude applications or devices solely on the basis that such applications or devices would *unreasonably increase bandwidth demands*. We anticipate that demand can be adequately managed through feasible facility improvements or technology-neutral capacity pricing that *does not discriminate* against subscribers using third-party devices or applications. In that regard, we emphasize that C Block licensees may not impose any additional discriminatory charges (one-time or recurring) or conditions on customers who seek to use devices or applications outside of those provided by the licensee. . . . Standards for third-party applications or devices that are more stringent than those used by the provider itself would likewise be prohibited.⁹⁵

The FCC could not have been more specific in anticipating and rejecting Comcast’s two primary arguments—that Comcast cannot discriminate whether or not it “blocks” and that it cannot discriminate against applications based on “unreasonable” bandwidth use.

4. The FCC Orders Gutting Intramodal Competition Based on Network Providers Repeated Pledges Also Prohibit Discrimination

In addition to the FCC Policy Statement, to Congress’s statutory policies, and to FCC precedent directly on point, a series of FCC orders *rest* on network providers’ repeated pledges to maintain a free and open Internet. These orders refused to impose, or eliminated, requirements for network providers to permit unaffiliated Internet Service Providers (“ISPs”) to offer broadband service over phone or cable lines. Such an ISP open access provision would have ensured competition that was not just “intermodal”—such as between the “modes” of cable

modem and phone DSL service—but also intramodal—between competitors on the same mode, such as multiple unaffiliated ISPs competing over the same phone or cable platform.

The FCC provided network providers relief from ISP open access requirements on the understanding—and repeated pledges from network providers—that they would not use their regulatory relief from ISP open access, and attendant increased market power, to interfere with consumers’ open Internet experience. From at least 1998 to 2005, the FCC had to face the issue of ISP open access for independent ISPs over wireline⁹⁶ and cable lines,⁹⁷ in proceedings involving merger reviews, inquiries, rulemakings, and complaints.⁹⁸ Central to the debate whether to eliminate ISP open access requirements was the concern that cable and phone companies, freed of the intramodal ISP competition supported by ISP open access, would begin to interfere with an open Internet. Indeed, the cable industry’s lobbying group called the concern that network providers will “restrict access” to the entire Internet to be “the principal concern” of those advocating for ISP open access.⁹⁹

Phone and cable carriers had every incentive to avoid ISP open access requirements, and its attendant intramodal competition. In opposing the phone and cable carriers, consumer

⁹⁵ 700 MHz Auction Order, 22 FCC Rcd. at 15,370-71.

⁹⁶ Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-33; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services, CC Docket No. 95-20; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements, CC Docket No. 98-10.

⁹⁷ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities and Internet Over Cable Declaratory Ruling, GN Docket No. 00-185; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, CS Docket No. 02-52.

⁹⁸ Cable Modem Order, 17 FCC Rcd at 4800 (2002) (listing proceedings addressing the issue, beginning with “the Commission’s “First Section 706 Inquiry” about the deployment of advanced telecommunications capability,” and continuing to “several subsequent proceedings including a complaint case, license transfer reviews in connection with mergers involving cable operators, and a special report by the Commission’s Cable Services Bureau.”) (footnotes omitted).

⁹⁹ Reply Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52,

advocates asked for ISP open access.¹⁰⁰ Some scholars argued that government need not impose ISP open access rules, but rather should impose direct nondiscrimination rules, or network neutrality rules.¹⁰¹ (Today, because of the recent successes of ISP open access in Asia and Europe, many argue that ISP open access policies lead to *greater* investment, higher speeds, better networks, greater capacity, far better value for consumers, greater deployment and uptake, as well as openness, but the principal argument of the time was Net Neutrality.¹⁰²)

Understanding the open-Internet concerns underlying support for ISP open access, cable and phone carriers repeatedly claimed that they would not engage in any Internet discrimination. In this section, we first explain how network providers' promises were central to the FCC eliminating ISP open access provisions. We then review some of the promises network providers made to gain regulatory relief, focusing on promises made by cable carriers, notably Comcast itself. Appendix 2 provides even more of these pledges. Further, it provides explicit and unequivocal quotes from both competitive *and incumbent* phone carriers warning about network providers' financial motive and opportunity to violate open Internet principles in the absence of ISP open access requirements.

August 6, 2002, pp. 2, 9-15, 34, Available at

http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513286538

¹⁰⁰ See, e.g., Benkler (cited in note 10); MAP et al. Comments, CS Docket 02-52, at 23 (June 18, 2002).

¹⁰¹ Ex parte Submission of Tim Wu and Lawrence Lessig to the Declaratory Ruling & Notice of Proposed Rulemaking in Inquiry Concerning High-Speed Access to the Internet, CS Docket. No. 02-52 (Aug. 22, 2003), available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514683885.

¹⁰² Amit Schejter, "From all my teachers I have grown wise, and from my students more than anyone else:" What Lessons can the U.S. learn from Broadband Policies in Europe? Presented at the 35th TPRC Research Conference on Communication, Information and Internet Policy, Arlington, Va (2007, September), <http://web.si.umich.edu/tprc/papers/2007/673/schejter%20universal%20service%20TPRC.pdf>; Jennifer L Schenker, "Vive la High-Speed Internet!," *BusinessWeek*, July 18, 2007, Available at http://www.businessweek.com/print/globalbiz/content/jul2007/gb20070718_387052.htm; S. Derek Turner, Broadband Reality Check II, August 2006.

**a) The FCC Orders Rested on Network Providers Then-Lack of
Discrimination and Pledges of Nondiscrimination**

Central to eliminating ISP open access and intramodal competition was network providers' repeated assurance (and previous "best behavior") that they would not interfere with applications, content, or devices and would respect and provide an open Internet. This assurance was not that network providers would *merely disclose* their interference, nor that network providers would only interfere with applications using uploading capacity or that use considerable bandwidth. The importance of these assurances is evident in a series of orders, most notably the 2005 Wireline Broadband Order, issued with the accompanying Internet Policy Statement applicable "across the range of broadband technologies."¹⁰³

In 2002, the FCC determined that cable modem service would not then be subject to ISP open access requirements;¹⁰⁴ that year, it also refused to impose ISP open access or network neutrality conditions on the merger of Comcast and AT&T's cable assets;¹⁰⁵ in 2005, after the Supreme Court upheld that decision,¹⁰⁶ the FCC's Wireline Broadband Order promptly eliminated ISP open access wireline telephone broadband offerings.¹⁰⁷ Consider each order in turn.

In the 2002 Cable Modem Order, with one dissent, the FCC eliminated ISP open access for cable operators. The FCC noted the concerns about network neutrality.¹⁰⁸ The Commission

¹⁰³ Wireline Broadband Order, 20 FCC Rcd at 14984 (Commissioner Adelstein concurring) ("I am also pleased that these principles, which will inform the Commission's future broadband and Internet-related policymaking, will apply across the range of broadband technologies").

¹⁰⁴ Cable Modem Order, 17 FCC Rcd 4798 (2002).

¹⁰⁵ Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., 17 FCC Rcd. 23,2461 (MB Docket No. 02-70) (Nov. 14, 2002) ("AT&T-Comcast Order").

¹⁰⁶ NCTA v. Brand X Internet Services, 545 U.S. 967 (2005).

¹⁰⁷ Wireline Broadband Order, 20 FCC Rcd 14853 (2005).

¹⁰⁸ Cable Modem Order, 17 FCC Rcd at 4845 ("[A]lthough it is technically feasible for a cable operator to deny access to unaffiliated content, or to relegate unaffiliated content to the "slow lane" of its residential high-speed Internet access service, we are unaware of a single allegation that a cable operator has done so. Is the threat that

rested its decision, however, partly on cable carriers not having yet discriminated against unaffiliated content or services and the carriers claiming they would not.¹⁰⁹ The FCC nevertheless sought comment on the issue.¹¹⁰

In the 2002 FCC proceeding regarding the Comcast-AT&T merger, several parties, including incumbent and competitive phone carriers, filed comments to the FCC arguing that Comcast would have the dangerous incentive and opportunity to discriminate against rival online services, particularly online video. The FCC noted that it had sought comment on broadband discrimination in its Cable Modem Order.¹¹¹

In 2005, all five Commissioners agreed to remove ISP open access requirements from telephone carriers' wireline broadband offerings. Central to this decision, and its unanimity, was the Internet Policy Statement adopted the same day. In the Wireline Broadband Order, the Commission stated these goals for adopting the four principles not just as consumer rights but also in terms of network-provider obligations: the FCC would ensure that network providers did not actively "interfere" with users' choice of content, applications, or services

[W]e agree that actively interfering with consumer access to any lawful Internet information, products, or services would be inconsistent with the statutory goals of encouraging broadband deployment and preserving and promoting the open and interconnected nature of the public Internet. ... [W]e articulate principles recognizing the importance of consumer choice and competition in regard to accessing and using the Internet: the Internet Policy Statement that we adopt today adopts such principles. We intend to incorporate these principles into our ongoing policymaking activities.¹¹²

subscriber access to Internet content or services could be blocked or impaired, as compared to content or services provided by the cable operator or its affiliate, sufficient to justify regulatory intervention at this time?").

¹⁰⁹ See, e.g., *id.* at 4845, n. 316 (quoting, among others, Comcast).

¹¹⁰ *Id.* at 4845

¹¹¹ AT&T-Comcast Order, 17 FCC Rcd. at 23,303.

¹¹² See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 FCC Rcd 14853, 14904 ¶ 96 (2005).

The Commissioner who dissented in the Cable Modem Order concurred, noting he “will concur in this proceeding to protect our ability to meet these core responsibilities.”¹¹³ The Commissioner emphasized that his concurrence was tied to the Internet Policy Statement and tied to assuring that, even without ISP open access, an open Internet would be preserved. He wrote that, without ISP open access, “Internet discrimination protections are on the chopping block.”¹¹⁴ To ensure that such protections are not “chopped” without ISP open access, the Policy Statement was adopted. In voting for the Order, the Commissioner stated, “we must state clearly that innovators, technology companies, and consumers will not face unfair discrimination on the Internet by network providers;” he noted that, “critically, for the first time ever, the Commission has adopted a policy statement with principles that will guide our effort to preserve and promote the openness that makes the Internet so great”; he described the Policy Statement as laying “out a path forward under which the Commission will protect network neutrality so that the Internet remains a vibrant, open place where new technologies, business innovation and competition can flourish.” The Commissioner wrote, “We need a watchful eye to ensure that network providers do not become Internet gatekeepers. ... And with violations of our policy, I will take the next step and push for Commission action.”¹¹⁵ A second concurring Commissioner, noted that certain provisions in the Order, including the “companion Policy Statement,” were “essential for my support of this item.”¹¹⁶

These orders all indicate that the decision to eliminate ISP open access was based partly on network providers being able to convince the FCC that, even without ISP open access

¹¹³ Wireline Broadband Order, 20 FCC Rcd at 14,979 (Commissioner Copps, concurring).

¹¹⁴ *Id.* at 14,979-80.

¹¹⁵ *Id.* at 14,980. *See also* Free Press et al. Petition at 29.

¹¹⁶ *Id.* at 14,983 (Commissioner Adelstein, concurring).

provisions, network providers would not discriminate against applications, content, or devices or at the very least, the Internet Policy Statement would foreclose such discrimination.

b) To Avoid Regulation, Comcast and Other Network Providers Repeatedly Pledged to Maintain an Open Internet

Comcast, and perhaps other network providers, are attempting to go back on the pledge they made to eliminate ISP open access. This section focuses on Comcast and cable carriers, as most recent accusations of discrimination against Internet software and protocols take aim at cable carriers' actions. These carriers pledged to the FCC repeatedly, even in sworn declarations, that they would not interfere with consumers' access to applications, content, and devices.

In the proceeding resulting in the Cable Modem Order in 2002, Comcast filed Comments and Reply Comments pledging not to discriminate. Comcast told the FCC, "Customers will *always* be able to reach the content they seek to access, regardless of the technologies used to provide this content, or the platforms used to deliver this service. ... There is no evidence that cable operators have impaired click-through access or will *ever* do so."¹¹⁷ Comcast went on in Reply, "There is no evidence whatsoever that cable Internet service providers are blocking certain traffic *or degrading* the services provided to their customers, and there is no reason to believe that they *ever* will do so."¹¹⁸ Comcast welcomed later enforcement, in the supposedly "unlikely" event of network providers degrading Internet traffic: "At most, the Commission

¹¹⁷ Comments of Comcast Corporation at p. 10, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, (CS Docket 02-52) (filed June 17, 2002), http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198081 (emphasis added).

¹¹⁸ Reply Comments of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p.p 12-14, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513285457.

should continue to monitor the marketplace and intervene only if new (and unlikely) circumstances justify such intervention.”¹¹⁹

In seeking to merge with AT&T’s cable assets, Comcast again pledged not to interfere with an open Internet. Comcast’s Senior Vice President for Strategic Planning filed a declaration under penalty of perjury assuring the Commission that Comcast had no intention to block access to the Internet content. He attested: “Comcast has no intention of attempting to block its subscribers’ access to any Internet content. It is my understanding that, post-merger, AT&T Comcast will continue this policy.”¹²⁰ He stated further, as a matter of fact, that “AT&T Comcast will have *every incentive to continue* to encourage the creation and distribution of new broadband content.”¹²¹ The VP overlooked Comcast’s many incentives, on which it has acted, to discriminate—such as incentives resulting from competition with online and offline video, and incentives to prioritize investment in closed over open network, undisciplined by competition.

After the Cable Broadband Order, while the FCC was still in litigation defending that Order, Comcast filed an *ex parte* letter in 2003 after meeting with a large number of FCC staff. During the meeting, a two-page handout was distributed where the company made a pledge not to interfere with an open Internet. Comcast wrote, “There is no evidence that cable operators have ever restricted consumers’ access to Internet content (except as required by law). There is no credible basis for suggesting that cable operators would *ever* do so.”¹²² Comcast followed this claim with a discussion of its network management where it specifically disavowed

¹¹⁹ *Id.*

¹²⁰ Application of Comcast and AT&T, Appendix 1 – Merger Agreement, Declaration of Mark A. Coblitz (under penalty of perjury), Comcast-At&T Merger, MB Docket 02-70, May 29, 2002, available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513084476.

¹²¹ *Id.*

¹²² Ex Parte Filing of Comcast Corporation, Attachment 1, at p.1, In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities (CS Docket 02-52) (filed May 7, 2003),

“managing” bandwidth by degrading any Internet traffic: “Comcast and other cable operators employ bandwidth management tools and tiers to preserve the integrity of their service for all of their customers and to deliver a reliable and affordable mass market service. These tools are not used to block traffic, *degrade service*, or to *impede access* to Internet content.”¹²³

In 2004, Comcast filed another *ex parte*. In that letter, Comcast claimed that “[a]ll of Comcast’s 5.3 million high-speed Internet customers enjoy the four freedoms identified by Chairman Powell. They can access the content of their choosing ... run applications of their choice – including the IP Phone capabilities of pulver.com and Vonage[,] attach personal devices that do not create network harm issues, [and] receive meaningful information regarding their service plans.”¹²⁴

Comcast specifically declared that consumers could and should be able to use all the bandwidth they need, with the exception of “an infinitesimal fraction of users” using their broadband connections impermissibly for uses other than “reasonable residential, noncommercial use.” Comcast stated that, “Comcast prefers that its residential customers *not concern themselves with bandwidth consumption levels*, and has designed its acceptable use policy enforcement efforts such that no reasonable residential, non-commercial use *would ever create an enforcement issue*.”¹²⁵ Comcast did not suggest that all users of remarkably popular peer-to-peer protocols could “create” an enforcement issue. Rather, Comcast claimed to target only “the one-hundredth of one percent of customers whose bandwidth consumption over a period of time indicates impermissible use,” some of whom “are the victims of viruses or other third-party

available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514084671
(Emphasis Added).

¹²³ *Id.* (Emphasis Added).

abuse.”¹²⁶ Comcast’s repeated pledges to the FCC apparently meant little to Comcast.

c) To Avoid Regulation, the NCTA Made the Same Pledges of an Open Internet

The National Cable & Telecommunications Association (“NCTA”), the chief lobbying organization of the cable industry, was just as unequivocal. Indeed, the NCTA dismissed those concerned about network neutrality as introducing red herrings and far-fetched doomsday scenarios. In Comments in the Cable Modem Order proceeding, the NCTA stated: “Restriction of access to content is a red herring in this proceeding. ... There once was a time - before the flowering of the World Wide Web - when dial-up subscribers to online services such as America Online, Prodigy and CompuServe, had access only to the proprietary content offered by the services to which they subscribed. ... No widely available facilities-based ISP can compete by *limiting* access to the Internet - and no provider of cable modem service tries to do so.”¹²⁷

In Reply Comments in the Cable Modem Order proceeding, NCTA responded to Consumer Federation of America’s prescient concern that network providers would attempt to protect “incumbent market power over services by foreclosing or controlling innovations that threaten to compete with their core products, thereby slowing innovation.”¹²⁸ The NCTA suggested that CFA’s concern represented merely a “far-fetched” “doomsday scenario,”¹²⁹ as

¹²⁴ Ex Parte Filing of Comcast Corporation at p. 2, In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, CS Docket 02-52, April 7, 2004, available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516086991 (Emphasis Added).

¹²⁵ *Id.* (Emphasis Added).

¹²⁶ *Id.*

¹²⁷ Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, p. 28, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198039 (emphasis in original).

¹²⁸ Reply Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p. 9, available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513286538.

¹²⁹ *Id.* at 9, 11.

cable companies would never foreclose innovation (like, say, peer-to-peer and online video programming) that would threaten core products (like cable television video programming and video on demand), as Comcast is now doing. NCTA stated, in no uncertain terms, “Just as cable modem subscribers have access to all *content* on the Internet, they also generally will have access to all *applications* that are available.”¹³⁰ Attempting to stave off regulation, notably ISP open access regulation, the NCTA writes, “[r]egulation is not necessary to ensure the competitive availability of Internet content, applications and services.”¹³¹

The NCTA kept reiterating these pledges, attempting to avoid ISP open access regulation. While the FCC defended the Cable Modem Order on appeal, like Comcast, the NCTA filed several *ex parte* letters. One stated, “We agree that consumer access to Internet content is, and *should be*, full and unfettered.”¹³² A second letter went even farther, “*Everyone* agrees that consumer should have access to all lawful Internet content unless they choose otherwise.”¹³³ The NCTA is correct that nearly everyone supports an open Internet; that “everyone,” however, apparently no longer includes at least some of NCTA’s major members, like Comcast. In this

¹³⁰ *Id.* at 9-12 (Emphasis in Original). The NCTA referred to cable carrier’s “limited restrictions,” listing only the restriction on running servers, meant to “prevent individual customers from imposing excessive burdens on the system to the detriment of other residential customers,” because cable carriers short-sightedly designed their networks for “much more data traveling downstream to the customer than upstream from the customer.” Not only do these upstream restrictions conflict with the spirit of section 706, result from poor design choices from an industry with considerable market power, NCTA refers exclusively to running servers—not using tremendously popular Internet protocols and applications. Nor does the NCTA refer to uses that actually undermine consumers’ ability to access all available applications or that are discriminatory against applications. Indeed, NCTA does not even suggest the option of restricting applications: “Accordingly, some operators either do not permit bandwidth-intensive uses, such as the running of servers, by residential subscribers or (as tiering becomes more feasible and scalable) allow such bandwidth-intensive uses only by subscribers to an upgraded service at an extra charge.” *Id.*

¹³¹ *Id.* at 34.

¹³² Ex Parte Letter from Robert Sachs, President, The National Cable & Telecommunications Association, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, CS Docket 00-185, December 10, 2002, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513399468 (Emphasis Added).

¹³³ Ex Parte Letter, the National Cable & Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, February 21, 2003, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513484238 (Emphasis Added).

letter, NCTA went on to state, in proposing to stave off “regulation,” that “[t]here is absolutely no need to impose these adverse effects of regulation in anticipation of hypothetical restrictions on access to content that have never occurred.” Rather, NCTA suggested these network restrictions would never come: “Cable consumers have – and have always had – full access to Internet content.”¹³⁴

5. Conclusion

In sum, the FCC’s Policy Statement, Congress’s policies in the Communications Act, the FCC’s recent precedent interpreting reasonable network management, and FCC orders eliminating ISP open access all indicate that reasonable network management does not include discriminating against particular applications, content, and devices—whether or not the applications use considerable bandwidth. Indeed, this type of discrimination is precisely the unreasonable, anticompetitive, and anti-consumer discrimination that the FCC has pledged to stop and ISPs have pledged not to start.

B. Proposed Defenses of Broadband Discrimination Contravene Federal Policy and Would Harm Consumers

In this section, Free Press et al. refute the main public arguments favoring Comcast, including those based on excessive “bandwidth,” not “blocking,” and not engaging in “anticompetitive” discrimination.

1. Comcast’s “Excessive” Bandwidth-Management Argument is Irrelevant and Dangerous

Comcast argues that it can “manage” its network by interfering with high-bandwidth applications and protocols.

¹³⁴ *Id.*

To begin, this argument has no relation to what Comcast is actually doing; Comcast's actions do not merely affect bandwidth hogs but affect all users of a particular set of protocols.¹³⁵ Comcast's spokesperson claimed that "[m]ore than 99.99 percent of our customers use the residential high-speed Internet service as intended, which includes downloading and sharing video, photos and other rich media,"¹³⁶ yet it does not target merely the supposed .01 percent. It targets all users of certain innovative protocols. Moreover, Comcast apparently does not permit the peer-to-peer protocols to query whether there is congestion; rather, Comcast seems to end connections whether or not the network is congested at that moment (although Comcast's secrecy and deception make this point unclear).

First, this argument is foreclosed by the 700 Mhz Auction Order, which anticipates and squarely rejects it. Reasonable network management does not permit excluding "applications or devices solely on the basis that such applications or devices would *unreasonably increase bandwidth demands*."¹³⁷ The precedent could not be more on point. The FCC understood that granting network providers' discretion to discriminate against specific applications based on bandwidth use would threaten competition and innovative new applications.¹³⁸ Network providers should engage in *non-discriminatory* "feasible facility improvements" or, if necessary, "technology-neutral capacity pricing" that does not involve "discriminatory charges." (This precedent is relevant also for metered pricing, with which Time Warner is experimenting.¹³⁹)

¹³⁵ Discussed below in Section II.4

¹³⁶ Marguerite Reardon, "Comcast denies monkeying with BitTorrent traffic," *CNet News.com*, August 21, 2007, Available at http://www.news.com/8301-10784_3-9763901-7.html (emphasis added).

¹³⁷ See cite at n. 95.

¹³⁸ Free Press et al. Petition at 25-29.

¹³⁹ If Time Warner's own content does not count towards the metered usage, then its content is "free" while other content receives discriminatory charges. Also, if the pricing forces users who would watch television online to watch television on Time Warner's cable service or VOD service instead—because the users do not want to pay for downloading online movies past a cap, while VOD remains free—then the pricing could be discriminatory. *See*,

The FCC understood that network operators would have incentives to conclude that *competing* applications use “unreasonable” amounts of bandwidth, perhaps due to those applications’ popularity.

Second, like the 700 Mhz Auction Order, the FCC Policy Statement also rejects this argument. Users are entitled to run “applications” of their choice—not only low-upstream-bandwidth applications or applications that are primarily downstream. Consumers are entitled to run applications “of their choice,” not the modified version that is the “choice” of the network provider. No such limitations are suggested, nor should it be.

Third, Congress’s statutory policies strongly favor networks with (symmetrical or nearly symmetrical)¹⁴⁰ upstream and download capabilities for consumers to send and receive all content. If network providers can discriminate against particular applications, especially based on their upload bandwidth, network providers would undermine Congress’s clearly stated policies.

2. Comcast’s “Delaying” Argument is Also Irrelevant and Dangerous

Comcast insists that it is merely severely “delaying” peer-to-peer traffic, but not “blocking” the traffic. Underlying this contention appears to be an implicit argument that the Policy Statement applies only to blocking applications and content, not to discriminating against them. This argument is specious.

e.g., Tom Steinert-Threlkeld, “The Price of Discrimination,” *Multichannel News Blog*, Feb. 1, 2008, Available at <http://www.multichannel.com/blog/1820000182/post/1450021145.html>.

¹⁴⁰ Comments of Consumers Union, Consumer Federation of America and Free Press, GN Docket No. 07-45, May 16, 2006, pp. 9-17.

First, Comcast does block. As discussed in our Petition, the tests by the Associated Press and by the Electronic Frontier Foundation confirmed that Comcast was blocking uploads of a file.¹⁴¹

Second, even if Comcast did not block, delaying, not just blocking, is forbidden by the 700 Mhz Auction Order, which explicitly rejects “discriminate[ing]” or using “discriminatory charges,” because networks must use network management techniques that do “*not discriminate* against subscribers using third-party devices or applications.”¹⁴² In short, Comcast’s actions are not reasonable network management because Comcast discriminates against third-party applications—whether or not it “blocks”.

Third, the plain language of the Policy Statement belies the claim that the Policy Statement prohibits only blocking. For example, take two consumer entitlements: consumers are entitled “to run applications and use services of their choice” and “access the lawful content of their choice.” Consumers are not entitled to run “applications as delayed by network providers,” but the “applications” themselves. Moreover, an “exception” for “delaying” would result in users being unable to access content or run applications. Even more alarming, Comcast’s “delay” argument implies they can “delay” a transfer indefinitely, for hours, days, or years. After a “delay,” users will eventually give up trying to upload content; moreover, many peer-to-peer services stop trying to connect after failing for a certain amount of time.¹⁴³ As a result, a user would be unable to run the application—or to access chosen content. These considerations apply no less to the consumer right to use devices of their choice; if Comcast interferes with online video, for example, services integrating online and offline video cannot be used.

¹⁴¹ Free Press et al. Petition at 7-11; Vuze Petition at 9-11.

¹⁴² 700 MHz Auction Order, 22 FCC Rcd. at 15,370-71; See also cite n. 95.

¹⁴³ See Petition at 13-14

Delaying also interferes with the Policy Statement’s guarantee of competition among applications and service providers—whether or not “blocking” is involved. By “delaying” peer-to-peer downloads of streams, particularly of video content, Comcast is undermining competition and advantaging its own video offerings. Comcast does not similarly “delay” its cable television offering; nor does Comcast apparently delay its online television offerings, such as its newly announced “Fancast” service.¹⁴⁴ As a result, it skews competition in favor of its offerings. Whether or not Comcast “blocks” peer-to-peer applications, it clearly undermines competition by “delaying” and limiting competitive services.

Finally, Congressional policy, especially in section 706, favors networks with enough upload and download capacity for users to share all kinds of high-quality content. By “delaying” and discriminating against peer-to-peer uploads, Comcast undermines applications using upload capacity and favors downstream applications and services. Rather than discriminate against applications Comcast’s meager upload capacity, Congressional policy would require Comcast to upgrade and increase the upload capacity.

3. All Discrimination, Not Just Anticompetitive Discrimination, Is Prohibited

Subject to minimal deviations,¹⁴⁵ all discrimination violates federal policy. While at least one Commissioner has suggested that only anticompetitive discrimination is problematic,¹⁴⁶ discrimination need not be “anticompetitive” to violate federal policy.

¹⁴⁴ Fancast uses a server-client, not a peer-to-peer, model. Jeff Baumgartner, “Comcast Fires Up Fancast,” *Light Reading*, Jan. 8, 2008, Available at http://www.lightreading.com/document.asp?doc_id=142588&site=cdn.

¹⁴⁵ Discrimination against viruses, spyware, or malware is generally acceptable, as these applications do not provide consumers value and do almost nothing but damage networks and exploit users. To determine if other kinds of discrimination could be reasonable, we would need more disclosure and see how network providers discriminate, against which services, and why. Generally, with a highly competitive market for internet provision that actually responded to consumer demands, internet service providers would be unable to discriminate against services valued by consumers.

First, under current policy, anti-competitiveness is not the touchstone of discrimination analysis. The Policy Statement guarantees consumers the use of chosen content, applications, and devices *whether or not* network providers are being anticompetitive. The Policy Statement’s fourth consumer entitlement is to “competition among network providers, application and service providers, and content providers.” But this entitlement is just one of the four. The other three entitlements guarantee content, applications and devices—regardless of the fourth entitlement guaranteeing competition. For the FCC to conclude that only anticompetitive discrimination is prohibited, the FCC would have to read three of the four consumer entitlements out of the Policy Statement, or conclude that a service provider need only meet *some* of its requirements. Not one word in the Policy Statement suggests that reading.

Second, theoretically, any discrimination may reflect anticompetitive motives, as network providers could enter any online business. For example, Comcast has a portal page, offering a wide range of content including entertainment, sports, finance, and traffic news, video, music, games, photos, classifieds, forums, shopping, and a search engine, so discriminating against any of these online areas may reflect anticompetitive motives.¹⁴⁷ But could Comcast discriminate against applications in fields where Comcast does not (yet) compete—or which Comcast feels could eventually compete with Comcast’s existing offerings? Comcast could cripple an application and then launch a competitor to it. And which sites do not compete with Comcast’s? Advertising dollars may come to Comcast’s cable television, to Comcast’s websites, or to third-party websites. When is the third-party site a competitor for the advertising?

¹⁴⁶ See, e.g., Tom Steinert-Threlkeld, “The Price of Discrimination,” *Multichannel News Blog*, Feb. 1, Available at 2008, <http://www.multichannel.com/blog/1820000182/post/1450021145.html> (quoting Commissioner Robert McDowell suggesting that only “anticompetitive” discrimination is problematic).

¹⁴⁷ See <http://www.comcast.net/>.

While these theoretical problems could be solved, solving these problems would spawn practical difficulties. If the FCC uses competition principles to judge anticompetitive behavior, its analysis could take weeks or months. Innovative new companies cannot wait weeks or months for every instance of discrimination to be resolved with complex competition analysis. Moreover, innovative new companies, unlike the network providers, generally do not have an army of FCC lawyers at their disposal to handle discrimination cases. Innovative new companies should have the liberty to invest in innovation, not in FCC rent-seeking and providing economic and technical proof that a network provider's intentions or incentives are anticompetitive.

Third, anticompetitiveness *should* not be the touchstone. The touchstone should be consumer welfare, which consumers will maximize by choosing among the broadest range of applications, content, and devices. Calls for nondiscrimination rules are driven by concerns about the negative impact of discriminatory measures on competition, innovation and consumer welfare.¹⁴⁸ The negative impact of discrimination, on innovation, and consumer welfare does not depend on anticompetitive motivations, but on the fact of discrimination. Consumers cannot use the application they would like to use if the network provider discriminates against it; instead, they are forced to use other applications that they didn't like as much or that weren't similarly suited for their need. The resulting negative impact on consumer welfare is independent of the provider's motivations that lead to the discrimination. Similarly, if an application is subject to discrimination, it will be used less, and will make less profit. It is this fear that one's application may be subject to discrimination and will make less profits that reduces application developers

¹⁴⁸ For an analysis of the negative welfare implications of discriminatory means to fight congestion, see Brett M. Frischmann & Barbara van Schewick, "Network Neutrality and the Economics of an Information Superhighway: A Reply to Professor Yoo," 47 *Jurimetrics* __ (2007), available at <http://ssrn.com/abstract=1014691>.

incentives to innovate, or venture capitalist's inclination to fund these innovative efforts. Again, the reason for discrimination is irrelevant. As a result, sound policy should focus on the fact of discrimination, not on the motivation behind it.

Finally, over the last ten years, network providers promised the FCC and the public they would not discriminate against any content, applications, or devices—not merely that they were would discriminate except when online companies could prove anticompetitive animus.

4. Discriminating Against Peer-to-Peer Applications Is Anticompetitive

Even if anticompetitiveness were the touchstone, Comcast's attempts to undermine peer-to-peer applications are anticompetitive. Comcast has anticompetitive motives because peer-to-peer applications compete with Comcast's legacy cable television offerings, with Comcast's online video offerings, and with Comcast's cable video-on-demand offerings.

a) Peer-to-Peer is the Emerging Standard in Distributing of High-Quality Internet Video Programming

In addition to their other uses¹⁴⁹, Peer-to-peer applications have emerged as the standard means to transmit high-quality and high-definition video programming. As detailed in the Petition, the top Hollywood studios, major broadcasters, and emerging outlets use peer-to-peer to distribute technically-high-quality programming.¹⁵⁰ In addition to content producers, network providers also use peer-to-peer to distribute video. Comcast apparently uses peer-to-peer to distribute content in its G4 network.¹⁵¹ According to Verizon's Chief Technology Officer, Verizon is seeking to incorporate peer-to-peer distribution in its FiOS service. The CTO said of

¹⁴⁹ Free Press et al. Petition at 21-22.

¹⁵⁰ *Id.* at 20-21.

¹⁵¹ BitTorrent, BitTorrent Strikes Digital Download Deals, Press Release, Nov. 29, 2006, <http://www.bittorrent.com/about/press/bittorrent-strikes-digital-download-deals-with-20th-century-fox-g4-kadokawa-lionsgate-mtv-networks-palm-pictures-paramount-and-starz-media>.

peer-to-peer, “fundamentally this technology is very promising and a way to very cost effectively move information from one place to another.”¹⁵²

Peer to peer online video outlets are continuing to gain prominence. They have raised hundreds of millions in backing from leading technology companies and private equity firms.¹⁵³ These video distributors have begun to gain a serious following, serving millions of users.¹⁵⁴ A recent *Forbes* article notes “with stunning speed, the Internet is emerging as an alternative for the mass distribution of television and movies. The Net promises to upend the cable industry, stripping power from [Comcast’s CEO] Roberts and handing it to his customers.”¹⁵⁵ In response the online distributors have continued to improve their products¹⁵⁶ and develop more distribution deals and partners.¹⁵⁷ These services provide viewers control over what they see, and often do not charge consumers, while generating revenue through advertising. To attain the picture quality seen over cable or broadcast television, an efficient delivery mechanism is necessary. Peer-to-

¹⁵² Adam Bender, *Communications Daily*, Nov. 28, 2007.

¹⁵³ Press Release, “BitTorrent Secures \$20 Million in Venture Capital,” BitTorrent, Inc., Dec. 1, 2006, Available at <http://www.bittorrent.com/about/press/bittorrent-secures-20-million-in-venture-capital>; Brightcove Press Release, *Brightcove Raises \$59.5 Million in Series C Round*, Jan. 17, 2007, http://www.brightcove.com/about_brightcove/press_releases.cfm?ID=153; Brightcove Press Release, *America Online, IAC, Hearst Corp., and Allen & Company Lead \$16 Million Investment in Brightcove*, Nov 22, 2005, http://www.brightcove.com/about_brightcove/press_releases.cfm?ID=75; Todd Spangler, *Online-Video Startup Vuze Pockets \$20 Million*, Multichannel News, Dec. 19, 2007, <http://www.multichannel.com/article/CA6514040.html> (noting that Vuze had raised \$34 million).

¹⁵⁴ “So far, some 13 million people (more than 2 million in October alone) have downloaded the Vuze player, and the pace is accelerating.” Peter Burrows, “Mounting Peer-to-Peer Pressure for Comcast,” *BusinessWeek*, Nov. 19, 2007, Available at http://www.businessweek.com/technology/content/nov2007/tc20071118_336100_page_2.htm.

¹⁵⁵ Evan Hessel and Dorothy Pomerantz, “The People Vs. Comcast,” *Forbes*, Jan. 28, 2008, Available at <http://www.forbes.com/businesstech/forbes/2008/0128/076.html>.

¹⁵⁶ Miro Blog, “Announcing Miro 1.1: Dramatically Faster BitTorrent,” Jan. 10, 2008, Available at <http://www.getmiro.com/blog/2008/01/announcing-miro-11-dramatically-faster-bittorrent/>; Vuze Blog, “Notice Anything Different,” Nov. 16, 2007, Available at <http://blog.vuze.com/index.php/2007/11/16/notice-anything-different/>.

¹⁵⁷ “NETGEAR Joins BitTorrent Device Partners,” BitTorrent, Inc Press Release, Jan. 7, 2008, Available at <http://www.bittorrent.com/about/press/netgearae-joins-bittorrentTM-device-partners>; Vuze Blog, “Anime on Vuze,” Dec. 20, 2007, Available at <http://blog.vuze.com/index.php/2007/12/20/anime-on-vuze/>; Also see the more than 3,500 channels on <https://miroguide.com/>.

peer protocols, including the BitTorrent protocol, provide such a mechanism for downloads,¹⁵⁸ and the BitTorrent DNA protocol aims to do the same for the exploding streaming video market.¹⁵⁹

b) Anticompetitive Conduct is Likely In Theory and In Fact

Cable carriers had long claimed that, in theory, they would not discriminate against Internet applications, content, or devices. First, they claimed that, even without competition from another local network provider, cable carriers would have no economic incentive to discriminate.¹⁶⁰ Because consumer demand for broadband is driven by a demand for *all* applications, content, and devices—that is, demand for an open, not closed, Internet—fewer

¹⁵⁸ See Free Press et al. at 18. <http://www.nytimes.com/2007/04/29/business/yourmoney/29vudu.html> (“Sending each ordered movie from a central facility over the Web, [Alain Rossmann, chairman of Vudu] reasoned, would become more expensive the more popular such a service became. Instead, he concluded, peer-to-peer networking < the idea of passing files, or pieces of files, between users was the most economical and efficient solution. That technology was behind renegade file-trading bazaars like the early manifestations of Napster and Grokster, that were the bane of the entertainment industries. But it also underlies a new wave of legal Internet video services like Joost and Kontiki.”)

¹⁵⁹ See BitTorrent DNA, <http://www.bittorrent.com/dna/index.html>.

¹⁶⁰ “Cable operators would not be able to compete with other facilities-based broadband providers if they restricted access to content.” Comments of Comcast Corporation at p. 10, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, (CS Docket 02-52) (filed June 17, 2002), http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198081. “Given that demand for Internet services continues to be variable and sensitive, to the extent that cable operators were to impose restrictions on its customers’ access to desirable content, the certain result would be to increase demand for [dial-up service], DSL and other services that compete directly with cable Internet service.” Reply Comments of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p.p 12-14, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513285457. “If a cable company were to attempt to restrict its customers’ access to content, ‘it would cause an uproar among its subscribers and damage its Internet business – ultimately driving customers to switch to [the company’s] competitors.’” *Id.* “Comcast believes that an important way to increase that penetration rate and to respond to its many competitors is to encourage and facilitate the creation of diverse and compelling broadband content. ... Indeed, if a supplier of broadband content were to create a highly compelling [broadband] application, any effort by Comcast to block or disadvantage this application would only drive customers away from Comcast and to other competing Internet services.” Application of Comcast and AT&T, Appendix 1 – Merger Agreement, Declaration of Mark A. Coblitz (under penalty of perjury), Comcast-AT&T Merger, MB Docket 02-70, May 29, 2002, *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513084476. The NCTA claimed, “[C]able operators do face vigorous facilities-based competition, and this would constrain their ability to block or discriminate against content providers even if they had any incentive to do so.” Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, p. 28, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198039.

consumers would subscribe to cable modem service, reducing cable carriers' profits. Second, they claimed that, where there is competition, even from only one other network provider, even fewer consumers would subscribe to a discriminated cable modem service, because they could switch to DSL service.¹⁶¹

Of course, theory is not very relevant when network providers are, in reality, interfering with their competitors. However, even in theory, both these arguments are wrong, as demonstrated by economists and legal scholars¹⁶², notably Barbara van Schewick, an Internet law professor at Stanford and a party to the Free Press et al. Petition.¹⁶³

First, even in monopoly markets, whether or not discrimination would reduce the number of people using broadband, network providers have economic incentives to discriminate for two reasons. One, cable carriers would seek to protect revenues of their legacy cable television offerings from online competition. Two, cable carriers would seek to preserve revenues from their *online* offerings—such as VoIP and video programming—from online competition. These

¹⁶¹ Comcast claimed: “[C]able companies have every incentive ‘to encourage and facilitate the creation of diverse and compelling broadband content. This is so because, if such content were created, it would attract more customers to broadband services and would help persuade customers to switch from dial-up services.’” Reply Comments of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p.p 12-14, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513285457. The NCTA wrote, “Even if it faced no facilities-based competition, a cable operator that restricted access to content would severely constrict demand for its cable modem service.” Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, p. 28, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198039.

¹⁶² See Barbara van Schewick, “Towards an Economic Framework for Network Neutrality Regulation,” 5 *J. Telecom. & High Tech. Law* 329, n. 138 (2007) (citing Joseph Farrell, *Open Access Arguments: Why Confidence is Misplaced*, in *Net Neutrality Or Net Neutering: Should Broadband Internet Services Be Regulated*, at 195 (Thomas M. Lenard & Randolph J. May eds., 2006) (arguing that limited competition may not necessarily remove network providers’ incentives to discriminate); and Seth F. Kreimer, *Censorship by Proxy: the First Amendment, Internet Intermediaries, and the Problem of the Weakest Link*, 155 U. PA. L. REV. 11, 33-36 (2006) (arguing that competition between Internet service providers may not be sufficient to discipline Internet service providers that disable content needlessly based on arguments very similar to the ones advanced above)). *WORD FOR WORD*

¹⁶³ See Barbara van Schewick, “Towards an Economic Framework for Network Neutrality Regulation,” 5 *J. Telecom. & High Tech. Law* 329, 368-378 (2007). Van Schewick also details incentives based on network providers being able to dominate the advertising market adjacent to the online market. See cite in nn. 185, 186, 189.

economic incentives were recognized not only by scholars but also by incumbent and competitive phone carriers, like Verizon, SBC, AT&T, and MCI, in arguing that Comcast and other cable companies would undermine competition in online video services.¹⁶⁴ We detail these competitive dynamics under the next section.

Years ago, Verizon, SBC (now AT&T), and AOL (now a division of Time Warner) recognized network provider's incentive to discriminate against online video. Online video competes with both a network provider's offline television delivery and its online video. In 2002, SBC, now AT&T, argued that a large cable carrier "would have the incentive and the ability to foreclose competition in both the [cable] video and Internet content markets, and thereby diminish the ability of other platforms to compete on an equal footing."¹⁶⁵

Similarly, also in 2002, Verizon argued to the FCC "broadband Internet access represents both an alternative source of video programming and a potential consumer substitute for video programming." As a result, broadband conduits not owned by a cable company would constitute a "competitive threat to the significant market power of the cable industry" in video programming, and could "exert a competitive constraint on cable prices." A cable company with considerable market power, like the merged Comcast and AT&T's cable assets, "could use its control over a significant number of broadband subscribers to create technical impediments to the distribution of Internet-based video programming over its broadband facilities, thereby threatening the viability of the Internet as a video distribution platform." In short, a large cable company "could act to undermine the development of the Internet as an alternative platform for

¹⁶⁴ See Appendix 2

¹⁶⁵ Comments of SBC Communications, Inc, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 2, 16-18, 33, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513189221

the distribution of video programming and other innovative broadband content that could compete with its core cable service offerings.”¹⁶⁶ An economist’s declaration supporting this filing explained: “the Internet is the next potential source of widespread competition to cable television in the distribution of video programming.” A large network provider, however, “could increase its control over broadband content and discourage investment by non-affiliated content suppliers, thereby increasing the value of [its] affiliated broadband Internet content, and thereby reducing the total supply of content to Internet users.” Moreover, to “the extent that the production costs of broadband content (like traditional video programming) are fixed and must therefore be spread across large numbers of subscribers, such discrimination could force non-affiliated content providers to operate below minimum viable level of subscribers.”¹⁶⁷

A few years earlier, in 1999, America Online had argued that a large cable company could “restrict, or even cut off, consumers from gaining access to Internet-based competition to cable’s core market-multichannel video delivery”; it could defend its “video market position by blocking consumers’ access to video programming delivered via the Internet.”¹⁶⁸

Second, a network provider may have the ability and incentive to discriminate against unaffiliated content, applications, or devices, “even if it faces limited competition in the market for Internet services,”¹⁶⁹ for three reasons. One, network providers can exclude competitors from the markets for applications, content and portals without a monopoly in network provision,

¹⁶⁶ Petition To Deny of Verizon Telephone Companies and Verizon Internet Solutions D/B/A Verizon.net, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 15-24, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513188037

¹⁶⁷ *Id.*, Appendix B, Declaration of Robert W. Crandall, pp. 7-15, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513188037

¹⁶⁸ Comments of America Online, Inc, In the Matter of Transfer of Control of FCC Licenses of MediaOne Group, Inc To AT&T Corporation, CS Docket 99-251, August 23, 1999, pp. 8-13, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6009249530

¹⁶⁹ See van Schewick, at 368-378 (cited in note 163).

through network technology. Two, realizing increased profits in the online market or preserving current profits in the offline market does not require a monopoly in the market for Internet services, and the lack of monopoly in the Internet services market “even increases the network provider’s incentive to increase profits by engaging in exclusionary conduct in the complementary [online] market, as the network provider cannot simply extract the available monopoly profit by charging higher prices in the primary [network provision] market.” Three, “due to various factors such as the existence of switching costs or the ability to use discrimination instead of exclusion,” a network providers’ customers may not switch to another provider, making the costs of discrimination “lower than is commonly assumed.”¹⁷⁰ So the network providers have ample anticompetitive motive and opportunity to discriminate.

But, as Comcast has said on this point, “This is not just a matter of theory but is also a matter of fact.”¹⁷¹ These arguments predict reality: network providers like AT&T and Verizon have threatened to engage in discrimination and network providers like Comcast, and maybe others, are now engaging in discrimination, despite “competing” in local duopolies.¹⁷²

c) Peer-to-peer Applications Compete with Comcast’s Legacy Cable Television Service

Network providers have anticompetitive motives to discriminate with peer-to-peer protocols. Peer-to-peer applications compete with legacy cable television offerings. As

¹⁷⁰ *See id.* at 368-378 . These three factors suggest open access policies are not enough to ensure network neutrality, even though open access leads to many benefits in terms of increased deployment, higher speeds, greater value, and greater innovation.

¹⁷¹ Reply Comments of Comcast Corporation at p. 13, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513285457

¹⁷² See Jonathan Krim, Executive Wants to Charge for Web Speed, *Washington Post*, Dec 1, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/11/30/AR2005113002109.html>; At SBC, It’s All About “Scale and Scope,” *BusinessWeek*, Nov 7, 2005, http://www.businessweek.com/magazine/content/05_45/b3958092.htm; Paul Kapustka, Verizon Says Google, Microsoft Should Pay for Internet Apps, *InformationWeek*, Jan 5, 2006,

discussed, peer-to-peer supports the transmission of high-quality video, which users could watch rather than watch cable television. If users could not watch online video, they would be more inclined to watch television offline, including through cable television. The CEO of AT&T commented “AT&T didn’t spend \$56 billion to get into the cable business to have the blood sucked out of [its] veins” through online video.”¹⁷³ Indeed, one FCC Commissioner, Robert McDowell, has gone on the record stating that legacy cable offerings compete with online TV. He argued that ownership caps on cable companies were unnecessary because cable television competes with online video, and noted that “about 60 percent of U.S. Internet users download videos.”¹⁷⁴ Because cable television competes with online video, then network providers have incentives to block online video.

d) Peer-to-peer Applications Compete with Comcast’s Expanding Video on Demand Service

A key area where innovative online video distributors compete with Comcast’s traditional video product is video on demand (“VOD”). VOD provides Comcast customers with a library of video content, which customers can select to watch anytime, with the ability to fast-forward, rewind, and pause. VOD, therefore, operates much like online video, where Internet users can select and download or stream any available program without a schedule and watch it any time, generally with the ability to fast-forward, rewind, or pause the programming.

For several years, Comcast has focused on its VOD product, believing VOD would help differentiate Comcast’s television service from that of its satellite and telephone competitors and

<http://www.informationweek.com/news/showArticle.jhtml?articleID=175801854>.

¹⁷³ See David Lieberman, Media Giants’ Net Change Establish Strong Foothold Online, USA TODAY, Dec. 14, 1999, at B3 (Dan Somers was CEO of AT&T Broadband at the time the comment was reported).

¹⁷⁴ Statement of Commissioner Robert M. McDowell, Dissenting, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-279038A6.pdf

allow it to retain customers.¹⁷⁵ In 2001, Comcast called VOD “a real strategic priority.”¹⁷⁶ To pursue VOD, Comcast had to upgrade its cable plant infrastructure. In upgrading, Comcast invested in increased *downstream* capability but neglected significant upgrades to the minimal upstream capacity Comcast had provided their Internet customers,¹⁷⁷ many of whom were increasingly seeking to share and distribute their own content, including video content.¹⁷⁸ Comcast’s VOD product is delivered, just like the video of its online competitors, through Internet Protocol (“IP”) streams.¹⁷⁹ Comcast can use its local offices to put this video on “edge servers” providing the IP stream within a couple seconds.¹⁸⁰

In 2004, Comcast continued its focus on developing its VOD product, introducing High Definition movies on demand, calling the development a “‘tremendous offensive’ weapon against direct-broadcast satellite competition.”¹⁸¹ High-definition VOD requires five to six times the bandwidth of standard-definition VOD,¹⁸² but to accommodate its own bandwidth needs,

¹⁷⁵ Ryan Kim, “Comcast passes 6 billion in video on demand views,” *San Francisco Chronicle*, The Tech Chronicles, Dec. 5, 2007, Available at http://www.sfgate.com/cgi-bin/blogs/sfgate/detail?blogid=19&entry_id=22507; “Cablars did not conceive of VOD originally as an advertising medium. They saw it as a tool to keep their customers.” Daisy Whitney, “VOD Keeps Viewers Coming Back for More,” June 24, 2007, Available at http://www.tvweek.com/news/2007/06/coming_back_for_more.php.

¹⁷⁶ Mavis Scanlon, “VOD Future Is Now for Comcast,” *Cable World*, March 5, 2001, Available at http://findarticles.com/p/articles/mi_m0DIZ/is_10_13/ai_71874893.

¹⁷⁷ “Cable’s upgraded networks were designed to provide Internet service primarily to residential customers. Such customers’ data transmission, it was assumed, would be largely asymmetrical, with much more data traveling downstream to the customer than upstream from the customer.” Reply Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p. 12, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513286538

¹⁷⁸ “More than 65,000 videos are now uploaded daily to YouTube” “YouTube serves up 100 million videos a day online,” Reuters, July 16, 2006, Available at http://www.usatoday.com/tech/news/2006-07-16-youtube-views_x.htm; 2 billion photos uploaded to Flickr and 4.1 billion on facebook. Michael Arrington, “2 Billion Photos on Flickr,” Nov. 13, 2007, Available at <http://www.techcrunch.com/2007/11/13/2-billion-photos-on-flickr/>.

¹⁷⁹ Mike Robuck, “VOD-It’s Comcastic,” *Communications Technology*, October 20, 2005, Available at <http://www.cable360.net/ct/news/ctreports/18412.html>.

¹⁸⁰ Id.

¹⁸¹ “Comcast: HDTV VOD Is ‘Tremendous’ Weapon,” *Multichannel News*, July 19, 2004, Available at <http://www.multichannel.com/article/CA437506.html>.

¹⁸² Mike Robuck, “Comcast Eyes 100 Hours of HD VOD,” *Communciation Technology*, June 15, 2006, <http://www.cable360.net/ct/news/ctreports/18508.html>.

Comcast spent \$39 billion to upgrade its lines, apparently purely to serve its VOD division.¹⁸³

Comcast became wary of the potential of online video to provide a service with the same characteristics as VOD, in response Comcast began making deals and acquisitions to protect its revenue stream from charging Internet upstarts.¹⁸⁴ Unfortunately in their quest to remain the dominant distributor of video, Comcast began discriminating against competitors rather than competing on a level playing field.

Not only is VOD meant to distinguish cable television from satellite and telephone competitors, and therefore reduce churn, Comcast plans to turn VOD into a major revenue stream, and thereby increase average revenue per subscriber. While VOD started by having advertisements “baked” into content before the content is made available, Comcast has deployed a VOD ad insertion system, allowing Comcast itself to rotate advertisements within content on a weekly basis, increasing advertising revenue.¹⁸⁵ Comcast further increases its potential revenues through collecting user data for targeted advertising.¹⁸⁶ Comcast can thus insert targeted and constantly changing advertising into VOD content. One journalist noted, this “move has the potential to open the floodgates for new ad dollars to pour into VOD.”¹⁸⁷ Indeed, this revenue is beginning to be realized. Comcast’s 2006 Annual Report notes “ON DEMAND movie purchases increased pay-per-view revenue 27%, to \$633 million, in 2006, the third consecutive year of growth greater than 20%.”¹⁸⁸ Comcast is also inserting product placements into its joint

¹⁸³ Id.

¹⁸⁴ Peter Grant, “Cable Takes On Web Video,” *Wall Street Journal*, June 29, 2006, Available at <http://online.wsj.com/article/SB115154294947593762-search.html>.

¹⁸⁵ Daisy Whitney, “Comcast Opens VOD Ad Floodgate,” *TV Week*, February 13, 2006, Available at http://www.successtelevision.com/index.php?option=com_content&task=view&id=3671&Itemid=.

¹⁸⁶ Glen Dickson, “Rentrak Gains Customers for VOD Measurement,” *Broadcasting & Cable*, January 29, 2008, Available at <http://www.broadcastingcable.com/article/CA6526917.html>. See van Schewick, at 341-47 (cited in note 163).

¹⁸⁷ Id. (Dickson)

¹⁸⁸ Comcast 2006 Annual Report, p. 4, Available at <http://www.comcast.com/2006ar/annual2006.pdf>.

venture VOD channel ExerciseTV, striking deals with New Balance and Gatorade.¹⁸⁹

Comcast has further staked their video distribution future with VOD given their recent “Project Infinity” announcement. Project Infinity is a corporate strategy aiming “to give consumers the ability to watch any movie, television show, user generated content or other video that a producer wants to make available On Demand...All available to consumers at the click of the remote.”¹⁹⁰ BitTorrent, Inc., a competitor whose business model is being threatened by Comcast, has, of course, a similar business goal: “With thousands of newly-released movies, TV shows, music tracks, and popular PC games available for download, you can easily find what you want, when you want it. BitTorrent even enables you to publish you own content.”¹⁹¹

Comcast’s Project Infinity plans to increase the amount of user-generated content available on demand. Some of this content will be acquired through Comcast’s user-generated content site, Ziddio.com.¹⁹² Ziddio.com already holds contests in which the winning video is put up on Comcast’s VOD.¹⁹³

Not only is Comcast using its online properties to gather content for its VOD service, it is incorporating its VOD content online through sites competing directly with BitTorrent protocol sites. For example, Comcast plans to integrate its VOD offerings with its new Fancast service

¹⁸⁹ Ken Belson, “Ads Coming to On-Demand TV,” *New York Times*, January 18, 2006, Available at <http://www.nytimes.com/2006/01/18/business/media/18comcast.html>; Comcast Press Release, “Exercisetv Signs Exclusive Video on Demand Advertising Agreement with Gatorade,” May 15, 2006, Available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=68>.

¹⁹⁰ Comcast Press Release, “Comcast CEO Brian L. Roberts Announces Project Infinity: Strategy to Deliver Exponentially More Content Choice on TV,” January 8, 2008, Available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=724>.

¹⁹¹ See <http://www.bittorrent.com/what-is-bittorrent>

¹⁹² Comcast Press Release, “Comcast CEO Brian L. Roberts Announces Project Infinity: Strategy to Deliver Exponentially More Content Choice on TV,” January 8, 2008, Available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=724>.

¹⁹³ See <http://www.ziddio.com/ui.zd?dispatch=about#q3>

and integrate features of Fancast onto to the television screens of customers.¹⁹⁴ As a result, peer-to-peer applications compete with Comcast's VOD offerings.

e) Peer-to-peer Applications Compete with Comcast's Expanding Online Voice and Video Services

Peer-to-peer applications also compete with network providers' online voice and video distribution. Peer-to-peer applications, such as Skype, compete with network provider's VoIP offerings. Comcast aggressively markets its VoIP service, and announced third quarter results from 2007 claiming that, "Year to date through September 30, 2007, phone revenue increased 91% to \$1.2 billion from \$652 million in 2006."¹⁹⁵ Comcast appears to be interfering with competing VoIP providers. Multiple commenters have noted "drastically reduced" voice quality.¹⁹⁶ Even before reports of BitTorrent blocking, consumers had noticed problems with third-party VoIP on Comcast's lines.¹⁹⁷ We have heard no reports of similar problems with Comcast's VoIP service. It is irrelevant whether the VoIP interference is intentional; the potential for abuse is enormous and Comcast has the anticompetitive motive and demonstrated ability to do so.

In addition to online Voice offerings, peer-to-peer services also compete with network providers' online video services. Consider Comcast as an example. BitTorrent, Inc and Vuze compete with Comcast's Fancast. Fancast is a Comcast-owned website that allows visitors to view a number of different television programs online, competing directly with video distributors

¹⁹⁴ "Comcast's Roberts Proclaims TV/Internet On-Demand Library and Cable's New Open 'DNA'," *ScreenPlays Magazine*, Jan. 9, 2007, Available at <http://www.screenplaysmag.com/Editor/FlashPoints/tabid/160/articleType/ArticleView/articleId/797/Default.aspx>

¹⁹⁵ Comcast Press Release, "Comcast Reports Third Quarter 2007 Results," Available at <http://www.cmsk.com/phoenix.zhtml?c=118591&p=irol-newsArticle&ID=1067513&highlight=>.

¹⁹⁶ See http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838302; http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838372

¹⁹⁷ Russell Shaw, "Some Vonage user are frustrated about Comcast connection quality," ZDNet, March 1, 2006, Available at <http://blogs.zdnet.com/ip-telephony/index.php?p=938>.

who use peer-to-peer protocols.¹⁹⁸ The website identifies which programs are airing on Comcast's VOD. Fancast also partners with Hulu.com.¹⁹⁹ Ziddio, Fancast, and Hulu.com do not use the BitTorrent protocol. Instead, they rely on single client servers using the services of a company called thePlatform, and so would be unaffected by Comcast's degradation of BitTorrent.²⁰⁰

Continuing this closed, vertical integration route, Comcast acquired thePlatform in 2005.²⁰¹ thePlatform has become the dominant application service provider for websites seeking to stream video.²⁰² "Application service providers" compile a suite of technology that provides an integrated solution for websites looking to provide streaming video including -- advertising and monetization, content delivery, playback experience, transcoding, content syndication, professional services, digital asset management, and content protection.²⁰³ The challenges for the website is in creating ample advertising revenue to makeup for the significant cost of using content delivery networks such as Limelight and Akamai. An emerging solution to this growing problem is BitTorrent DNA, which uses the benefits of the BitTorrent protocol for streaming technology. One of the thePlatform's main competitor's, Brightcove, has adopted the BitTorrent DNA technology to complement content delivery networks like Limelight and Akamai. This

¹⁹⁸ Fancast does not utilize the BitTorrent protocol

¹⁹⁹ Rafat Ali, "Comcast Opens Up Its Fancast Video Site; Adds TV Shows," Jan. 7, 2008, Available at <http://www.paidcontent.org/entry/419-comcast-opens-up-its-fancast-video-site-adds-tv-shows/>.

²⁰⁰ See http://www.lightreading.com/document.asp?doc_id=142588&site=cdn;
<http://www.multichannel.com/article/CA6388857.html>; <http://www.cedmagazine.com/Hulu-beta-begins-testing-Internet-TV-movie-content.aspx>.

²⁰¹ Stefanie Olsen, "Comcast buys Net video delivery provider," CNet News.com, June 28, 2006, Available at http://www.news.com/Comcast-buys-Net-video-delivery-provider/2100-1025_3-6089131.html.

²⁰² Cassimir Medford, "ThePlatform Directs Video Consortium," *Red Herring*, Feb. 7, 2008, Available at <http://www.redherring.com/Home/23709>

²⁰³ Liz Gannes, "thePlatform (Rightfully) Brags about its Partners," NewTeeVee, Feb. 5, 2007, Available at <http://newteevee.com/2008/02/05/theplatform-rightfully-brags-about-its-partners/>.

enables smaller websites to afford to streaming video capabilities given BitTorrent's ability to lower costs for the content provider.²⁰⁴

The biggest challenge for anyone using the BitTorrent protocol is ensuring that enough "seeders" exist to allow a receiver to gain access to the content in a reasonable time frame.²⁰⁵ This challenge is of increased importance when streaming. Of course, "seeders" are the connections Comcast has been blocking, providing thePlatform an advantage over a chief rival.

Comcast clearly has anticompetitive motives that, coincidentally or not, conform perfectly with its unreasonable network management.

f) Through Throttling P2P Applications and Through Set-Top Box Tactics, Comcast Undermines Competition from Internet Video that can be Displayed Directly on Television Screens

Comcast's actions are not anticompetitive only regarding video providers using the Internet to provide video to computer screens. They also undermine attempts to use the Internet to provide video to television screens. As noted above, this anticompetitive conduct independently may violate both the Policy Statement's third principle by preventing consumers from attaching the devices of their choice and the fourth principle by being anticompetitive.

The most obvious evidence of why this discrimination is anticompetitive comes from consumer electronics which act the same as a set top box but utilize only an Internet connection and peer-to-peer technology to bring customers a wide variety of video programming right to a consumer's television. Since early 2007, NETGEAR and BitTorrent, Inc. have maintained an ongoing collaboration and agreement to promote video downloads streamed to high-definition

²⁰⁴ Brightcove Press Release, "Brightcove Turns On Broadcast-Quality Internet TV," Oct. 9, 2007, Available at http://www.brightcove.com/about_brightcove/press_releases.cfm?ID=231.

²⁰⁵ See, Free Press et al. Petition at 18.

televisions through NETGEAR's media receiver.²⁰⁶ BitTorrent's content partners include both major Hollywood studios and independents producers. Because of BitTorrent's collaboration with NETGEAR, BitTorrent, Inc. could deliver movies and programs from its partners seamlessly from the Internet directly to users' televisions. Another company providing this type of service is Vudu, Inc. Two venture capital firms invested in the idea and provided Vudu with over \$20 million in funding in 2005.²⁰⁷ The device requires only an Internet connection in order to provide a customer access to movies and TV shows through their television. The company recognizing that the costs of a server-based model, where with each new customer comes added transport costs, settled upon peer-to-peer technology as the best choice in delivering content.²⁰⁸ Comcast's actions now threaten the business models of two clear competitors to their cable television business by throttling peer-to-peer traffic.

Beyond throttling peer-to-peer applications, Comcast has also maintained a lock on consumer devices that could help competing online providers offer Internet video directly to television screens.²⁰⁹ Comcast has had an infamous history of being a closed network and fighting to limit consumer choice only to Comcast's own products and services.²¹⁰ A prime

²⁰⁶ Press Release, *NETGEAR® and BitTorrent™ Collaborate to Deliver High-Definition Movies and TV Shows to HDTVs*, January 7, 2007, <http://www.bittorrent.com/about/press/netgearae-and-bittorrentTM-collaborate-to-deliver-high-definition-movies-and-tv-shows-to-hdtvs>; BitTorrent has also recently partnered with another device manufacturer, D-Link, <http://www.bittorrent.com/about/press/d-link-joins-bittorrentTM-device-partners?src=splash>.

²⁰⁷ Brad Stone, "Vudu Casts Its Spell on Hollywood," April 29, 2007, Available at <http://www.nytimes.com/2007/04/29/business/yourmoney/29vudu.html>.

²⁰⁸ "Mr. Rossmann approached that challenge mathematically. Sending each ordered movie from a central facility over the Web, he reasoned, would become more expensive the more popular such a service became. Instead, he concluded, peer-to-peer networking — the idea of passing files, or pieces of files, between users — was the most economical and efficient solution." *Id.*

²⁰⁹ Reply Comments of Sony Electronics, Inc. CS Docket No. 97-80, Sept. 10, 2007, p. 18, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519723077; Evan Hessel and Dorothy Pomerantz, "The People Vs. Comcast," *Forbes*, January 28, 2008, Available at <http://www.forbes.com/businesstech/forbes/2008/0128/076.html>.

²¹⁰ Evan Hessel and Dorothy Pomerantz, "The People Vs. Comcast," *Forbes*, Jan. 28, 2008, Available at <http://www.forbes.com/businesstech/forbes/2008/0128/076.html>.

example of this is cable set-top boxes. Cable companies closed systems prevented consumers from enjoying the full functionality of external electronic equipment. In response, the 1992 Cable Act paid close attention to compatibility. The Act states:

Within 1 year after the date of enactment of this section, the [Federal Communications] Commission, in consultation with representatives of the cable industry and the consumer electronic industry, shall report to Congress on means of assuring compatibility between television and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both the programming available on cable systems and the functions available on their televisions and video cassette recorders. Within 180 days after the date of submission of the report required by this subsection, the Commission shall issue such regulations as are necessary to assure such compatibility.²¹¹

Congress noted that “new and recent models of television receivers and video cassette recorders often contain premium features and functions that are disabled or inhibited because of cable scrambling, encoding, or encryption technologies and devices, including converter boxes and remote control devices required by cable operators to receive programming.”²¹² Nonetheless, by 1996 this congressional directive had not been fulfilled.

In 1996 Telecommunications Act, Congress once again called upon the FCC to open up the still closed cable networks. The 1996 Act states:

The Commission shall, in consultation with appropriate industry standard-setting organizations, adopt regulations to assure the commercial availability, to consumers of multi-channel video programming and other services offered over multi-channel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multi-channel video programming and other services offered over multi-channel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multi-channel video programming distributor.²¹³

²¹¹ See § 17(b) of the Cable Television Consumer Protection and Competition Act of 1992, PL 102-385.

²¹² *Id.*, at § 17(a)

²¹³ See § 629(a) of the Telecommunications Act of 1996, P.L. 104-104.

The FCC responded by requiring cable operators to create a device that separated their security and non-security functions and called on the industry to phase out the use of closed platform set top boxes.²¹⁴ CableLabs, the research arm of the cable industry, developed the device called a “CableCARD.”²¹⁵ The most noteworthy limitation of the initial CableCard was that, when used in most devices, it was unidirectional. This means the electronic devices cannot display an interactive program guide, video on demand, switched digital video (“SDV”) channels or any other interactive service, such as pulling online content. Another limitation was that they were single stream, meaning a customer using a third party set top box would need to pay the cable company two monthly fees for two CableCARDS in order to use picture-in-picture or record one program while viewing another.²¹⁶

More recent developments could provide a downloadable solution that would not require “physical separation of the security element.”²¹⁷ However, the proposal put forth by CableLabs, known as Downloadable Conditional Access System or DCAS, appears to impede manufacturers in other ways. Major elements of this proposal have not been released publicly. Instead of being created with open, ANSI-accredited standard bodies, the DCAS specification is being designed in isolation by CableLabs.²¹⁸ One element that has been identified is the fact that any device using DCAS and seeking bi-directional capability must use the OpenCable Application Platform or OCAP. Tying the use of DCAS to OCAP is the latest evidence that the cable industry plans to

²¹⁴ Federal Communications Commission, Report and Order, Adopted June 11, 1998, CS Docket No. 97-80, p. 5, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=2101780001.

²¹⁵ See http://www.opencable.com/primer/cablecard_primer.html.

²¹⁶ Nate Anderson, “CableCARD: A Primer,” *Ars Technica*, Feb. 6, 2006, Available at <http://arstechnica.com/guides/other/cablecard.ars/1>; These features were specifically cited, as features that Congress wanted to see be made compatible in the 1992 Cable Act. See § 17(c)1.

²¹⁷ Federal Communications Commission, Second Report and Order, Adopted March 17, 2005, CS Docket No. 97-80, p. 2, Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-76A1.pdf.

²¹⁸ Consumer Groups Letter to Chairman Kevin J. Martin, Re: CS Docket No. 97-80, June 11, 2007, p. 3, Available at <http://www.publicknowledge.org/pdf/fcc-ocap-letter-20070611.pdf>.

keep its control over all facets of consumer's video experience. A coalition of public interest groups, including several submitting these Comments, commented on these problems in a recent letter to the FCC:

By design, OCAP has no support for services like VOD and SDV. Rather, OCAP is a platform upon which applications that support these services may run— and those applications are available only from the cable operator. OCAP takes control over customers' devices by requiring that they use these proprietary applications to access services like VOD, or enhanced program guides. By doing this, it limits a hardware manufacturer's ability to present its customers with a unified and logical graphical user interface. OCAP gives control of the look and feel of a device over to the cable operator.²¹⁹

The reason the history and current situation in the cable set top box is so important to this proceeding is in the potential of these third party electronic devices. If provided the ability to develop products uninhibited by OCAP restrictions, third-party providers could seamlessly integrate video offerings from the Internet into the program guide, including Internet offerings not developed or owned by Comcast.²²⁰ This would result in consumers having the ability to search or sort by a multitude of categories across all platforms and allow them to aggregate disparate content onto a single digital video recorder.²²¹ Without question, these third-party offerings would compete with a cable carrier's VOD offerings. Once again we see the cable industry impeding online video competitors and thwarting consumers' efforts to bypass the video distribution bottleneck. Despite Congress, the FCC, and the electronics industry's efforts to fulfill the request of Congress. Comcast (among other cable carriers) has consistently stood in the way. Gary Shapiro, the head of the Consumer Electronics Association, noted, "It is the

²¹⁹ Id.

²²⁰ Id.

²²¹ Reply Comments of Sony Electronics, Inc. CS Docket No. 97-80, Sept. 10, 2007, p. 18, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519723077.

longest example of an industry trying to diddle the government in history. It was unconscionable.”²²²

5. Conclusion

In sum, the FCC’s own policies and statutory mandates require network providers not to discriminate against applications. All of Comcast’s arguments—discriminating against an application to manage bandwidth, that they are merely “delaying” traffic or that their behavior is not anti-competitive—are specious.

III. Disclosure is Necessary, But Not Enough

Disclosure is necessary, but disclosure is not enough. To ensure that providers do not secretly block applications and to improve network management, network providers should be required to disclose their network management tactics. Disclosure, alone, however, cannot support a market outcome which consumers want—open networks—because the market for network provision is far too concentrated for consumer choices to prevail. Moreover, network providers and the FCC have repeatedly promised American citizens not mere disclosure about closed networks but the open and competitive networks themselves.

A. Prompt and Complete Disclosure is Necessary

Prompt and complete disclosure of network management practices by all network providers is necessary. At the moment, nobody knows what is being throttled and what is not—possibly not even Comcast.²²³ In our Petition, Free Press et al. focused on Comcast’s interference with peer-to-peer traffic, such as traffic using the popular and innovative BitTorrent protocol. But, as one technology publication noted, “Evidence is also mounting that Comcast is

²²² Evan Hessel and Dorothy Pomerantz, “The People Vs. Comcast,” *Forbes*, Jan. 28, 2008, Available at <http://www.forbes.com/business/forbes/2008/0128/076.html>.

²²³ Free Press et al. Petition at 14.

blocking more than just P2P traffic.”²²⁴ Thousands of citizens have filed in this proceeding, providing evidence that Comcast is blocking a wide range of protocols and applications: BitTorrent,²²⁵ Gnutella,²²⁶ open source software (including Open Office),²²⁷ FTP,²²⁸ custom chat servers,²²⁹ video chat and video conferencing software (including evidence from an IT manager whose connections with foreign clients are being destroyed),²³⁰ third-party VoIP (including from AT&T and Skype),²³¹ Lotus Notes (a suite of business/telecommuting software),²³² virtual

²²⁴ Ken Fisher, *P2P Users Blast Comcast in FCC Proceeding*, ars technica, Jan. 29, 2008, <http://arstechnica.com/news.ars/post/20080129-p2p-users-blast-comcast-in-fcc-proceeding.html>.

²²⁵ See, e.g., Fisher, *P2P Users*, (quoting commenters: “If you so much as open a BitTorrent client on a computer on the Comcast network, your entire connection drops to almost a crawl.”); Free Press et al. Petition at 9; Vuze Petition at 9-11;

²²⁶ Free Press et al. Petition at 9.

²²⁷ Fisher, *P2P Users* (quoting a commenter: “I have experienced this throttling of bandwidth in sharing open source software, e.g. Knoppix and Open Office.”).

²²⁸ Fisher, *P2P Users* (quoting a commenter: “Also I see considerable differences in speed ftp sessions vs. html. They are obviously limiting speed in ftp as well.”); Free Press et al. Petition at 9-10.

²²⁹ Fisher, *P2P Users* (quoting a commenter: “We run a custom chat server on port 2001. The connection will never stay up for longer than an hour before the connection is reset. A year or so earlier, this was never the case and our connection would stay up for days on end. When the traffic is encrypted (in an SSH tunnel), the connection stays up, fine.”); Comments of Christopher M. Cote, Jan. 17, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519833550 (“We run a custom chat server on port 2001. The connection will never stay up for longer than an hour before the connection is reset.”).

²³⁰ Comments of Robert Pederson, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838374 (“I am an IT manager and do a lot of work at home. I use Ichat on a MAC to communicate with my clients here in the States & in England. I have connection monitoring software installed and have noticed a sharp reduction in bandwidth after I connect using my Video Conferencing software. At the beginning of the conference all is crystal clear but shortly after that I get a window that is totally unrecognizable and the audio is almost unrecognizable. I can see the bandwidth decrease as I watch.”).

²³¹ Comments of Matt Blecha, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838372 (“Another disturbing effect I have noticed as of late, Comcast appears to be stepping up their activity as I am now experiencing RST packets being randomly received in the RTP streams of both my VoIP phone services. This has begun affecting my VoIP phone that ties to my office, and the service I have purchased from AT&T.”); Comments of Michael Kobiela, Jan. 29, 2008; http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838302 (“Also, my Voice Over IP (VoIP) phone service, which is not provided by Comcast but goes through the same connection, is throttled and voice quality is drastically reduced.”); Brock M. Tice, Jan. 28, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519837883 (“Starting in the summer of 2007, I have had issues using ... Skype.”).

²³² Dan Dinolfo, Jan. 16, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519831790 (“Late during the summer of 2007, I experienced that Comcast’s Bandwidth throttling system was affecting Lotus Notes traffic. Several users at my company experienced an inability to communicate with our Lotus Notes email servers if they were uploading over 1mb of data. This problem caused a lot of headache for my company.”); Free Press et al. Petition at 9 (citing Kevin Karnarski).

private networks for telecommuters (including from AT&T's VPN client),²³³ encrypted traffic using Secure Shell or SSH,²³⁴ as well as interference with attempts to back up data onto servers.²³⁵ Citizens have also noted that one of Comcast's techniques is to insert forged reset packets, not just for the BitTorrent protocol.²³⁶ Comcast—and other network providers—have failed to disclose which applications and content they are “managing” through discrimination and have repeatedly denied even proven cases of such discrimination.

To begin, disclosure would help better ensure that network providers cannot repeatedly lie to consumers and the press about their discriminatory tactics. Comcast had previously been lying to several publications, consumers, and consumer groups, claiming Comcast did not

²³³ Comments of Michael Ortega-Binderberger, Jan. 29, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838206 (“I do not use file sharing applications (P2P) where the alleged problem happens, but I do frequently use corporate VPN software (ATT Network Client) to connect to my corporate network. While I did not do extensive network tests, I did observe a large number of network problems during the period in which Comcast is alleged to have been engaged in this traffic shaping / connection reset tactics. My VPN connection to my corporate network would frequently drop off, sometimes after minutes of being established, sometimes after just a few hours.”)

²³⁴ Comments of Brock M. Tice, Jan. 28, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519837883 (“Starting in the summer of 2007, I have had issues using SSH, iChat, and Skype. Two of these three programs use encrypted connections. SSH is generally robust and I use it regularly to transfer simulation data from my lab to home and vice versa. However, with Comcast (and no other connection) my file transfers regularly stall.”); *but see* Fisher, *P2P Users* (quoting a commenter: “The connection will never stay up for longer than an hour before the connection is reset. ... When the traffic is encrypted (in an SSH tunnel), the connection stays up, fine.”)

²³⁵ Comments of Eric Kodjo Ralph, Jan. 28, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519837921 (“I have had Comcast's standard broadband service for more than a year. Several months ago I began to have serious difficulties backing up from my computer to the .mac server. I experimented over the course of many weeks and found that whenever I ran either of two backup programs, my upload speed would steadily decline from a very high level to sometimes less than 40 kb/s, typically to between 90 and 110 kb/s, and always well below 150 kb/s.”)

²³⁶ For a discussion, see Free Press et al. Petition at 11-12. See Fisher, *P2P Users* (quoting commenters: “I believe that Comcast Communications is using an application called Sandvine to insert a proverbial 'dial tone' into a data stream. ... There are security measures put in place to prevent a hacker from sneaking data into a data stream, but as Comcast can monitor those streams they can perfectly forge an RST packet that will be interpreted as coming from the other party.” Another wrote: “I personally feel that Comcast is inserting RST packets into other TCP protocols, not just Bit Torrent, [but also a custom chat server].”)

interfere with BitTorrent and other peer-to-peer protocols.²³⁷ A disclosure requirement—backed by real sanctions—would make network providers less likely to deceive consumers.

With disclosure, consumers, technologists, applications providers, and the FCC can all make better decisions. First, consumers would have the information necessary to change their usage, to use counter-measures, to complain to their provider, or to switch to their *one* other broadband option. Even Comcast acknowledges that consumers *want* openness: “The openness that really matters to consumers – and what makes the Internet so special and remarkable – is the ability to go anywhere, to access any information with a single click of a mouse.”²³⁸

Second, technologist would be able to help network providers better manage their networks. Just as technologists volunteer time to correct bugs in Mozilla Firefox and Linux, they could help provide “network management” solutions superior to secretly ending peer-to-peer uploads, if network management is the goal. Technologists would also be able to help the FCC and consumers determine how and if certain network management algorithms discriminate against particular applications. Third, applications providers can work with network providers to handle bandwidth issues through the P4P Working Group.

Finally, the FCC could gather information on broadband industry practices and network management. The FCC can declare which practices are not reasonable network management, thereby providing guidance to industry and consumers and building precedent. Moreover, the

²³⁷ Free Press et al. Petition at 8-9; EFF Report at 2; Marguerite Reardon, Comcast denies monkeying with BitTorrent traffic, August 21, 2007, http://www.news.com/8301-10784_3-9763901-7.html.

²³⁸ Comments of Comcast Corporation, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, GN Docket 00-185 (filed Dec. 1, 2000), p. 31, *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6512159396. *Cf.* David Fellows, Executive VP & CTO, Comcast Cable, Comments at Tech Talk: Cable CTOs on What’s Now, What’s New and What’s Next, The 2006 National Show, April 19, 2006, *available at* <http://www.ncta.com/PublicationType/MiscellaneousPublication/3013.aspx> (“We’re in the business of providing to our customers what they want. And if they want access to an AOL home page, great. If they want to use AOL Instant Messaging or e-mail addresses, terrific.”).

FCC can use this information in its broader policy-making activities. If network providers are throttling uploads rather than upgrading their lines, or otherwise deploying one-way rather than two-way open networks—despite Section 706’s policy—then the FCC can act to impose pro-competitive policies encouraging the world-class networks available in our global competitors, such as certain Asian and Western European countries.²³⁹

B. Due to Lack of Competition, Mere Disclosure Will Not Lead to Pro-Consumer or Pro-Innovation Market Solutions

Disclosure is not enough to ensure that consumers receive the open networks they seek. Consumers clearly prefer open networks. With open networks, consumers have more choices and more innovative choices, so they can choose products that will provide them greater utility. In countries with more competition among broadband providers, consumers have chosen open networks over closed networks.²⁴⁰ According to recent OECD data, the United States ranked 15th in the absolute increase in broadband penetration from June 2006 to June 2007, and ranked 18th during the 2005- 2006 period.²⁴¹ In a competitive market, with disclosure, consumers would be able to enact their preferences through choosing or leaving providers.

In highly concentrated markets, however, regardless of disclosure, providers need not respond to consumers’ demands. For example, if only one cable company provides cable service

²³⁹ “100 Mbps for 30 Euros in Paris,” August 31, 2007. Muni Wireless, Available at <http://www.muniwireless.com/article/articleview/6367/1/2>; 100Mbps Symmetrical: \$48.50,” BroadbandReports.com, September 24, 2007. <http://www.dslreports.com/shownews/100Mbps-Symmetrical-4850-87851>.

²⁴⁰ “Telecom framework and regulatory mandates in Europe are “perfectly sufficient” to prevent network discrimination,” Warren’s Washington Internet Daily, Vol. 7; Issue 138 (Quoting from Internet Caucus Transatlantic Dialogue on the Digital Economy); Testimony of Ed Richards, Chief Executive Officer of the Office of Communications, U.S. House of Representatives Commerce Committee, Sub-Committee on Telecoms and the Internet Hearing, Available at http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg.042407.Richards-testimony.pdf; See generally <http://boycottrogers.com/public-pledges/>.

²⁴¹ Organisation for Economic Co-operation and Development, “OECD Broadband Statistics to June 2007,” available at http://www.oecd.org/document/54/0,3343,en_2649_33703_38690102_1_1_1_1,00.html. See also “Open up those highways,” *The Economist*, Jan. 17, 2008, available at http://www.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=348963&story_id=10534573.

in a city, or in a high-rise building, that cable company can require all consumers to buy a bundle of company-selected channels, even if some consumers would rather pay for just a few channels individually. All the consumer disclosure in the world would not change that fact. As one analyst for MSNBC wrote: “despite skyrocketing prices and wide dissatisfaction, two-thirds of Americans subscribe to cable, clear evidence that real market forces are not at work in the world of cable television. There is occasional discomfort of competition from satellite television or new fiber-optic TV delivery services, but cable firms still enjoy sizable monopoly power in many places. And that’s how they get away with so much” that companies in competitive markets cannot.²⁴²

Disclosure also doesn’t solve the problem if all network providers have the same incentive to discriminate against applications. For example, wireless carriers, such as AT&T, disclose that they will block VoIP on their plans offering unlimited mobile Internet.²⁴³ So disclosure doesn’t remove the discrimination. Similarly, the evidence suggests that network providers seem to prefer blocking specific applications over nondiscriminatory measures for bandwidth management. In this case, having every network provider disclose that they are engaged in such blocking, wouldn’t improve the situation of customers.

Network provision is, indeed, a highly concentrated market where consumer preferences will not be affected through disclosure alone. Americans have little or no choice when it comes to subscribing to broadband. According to FCC data, almost 96 percent of residential advanced-services lines are either cable or DSL and 37 percent of ZIP codes have one or less cable and/or

²⁴² Bob Sullivan, *Cable TV: King of Misleading Come-Ons; Companies Focus on Bottom Line, Not Customer Satisfaction*, MSNBC.com, Jan. 28, 2008, <http://www.msnbc.msn.com/id/22399227/>.

²⁴³ Ex Parte Comments of Free Press, GN Docket No. 07-45, August 6, 2007.

DSL provider.²⁴⁴ Coupled with the lack of a viable third pipe, a clear picture emerges of Americans having little choice among providers.²⁴⁵ The market offers high-priced slow connections that are bundled with other products that the consumers may not want. The overwhelming majority of American residential broadband consumers cannot purchase symmetrical connections and are bound by outrageous service agreements.²⁴⁶

Robust competition would result in a wider variety of offerings and help a market respond to consumer demands; but meager competition, such as a duopoly, will do little. As noted, Stanford Law Professor Barbara van Schewick has modeled the effects of limited competition on network provision and found that a “network provider may have the ability and incentive to exclude rival content, applications or portals from its network, even if it faces limited competition in the market for Internet services.”²⁴⁷

Many of the public comments similarly complain that the lack of competition requires them to purchase Comcast’s services, reflecting that disclosure would not be enough. For example, several commenters stated that Comcast was their sole available provider.²⁴⁸ One

²⁴⁴ “High-Speed Services for Internet Access as of June 30, 2006,” Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission.; calculated assuming one line per household, based on July 1, 2006 Census household estimates.

²⁴⁵ Reply Comments of Free Press et. al, Section II, GN Docket No. 07-45.

²⁴⁶ See cite at n. 140; Comments of Consumers Union, Consumer Federation of America and Free Press, June 15, 2007, WC Docket No. 07-52, Appendix E.

²⁴⁷ See Barbara van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. Telecom. & High Tech. Law 329, 368-378 (2007).

²⁴⁸ See, e.g., Comments of Matthew Zavislak, January 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838435 (“I believe that this practice should be outlawed, since there is only one cable internet provider in my city, Minneapolis, and I do not have the option of going to another provider who does not practice this behavior.”); Comments of Gregg Levethan, Jan. 30, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519838377 (“Unfortunately, due to limited competition in the cable and internet service provider industry, my parents do not even have a choice of an alternative internet provider, otherwise they would have abandoned Comcast long ago.”); Comments of Leonard Notto, Jan. 16, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519827134 (“Comcast is the only broadband internet provider with service available to my residence so I have no chance to move my service to a competitor.”); Comments of Peter Hsu, Jan. 16, 2008,

stated, “There are no other cable Internet alternatives in my area, or I'd switch providers. This doesn't seem right.”²⁴⁹ Other commenters noted the minimal competition in their areas: “I am not a happy Comcast subscriber but my choices are so limited that I feel handcuffed to the service.”²⁵⁰

C. The Network Providers Have Repeatedly Promised the Public an Open Internet, Not Mere Disclosure, In Exchange for Regulatory Benefits

As detailed above in Section II.A.4, network providers including Comcast and the cable industry lobby repeatedly pledged the FCC that network providers would provide an open Internet, free of restrictions on content, applications, or devices. In successfully avoiding both ISP open access regulation (and the resulting intramodal competition) and network neutrality requirements, the network providers pledged openness, not merely disclosure.

Comcast, and perhaps the rest of cable industry, *cannot* claim that its discrimination is “consistent with industry standards.”²⁵¹ The cable industry hid and then point-blank lied about this discrimination to consumers and the press,²⁵² after spending years assuring the FCC the industry would never engage in such activity. At this point, the cable industry cannot unveil an “industry standard” that it disavowed and hid, perhaps for years.²⁵³

http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519826121 (“I pay \$45 per month for Comcast Internet service, an exorbitant fee I tolerate only because they are my only viable choice.”).

²⁴⁹ Comments of James J. Heaney, Jan. 16, 2008,

http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519824969.

²⁵⁰ Comments of Barrett McDowell, January 16, 2008,

http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519825010. See also Comments of Lucas Kenyon Jan. 16, 2008, http://fjallfoss.fcc.gov/cgi-bin/websql/prod/ecfs/comsrch_v2.hts.

²⁵¹ Comcast, Terms of Service, Section III, Available at <http://www6.comcast.net/terms/use/>

²⁵² Marguerite Reardon, “Comcast denies monkeying with BitTorrent traffic,” August 21, 2007,

http://www.news.com/8301-10784_3-9763901-7.html; EFF Report at 2.

²⁵³ Matt Stump, “Adelphia Battles Malicious Net Traffic,” *Multichannel News*, Jan. 9, 2006, Available at <http://www.multichannel.com/article/CA6297551.html>.

D. The FCC Has Consistently Promised the Public it Would Enforce Openness, not Mere Disclosure

As detailed in the discussion above in Section II.A.4, and in the Free Press et al. Petition,²⁵⁴ the FCC has repeatedly assured the public and Congress that it has the jurisdiction, will, and intention to ensure that consumers have unfettered access to all Internet content and applications, as well as the ability to attach any devices. Notably, the FCC assured the public in its Wireline Broadband Order, in eliminating ISP open access provisions, and in adopting the Internet Policy Statement.²⁵⁵ The FCC did not merely promise the public and Congress disclosure.

IV. Conclusion

The FCC should act quickly to clarify that discrimination against specific applications, protocols violates federal policy. Here it is clearly anticompetitive and the defenses are specious. The FCC should additionally require disclosure of all current alleged “bandwidth management” practices.

Respectfully Submitted,

Marvin Ammori
Adam Lynn
Free Press
501 Third Street NW
Suite 875
Washington, DC 20001

²⁵⁴ Free Press et al. Petition at 14-16

²⁵⁵ Free Press et al. Petition at 15 (quoting Wireline Broadband Order “we articulate principles recognizing the importance of consumer choice and competition in regard to accessing and using the Internet: the Internet Policy Statement that we adopt today adopts such principles. We intend to incorporate these principles into our ongoing policymaking activities. Should we see evidence that providers of telecommunications for Internet access or IP-enabled services are violating these principles, we will not hesitate to take action to address that conduct.”).

Phone 202-265-1490

February 13, 2008

Appendix 1
Commenting Parties

Free Press is national, nonpartisan, nonprofit organization. Through education, organizing, and advocacy, Free Press works to increase informed public participation in crucial media policy debates. Free Press and its members have been involved on a wide range of media policy debates and have played a lead role on network neutrality debates, including acting as the Coordinator of the SavetheInternet.com Coalition, which advocates for network neutrality. This Coalition includes hundreds of nonprofit organizations, small businesses, church affiliations, educational institutions and scholars, video gaming groups, bloggers, and other organizations. Free Press, along with Public Knowledge, has filed a formal FCC complaint against Comcast regarding its secret discrimination against peer-to-peer applications. <http://www.freepress.net/>

Public Knowledge is a Washington, DC based public interest group working to defend citizens' rights in the emerging digital culture. <http://www.publicknowledge.org/>

Media Access Project is a thirty five year old non-profit tax exempt public interest media and telecommunications law firm which promotes the public's First Amendment right to hear and be heard on the electronic media of today and tomorrow. <http://www.mediaaccess.org/>

Consumer Federation of America is an advocacy, research, education, and service organization. As an advocacy group, it works to advance pro-consumer policy on a variety of issues before Congress, the White House, federal and state regulatory agencies, state legislatures, and the courts. Founded in 1968, its membership includes some 300 nonprofit organizations from throughout the nation with a combined membership exceeding 50 million people.

<http://www.consumerfed.org/>

Consumers Union is an expert, independent, nonprofit organization founded in 1936, whose mission is to work for a fair, just, and safe marketplace for all consumers. CU publishes Consumer Reports and ConsumerReports.org in addition to two newsletters, with combined subscriptions of more than 7 million. Consumers Union also has more than 500,000 online activists and several public education Web sites. <http://www.consumersunion.org/>

New America Foundation brings new voices and new ideas to the fore of our nation's public discourse. Relying on a venture capital approach, the Foundation invests in outstanding individuals and policy ideas that transcend the conventional political spectrum. The goal of New America's Wireless Future Program is to promote a more fair and efficient use of the airwaves in order to unlock the full potential of the new wireless era. <http://www.newamerica.net/>

The Participatory Culture Foundation (PCF) is a 501c3 non-profit based in Worcester, Massachusetts. Our mission is to promote free speech online and open media and culture to more people than ever before. The centerpiece of our activities is a free, open-source software project called Miro, which has been downloaded more than 2 million times in the past year.

Miro offers our users access to over 3,500 channels of internet television-- both independent and mainstream content-- all made freely available by their creators. Many of these publishers rely on BitTorrent technology to deliver high quality video to their viewers at a low cost. Miro's BitTorrent support allows these independent publishers to match high-definition offerings from major corporations. <http://participatoryculture.org/>

Appendix 2

Comments of Cable and Phone Companies

1. Comcast On Net Neutrality – No Need to Worry

Comments on Inquiry Concerning High Speed Access

The openness that really matters to consumers – and what makes the Internet so special and remarkable – is the ability to go anywhere, to access any information with a single click of a mouse. That openness exists with cable Internet today.

Indeed, a cable Internet customer is completely unfettered in his or her ability to reach any information service provider.¹

Comments on AT&T/Comcast merger

In addition, consumers who subscribe to the high-speed Internet service offered by Comcast are able to access any other content they wish on the Internet. Comcast has never attempted to censor or otherwise limit the content they wish on the Internet. Comcast has never attempted to censor or otherwise limit the content that subscribers access.

Comcast has no intention of attempting to block its subscribers' access to any Internet content. It is my understanding that, post-merger, AT&T Comcast will continue this policy. AT&T Broadband and Comcast Internet subscribers, like most Internet users, are accustomed to accessing whatever content they want. I believe that, if Comcast (or AT&T Comcast) were to start blocking or otherwise disadvantaging desirable broadband content, it would cause an uproar among its subscribers and damage its Internet business – ultimately driving customers to switch to Comcast's competitors. As explained below in paragraph 29, instead of blocking content, AT&T Comcast will have the incentive to encourage the development of a broad and diverse array of "broadband content" so as to encourage customers to switch from dial-up Internet services to broadband services.

¹ Comments of Comcast Corporation, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, GN Docket 00-185, Dec. 1, 2000, p. 31, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6512159396

As noted, Comcast has a relatively low penetration rate for high-speed Internet services (approximately 9.2%). Comcast believes that an important way to increase that penetration rate and to respond to its many competitors is to encourage and facilitate the creation of diverse and compelling broadband content. AT&T Comcast will have every incentive to continue to encourage the creation and distribution of new broadband content. This is so because, if such content were created, it would attract more customers to broadband and would help encourage broadband customers to switch from dial-up services. Indeed, if a supplier of broadband content were to create a highly compelling “broadband” application, any effort by Comcast to block or disadvantage this application would only drive customers away from Comcast and to other competing Internet services.²

Comments in Cable Modem Proceedings

Cable Internet customers have access to the fullest array of content available on the Internet. High-speed cable Internet users demand full access to the Internet and this is what the competitive marketplace delivers. Customers will always be able to reach the content they seek to access, regardless of the technologies used to provide this content, or the platforms used to deliver this service. Cable operators would not be able to compete with other facilities-based broadband providers if they restricted access to content. There is no evidence that cable operators have impaired click-through access or will ever do so.³

Cable Internet customers enjoy unrestricted access to the full array of content on the Internet.

Far from restricting the content that consumers can access, cable companies have in fact done more than anyone else to enable consumers to enjoy the richness of the Internet at speeds that make the experience rewarding. There is no basis for suggesting that cable operators, having introduced consumers to this experience, can or would take it away. Comcast’s own high-speed offering allows its customers to access the fullest array of content, to create

² Application of Comcast and AT&T, Appendix 1 – Merger Agreement, Declaration of Mark A. Coblitz, In the Matter of Application for Consent to the Transfer of Control of Licenses, Comcast Corporation and AT&T Corp., To AT&T Comcast Corporation, MB Docket 02-70, May 29, 2002, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513084476

(Declaration of Mark A. Coblitz, Senior Vice President for Strategic Planning at Comcast (signed under penalty of perjury) [See <http://www.civentures.com/team.php?t=mark>])

³ Comments of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, p. 10, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198081

their own personal web pages, and to store personal electronic files.

There is no evidence whatsoever that cable Internet service providers are blocking certain traffic or degrading the services provided to their customers, and there is no reason to believe that they ever will do so. Given that demand for Internet services continues to be variable and sensitive, to the extent that cable operators were to impose restrictions on its customers' access to desirable content, the certain result would be to increase demand for DSL and other services that compete directly with cable Internet service. Moreover, notwithstanding the explosive growth in broadband subscribership, the vast majority of Internet users still use narrowband, and cable operators face the challenge of persuading them that the additional features of high-speed Internet access are worth the additional cost. That value proposition would be far less enticing if access to content were not unfettered.

This is not just a matter of theory but is also a matter of fact. Indeed, as the sworn declaration of Mark Coblitz states, cable companies have every incentive "to encourage and facilitate the creation of diverse and compelling broadband content." This is so because, if such content were created, it would attract more customers to broadband services and would help persuade customers to switch from dial-up services. If a cable company were to attempt to restrict its customers' access to content, "it would cause an uproar among its subscribers and damage its Internet business – ultimately driving customers to switch to [the company's] competitors."

In short, no regulation is needed to ensure access to Internet content. At most, the Commission should continue to monitor the marketplace and intervene only if new (and unlikely) circumstances justify such intervention.⁴

Ex Parte filing in Cable Modem Proceedings

Cable Internet customers have access to the fullest array of content available on the Internet. [Title of Section]

Comcast and other cable companies provide diverse and compelling broadband content at speeds that make the experience rewarding. Desirable content allows the cable operator to compete

⁴ Reply Comments of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, p.p 12-14, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513285457

with, and attract customers from, other providers of Internet services, including dial-up services. There is no evidence that cable operators have ever restricted consumers' access to Internet content (except as required by law). There is no credible basis for suggesting that cable operators would ever do so.

Comcast and other cable operators employ bandwidth management tools and tiers to preserve the integrity of their service for all of their customers and to deliver a reliable and affordable mass market service. These tools are not used to block traffic, degrade service, or to impede access to Internet content.⁵

All of Comcast's 5.3 million high-speed Internet customers enjoy the four freedoms identified by Chairman Powell. They can *access the content of their choosing* – including the sites of AOL, MSN, Yahoo, Earthlink, and every other provider of Internet content (most of which have recognized that a viable business plan requires developing some content or capabilities that consumers believe is worth buying). Comcast's high-speed cable Internet customers can *run applications of their choice* – including the IP Phone capabilities of pulver.com and Vonage. They can *attach personal devices that do not create network harm issues* – such as DOCSIS approved modems (over 100 different cable modems have already been approved for use on Comcast's network) and other devices (e.g., gaming devices, routing and gateway devices, and Vonage-type devices). And consumers *receive meaningful information regarding their service plans* – as reflected in the subscriber agreement, acceptable use policy, abuse policy, and home networking addendum that are all available at <<www.comcast.net/terms>> and are provided to customers in welcome kits, installation kits, and otherwise.

In this context, the issue of bandwidth limitations was also discussed. Unlike some other broadband providers in the U.S. and Canada, Comcast has not yet adopted a fixed usage cap (also known as a “byte cap”) for its residential service. Comcast prefers that its residential customers not concern themselves with bandwidth consumption levels, and has designed its acceptable use policy enforcement efforts such that no reasonable residential, non-commercial use would ever create an enforcement issue. Even for the one-hundredth of one percent of customers whose bandwidth consumption over a period of time indicates impermissible use (and possibly violations of one or more laws), Comcast's

⁵ Ex Parte Filing of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, CS Docket 02-52, May 7, 2003, Attachment 1, p. 1, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6514084671

enforcement approach is cooperative and reasonable. After all, some such consumers are the victims of viruses or other third-party abuse (and they welcome Comcast's assistance in correcting the problem), and virtually all such customers rapidly address the issue once it is brought to their attention. For those customers who have legitimate high-bandwidth needs, Comcast offers them the option to purchase a commercial level high-speed Internet service from the company. Only an infinitesimal fraction of users have had their service terminated for violating Comcast's terms of service and acceptable use policies, and even these users are eligible to apply for service again from Comcast after one year.

In short, Comcast's practices and policies are fully consistent with the principles articulated by the Chairman. Comcast's primary goal is to attract and retain customers by providing them with a superior high-speed Internet service and experience, not to unnecessarily lose them to a competitor."⁶

Comments at Trade Shows

We don't block anyone. We have no plans to block anyone. We're just not going to disadvantage a competitor by blocking them. We're in the business of providing to our customers what they want. And if they want access to an AOL home page, great. If they want to use AOL Instant Messaging or e-mail addresses, terrific.⁷

⁶ Ex Parte Filing of Comcast Corporation, In the Matter of Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, CS Docket 02-52, April 7, 2004, p. 2, Available at http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516086991

⁷ David Fellows, Executive VP & CTO, Comcast Cable, Comments at Tech Talk: Cable CTOs on What's Now, What's New and What's Next, The 2006 National Show, April 19, 2006, Available at <http://www.ncta.com/PublicationType/MiscellaneousPublication/3013.aspx>

2. NCTA on Net Neutrality - No Need to Worry

Comments in Cable Modem Proceedings

Cable Internet access has been just that - access to the Internet and everything that is available on the Internet. Cable modem service does not block access to Internet content. To the contrary, its high-speed capability enables subscribers to enjoy Internet content and services that were never before and would not otherwise have been available.

Their principal concern seems to be that cable operators will restrict access to Internet content, and that a mandatory access requirement will somehow increase the content available to cable modem users. But they provide no evidence that there has been any such restriction on content and no reason to believe that there ever will be.

Indeed, they would have the Commission believe that, absent such a requirement, cable modem service will ruin the Internet. CFA, for example, assures the Commission that “[d]ominant facility owners will become gatekeepers, driving customers to affiliated content suppliers, and protecting incumbent market power over services by foreclosing or controlling innovations that threaten to compete with their core products, thereby slowing innovation.” Cable operators will, according to the American Civil Liberties Union, become “Lords of the Internet” and will “restrict customers options and interfere with their free access to information.

So far, of course, the advent of cable modem service has had precisely the opposite effect. Not only do cable modem subscribers have access to all the content that is generally available on the Internet, but also the deployment of cable modem service, with its high-speed capability, has greatly expanded the amount and range of content that is available. High-speed cable Internet access enables subscribers to view, listen to, interact with, or download content that would not have been practically available with narrowband dial-up access. Graphics-intensive web pages that would have taken minutes to receive can be accessed almost instantaneously. Music and video material can be streamed with higher fidelity or downloaded in seconds or minutes instead of hours.

Just as cable modem subscribers have access to all content on the Internet, they also generally will have access to all applications that are available. Some parties have expressed concerns, based on the terms and conditions included in some subscriber agreements, that cable operators can be expected to limit or prohibit certain applications “that might compete directly with their core video services.” These concerns are misplaced. The limited restrictions that have been imposed while cable operators are developing and rolling out cable modem service do not have any anticompetitive purpose or effect. To the contrary, they appear to be reasonable attempts to prevent individual customers from imposing excessive burdens on the system to the detriment of other residential customers.

For example, some cable operators have restricted subscribers from connecting and operating their own servers. This is clearly meant to prevent excessive bandwidth usage that would adversely affect the majority of residential subscribers. Cable’s upgraded networks were designed to provide Internet service primarily to residential customers. Such customers’ data transmission, it was assumed, would be largely asymmetrical, with much more data traveling downstream to the customer than upstream from the customer. Running servers on such a network would result not only in much higher than normal bandwidth usage but also much more upstream usage than the system was designed to handle.

The resulting adverse effect on the ability of most residential subscribers to access and download information from the Internet would not only be unfair but would diminish the attractiveness and utility of broadband access as a high-speed alternative to narrowband dial-up access. One way to address this problem is for cable operators to offer its heaviest users a separate tier of service that is designed to accommodate the use of servers and other high-bandwidth applications. The use of tiering creates a structure whereby the heaviest users pay more for the service and the burden that their usage patterns place on the network, while lighter users pay less. A number of cable operators are providing tiered service or engaging in tiering trials to determine the technical, operational and business feasibility of offering multiple levels of service designed to meet the different needs of their subscribers.

An alternative would be to engineer the network to accommodate heavy users by reducing the number of subscribers per node; however, this solution would make the provision of service to the high-bandwidth users more costly to the operator and ultimately to customers. Accordingly, some operators either do not permit bandwidth-intensive uses, such as the running of servers, by

residential subscribers or (as tiering becomes more feasible and scalable) allow such bandwidth-intensive uses only by subscribers to an upgraded service at an extra charge.

The point of managing use of the cable modem service is to ensure that all subscribers can enjoy the benefits of high-speed access to the ever-expanding range of content and services on the Internet - not to restrict such access. Cable operators understand the technical capabilities and limitations of their networks and are best positioned to establish reasonable rules of the road to maximize the attractiveness and efficient use of cable modem service - and that is what they are doing.

The Commission's skepticism is justified. Restriction of access to content is a red herring in this proceeding. Cable modem customers demand full access to the Internet and to the Internet-based services of ISPs, and, as a result, that is what cable operators uniformly provide. There once was a time - before the flowering of the World Wide Web - when dial-up subscribers to online services such as America Online, Prodigy and CompuServe, had access only to the proprietary content offered by the services to which they subscribed. But the Web changed all that. Consumers demanded access to the burgeoning array of content on the Internet, and the competing online service providers had no choice but to meet that demand by becoming Internet Service Providers with full web-browsing functionality.

No widely available facilities-based ISP can compete by limiting access to the Internet - and no provider of cable modem service tries to do so. Even if it faced no facilities-based competition, a cable operator that restricted access to content would severely constrict demand for its cable modem service. But cable operators do face vigorous facilities-based competition, and this would constrain their ability to block or discriminate against content providers even if they had any incentive to do so.⁸

Some parties - the same parties who are worried that cable-affiliated ISPs will stifle the availability of content on the Internet - also suggest that unaffiliated ISPs might provide server-based applications that are not provided by the affiliated ISPs. Ironically, the only such server-based applications identified by these parties are filtering systems - i.e., applications that restrict the content that is available to subscribers. Some subscribers who want to prevent

⁸ Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, June 17, 2002, p. 28, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513198039

certain content from being accessible on their computers might want such filtering software, precisely because cable-affiliated ISPs provide unrestricted access to all Internet content.

In the absence of regulatory impediments, marketplace forces are resulting in the rapid, competitive deployment of high-speed Internet access services nationwide. And that deployment is fostering the development of new, unique content on the Internet, all of which is available to cable modem customers. Regulation is not necessary to ensure the competitive availability of Internet content, applications and services.⁹

Ex Parte Letter on Inquiry Concerning High Speed Access

We agree that consumer access to Internet content is, and should be, full and unfettered.

Cable operators offer their subscribers unrestricted access to Internet content and the ability to run applications of their choice because customers demand those capabilities, not because cable companies were ordered to do so by the government.

Notably, the Coalition letter does not provide any evidence of harm to justify the imposition of common carrier-like requirements on cable operators. In fact, no such evidence exists. Cable operators have made concerted efforts to ensure that networks used for cable modem service are open.

Cable modem service customers may roam freely over the Internet using the equipment of their choice. When they 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 of speed of service of other paying subscribers.

For the last 20 years, the overarching goal of Federal communications law has been to reduce, not increase, access and price control mechanisms while promoting competitive entry in the

⁹ Reply Comments of the National Cable and Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, August 6, 2002, pp. 2, 9-15, 34, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513286538

creation and provision of networks. In the absence of market failure, there is no basis for straying from this path.¹⁰

Ex Parte Letter on Cable Modem Proceedings

[C]able modem customers have – and have always had – access to all lawful content on the Internet.

Cable operators offer access to all lawful content on the Internet because that is what our customers expect and demand. That will continue to be the case.

Everyone agrees that consumer should have access to all lawful Internet content unless they choose otherwise.

There is absolutely no need to impose these adverse effects of regulation in anticipation of hypothetical restrictions on access to content that have never occurred.

Cable consumers have – and have always had – full access to Internet content.¹¹

Testimony before Congressional Subcommittee on Telecom and Internet

Cable internet access has been just that – access to the Internet and everything that’s available on it. Companies have experimented with different business models. All allow consumers to choose their own home page with unfettered access to any content on the Internet.¹²

¹⁰ Ex Parte Letter from Robert Sachs, President, The National Cable & Telecommunications Association, In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, CS Docket 00-185, December 10, 2002, Available at

http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513399468

¹¹ Ex Parte Letter, the National Cable & Telecommunications Association, In the Matter of Appropriate Regulatory Treatment for Broadband Access to Internet Over Cable Facilities, CS Docket 02-52, February 21, 2003, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513484238

¹² Robert Sachs, President & CEO, National Cable & Telecommunications Association, Testimony before the U.S. House of Representatives Energy and Commerce Committee, Subcommittee on Telecommunications and the Internet, July 21, 2003, Available at <http://www.ncta.com/DocumentBinary.aspx?id=3>

Comments on Position on VoIP

A cable broadband customer is free to access any Internet content or use any Internet application and attach any DOCSIS-certified modem device to use with its broadband service, so it would be inconsistent if we were to say, whether it's Vonage or some other user, that that should somehow be disallowed if a customer of ours wishes to use that service to enhance their broadband experience¹³

¹³ NCTA Canvassing Members to Formulate Industry Position on VoIP, Communications Daily, December 19, 2003. <http://www.ncta.com/DocumentBinary.aspx?id=3>

2. Verizon Predicts Online Video Discrimination

Excerpts from Petition to Deny AT&T Broadband/Comcast Merger

As detailed in the Crandall Declaration, broadband Internet access represents both an alternative source of video programming and a potential consumer substitute for video programming. Thus, broadband conduits outside of cable control represent a “competitive threat to the significant market power of the cable industry” in the market for distribution of video programming. While current broadband offerings do not presently support the transmissions of broadcast-quality television signals over the Internet, next-generation offerings such as VDSL and fiber-to-the-home will. Thus, Internet-based video programming has the potential to exert a competitive constraint on cable prices. Indeed, apart from DBS, the Internet is the only existing or potential source of widespread competition to cable in the distribution of video programming. One of the partners to this merger, AT&T, has previously submitted material to the Commission specifically acknowledging this fact: “Internet video streaming clearly competes, at a minimum, with video programming offered by cable systems, satellite companies and television broadcasters.”[Citing AT&T in MediaOne/AT&T merger]

AT&T Comcast could undermine the development of the Internet as an alternative video distribution platform in a variety of ways. The merged entity could use its control over a significant number of broadband subscribers to create technical impediments to the distribution of Internet-based video programming over its broadband facilities, thereby threatening the viability of the Internet as a video distribution platform.

AT&T will have a strong incentive to use this market power over broadband content to steer the development of broadband Internet access away from content that would compete with its primary cable service offerings...In sum, unconstrained, AT&T Comcast could act to undermine the development of the Internet as an alternative platform for the distribution of video programming and other innovative broadband content that could compete with its core cable service offerings.

Through its control of broadband content providers’ access to over one-fifth of all broadband subscribers, AT&T Comcast would have the ability to limit the delivery of compelling, new broadband-specific content (e.g., interactive, on-demand content) to its own

cable modem platform, thus precluding alternative last mile platforms such as DSL, wireless and satellite services from obtaining desirable content.¹⁴

Declaration of Robert Crandall, Criterion Economics

The Proposed Merger Would Increase AT&T-Comcast's Ability to Lock Up Broadband Internet Content and Restrict Access to Rival Broadband Internet Access Providers

[Title of Section]

By expanding its distribution footprint, the proposed merger would give AT&T-Comcast greater ability to favor current and future AT&T broadband content over non-affiliated content. Non-affiliated content providers who did not agree to the terms demanded by AT&T-Comcast would face the ominous prospect of being foreclosed from one-third of all cable modem subscribers, thereby dooming attractive new investments in broadband content. Given its enhanced bargaining position, AT&T-Comcast, action along or in concert with another major MSO, could thereby reduce the supply of non-affiliated broadband content available to subscribers through current and future competitors of AT&T-Comcast.

A. The AT&T-Comcast Merger Would Increase the Ability of the Combined Firm to Lock Up Broadband Content

The proposed AT&T-Comcast merge would allow the merged firm to limit the availability of non-affiliated broadband content to one-third of all cable modem subscribers. AT&T-Comcast's combined purchasing power would allow it to demand equity interests or exclusive distribution rights from start-up broadband Internet content providers who sought access to AT&T-Comcast's cable modem subscribers. After acquiring those interests, AT&T-Comcast combined purchasing power would allow it to demand equity interests or exclusive distribution rights from start-up broadband Internet content providers who sought access to AT&T-Comcast's cable modem subscribers. After acquiring those

¹⁴ Petition To Deny of Verizon Telephone Companies and Verizon Internet Solutions D/B/A Verizon.net, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 15-24, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513188037

interests, AT&T-Comcast could give preferential placement to its affiliated broadband content on the welcome screen for Comcast's cable modem subscribers. Alternatively, AT&T-Comcast could give preferential caching treatment to its affiliate broadband content, and thereby slow the relative speed with which Comcast's cable modem subscribers access non-affiliated broadband content.

C. The Ability To Limit Competition Would Benefit AT&T-Comcast In Several Ways

The enhanced ability to limit competition that results from the proposed merger would generate a number of benefits for AT&T-Comcast. First, the merged firm could increase its control over broadband content and discourage investment by non-affiliated content suppliers, thereby increasing the value of AT&T-Comcast's affiliated broadband Internet content, and thereby reducing the total supply of content to Internet users. Second, because competing broadband Internet access platforms such as DSL depend on the availability of innovative broadband Internet content, the merged firm could impede DSL's ability to develop into a rival platform for the distribution of broadband Internet content.

1. The Proposed Merger Could Enable AT&T-Comcast to Extend Its Power into the Provision of Broadband Internet Content Services and Thereby Preserve and Expand its Market Power in the Broadband Internet Access Market

AT&T-Comcast would have several incentives to engage in content discrimination, including the extension of its power into the market for broadband Internet content. To the extent that the production costs of broadband content (like traditional video programming) are fixed and must therefore be spread across large numbers of subscribers, such discrimination could force non-affiliated content providers to operate below minimum viable level of subscribers. If those non-affiliated broadband content providers were dissuaded from developing their products, AT&T-Comcast would likely realize greater sales of broadband content or higher prices or both. In addition to increasing the profits of AT&T-Comcast, content discrimination would reduce consumer welfare.

2. The Proposed Merger Could Enable AT&T-Comcast to Preserve Its Position in the MVPD Market

The above analysis assumes that broadband Internet access and MVPD services are perceived by consumers to be *complements*.

However, the broadband Internet access market could evolve into a rival platform for the distribution of traditional video programming. Indeed, the Internet is the next potential source of widespread competition to cable television in the distribution of video programming. Writing on behalf of AT&T, Professors Janusz A. Ordover and Robert D. Willig acknowledged this fact: “Internet video streaming clearly competes, at a minimum, with video programming offered by cable systems, satellite companies and television broadcasters.” The implications of such a development on a cable MSO’s strategy toward broadband Internet services would be significant....As more compelling broadband applications develop, these online tendencies to substitute the Internet for cable television should become even more pronounced.

The elimination of DSL as a competitive threat would provide AT&T-Comcast with an enhanced ability to control the development of the emerging rival platform for distributing video. With the threat eliminated (or at least severely weakened), AT&T-Comcast could degrade the quality of streaming video downloaded over the Internet, thereby increasing (or at the very least, maintaining) the demand for cable television service-without a concern that it might lose broadband Internet customers to DSL providers. Indeed, @Home’s agreement with cable operators contained a 10-minute limit on streaming “broadcast quality” video, evidence that cable MSOs already are considering the above anticompetitive calculus. Similarly, cable operator’s decisions to artificially limit the bandwidth devoted to cable modem service may also be motivated in part by a desire to ensure that broadband Internet access does not develop into an alternative platform for multi-channel video distribution.

Non-affiliated content providers are less likely to be willing to invest in broadband Internet content as long as vertically integrated cable modem providers can deny access to their broadband conduit and there is no major competitive alternative to this conduit. Combining AT&T and Comcast would exacerbate this problem and reduce the non-affiliated content providers’ incentive to develop broadband content even further.¹⁵

¹⁵ Petition To Deny of Verizon Telephone Companies and Verizon Internet Solutions D/B/A Verizon.net, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, Appendix B, Declaration of Robert W. Crandall, pp. 7-15, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513188037

3. SBC (AT&T) Predicts Online Video Discrimination

Comments on AT&T/Comcast Merger

A combined AT&T/Comcast would have the incentive and the ability to foreclose competition in both the video and Internet content markets, and thereby diminish the ability of other platforms to compete on an equal footing.

Because a combined AT&T/Comcast would have substantial interests in Internet content-and the ISPs and portals they use to access it-the merger substantially increases the parties' incentive and ability to discriminate in favor of affiliated content. As one analyst put it, "[t]o the benefit of its shareholders-but to the detriment of... vendors in the cable and communications industries-AT&T Comcast would be a powerful gatekeeper on a scale unrealized since the late 1980s."

Horizontal Concentration and Vertical Foreclosure. The merger thus poses threats to broadband mass market similar to those in the MVPD market, and perhaps even more so. The broadband market is nascent, and crucial new products and technologies are being developed quickly. Accordingly, as the Commission has previously recognized, any harm to this market at this critical stage will have long-lasting effects on consumer welfare.

Indeed, as Dr. Gertner explains, compared to video programming, the broadband market is undeveloped, with far fewer total subscribers available to purchase content. Programmers may therefore have more difficulty securing the distribution and promotion necessary to justify developing content, and may accordingly be more beholden to AT&T/Comcast's increased bargaining leverage. As a consequence of this leverage, content providers may be forced either to reduce the quality or quantity of their content (because they lack funds sufficient to develop higher-quality or more programming) or to obtain greater revenues from cable modem competitors, such as DSL. In the first case, output is restricted and consumers and the public interest suffer. In the second case, the costs of rival distribution platforms are raised in an anticompetitive manner, with the same end result.

Coupled with their demonstrated proclivity to discriminate in favor of their own Internet content, moreover, the Applicants' presence in the ISP/portal market creates further cause for concern. "[U]nlike high-speed access offered over the telephone network

where the customer can select the Internet Service Provider (“ISP”) of his own choice, the cable ISP is selected by the cable provider and offered to customers in that cable operator’s individual regions.” As the Commission has recognized, notwithstanding a smattering of recent transactions, cable operators typically offer only one ISP to customers. As a general matter, that ISP is usually either owned by or affiliated with the cable operator. Thus, for example, Excite@Home previously had a contractual arrangement to be the exclusive portal on both AT&T’s and Comcast’s cable Internet service. Now Comcast has “transferred all of its high-speed Internet customers to a network that is owned and managed by Comcast.” AT&T has likewise provisioned a replacement network to provide Internet service to its customers.

The Commission thus need not speculate about whether a combined AT&T/Comcast might favor its own affiliated content to the exclusion of competing content. Both companies have a demonstrated history of doing so. Moreover, the merger would substantially aggregate interests in vertical markets, thus increasing the merging companies’ ability and incentive to favor their affiliated content as well as that tailored to the cable platform. The result, of course, would be to disadvantage unaffiliated content providers—as well as competing platforms that rely on those unaffiliated content providers—to the detriment of consumers. And, as we now discuss, with the leading competitors hobbled by onerous regulation, the competitive pressure brought to bear on a combined AT&T/Comcast would likely be insufficient to force it to change its practices.”

[T]he merger poses a serious threat to the unfettered development of Internet content and to the viability of competing platforms.¹⁶

¹⁶ Comments of SBC Communications, Inc, In the Matter of Applications for Consent to the Transfer of Control of Licenses From Comcast Corporation and AT&T Corp., to AT&T Comcast Corporation, MB Docket 02-70, April 29, 2002, pp. 2, 16-18, 33, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513189221

Long Distance Companies Before Being Merged with ILECS

1. AT&T Supports Net Neutrality

Comments on IP-Enabled Services

The Commission should adopt regulations that ensure that retail customers of the broadband transmission and ISP services of any provider should be free to access any web site for any purpose of the customer's choosing – including to access other providers of VoIP and other IP-enabled application platforms – without interference or other influence of the broadband services provider.

An Open Internet Is Essential To The Competitive Development of IP-Enabled Services

[Title of Section]

The Internet has flourished to date because of openness. Network owners do not tell narrowband subscribers which websites they can visit or which applications they can run over their Internet connections (subject only to legitimate law enforcement or network integrity concerns). Knowing that customers have unimpeded access to Internet content in turn has given content providers the incentive to invest heavily in developing unique applications and services.

Now, as broadband subscribership has reached a critical mass, a new generation of IP applications is poised to emerge. But these demand-intensive information services will be useable only if broadband Internet subscribers can access the information service provider's websites without interference. If there is even a serious risk that such access can be blocked by the entities that control the last mile network facilities necessary for Internet access, the capital markets will not fully fund IP-enabled services. Thus, the open model that has been the hallmark of the narrowband Internet should be extended to the broadband Internet. AT&T commends the cable industry for voicing support for this approach.

To accomplish this goal, the Commission should forbid any entity providing broadband access from impeding access to the Internet content of another applications provider, except where such access would threaten the integrity of the network or where required by law. Moreover, the Commission should forbid broadband transport providers not only from blocking outright access to particular IP applications, but also from giving any kind of preferential access to their own IP applications or degrading access to rival IP applications. To the extent that “quality of service” routing is deployed that would give priority to voice packets in case of congestion, the Commission should make clear that network owners must make those capabilities available to unaffiliated VoIP providers on a nondiscriminatory basis, and may not favor their own VoIP packets over unaffiliated VoIP packets. This targeted regulation is necessary to ensure that subscribers choose the IP application that they want to access, not the IP application preferred by the broadband transport providers with essential last-mile facilities.

AT&T emphasizes that it is *not* seeking the “open access” leasing of last-mile broadband transmission facilities that the Commission is considering in its cable model dockets. Rather, the Commission can directly prevent anticompetitive use of broadband transport facilities and foster unimpeded access to IP applications with modest technology neutral *conduct* regulation that merely prohibits broadband carriers from discriminating against unaffiliated IP applications and content, while otherwise giving these carriers substantial flexibility over the scope and terms of their service offerings.¹⁷

Reply Comments on IP-Enabled Services

As the comments show, “[i]t is unquestionable that the open nature of the Internet is in large measure responsible for its explosive growth. As a result of that openness, developers of services and software, designers of websites, and commercial establishments of all kinds are able to succeed simply by appealing to customers—which has led to extraordinary innovation and investment, and to a wide array of new services for consumers.[quoting Microsoft]

The Bells, however, seek to use the recent emergence of a competitive VoIP applications market as a basis for eliminating the network level safeguards that were necessary to achieve it. It is basic economics that “as long as carriers that own the broadband

¹⁷ Comments of AT&T Corp In the Matter of IP-Enabled Services, WC Docket 04-36, May 28, 2004, pages 53-55, available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516200098.

transmission networks can exercise market power, they will exercise that market power by controlling downstream markets that depend on those transmission services.

Regulation of the Bells' last-mile facilities is necessary to prevent them from seeking to foreclose emerging VoIP competition, as are safeguards that avoid discrimination against unaffiliated IP application and content, while otherwise giving broadband providers substantial flexibility over the scope and terms of their service offerings.

Given the existing high concentration at the network level and the Bells' unique and powerful incentives to abuse control of their last-mile facilities, most commenters agree that some safeguards are necessary to protect competition for IP applications. These safeguards, however, need not be overly intrusive. In particular, AT&T emphasizes that it is not calling for new structural regulations such as the type of "forced access" regulations for cable operators that the Commission rejected in the *Cable Modem Declaratory Order*. Rather, in addition to retaining existing economic regulations, the commission should not permit particular anticompetitive practices that could impede emerging VoIP competition.

Most importantly, network owners should not impede access to the Internet content of another applications provider, except where such access would threaten the integrity of the network or where required by law. In this regard, the Commission should not permit the outright blocking of access to particular IP addresses, websites or applications platforms used by rival service providers. However, as the commenters recognize, more subtle forms of discrimination can achieve the same result. "As an example, the technology that exists to enable network operators to recognize the data packets that move across their system and prioritize them. ILECs...could block or assign a lower priority to packets from competing IP-enabled service providers." Thus, the Commission should also not permit preferential access to affiliated IP applications or degrading access to rival IP applications. To the extent that "quality of service" routing is deployed that would give priority to voice packets in case of congestion, those capabilities should be made available to unaffiliated VoIP providers on a nondiscriminatory basis.¹⁸

¹⁸ Reply Comments of AT&T Corp In the Matter of IP-Enabled Services, WC Docket 04-36, May 28, 2004, pages 32-35, 45-47, available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516283915

2. MCI (Verizon) Supports Net Neutrality

Comments on IP-Enabled Services

The potential that firms with physical access layer market power could leverage their market power into the higher layers represents an enormous risk. Leveraging of market power into the higher layers would, for example, slow the pace of innovation in IP-enabled services. Indeed, it is unlikely that the development of the Internet, and subsequent rapid innovation, would have occurred had the Commission's *Computer II* rules not ensured that the underlying transmission facilities were available to networking researchers and pioneering ISPs. The incumbent LECs would not have conceived of or deployed innovative IP-enabled services on their own: it is not too long ago that the incumbent LECs were touting their own closed information gateways, or the French Minitel system, as the model for the future.

The potential leveraging of market power into the higher layers also poses risks to the largely unregulated status of IP-enabled applications and content. If the providers of physical layer services were able to leverage their market power in the physical layer to the provision of IP-enabled applications and content, there would inevitably be calls for greater regulation of those applications and content. Indeed, there have already been calls for the regulation of cable modem-based Internet access services, based on claims that such service operators could unreasonably restrict access to certain applications or content.

Far from being overly regulatory, as the incumbent LECs claim, the *Computer II* rules are in fact the cornerstone of an effective deregulatory regime, helping to ensure that "Internet applications remain insulated from unnecessary and harmful regulation at both the federal and state levels." It is for that reason that one of the principles of MCI's layers model is that it is best to regulate at the layer that is the source of the problem, which, in the case of market power issues, is the physical layer. The Commission has previously embraced that principle, stating that "[l]imiting carrier regulation to those companies that provide the underlying transport ensures that regulation is minimized and is targeted to markets

where full competition has not emerged. [1998 Stevens Report ¶ 95]¹⁹

Relevant section of 1998 Stevens Report [Not in MCI Filing]:

As long as the underlying market for provision of transmission facilities is competitive or is subject to sufficient pro-competitive safeguards, we see no need to regulate the enhanced functionalities that can be built on top of those facilities... Limiting carrier regulation to those companies that provide that provide the underlying transport ensures that regulation is minimized and is targeted to markets where full competition has not emerged. As an empirical matter, the level of competition, innovation, investment, and growth in the enhanced services industry over the past two decades provides a strong endorsement of such an approach.²⁰

Reply Comments on IP-Enabled Services

The foundation of Commission policy in this area is that tailored regulation of bottleneck transmission services is the predicate for deregulation of all services that made use of bottleneck transmission facilities. Maintaining that policy until the bottleneck is broken is the key to implementing Congress' judgment that the Internet should remain free of regulation to the greatest extent possible.²¹

¹⁹ Comments of MCI, Inc, In the Matter of IP-Enabled Services, WC Docket 04-36, May 28, 2004, pp. 16-17, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516200029

²⁰ FCC Report to Congress, In the Matter of Federal-State Joint Board on Universal Service, CC Docket 96-45, April 10, 1998, ¶ 95, Available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/fcc98067.pdf

²¹ Reply Comments of MCI, Inc, In the Matter of IP-Enabled Services, WC Docket 04-36, July 14, 2004, p. 7, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516283832

Internet Companies now merged with Cable Companies

1. AOL (Time Warner) Supports Net Neutrality

Comments on AT&T/MediaOne merger

[AT&T/MediaOne merger is the precursor to the AT&T/Comcast merger]

...this merger would significantly enhance AT&T's ability to restrict, or even cut off, consumers from gaining access to Internet-based competition to cable's core market -multichannel video delivery.

this merger would serve to defend cable's core video market position by blocking consumers' access to video programming delivered via the Internet.

AT&T could block or choke off consumers' ability to choose among the access, Internet services, and integrated services of their choice. Eliminating consumer choice will diminish innovation, increase prices, and chill consumer demand, thereby slowing the roll-out of integrated services.

The key, after all, is the ability to use "first mile" pipeline control to deny consumers direct access to, and thus a real choice among, the content and services offered by independent providers.

The ability to stifle Internet-based video competition and to restrict access to providers of broadband content, commerce and other new applications thus would be directly diminished.²²

²² Comments of America Online, Inc, In the Matter of Transfer of Control of FCC Licenses of MediaOne Group, Inc To AT&T Corporation, CS Docket 99-251, August 23, 1999, pp. 8-13, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6009249530