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Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, SW
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July 17, 2008

**Re: Notice of *Ex Parte* Presentation
Free Press et al. Petition for Declaratory Ruling that Degrading an Internet Application
Violates the FCC’s Internet Policy Statement and Does Not Meet an Exception for
“Reasonable Network Management” (RM- _____)
and
CC Docket No. 02-33, CC Docket No. 01-337, CC Docket Nos. 95-20, 98-10, GN Docket No.
00-185, CS Docket No. 02-52, WC Docket No. 07-52**

Dear Ms. Dortch,

This letter is a short reaction to Comcast’s two *ex parte* filings submitted on July 10, 2008, one of which Comcast emailed to us that night, the other we noticed online the next day.

Comcast made these filings the night the Associated Press reported that the Commission—after nine months of investigation—is moving to take action against Comcast for violating the rights of consumers to access lawful Internet content, applications, devices, and to have Internet competition.

Comcast’s longer, “procedural,” filing, consists of 57 single-spaced pages meant to rebut Free Press’s June 12, 2008 *ex parte* filing. Comcast’s filing rehashes old arguments, misstates law, fails to respond to many of our arguments, and makes desperate arguments that Free Press has changed its legal theory (from the theory Comcast had claimed we had) and that Comcast lacked notice of the Policy Statement (though everyone in the industry had promised to follow it and the FCC promised to act to ensure it).

Comcast’s “technical” 9 page single-spaced filing includes a number of technical admissions about its blocking never before made public. These statements on the company’s continued blocking further highlight Comcast’s lack of candor with the Commission and public, possibly in violation of criminal law forbidding Comcast from willfully lying to the government. The Comcast filing also attached a press release of its latest private agreement. We devote further attention to Comcast’s typical and repeated tactic over the years of cutting deals to convince the FCC not to act, only to break the deals later. Our technical analysis was developed with the guidance of Robert Topolski.

I. Comcast Fails to Show the Commission Lacks Authority to Act

Comcast’s main legal filing says surprisingly little, and is mainly a rehash of old arguments. Comcast’s filing responds to our June 12 *ex parte*, which responded to arguments

raised by Comcast—after the Reply Comment deadline—regarding the FCC’s jurisdiction. Our *ex parte* evaluated the assertion that the FCC had jurisdiction to enforce the principles in the Internet Policy Statement, an assertion made consistently for many years by the FCC, the executive office (multiple times), and industry parties.¹ The first memorandum supported the Commission’s Title I jurisdiction under any of the statutory bases the FCC has previously asserted. The second demonstrated the Commission could act—as the Commission had long announced it would—to enforce the principles of the Policy Statement through an adjudicatory complaint-process.

Here, we highlight and respond to a few particular points made in each filing.

1. Deviation from Internet Standards Should Presumptively be Unreasonable Network Management

Comcast still maintains that it must “manage” its network in ways that violate Internet standards. Comcast has not once responded to the experts testifying at Harvard, notably David Reed, whose central thesis was that Internet access providers like Comcast should follow Internet standards, and that failing to do so could effectively break the Internet’s historical freedom and innovation. A blog written in New York is available in Italy and software created in San Jose is available in Japan because the same universal Internet standards apply across all networks, permitting networks to interconnect. These standards, explained the experts like Dr. Reed, have congestion controls that work just fine. The Internet has expanded to become the world’s engine of innovation and free speech based on these open standards.

Comcast should not only have the strict burden of demonstrating why it would engage in discrimination, it should also have the strict burden of demonstrating why it must violate Internet standards, and threaten to balkanize the Internet with non-standard practices.

The IETF maintains a standards process and defines standards; “In general, an Internet Standard is a specification that is stable and well-understood, is technically competent, has multiple, independent, and interoperable implementations with substantial operational experience, enjoys significant public support, and is recognizably useful in some or all parts of the Internet.”² Generally, the “process of creating an Internet Standard is straightforward: a specification undergoes a period of development and several iterations of review by the Internet community and revision based upon experience, is adopted as a Standard by the appropriate body (see below), and is published.”³ Neither Comcast’s discriminatory blocking process nor its supposed protocol-agnostic “solution” is a standard nor has been vetted and accepted through the IETF process.

Indeed, Comcast’s “deal” with Vonage—of which no details were released—suggests either that Comcast *had* been throttling Vonage⁴ or that Comcast’s new, as-yet-undefined, *non-standard* “protocol-agnostic” solution could interfere with Vonage, especially with Vonage’s provision of emergency services.⁵ If Comcast were not violating Internet standards, software designers could continue to design software (including emergency software) for the entire

¹ Free Press *Ex Parte*, June 12, 2008, Jurisdictional Memorandum #1 of 2 at 2-3.

² S. Bradner, Request for Comments: 2026: The Internet Standards Process -- Revision 3, 1996, at 2, <http://www.ietf.org/rfc/rfc2026.txt>.

³ *Id.*

⁴ Om Malik, “Did Comcast Just Admit to Vonage Traffic-shaping?,” GigaOm, July 9, 2008, Available at <http://gigaom.com/2008/07/09/did-comcast-just-admit-to-vonage-traffic-shaping/>.

⁵ Comments of Vonage Holdings Corp. at 6.

Internet, rather than for Comcast's (or another ISP's) proprietary, individual non-specified practices.

To repeat what David Reed wrote, to which Comcast has never replied:

First, providing Internet Access implies adherence to a set of standard technical protocols and technical practices that are *essential for the world-wide Internet to work* for all its users.

Second, *variances from those standard protocols and practices damages the Internet as a whole, and all of its users.*

Third, there are standard, industry-accepted processes for resolving problems that come up as the Internet evolves, including disclosure of measurement data, discussion and joint definition of new protocols, etc.

Because of these points, Comcast's secretive attempt to apply non-standard management practices creates serious problems. *Survival of the Internet requires that Internet Access Providers continue to take a proper, transparent role as participants in the Internet.*⁶

In short, Comcast's non-standard techniques are an enormous threat to the Internet, and have no basis in Internet standards or engineering need. Any deviation from such standards—no less than any discrimination—requires Comcast to carry the burden of strict scrutiny.

Comcast has never replied to this argument.

2. Sufficient Notice

Comcast had more than sufficient notice that its actions would face a complaint and necessitate FCC action. That is probably why Comcast lied so insistently both before being caught⁷ and during this investigation. Specifically:

- Comcast complains that this enforcement procedure is unprecedented. Comcast is wrong, as the process of acting on agency policy statements through adjudication is established and practiced law. To some extent Comcast is right that a process regarding the Internet Policy Statement is new, because nobody else has violated the law as flagrantly to warrant such an investigation. Since the Commission issued the Policy Statement in 2005 and assured Congress, consumers, and the industry that it would likely punish any violations of the Policy Statement, other network providers were on “best behavior” to follow the Policy Statement. Once Comcast was discovered in its secret blocking, fifteen thousand consumers, the leading consumers groups, and leading Internet scholars asked the FCC to fulfill its promises to the public and defend an open Internet. But Comcast continued to assert its right to violate the Policy Statement by using three words in a footnote (“reasonable network management”) hundreds of times in filings while ignoring the body of the Policy Statement. That is why we find ourselves with the first case testing the Policy Statement, and why the Commission has proceeded so carefully and cautiously, gathering information with two factual hearings including from leading scholars (like Yochai Benkler and Barbara van Schewick) and leading technologists (like Danny Weitzner, David Reed, and David Clark).

⁶ Testimony of Dr. David J. Reed, FCC En Banc Hearing, Feb. 25, 2008, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519843517.

⁷ Free Press et al. Reply Comments, Attachment 1.

- Comcast complains that the Policy Statement is unclear as to what “reasonable network management” is and therefore Comcast would not have had notice that secretly blocking and degrading popular, competing applications was not “reasonable” management. While there may be hard cases, this is not one of them. Interpretive rules would suggest that a few words in the footnote would be read in light of the entire Policy Statement. The Policy Statement guarantees consumers the right to access all the lawful content and applications of their choice, among other rights. Clearly, the footnote exception would not permit an ISP to gut those basic rights so arbitrarily, disproportionately, anti-competitively, and with discrimination toward applications.
- Comcast makes several arguments suggesting it lacked notice because the Chairman in a press release called the Policy Statement itself “unenforceable,” but the Commission made it clear repeatedly in many fora that it would act on complaints to elaborate and effectuate that Policy Statement (as agencies do with policy statements).
 - Comcast had notice of the cases, which we cited in our June 12 *ex parte*, that explain policy statements generally instruct the public how an agency will act when faced with particular complaints.
 - Comcast had notice of basic administrative law that agencies can act through adjudication or rule-making.
 - Comcast had notice of the FCC’s frequent promises to the public and Congress, and its warnings to the industry, that it would act swiftly on any complaint alleging a violation of the Policy Statement.
 - Comcast and other network providers repeatedly pledged to abide by the Policy Statement, understanding that deviating from the statement would result in punishment. We have demonstrated all of these points in our Petition (cataloguing the Commission’s promise to act on the Policy Statement), Complaint, Comments (and the second Appendix to those Comments, filled with network providers’ pledges to follow the Policy Statement), Reply Comments, and June 12 *ex parte*.
 - Comcast had sufficient notice that the Commission has an informal adjudication procedure, though it complains now about notice for a procedure to handle complaints.
 - Comcast’s lying and denials before getting caught—as well as the technical details of its blocking that are designed to remain secret—show that Comcast knew it would face legal consequences for blocking and degrading content and applications.
- Comcast is wrong that an order is a radical, unexpected departure from existing FCC policy.⁸ Rather, an order would *follow* existing policy if the FCC adjudicated in line with its stated, and often-repeated, intention to protect consumers’ rights enumerated in the 2005 Policy Statement. An order would be expected by all observers.

3. Reading Federal Policy

⁸ Comcast Ex Parte, Procedural Filing, July 10, 2008, p. 13, 14, 17.

Comcast makes certain arguments about the federal policy that “the Internet” and other interactive services should remain a competitive free market unfettered by needless regulation.

Comcast claims that it is clearly an “interactive computer service” because it “provides access to the Internet,” and government policy is to “preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services.” In 1996, as the FCC has noted, those providing access to the Internet were generally *not* cable providers (who had not yet rolled out cable modem service, let alone was this service wrongly deregulated yet through being misclassified in the Cable Modem Order). Rather, as the FCC wrote around the time (1998), interactive services “presently” then existed in a competitive free market: “In essential aspect, Internet access providers look like other enhanced -- or information -- service providers. Internet access providers, typically, own no telecommunications facilities. Rather, in order to provide those components of Internet access services that involve information transport, they lease lines, and otherwise acquire telecommunications, from telecommunications providers -- interexchange carriers, incumbent local exchange carriers, competitive local exchange carriers, and others.”⁹ Congress clearly did not want to preserve an *uncompetitive* market in providing Internet access, nor to permit those uncompetitive carriers to leverage bottleneck control and market power into making the accessed Internet anti-competitively controlled.

Open Internet rules would ensure a competitive market. In response to the argument that Internet access was regulated in 1996, Comcast claims that cable modem service was not a common carrier service in 1996—apparently before cable modem service was commercially deployed. To the extent that §230 may be ambiguous, the best reading is that, while Internet services are “fettered” with numerous general and specific regulations (from trademark and copyright to obligations regarding child porn and emergency services), the central policy of §230(b)(2) is to ensure competitive markets. Comcast’s blocking of competitors violates that principle.

Comcast’s reading, however, would suggest that powerful, uncompetitive network providers like Comcast would exempt from regulation, permitting Comcast to control and dictate the terms of any competition on the Internet. Such a reading would lead to absurdity, undermining the Internet’s free market. Free Press suggests that successful adjudication of the instant complaint would establish a balance that would otherwise be lacking in the Commission’s enforcement of the Policy Statement. Competitive – application layer Internet markets – are advanced if applications can reach their consumers without unreasonable interference. Under Comcast’s reading, everyone would be fettered but them.

4. Accusing Others of Its Own Sins: Our Theory Has Not Flip-Flopped

After we showed how Comcast told the FCC that the FCC lacked jurisdiction within days of telling a California court that the FCC had exclusive jurisdiction, Comcast makes a flimsy accusation that we were flip-flopping on legal theories.

Comcast is wrong that we have changed our theory of this case. Comcast makes the fanciful claim that the FCC should dismiss our Complaint and Petition because Free Press had asserted that the FCC could act pursuant to the Policy Statement and now claims that the FCC would act pursuant to certain provisions in the Communications Act. This argument is wrong for so many reasons, but since Comcast devotes much of its filing to the argument, we offer some of the reasons.

⁹ Report to Congress, 13 FCC Rcd. 11501, 11540 (1998).

- Even if our Complaint rested on the Policy Statement, it would therefore rest on the statutory provisions interpreted in and cited by the Policy Statement. Therefore, any reference, in the Complaint or elsewhere, to enforcing the Policy Statement’s principles rests on the provisions, which the Statement cites and interprets.
- Free Press et al. consistently cited section 230 of the Act and section 706 of the 1996 Telecommunications Act, among other provisions, as authority, including in our initial comments.
- The FCC has cited all of those provisions as Title I authority for open Internet orders long before Free Press et al. filed its complaint and petition. So there is no “11th hour” assertion, by the FCC or Free Press.
- Even if Comcast were right that Free Press changed its legal theory, and we have not, the Commission has the authority to issue an injunction if it proceeded on its own motion, not on the basis of our filings.¹⁰
- Comcast is trying to have it both ways. Comcast argued that the Policy Statement cannot serve as a basis of FCC authority because it lacks statutory support. When we respond by elaborating in detail that statutory support, Comcast claims we have “abandoned” the Policy Statement in favor of statutory authority.

5. Fine

Comcast argues that a prospective fine without a fine for past behavior would be more appropriate in a rulemaking than in an adjudication.

- We believe an injunction is clearly adjudicatory, and violations of injunctions are generally enforced through civil or criminal penalties, such as fines. We do not think such action is legislative, rather than adjudicative.
- We believe a fine for past behavior is also appropriate, and should be large enough to deter such nefarious behavior. We are pleased that the press suggests future violators will be subject to fines that could deter future violations.¹¹ We note, simply, that Comcast has wasted FCC resources by stonewalling and lying for the past nine months, rather than conceding, paying a fine, and seeking forgiveness from the harmed public. Without a clear threat of future fine, there may be no effective deterrent and Comcast will become a repeat offender—and a repeat secret offender lying to the public about its actions—without consequence.

¹⁰ 47 USC §403 (“The Commission shall have full authority and power at any time to institute an inquiry, on its own motion, in any case and as to any matter or thing concerning which complaint is authorized to be made, to or before the Commission by any provision of this chapter, or concerning which any question may arise under any of the provisions of this chapter, or relating to the enforcement of any of the provisions of this chapter. The Commission shall have the same powers and authority to proceed with any inquiry instituted on its own motion as though it had been appealed to by complaint or petition under any of the provisions of this chapter, including the power to make and enforce any order or orders in the case, or relating to the matter or thing concerning which the inquiry is had, excepting orders for the payment of money.”).

¹¹ Fawn Johnson, “FCC Chairman Doesn’t Recommend Fine For Comcast,” *Dow Jones*, July 11, 2008, Available at http://money.cnn.com/news/newsfeeds/articles/djf500/200807111410DOWJONESDJONLINE000699_FORTUNE5.htm.

- The Commission can clearly issue a temporary prohibitory order until it schedules a hearing, should one be necessary.¹²

6. Title I

Comcast’s Title I arguments are unconvincing, failing to rebut our June 12 *ex parte*, which we stand behind. We note one Comcast argument here. Comcast is wrong that section 256 does “nothing more, or less, than what Section 256 itself effectuated.” Section 256, which imposes mandatory duties on the Commission, includes this sentence: “Nothing in this section shall be construed as expanding or limiting any authority that the Commission may have under law in effect before February 8, 1996.” So section 256 does not “limit” the Commission’s authority in 1996. In 1996, the Commission clearly had ancillary authority to enforce every provision of the Act. That authority remains, and section 256 is a provision of the Act, so the Commission’s ancillary authority to enforce it remains as well. For example, Congress was aware of Computer II, and that Computer II imposed requirements on all facilities based providers (regardless of market power or any definitional distinction) based on controlling facilities.

7. Chevron Deference

Comcast wrongly claims that the FCC would not receive *Chevron* deference in interpreting the limits of its own jurisdiction. There appear to be conflicting cases, but there is much precedent for *Chevron* deference, especially where the agency has long asserted this jurisdiction and a statutory interpretation favoring jurisdiction is clearly within the bounds of reason. Justice Scalia explained in some detail why agencies should receive *Chevron* deference in interpreting the bounds of their authority:

[I]t is plain that giving deference to an administrative interpretation of its statutory jurisdiction or authority is both necessary and appropriate. It is *necessary* because there is no discernible line between an agency's exceeding its authority and an agency's exceeding authorized application of its authority. To exceed authorized application is to exceed authority. Virtually any administrative action can be characterized as either the one or the other, depending upon how generally one wishes to describe the “authority.” And deference is *appropriate* because it is consistent with the general rationale for deference: Congress would naturally expect that the agency would be responsible, within broad limits, for resolving ambiguities in its statutory authority or jurisdiction. Congress would neither anticipate nor desire that every ambiguity in statutory authority would be addressed, *de novo*, by the courts.¹³

The Commission has consistently, and unanimously, asserted the jurisdiction to effectuate the Policy Statement through a complaint-by-complaint process.

II. Comcast’s Other *Ex Parte* Includes Disingenuous Technical Arguments

¹² See *Southwestern Cable Co.*, 392 U.S. 157, n. 46(1968). (“Respondents urge that the legislative history of s 312(b) indicates that the Commission may issue prohibitory orders only under, and in conformity with, that section. We find this unpersuasive. Nothing in that history suggests that the Commission was deprived of its authority, granted elsewhere in the Act, to issue orders ‘necessary in the execution of its functions.’ 47 U.S.C. s 154(i). See also 47 U.S.C. s 303(r).”).

¹³ *Miss. Power & Light Co. v. Mississippi*, 487 U.S. 354, 381-82 (Scalia, J., concurring) (1988).

Comcast's other ex parte follows their habit of providing almost no technical information, but most of it being false. Here, we argue that the Commission should consider whether Comcast has, or will on further investigation, violate its duty of candor. The Commission should also consider whether to refer to the Department of Justice the matter whether Comcast has violated 18 U.S.C. §1001, which sets forth the basic requirement of parties not to willfully lie to the government.

It also demonstrates that Comcast does not, despite its claims, merely delay traffic in times of congestion, using localized devices at the CMTS, nor that its supposed upgrades, webpages, or side-deals address its problem. Rather, Comcast blocks users, including its own subscribers; it places these devices far back in its network; does not block based on congestion; its upgrades merely permit users more "speed" (when the local bandwidth is available) rather than providing more local bandwidth to handle congestion; its deals are part of a usual routine to cut small deals and fend off regulation and then eliminate competition, and several of the deals do nothing to relieve Comcast's congestion or have already ended.

1. Comcast's Technical Misrepresentations Appear to Violate Comcast's Duty of Candor and Criminal Law

In this proceeding, unfortunately, Comcast has misrepresented the facts not only to the public and press, but also to the Commission. Comcast has a duty of candor to the Commission, not to "present material factual information that is incorrect" or to omit material information that would make a statement inaccurate or misleading without a "reasonable basis for believing" the statements are correct and not misleading.¹⁴ Because petitions for declaratory ruling often involve issues of policy, and adjudications involve more specific facts, the FCC imposes this duty of candor in "any investigatory or adjudicatory matter" including any "informal adjudication or informal investigation."¹⁵

In the adjudicatory proceeding, in its investigation into Comcast's practices, and if the Commission goes forward with the Chairman's proposal to require Comcast to provide information, the Commission should keep in mind that Comcast has continuously and loudly repeated several technical lies.

Comcast might claim (wrongly) that it had no notice it could get fined for violating the Policy Statement principles, but Comcast cannot claim to lack notice about its duty of candor to the Commission. We urge the Commission to consider fining Comcast for material misrepresentations to the Commission, particularly going forward.

In addition, Comcast is violating its basic, core duty of not willfully lying to the government. The foundational criminal provision, 18 U.S.C. § 1001, specifies that "whoever, in any matter within the jurisdiction of the executive, legislative, or judicial branch of the Government of the United States, knowingly and willfully—(1) falsifies, conceals, or covers up by any trick, scheme, or device a material fact; (2) makes any materially false, fictitious, or fraudulent statement or representation; or (3) makes or uses any false writing or document knowing the same to contain any materially false, fictitious, or fraudulent statement or entry; shall be fined under this title, imprisoned not more than 5 years." Here, Comcast has knowingly and willfully made materially false, fictitious statements and representations and has made and used documents knowing they contain false statements.

¹⁴ 47 C.F.R. §1.17.

¹⁵ *Id.* See also Amendment of Section 1.17, 18 FCC Rcd 4016 (2003).

The FCC should consider recommending this matter to the Department of Justice for appropriate resolution.

Here are some examples of material misrepresentations in the record, and our responses to them.

2. Comcast is Not “Delaying,” But Blocking Users and Degrading Applications

Comcast has claimed that it is merely “delaying” selected traffic.¹⁶ We have already asserted Comcast is wrong; it was blocking uploads not delaying them. Comcast was using reset packets, which terminate connections. The Electronic Frontier Foundation engineers concluded this practice was “blocking,” as the connection ends, but is not delayed.¹⁷ Robb Topolski reached the same conclusion, and detailed his conclusion to the Commission.¹⁸ Professor John Peha similarly determined the best description is “block,” although “degrade” was also accurate, while “delay” was not accurate.¹⁹

Nonetheless, Comcast lawyers and press relations have consistently referred to “delaying” connections, both to the FCC and press. They have even attacked the FCC Chairman for referring to Comcast “blocking,” though the Chairman was accurate and informed by the experts and the evidence.²⁰ At the very least, Comcast is degrading peer-to-peer. Moreover, as we’ve also shown, “delaying” targeted traffic by using non-standard practices is still discriminatory, in violation of consumer rights and Internet standards.²¹ We believe this argument about “delaying,” is clearly untruthful and not candid with the Commission.

3. Comcast Blocks Downloads, even among Comcast Customers

Comcast claims it does not block customers’ *downloads*. This is also false.

Comcast blocks users who are uploading from Comcast’s network, but this upload is also a download. On *any* architecture, regardless of whether it is peer-to-peer or client-server, any end-point that is uploading has a corresponding end-point that is downloading. Therefore, interrupting any upload interrupts someone else’s download.

Comcast’s flat denial of “Comcast has never managed customers’ downloads” is incorrect. This line implies Comcast only blocks the downloads of *other* ISPs’ customers. While this is nothing to celebrate, even this is not true. Comcast’s installation of Sandvine blocked Comcast users’ downloads even when the uploader was also using Comcast—if the users were in different cities.²² We believe this argument about “downloads” is clearly untruthful and not candid with the Commission.

4. Comcast Does Not Interfere with Traffic Only in Times of Congestion

Comcast has made a fairly shocking admission that it interferes with traffic at all times, not just—as it long maintained—only during times of peak congestion.

Comcast’s Comments state, “Comcast’s actual network management practices, which merely delay unidirectional uploads, and *then only during periods of peak network congestion.*”²³

¹⁶ Comcast Comments at Attachment A, p. 7.

¹⁷ Electronic Frontier Foundation, “Packet Forgery By ISPs: A Report On The Comcast Affair,” p. 8, Nov. 28, 2007, Available at http://www.eff.org/files/eff_comcast_report2.pdf.

¹⁸ Comments of Robb Topolski, February 28, 2008.

¹⁹ Comments of Professor Jon M. Peha, April 4, 2008.

²⁰ Letter from Comcast, March 28, 2008.

²¹ Free Press et al. Comments at 36-38.

²² Robert Topolski, “Comcast is using Sandvine to manage P2P Connections,” Forum Reply, DSLReports.com, August 21, 2007, Available at <http://www.dslreports.com/forum/r18918622-Comcast2Comcast>.

²³ Comcast Comments at 31. [Emphasis added]

In the FAQ and Acceptable Use Policy attached to their Comments, Comcast claims: “these network management activities may include: . . . (iii) temporarily delaying peer-to-peer sessions (or sessions using other applications or protocols) *during periods of high network congestion*, (iv) limiting the number of peer-to-peer sessions *during periods of high network congestion*.”²⁴

We disputed this assertion, because networking experts Robert Topolski and Peter Eckersley both found that Comcast’s blocking was consistent at 40% before February 22 (in the midst of the investigation) and then 75%, at all times, in all locations.²⁵ The Max Planck Institute, which has provided the richest evidence, reports that Comcast’s network shows a constant level of blocking, everywhere and always, with no congestion-based pattern; established connections were interrupted by reset packets at a relatively consistent rate.²⁶

Comcast has finally admitted—perhaps without even realizing it—that it does not only block in times of congestion, and that the level of congestion in the network is not a factor when blocking. In its July 10 technical filing, Comcast reveals that measurement of congestion was *not* a factor stating, “Specifically, Comcast’s current P2P management is triggered when the number of P2P uploads in a given area for a particular P2P protocol reaches a certain, pre-determined level, *regardless of the level of overall network traffic at that time, and regardless of the time of day when the applicable P2P protocol threshold is reached*.”²⁷ This contradicts the notion that Comcast blocks only during times of network congestion. Rather, blocking is tied directly to the targeted, competitive protocol.

Indeed, Sandvine Corporation, the hardware vendor for Comcast’s P2P blocking, advised its customers to manage P2P sessions aggressively, without any reference to times of congestion. They explained that it is necessary to provide less than one session per uploader (seeder) to realize savings.²⁸

Comcast was clearly not candid with the Commission about its more narrow blocking, as it blocked regardless of overall network congestion, at all times. By Comcast’s own admission, as well as the evidence presented by Topolski, the Max Planck Institute, and the Sandvine white paper, any notion that Comcast only managed the network during periods of congestion are false.

5. Comcast’s Sandvine Device was at the Access Routers, Not at the CMTS

Comcast is not only inaccurate about its blocking and the timing of its blocking, but also how broadly Comcast blocks geographically. In its July 10 technical filing, the company says that its “network management is undertaken by equipment typically located adjacent to the cable

²⁴ Comcast Comments, Attachment A at 7; Attachment B at 2. [Emphasis added]

²⁵ Comments of Robert Topolski, Feb. 25, 2008, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519843337.

²⁶ Martin, Richard, “Comcast Restricted Bandwidth to BitTorrent Users 24/7, Study Charges,” InformationWeek, May 15, 2008, Available at <http://www.informationweek.com/news/internet/reporting/showArticle.jhtml?articleID=207800375>.

²⁷ Comcast Ex Parte, Technical Filing, July 10, 2008, p. 5. [Emphasis added]

²⁸ Sandvine Technical Note, “Session Management: BitTorrent Protocol,” December 2004, Available at <http://www.sandvine.com/general/getfile.asp?FILEID=21>. (“The Limit Policy: Limits set to zero have a more noticeable effect than do limits of 100 connections (which will allow a few unidirectional uploads to occur). Zero limited also make achieving the desired “etiquette” ratio nearly impossible, but save the most upload bandwidth, while limits of 100 allow the ratio to be slowly achieved, at the expense of some upload bandwidth. Choosing a specific limit is difficult with BitTorrent because it uses bandwidth very aggressively. For example, limiting the average number of unidirectional uploads per host from four to one will not save any bandwidth because the single remaining flow will use just as much total bandwidth as the four original flows. In general, to achieve any savings, *the limit must be selected such that there is on average less than one unidirectional upload per seed*.”) [Emphasis added]

modem termination system (CMTS), which is often referred to as a data node. So, to restate, Comcast's network management generally occurs at the data node level, and not at the optical node level."²⁹ Comcast appears to be responding to FCC Chairman Kevin Martin's explanation to the Senate Commerce Committee in April that Sandvine was deployed over a wide geographic area and was not even capable of knowing when any one locality of the network is congested.³⁰

But, as noted above, Comcast has clarified that Comcast blocks consistently, at all times of day, regardless of congestion. Therefore, whether the Sandvine box is at the CMTS or not is irrelevant; it appears each area receives the same amount of blocking.

That said, Comcast is still misrepresenting its network. Robb Topolski's trace evidence shows that Sandvine boxes are not at the CMTS, but on access routers for each Point-of-Presence (POP) where the metropolitan area meets "the backbone." This is not on a CMTS, but is a number of hops (routers) away from it. Mr. Topolski could make this conclusion because packets have "time to live" (TTL) counters, and when a packet passes through a router, the counter is decreased by 1.³¹ If the Sandvine equipment were at the CMTS, then the TTL would only be decreased by 1, or possibly 2 (where a home has a home router). Mr. Topolski noticed his reset packets were decreased by 5, and therefore the Sandvine equipment was not at the CMTS. Mr. Topolski was even able to show that, for his connection, this counter coincided with the access router, between the Comcast network and the AT&T transit network.³² Indeed, Sandvine's own materials suggests its network-customers install these blocking devices at the access routers.³³ If Comcast deployed at the CMTS, Comcast would have to buy far more boxes, and so placing Sandvine boxes farther back in the network saves Comcast money. When you're blocking consumers to avoid investing in your network, might as well do so as cheaply as possible.

6. Comcast's Touted Upgrades Contribute to its own Problems, and So Are Merely Window-Dressing

Comcast claims, in its July 10 technical filing, "Comcast doubled, and in many cases tripled, the upload speeds for almost all of its existing broadband customers, at no additional charge."³⁴ But, as we understand it, these upgrades consist of rolling out new modem configurations that increase the upload speeds from 384 Kbps to 1 Mbps and 768 Kbps to 2 Mbps. However, we cannot find evidence that Comcast performed any corresponding *network* improvements. That is, Comcast appears to have increased the speed of its modems—but not addressed its problem of insufficient shared neighborhood capacity.

Comcast's response is analogous to a village trying to solve a problem of its well running dry by replacing each family's bucket with one three times as large, rather than digging more

²⁹ Comcast Ex Parte, Technical Filing, July 10, 2008, p. 5.

³⁰ Written Statement of the Honorable Kevin J. Martin, Before the United States Senate Committee on Commerce, Science and Transportation, p. 9, April 22, 2008, Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-281690A1.doc.

³¹ Robert Topolski, "Comcast is using Sandvine to manage P2P Connections," Forum Reply, DSLReports.com, August 23, 2007, Available at <http://www.dslreports.com/forum/r18936691-TTL-tattles-on-the-AccessRouter>.

³² *Id.*

³³ See http://www.sandvine.com/products/service_delivery_engine.asp ("Our policy control platform features high-level integration with both session border controllers and deep packet inspection elements, and depending on performance requirements can either be deployed centralized or as a distributed two-layer architecture that extends the policy decision function towards the access routers.").

³⁴ Comcast Ex Parte, Technical Filing, July 10, 2008, p. 3.

wells. The larger buckets would not solve the water problem; they would worsen it. Similarly, to be concrete, in most of Comcast's markets, a set of 125 houses sharing a ~10 Mbps DOCSIS 1.1 uplink *continues to be* a set of 125 houses sharing a ~10 Mbps DOCSIS 1.1 uplink. The new difference is that each house can now access a larger share of the same-sized upload pool. This makes congestion all the more likely, not less.

Pushing out larger and larger modem configuration files, without network upgrades, is a cheap way to look more competitive than Comcast's network actually might be. Where 15+ Mbps FIOS competes in Comcast markets, Comcast offers tiers that it calls "Blast!" with advertised speeds of "up to" 16 Mbps.³⁵ Again, although these "upgrades" are recent, they are not in any area where Comcast has celebrated a DOCSIS 3.0 deployment, and appear to be more of a response to underinvested areas where FIOS is soon to be available.³⁶ The upgrades do not solve Comcast's congestion problems, even if they merely permit users to access higher speeds during the rare times nobody else is on the network. Such announced "upgrades" are common for Comcast; in July 2005, facing the limited competition from DSL providers' round of price cuts,³⁷ Comcast announced "upgrades" to the current 6 Mbps/8 Mbps.³⁸ These upgrades were nearly cost free as they simply involved pushing out larger modem configuration files in most cases, yet they did not increase local capacity.

As a result, in most cases, Comcast has oversold and continues to oversell its technology-limited bandwidth pools beyond all reasonable statistical multiplexing. Uplink speed increases like those touted by Comcast only provide a larger share of an overtaxed and fixed resource. Although Internet bandwidth demand has long remained at a steady growth rate of doubling every two years or so, and is predicted to continue to do so³⁹, while technologies get cheaper and faster following Moore's Law, panicky tactics like P2P upload blocking and non-Standard congestion mechanisms indicate that Comcast has simply stopped trying to keep up with this predictable increase in demand, and to disinvest in our information infrastructure.

7. Comcast's Network Management Webpage

Comcast claims its webpage⁴⁰ provides information to consumers regarding Comcast's network management policies. This page, which was posted the day Comcast replied to our Complaint, provides an insufficient level of detail to allow consumers to know if and how they will be affected by Comcast's non-Standard method of management. The page advises that its technique will result in "delayed response times for Internet traffic only for those customers who are using more than their fair share of available Internet resources at the time." The page has no information about how much is "fair share", how long is "delayed" (or if delay means "block"

³⁵ See <http://www.dslreports.com/forum/r18769343-Is-Blast-available-in-your-area-Not-PowerBoost-Pt-2>.

³⁶ Bob Fernandez, "FIOS: Nearing Full Speed," *The Philadelphia Inquirer*, Feb. 24, 2008, Available at http://www.philly.com/inquirer/business/20080224_FiOS_Nearing_Full_Speed.html. ("Industry experts refer to FiOS as "fiber-to-the-home," which leads to faster Internet speeds. Comcast says its own network contains 125,000 miles of fiber-optic wire, and the company is offering a higher-speed Internet service, sold as Comcast Blast. "Competition is nothing new, and we love our competitive position," said Comcast spokesman Jeff Alexander.")

³⁷ Jeffry Bartash, "Battle for high-speed users intensifies: Phone, cable firms clash in race for more market share," *MarketWatch*, May 15, 2005, Available at <http://www.marketwatch.com/News/Story/Story.aspx?guid={8A4E9642-BB31-4C0C-8CC3-ED018C987088}>.

³⁸ Cynthia Brumfield, "Comcast Ups the Speed Ante with 6 Mbps/8Mbps Service," July 12, 2005, Available at http://www.ipdemocracy.com/archives/000192comcast_ups_the_speed_ante_with_6_mbps8mbps_service.php.

³⁹ Free Press et al. Reply Comments at 16-17.

⁴⁰ Comcast.net Terms Of Service - Network Management Policy, <http://www.comcast.net/terms/network/>.

users and “degrade” applications), nor how their applications are supposed to detect whether a particular desired communication is possible.

We do note, however, that Sandvine is selling a new product—called FairShare.⁴¹

It is impossible for innovators to design compatible and interoperable network applications for proprietary networks like the one that Comcast is creating. The Internet boom was created because the network is based on open and detailed Internet Standards,⁴² which ensure that network products created anywhere, work across the globe.

8. Same Playbook, Same Trick Play, Different Quarter

The Commission should not fall for Comcast’s argument that the market can protect an open Internet from Comcast’s anti-consumer actions, as evidenced by a few side-deals Comcast cut with small companies. We have already addressed this argument, and the Chairman has rejected it.⁴³ In short, Comcast’s side-deals are the product of government scrutiny and Comcast’s desperate desire to frustrate FCC action.⁴⁴ The deals had nothing to do with the consumer complaints here, nor do they rectify Comcast’s past and continued use of blocking technologies. In addition, we call the Commission’s attention to Comcast’s pattern of cutting deals when the FCC is looking, and then using market power and bottleneck control to destroy competition when FCC attention moves to new challenges.

Indeed, Comcast is using the same playbook with the open Internet that it used a few years ago during the ISP open access debate. The ISP open access debate centered on whether or not consumers would be able to access any ISP over the cable lines, and not just cable’s affiliated ISP.⁴⁵ The cable industry argued that the FCC need not require “open access” because the market would handle the issue of ISP competition. Indeed, Comcast kept making deals with small ISPs and filing their press releases with the Commission as evidence that regulation was unnecessary. When the Commission granted Comcast relief and trusted the (uncompetitive) market, Comcast did the exact opposite of what it assured the Commission—it denied access to independent ISPs. Comcast is trying to return to the same exact tactic here.

Beginning about a month after both the Harvard hearing and the due date for Reply Comments, Comcast began pointing to private “agreements” or “discussions” with other companies. Comcast would file ex partes to highlight these side deals and claim that FCC action was unnecessary because the “market” was working just fine.⁴⁶

During the previous episode, in both the relevant open access proceeding and during the Commission’s review of Comcast’s merger with AT&T Broadband, Comcast submitted ex parte filings about recent deals with ISPs, and attached the relevant press release. In a cover letter to an ex parte filed in February 2002, Comcast writes:

⁴¹ Janko Roettgers, “Sandvine’s New Plan to Slow You Down,” NewTeeVee, May 20, 2008, Available at <http://newteevee.com/2008/05/20/sandvines-new-plan-to-slow-you-down/>; Sandvine Press Release, “ Sandvine Unveils Fairshare™ Product To Enhance Traffic Optimization,” May 19, 2008, Available at http://www.sandvine.com/news/pr_detail.asp?ID=169; See also Free Press Ex Parte, Residual Issues at 5-6.

⁴² Internet Official Protocol Standards – The Internet Society, Internet Engineering Task Force (IETF), STD 1, May 2008, <http://tools.ietf.org/html/rfc5000>.

⁴³ See Statement by Chairman Martin, March 27, 2008, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-281165A1.pdf; Press Release of Free Press, March 27, 2008, <http://www.freepress.net/node/37939>.

⁴⁴ Free Press Ex Parte, June 12, 2008, Residual Issues Memo at 17-18.

⁴⁵ Free Press et. al Petition for Declaratory Ruling at 4.

⁴⁶ See Comcast filings on March 28, 2008, April 9, 2008, April 16, 2008 and July 10, 2008.

We pointed out that this announcement...provides concrete evidence of Comcast's intention to afford high-speed Internet customers a choice of ISPs and of the ability of industry participants to make the necessary arrangements through voluntary, commercial negotiations.⁴⁷

Comcast uses a similar tactic in March 2008, during this proceeding. The ex parte cover letter states:

I emphasized the wisdom of the Congressional policy...to rely on the marketplace rather than government regulation to advance the provision of Internet services. The attached press release -- issued jointly by Bit Torrent, Inc. and Comcast Corporation this morning -- demonstrates again the fundamental wisdom of this approach.⁴⁸

Both then and now, Comcast would make incentive arguments. In urging the Commission to allow the swallowing of AT&T broadband, Comcast notes that no incentive exists for the company to do what the Commission fears: "AT&T Comcast will have a significant incentive to continue to work with independent ISPs."⁴⁹ In their comments *in this proceeding*, Comcast states "Comcast and other broadband Internet service providers have every incentive to provide their customers with the highest level of service and the best Internet experience possible."⁵⁰

In other filings in 2002, Comcast stated, "Comcast is committed to negotiating mutually beneficial commercial arrangements with independent ISPs."⁵¹ *In this proceeding*, in testimony before the Commission at Harvard in 2008, Comcast's representative stated, "We are collaborating with others in the industry to devise network management solutions that will be mutually beneficial to network operators, P2P software firms, and consumers."⁵²

In 2002, Comcast continued by suggested a competitive disadvantage would discipline them:

If Comcast were to forego commercially reasonable arrangements with independent ISPs, it would put itself at a competitive disadvantage versus other providers of Internet services particularly DSL providers.⁵³

⁴⁷ Ex Parte of Comcast, Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, Docket No. 00-185, Feb. 27, 2002, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513079667.

⁴⁸ Comcast Ex Parte, March 27, 2008.

⁴⁹ Comcast Corporation and AT&T Corporation, Reply to Comments and Petition to Deny Applications for Consent to Transfer Control, MB Docket No. 02-70, May 21, 2002, p. 94, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513194657.

⁵⁰ Comcast Comments at 11.

⁵¹ Letter from Comcast, MB Docket No. 02-70, July 2, 2002, p. 18, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513200839.

⁵² Statement of David L. Cohen, Executive Vice President, Comcast Corporation, Harvard En Banc Hearing, Feb. 25, 2008, p. 11, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519844216.

⁵³ Letter from Comcast, MB Docket No. 02-70, July 2, 2002, p. 19, Available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513200839.

And in testifying before Congress in 2006, David Cohen stated:

If Comcast were to try to “deny, delay, or degrade” the Internet experience that our more than nine million cable Internet customers have paid for, how can we possibly expect to keep them as customers?⁵⁴

Comcast also repeats similar assurances of a “commitment” to do what the Commission desires. In the AT&T Broadband merger application, Comcast stated, “AT&T Comcast is fully committed to negotiating mutually beneficial service agreements with Internet service providers (“ISPs”) so that its cable customers will have a choice of ISPs.”⁵⁵ In their latest filing with the Commission, Comcast states, “we are committed to provide network management solutions that benefit consumers and competition.”⁵⁶ These promises are also made in the press, then and now,⁵⁷ in addition to false statements to the FCC and Congress.⁵⁸

In the open access debate, the Commission fell for Comcast’s false promises. After gutting FCC rules and the accompanied FCC scrutiny, the industry quickly changed its tune. A *Washington Post* article from October of 2003 titled “Cable’s Closed Connections” notes “Comcast officials say they are no longer so keen on the idea” of agreeing to these mutually beneficial commercial arrangements.⁵⁹ Joe Waz, Comcast’s vice president for external affairs and public policy counsel commented, “If you don’t need ISPs for basic connectivity to the Internet, what value do they bring to our customers?”⁶⁰ Today, a Comcast customer has no choice for his or her Internet access.

Unfortunately the Commission, under Chairman Powell, was fooled once; “shame on Comcast.” This Commission should not be fooled by Comcast, like Chairman Powell’s was.

9. Some of the Vague Deals Do Not Affect Congestion or Have Already Ended

Comcast’s deals are even, as we noted previously, “puzzling.”⁶¹ First, Comcast announced⁶² a consumer “Bill of Rights,” and then abandoned that Bill a few weeks later.⁶³ Clearly, that side deal is now ineffective.

Second, the P4P initiative, which Comcast became an “observer” of in February 2008⁶⁴ (the month initial and reply comments were filed), causes more, not less, local congestion on

⁵⁴ Testimony of David L. Cohen, Hearing on "Reconsidering Our Communication Laws: Ensuring Competition and Innovation," U.S. Senate Committee on the Judiciary, p. 10, June 14, 2006.

⁵⁵ Comcast Corp. and AT&T Corp., Applications and Public Interest Statement, February 28, 2002, p. 5, Available at http://www.fcc.gov/transaction/att-comcast/comcast_appli022802.pdf.

⁵⁶ Comcast Ex Parte, Technical Filing, July 10, 2008, Attachment A.

⁵⁷ See for example, *The Register*, “AT&T Comcast says customers will have ISP ‘choice’,” April 2, 2002, Available at http://www.theregister.co.uk/2002/04/02/at_t_comcast_says_customers/.

⁵⁸ Free Press et al. Comments, Appendix 2; Free Press et al. Reply Comments at 44, Appendix 1.

⁵⁹ Christopher Stern, “Cable’s Closed Connections,” *Washington Post*, Oct. 11, 2003, Available at <http://www.washingtonpost.com/wp-dyn/articles/A10455-2003Oct10.html>; See Cite in n. 51.

⁶⁰ Id.

⁶¹ Free Press Ex Parte, June 12, 2008, Residual Issues Memorandum at 19-20.

⁶² Comcast Ex Parte, April 16, 2008.

⁶³ Janko Roettgers, “Comcast Abandons P2P Bill of Rights,” NewTeeVee, May 6, 2008, available at <http://newteevee.com/2008/05/06/comcast-abandons-p2p-bill-of-rights/>.

⁶⁴ Comments of Distributed Computing Industry Association at 2.

Comcast's network. P4P aims to localize peer-to-peer transfers,⁶⁵ which benefits cable companies in reducing the transit costs they have to pay to backbone providers. But P4P does not reduce last mile congestion, which was Comcast's excuse for blocking,⁶⁶ In fact, P4P increases local congestion, so Comcast's deal is probably "for show." A cable industry trade publication reached the same conclusion:

*While P4P addresses inter-ISP peering, backbone traffic and routing capacity issues, it appears to do little, if anything to solve the local access congestion problems of the HFC access network. No matter how much the P2P hops are localized, the aggregate impact of any given user's request for a P2P-based content file on the downstream traffic in the local service area is unchanged. Moreover, as more of the P2P content is aggregated from local, cable-connected caching points, there is more content flowing from those caching points over the upstream paths of the access network, effectively increasing the amount of local upstream traffic in the cable network.*⁶⁷

Far from providing a solution to these claims of congestion, P4P would increase neighborhood congestion levels in the upstream direction, the most concerning type of congestion worrying cable providers today. These facts fly in the face of recent testimony before the Senate Commerce Committee by an NCTA representative:

Cable companies and other broadband providers are working hard to find ways to address concerns about network congestion and create consumer-friendly options that allow the majority of users to access content at the speeds needed. The "P4P Working Group"...is one such effort.⁶⁸

As a result, one of Comcast's supposed deals magnifies the problem they claim to be working to solve.

This is one of many technical misrepresentations Comcast has made. Perhaps counting on a petition for declaratory ruling not to impose a duty of candor to the Commission, Comcast has decided to lie loudly and repeatedly.

⁶⁵ Verizon Comments at 37. We are also skeptical of any proprietary solutions, through P4P or otherwise.

⁶⁶ Chloe Albanesius, "Comcast Admits Delaying, Not Blocking, P2P Traffic," *PC Magazine*, October 22, 2007, available at <http://www.pcmag.com/article2/0,1759,2204751,00.asp>; Comcast Comments, Feb. 12, 2008, at 27; Comcast Ex Parte, May 16, 2008, http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520010123; Comcast FAQ, "How does Comcast manage its network?" <http://help.comcast.net/content/faq/Frequently-Asked-Questions-about-Network-Management#how>.

⁶⁷ Peter Lambert and Fred Dawson, "Cable Wins Points on P2P but New Issues Loom," May 2008, *ScreenPlays Magazine*, Available at <http://www.screenplaysmag.com/pdflib/sp508c.pdf>. [emphasis added]

⁶⁸ Testimony of Kyle McLarrow, President and CEO, National Cable & Telecommunications Association, Before the Senate Commerce Committee, April 22, 2008.

Conclusion

After nine months, two informative hearings, comments from thousands of Americans, technology companies, network providers, consumer groups and scholars, the Commission should act decisively to protect consumers and set a precedent for an open Internet, as we first urged in November, 2007.

Sincerely,

Free Press
Consumer Federation of America
Consumers Union
Media Access Project
Public Knowledge