Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
	)	

REPLY COMMENTS OF PUBLIC KNOWLEDGE, *ET AL.*

PUBLIC KNOWLEDGE
CONSUMER FEDERATION OF AMERICA
EDUCAUSE
ELECTRONIC FRONTIER FOUNDATION
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SUMMARY

NBC Universal ("NBC") has asked the Commission to require that broadband providers "use readily available means to prevent the use of their broadband networks to transfer pirated content."[1] While we agree that there are appropriate ways to discourage copyright infringement on the Internet, NBC's call to require that broadband providers use "bandwidth management tools" to effect this end is misguided. Any attempt to use this technology to control what may be done on the Internet will have serious unintended consequences. Particularly, these technologies limit First Amendment freedoms, stifle innovation, threaten personal privacy, and do little to address the underlying problem. Additionally, NBC's proposal invites the FCC to exceed its jurisdiction.

The Internet has been successful in large part because it is a non-discriminatory network that allows many different kinds of applications to operate over it. Attempts to filter the Internet to remove certain kinds of applications threaten this openness and would make it difficult for new kinds of innovative applications to be adopted. Technological network filters are impermissibly overbroad in that they limit lawful expression and fair use. They are also ineffective because determined infringers and new technologies will always be able to evade the filters. Furthermore, the FCC has no jurisdiction to mandate systems that would interfere with copyright law and contravene Supreme Court decisions.

NBC's call to filter the Internet is particularly misguided in that superior means exist by which content providers can protect their interests. Existing legal tools, consumer education, alternative licensing regimes, and improved offerings by content providers are all means by which creators can be paid without changing the nature of the Internet.

[1] Comments of NBC Universal, Inc., WC Docket No. 07-52, at 8 (June 15, 2007), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519528962.

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Public Knowledge, Consumer Federation of America, EDUCAUSE, Electronic Frontier Foundation, Electronic Privacy Information Center, FreeCulture.org, Free Press, Knowledge Ecology International, Media Access Project, New America Foundation, and U.S. Public Interest Research Group hereby submit these *Reply Comments* solely to address matters raised by NBC in its filing of June 15, 2007, in the above-captioned proceeding.[2] NBC asks the Commission to require that broadband providers "use readily available means to prevent the use of their broadband networks to transfer pirated content."[3] For the following reasons, Public Knowledge, *et al.*, urge the Commission to deny NBC's request.

INTRODUCTION

The Internet owes much of its success to the ease with which information can be copied from one computer to another. "Copying" is ubiquitous with all Internet applications. To download or upload a file is to make a copy. When you send an email or access a web page, you are making a copy. On the Internet, to communicate is to copy. Security expert Bruce Schneier has said that "[m]aking digital files not copyable is like making water not wet[.]"[4] The Internet's

[2] Comments of NBC Universal, Inc., WC Docket No. 07-52, at 8 (Jun. 15, 2007).

[3] Id.

[4] Steve Hamm, *Sony BMG's Costly Silence*, BUSINESS WEEK, Nov. 29, 2005, http://www.businessweek.com/technology/content/nov2005/tc20051129_938966.htm.

success is also due to its flexibility — it is simply a medium through which many different kinds of applications communicate. Network operators have traditionally not tried to govern what kinds of applications use the Internet. The ease with which computers are able to copy digital information, and the multiplicity of methods they use to do so, has led to widespread file-sharing, including unauthorized sharing of copyrighted material. This troubles some copyright holders, and poses a threat to some companies' current business models. But companies need to adapt to technological progress, not devote their energies to stopping it. We agree that rights-holders and content creators need to be paid for their work. This can be ensured, however, without drastically changing the nature of the Internet.

NBC has asked the FCC to require that broadband providers "use readily available means to prevent the use of their broadband networks to transfer pirated content."[5] NBC elaborates that

> [w]hether those means consist of relatively low-tech but potentially effective steps such as forwarding notices to customers who have been identified as infringers, or using increasingly sophisticated bandwidth management tools as and when they come online, the obligation to deploy such measures must be explicit.[6]

Voluntary industry efforts are already underway on this score, and NBC has presented absolutely no evidence that government regulatory mandates are necessary or will prove effective. For example, according to Bob Wright, Vice Chairman of General Electric and former head of NBC Universal, six of the eight largest ISPs in the United States plan voluntarily to adopt a "notification" system to respond to concerns like those raised by NBC.[7] Rather than rushing to impose regulatory obligations on ISPs at this early stage, it makes more sense to monitor the outcomes of these voluntary efforts.

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[5] Comments of NBC Universal at 8.

[6] Id.

[7] Nate Anderson, *GE exec: Piracy puts America's "overall economic health at risk,"* ARS TECHNICA, Jun. 20, 2007, http://arstechnica.com/news.ars/post/20070620-former-nbc-head-we-need-better-filtering-tools-to-fight-piracy.html.

We principally object to the supposed "bandwidth management tools" that NBC thinks will help curb widespread copyright infringement. We believe that such tools are ineffective at best, harmful at worst, and always undesirable as a matter of public policy.

I. NBC'S CALL TO REQUIRE THAT ISPs FILTER THE INTERNET OF COPYRIGHT INFRINGEMENT SHOULD BE REJECTED

NBC vaguely speaks of "increasingly sophisticated bandwidth management tools"[8] when it means *network filters*. Network filters are tools network operators use in attempts to prevent their networks from being used to transmit certain kinds of content. Unlike previous attempts to control content by requiring that consumer devices respect digital watermarks,[9] network filters may not require that consumer hardware be redesigned by federal regulatory mandate. However, the effect that network filters have on the uses to which consumer devices may be put is perhaps even more severe.

There are two primary kinds of Internet filtration technology: Content inspection and traffic analysis. Content inspection technologies look at the packets of data that are being transferred in order to determine whether those data are infringing. If the data are infringing, the technology blocks the transfer.[10] Traffic analysis technology does not look at the data, but at the kind and nature of the data traffic. By analyzing the data traffic, the technology attempts to determine what application is sending the data. If the application appears to be one that the network operator has decided to block, the technology blocks the transfer.

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[8] Comments of NBC Universal at 8.

[9] Digital Broadcast Content Protection, *Report & Order & Further Notice of Proposed Rulemaking*, 18 FCC Rcd. 23,550 (2003).

[10] Generally speaking, because copyright is not a physical property, content inspection technologies must operate by comparing an examined work against a database of works — it is not enough to merely determine that a particular data packet contains, e.g., video. It would also be necessary to have some means to determine which uses are legal and which not. The maintenance of such a database is potentially costly and error-prone.

Network filtration technologies, however they work, are both over- and underinclusive. They are overinclusive in that they block transfers of legitimate content, whether through simply shutting down certain kinds of applications, by preventing the lawful use of copyrighted material, or through other false positives.[11] They are underinclusive in that they fail to stop the traffic in infringing material. In fact, *any foreseeable* filtration technology would suffer these defects. Mandating the use of an overinclusive technology would have an unconstitutional chilling effect on free speech. Mandating the use of an underinclusive technology would be a costly distraction and, like previous attempts to mandate copyright protection technologies, beyond the FCC's authority.

A. Blocking Applications from the Internet Would Chill Free Speech and Stifle Innovation

A careful reading of NBC's filing suggests that it would like traffic analysis systems to block access to technologies that can be used for copyright infringement — for instance, it claims that consumers are not entitled to use "applications that allow" infringement.[12] Statements made elsewhere by NBC also indicate that they support traffic analysis technology. NBC General Counsel Rick Cotton has said that

> AT&T deserves praise for stepping up to the challenge of developing technology that protects copyrighted content and doesn't intrude in any way on the privacy of its customers.[13]

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[11] Allot Communications explains,

> False positives is the basic terminology referring to misclassification — or in simple terms — the likelihood that an application will be identified as something it is not. If [deep packet inspection] is being used for guiding a subscriber management tool, this may lead to wrongful actions.

ALLOT COMMUNICATIONS, DIGGING DEEPER INTO DEEP PACKET INSPECTION (DPI), at 4 (Apr. 2007), http://www.getadvanced.net/learning/whitepapers/networkmanagement/Deep%20Packet%20Inspection_White_Paper.pdf.

[12] Comments of NBC Universal at 7.

[13] Sanford Nowlin, *AT&T Slammed Over Piracy Plan*, SAN ANTONIO EXPRESS-NEWS, Jun. 15, 2007, *available at* http://contentagenda.com/articleXml/LN627585829.html?industryid=45174.

As an initial matter, it is not at all clear that traffic analysis technology will adequately protect privacy.[14] To the extent it does, however, it does so by simply blocking *all* content transmitted in certain ways, regardless of whether it is infringing.

1. Network Filters Would Stifle Innovation

As discussed above, the most troubling aspect of traffic analysis technologies is touted as a strength:[15] that they block applications, and not content. *By design*, these technologies[16] block methods by which computers communicate on the Internet. They block *all* traffic transmitted in certain ways — authorized and unauthorized copyrighted content, public domain works, fair uses and infringing material. One Canadian ISP, Rogers Internet, reportedly blocks or degrades *all* encrypted traffic, making it difficult for some University of Ottawa students to even use their email.[17] Technologies that are similar to those being targeted may find themselves blocked. Creators who rely on peer-to-peer technology to legally distribute content could find it more difficult to reach their audience. In attempting to satisfy the needs of one industry, traffic analysis technologies drastically reduce the usefulness of the Internet, replacing its open nature

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[14] Content inspection technologies unarguably raise serious privacy concerns. They examine data packets in order to determine whether content is infringing. This is akin to requiring FedEx to inspect each of the packages it carries for bootleg tapes, or that an ISP read each of the emails it transmits to determine whether any contain libelous material. It is not possible to limit inspection only to packets likely to be infringing, or to limit an inspection to only some part of the packet, such as its header information. To evade detection, bad actors can already make their packets indistinguishable from packets used for activities like web browsing and email, and, if they feel the need to do so, will. Therefore, any content analysis technology, to remain effective, must eventually increase its scope of monitoring until *all* Internet traffic is monitored. Some traffic analysis technologies also involve the inspection of the content of data packets. The fact that some traffic analysis technologies evade these concerns only to replace them with a new set of problems is no argument in their favor.

[15] "cGRID::Integrity respects privacy and focuses on the way the files are sent, not the particular movie or song being shared." Red Lambda, cGRID::Integrity Overview, http://www.redlambda.com/products.php (last visited Jul. 10, 2007). *See also* statement of Rick Cotton, *supra*.

[16] Such as SafeMedia's Clouseau, or the offerings of Red Lambda. *See* Red Lambda, http://www.redlambda.com (last visited Jul. 10, 2007); *see also* SafeMedia, http://www.safemediacorp.com (last visited Jul. 10, 2007).

[17] *The Unintended Consequences of Rogers' Packet Shaping*, Michael Geist's Blog, http://www.michaelgeist.ca/content/view/1859/?a=1 (Apr. 5, 2007).

with a system in which new kinds of applications must ensure they do not run afoul of the machine-enforced "rules." This kind of network filtration is dangerously overinclusive.

When the motion picture industry attempted to have VCRs declared illegal,[18] it was targeting a single, particular technology that it viewed as a threat. A traffic analysis scheme goes even further: it would impose a system whereby whole categories of technology would be presumptively banned. Banning Internet applications and protocols sets a dangerous precedent, and could lead to network operators blocking other kinds of protocols. Nearly *any* Internet protocol can be used to illegally transfer copyrighted materials — instant messaging, the web, email, and many other protocols are capable of being used for this purpose.[19]

Applications such as Joost and Miro (formerly Democracy Player) use peer-to-peer technology to distribute video content legally. Government-imposed blocks on peer-to-peer technologies could restrict these legal platforms' ability to exist, and limit the means by which creators can find an audience. Developers often distribute their software with BitTorrent as a bandwidth-saving measure.[20] Some musicians have also used the technology.[21] Other technologies, such as Internet telephony application Skype, also rely on peer-to-peer connections — indeed, the Internet itself largely operates on a peer-to-peer basis. Attempts to fix the problem of copyright infringement by changing the very nature of the Internet are certain to have serious and damaging unintended consequences.

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[18] *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417, 489 (1984) (Sale of copying equipment is not contributory infringement if the product is capable of substantial noninfringing uses).

[19] Usenet and IRC are examples of long-standing Internet applications widely used both for legitimate purposes (discussions and chat, respectively) as well as for unauthorized file-sharing.

[20] *See, e.g.*, Ubuntu BitTorrent Tracker, http://torrent.ubuntu.com:6969/ (last visited Jul. 10, 2007); Downloading Debian CD images with BitTorrent, http://www.debian.org/CD/torrent-cd/ (last visited Jul. 10, 2007).

[21] The rock band Ween, for instance, maintains a BitTorrent tracker to distribute their music. Brown Tracker, http://www.browntracker.net (last visited Jul. 10, 2007).

In addition to limiting current applications, NBC's desire to protect its revenue by limiting copyright infringement could also have the effect of preventing new channels of content distribution — the next YouTube or Miro — from coming into being. The current generation of media companies should not be able to prevent the next generation from coming into being under the guise of preventing copyright infringement. An open Internet ensures that developers and entrepreneurs invest time and money into developing innovative new applications. An open and neutral Internet, not one hobbled to serve the needs of a minority, will best allow consumers to enjoy the benefits of "innovation without permission."[22]

2. It is Unconstitutional to Contravene Fair Use

NBC discusses "legal" and "illegal" uses of video content, without recognizing that the principle of fair use makes distinguishing between these complex. It calls for the use of "readily available means to prevent the use of … broadband capacity to transfer pirated content,"[23] but no method that fails to take into account the principle of fair use can be squared with our copyright traditions or constitutional values.

A copyright holder does not have complete control over the copyrighted work.[24] It is the limitations on copyright that keep it from conflicting with the First Amendment. Fair use and other doctrines are principles that allow for free expression. As the Supreme Court has explained,

> Copyright … does not impermissibly restrict free speech, for it grants the author an exclusive right only to the specific form of expression … and it allows for "fair use" even of the expression itself.[25]

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[22] *See* Letter from Wireless Founders Coalition to Chairman Kevin Martin, WT Docket Nos. 06-150, 96-86, PS Docket No. 06-229, at 3 (June 7, 2007) ("What makes the Internet so friendly from an entrepreneur's perspective is its Openness. One does not have to ask … permission to launch a new product, service, or device. To borrow the Nike slogan, you can 'just do it.'"), *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519535073.

[23] Comments of NBC Universal at 8.

[24] Exclusive rights "do[] not give a copyright holder control over all uses." *Fortnightly Corp. v. United Artists*, 392 U.S. 390, 393 (1963).

A fair use of copyrighted work is therefore protected free speech. Network filters not only threaten such uses as comment, criticism, and parody. Other kinds of lawful uses, such as the creation and transfer of backup copies, time- and space-shifting, and "me to me" transfers (where a computer user transfers legally-purchased content from one device to another over the Internet) may be impossible to distinguish from infringing transfers, and blocked by a network filter. NBC seems to suggest that network filtration would be a straightforward matter, but the nuances of copyright law make distinguishing lawful from infringing uses of content a matter that cannot be relegated to an automated "bandwidth management tool."

No law should "allow any copyright owner, through a combination of contractual terms and technological measures, to repeal the fair use doctrine."[26] Because an "unauthorized" use is not necessarily an illegal one, no technology or method[27] should give the desires of a copyright holder priority over the First Amendment.

B. Network Filters Cannot Be Effective

In addition to being overinclusive, network filters are underinclusive in that determined copyright infringers and new technologies will always find a way around them.[28]

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[25] *Eldred v. Ashcroft*, 537 U.S. 186, 197 (2003).

[26] *Chamberlain Group, Inc. v. Skylink Technologies, Inc.*, 381 F.3d 1178, 1202 (Fed. Cir. 2004).

[27] Including FCC regulations, onerous licensing and adhesion contracts, and "back-door" means like anti-circumvention laws or mandated network filters.

[28] In addition to the technological measures that may be employed to bypass network filters, much trading of copyrighted material takes place via the "sneakernet," which consists of burnt media, flash drives, and portable hard drives being used to exchange data more efficiently than can be done even over broadband. No network filtration technology can affect this form of file-sharing. According to the NPD group, the "'social' ripping and burning of CDs among friends — which takes place offline and almost entirely out of reach of industry policing efforts — accounted for 37 percent of all music consumption, more than file-sharing[.]" Jeff Leeds, *Plunge In CD Sales Shakes Up Big Labels*, NEW YORK TIMES, May 28, 2007, at E1, *available at* http://www.nytimes.com/2007/05/28/arts/music/28musi.html (subscription required). *See generally* Paul Boutin, *Sneakernet Redux: Walk Your Data*, WIRED, Aug. 8, 2002, http://www.wired.com/culture/lifestyle/news/2002/08/54739.

Content inspection technologies can only operate when data packets are not encrypted.[29] Most peer-to-peer technologies today do not encrypt their data, but many do and all can. Any content inspection technology (such as Audible Magic) will be at best temporarily effective, inconveniencing users and developers of peer-to-peer technology until they migrate to an encrypted system. It is worth bearing in mind that the same technologies that peer-to-peer systems use to encrypt their traffic are the very same technologies used to secure billions of dollars of online transactions annually, and by the world's military forces and diplomatic services to secure their communications. Encryption technologies are effective and useful not only to governments and banks, but to companies that wish to maintain confidential communications, to individuals who encrypt the contents of their laptop computers' hard drives to maintain privacy in the event of theft or loss, and to anyone interested in authenticating the authorship of electronic materials through the use of digital "signatures." In short, claims by vendors to have technologies that make encryption useless should be looked at with the highest degree of skepticism — were such a technology to actually be invented, it would be of more interest to the banking industry and the National Security Agency than to the content industry.[30]

Traffic analysis technologies which seek to prevent certain kinds of applications from using the network can also be defeated, by using "masking" strategies. As with content inspection technology, it makes no sense to mandate the use of ineffective technology. Simplistic

[29] "The use of encryption for obfuscation purposes typically prevents the use of content-based inspection as it is, by definition, scrambled." Allot Communications, *Digging Deeper Into Deep Packet Inspection (DPI)* 8 (April 2007), http://www.getadvanced.net/learning/whitepapers/networkmanagement/Deep%20Packet%20Inspection_White_Paper.pdf.

[30] Furthermore, attempts to block traffic simply because it is encrypted would also block these myriad, vital uses of encrypted content.

attempts to block Internet traffic by filtering packets by "port number" are easily defeated.[31] There are also more sophisticated means, such as "deep packet inspection," which attempt to look at the quantity and nature of a given user's traffic in an attempt to determine whether that user is transferring large files or using certain applications. Even assuming that the technology could distinguish typical peer-to-peer file transfers (of both infringing and noninfringing material) from legitimate web and email downloads, Internet applications can be designed to shape their traffic in ways that make them appear to be what they are not.[32] For instance, an application like WASTE is already capable of maintaining a steady data connection between two peers, whether or not any data is actually being transferred.[33] An eavesdropper is therefore unable to determine whether, at any given time, a file transfer is even taking place. Similar strategies that mask and shape data traffic between computers can make any attempt to block traffic based on kind of application futile or overinclusive to the point of disabling the Internet.[34]

The only way to block more infringing content is to widen the net such that more noninfringing content is also inadvertently blocked. As infringing traffic moves into new and harder-to-detect networks, filtration technologies will continue to block legitimate and noninfringing traffic. Should ISPs attempt to widen the net to account for new types of infringing

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[31] Different Internet protocols mark their data packets with different "port" numbers. For instance, most web traffic is carried on port 80, which means that data packets intended for display in a web browser are "labeled" with the number 80. A computer's software knows, based on this label, to pass along data that was labeled "80" to the web browser. These port numbers are arbitrary and changeable. A given Internet application could arrange to use any port number. A peer-to-peer application could be designed to use, e.g., port 80. Any attempt to block the application by means of filtering out all data packets belonging to port 80 would also have the effect of blocking normal web traffic.

[32] Any kind of analysis (string match, numerical properties, or behavior and heuristics) can be defeated through combinations of masking, obfuscation and encryption.

[33] WASTE can mask its protocol, making it difficult to detect that it is being used. It also has a "saturate" capability which adds random traffic to connections. WASTE, http://waste.sourceforge.net/index.php (last visited Jul. 10. 2007).

[34] *The Unintended Consequences of Rogers' Packet Shaping*, *supra* note 18 at 5 fn. 12.

traffic, they will generate even more false positives and block even more noninfringing content. Network filters are therefore a losing game for ISPs, content providers, and innocent, noninfringing users. Putting these ineffective non-solutions into place would be a waste of government and private resources and would not stop widespread infringement or ensure that content creators are paid for their work.

C. NBC's Argument Depends on Factual and Policy Mischaracterizations

NBC uses mischaracterizations to make its case for government mandated network filters. The oddest of its claims attempts to frame copyright infringement as implicating the economy at large. It claims that

> [I]n the absence of movie piracy, video retailers would sell and rent more titles. Movie theaters would sell more tickets and popcorn. Corn growers would earn greater profits and buy more farm equipment.[35]

This kind of reasoning has no merit. NBC's specious attempt to follow the chain of cause and effect to its absurd limits[36] is driven by the fact it is a minority copyright holder engaged in special pleading for government favors. The collective intellectual property holdings of members of such organizations as the MPAA and the RIAA are vastly outnumbered by the copyrighted works created by ordinary citizens. Blog posts, emails, and home movies are all copyrighted — as well as most elements of the emerging free culture, including Wikipedia, Linux, Firefox, and other free software. When an organization like NBC speaks, it speaks for itself, and not for content creators generally. Its attempt to restrict the Internet's uses through obtrusive filtering technology would harm, not help, the majority of copyright holders.

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[35] Comments of NBC Universal at 3.

[36] One could as easily argue that the money consumers save by not buying movie tickets they instead use to eat out in restaurants, thus helping farmers, restaurant owners, the automobile industry, and parking valets.

NBC's statement that "[a]s much as 60-70% of traffic on the Internet consists of P2P file transfers by a very small minority — fewer than 5% — of users"[37] suggests that their proposed solutions only target a small number of individuals. But NBC's proposal would not just affect heavy copyright infringers; it would impose restrictions and monitoring on *all* Internet users.

Likewise, NBC's focus on a particular type of application is misguided. Internet usage patterns can change in what is, in the policy context, the blink of an eye. For instance, some evidence suggests that streaming video services have become the dominant form of Internet traffic.[38] Technologies that are lambasted by the content industry may be adopted as tomorrow's favored content distribution mechanism. YouTube has been sued for copyright infringement as well as embraced as a novel form of distribution and promotion.[39] Technologies that are embraced today may be left behind tomorrow — already, we see EMI moving away from DRM-protected music downloads.[40] The content industry's crusade against particular kinds of technologies might seem as quaint in a few years' time as the recording industry's erstwhile "Home Taping is Killing Music" campaign or the motion picture industry's own attempt to ban VCRs.[41]

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[37] Comments of NBC Universal at 1.

[38] "Presently, as a result of streaming audio and video in Web downloads, HTTP is approximately 46% of all traffic on the network. P2P continues as a strong second place at 37% of total traffic." Ellacoya Networks, *Ellacoya Data Shows Web Traffic Overtakes Peer-to-Peer (P2P) as Largest Percentage of Bandwidth on the Network* (June 18, 2007), http://www.ellacoya.com/news/pdf/2007/NXTcommEllacoyaMediaAlert.pdf.

[39] *See* Don Jeffrey Bloomberg, *Warner Music, YouTube cut music-video deal*, USA TODAY, Sep. 19, 2006, http://www.usatoday.com/money/media/2006-09-19-youtube-bloomberg_x.htm; Miguel Helft and Geraldine Fabrikant, *WhoseTube? Viacom Sues Google Over Video Clips*, NEW YORK TIMES, Mar. 14, 2007, http://www.nytimes.com/2007/03/14/technology/14viacom.html.

[40] EMI Music, *EMI Music launches DRM-free superior sound quality downloads across its entire digital repertoire*, Apr. 2, 2007, http://www.emigroup.com/Press/2007/press18.htm.

[41] *Sony*, 464 U.S. at 489.

The FCC should not be swayed by NBC's rhetorical feints and willful misunderstandings. The problem of widespread copyright infringement can be mitigated without the drastic measures it proposes.

D. Net Neutrality Does Not Interfere With "Network Management"

NBC would redefine Net Neutrality to allow the kinds of discrimination it favors.[42] This is because it claims that Net Neutrality[43] could interfere with "network management." It claims that "bandwidth hogs threaten the quality of Internet service enjoyed by mainstream broadband subscribers who rely on the Internet principally for e-mail and web browsing,"[44] and that therefore network filtration should be allowed (in fact, required) even in a Net Neutrality regime.

But Net Neutrality does not preclude non-discriminatory traffic shaping — latency-sensitive protocols, such as VOIP, may be prioritized without violating principles of Net Neutrality. These principles only prevent a network operator from prioritizing one carrier's voice traffic, and not another's; and they would prevent a network operator from degrading or blocking certain kinds of applications, like video streaming or peer-to-peer. NBC recognizes that network operators are *already* taking measures of this kind, including

> (1) protocols that slow P2P traffic and allow other types of traffic (such as e-mail and web browsing) to receive the level of service to which they are entitled; (2) terms of service that charge a premium for higher downstream and upstream speeds and higher

[42] Comments of NBC Universal at 8, n.24.

[43] As used here, Net Neutrality consists of a combination of the four principles outlined in the FCC's Broadband Policy Statement, including the right of consumers "to run applications and use services of their choice, subject to the needs of law enforcement[,]" Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Policy Statement*, 20 FCC Rcd. 14,986, 14,988 (2005), along with the preclusion of service providers from "privileg[ing], degrad[ing], or prioritiz[ing] any packet … based on its source, ownership, or destination." Letter from Robert W. Quinn, Jr., Senior Vice President, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 06-74, at 8 (Dec. 28, 2006) (outlining AT&T's merger commitments) *available at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518716381; *see also* Broadband Industry Practices, *Notice of Inquiry*, 22 FCC Rcd. 7894, 7902 (2007) (Separate Statement of Comm. Michael J. Copps) (explaining a neutrality principle that "allows for reasonable network management").

[44] Comments of NBC Universal at 2.

monthly consumption caps; and (3) termination of subscribers who "typically and repeatedly consume exponentially more bandwidth than an average residential user.[45]

Non-discriminatory traffic shaping is probably sufficient to solve most network management problems.[46] However, Net Neutrality also does not prevent ISPs from charging users for the bandwidth they use, or from imposing bandwidth caps. Net Neutrality is concerned with preventing network operators from controlling *how* their users use the network, not *how much* use they make of it.

Because Net Neutrality does not prevent a network operator from managing its network and scarce bandwidth, and because filtration technologies are not required for network operators to manage their networks, it makes no sense to require that network operators monitor their networks for copyright infringement as a network management measure and to protect against "bandwidth hogs."

II. THE FCC SHOULD IGNORE NBC'S ATTEMPT TO INDUCE IT TO EXCEED ITS JURISDICTION

NBC has chosen an inappropriate forum in which to air its grievances. When the Commission asked in the *Notice of Inquiry* "whether any regulatory intervention is necessary,"[47] it was not inviting calls for it to exceed its jurisdiction.

A. The FCC May Not Set Copyright Policy

The FCC has tried to step into the business of copyright regulation before. In its Broadcast Flag ruling,[48] the Commission required that hardware that connects to public networks

[45] Comments of NBC Universal at 6.

[46] Of course, ISPs must follow applicable laws in implementing these measures, including adequately disclosing these limitations to subscribers. *See* Tim Wu, *Wireless Net Neutrality: Cellular Carterfone on Mobile Networks* (New America Foundation Wireless Future Program, Working Paper No. 17, Feb. 2007), (criticizing Verizon for touting "unlimited data access" while imposing a variety of undisclosed bandwidth restrictions on subscribers), *available at* http://ssrn.com/abstract=962027.

[47] *NOI*, *supra* note 43.

contain technology designed to prevent some kinds of copying. The FCC was reversed by the D.C. Circuit, which held that the agency exceeded its authority when it adopted rules requiring digital media devices to prevent some unauthorized (but not necessarily illegal) copying.[49] Before that, the Commission was reversed when it tried to mandate that all broadcasters add video description information to their programming.[50] In both cases, the D.C. Circuit held that the FCC overstepped the authority given to it by Congress.[51] Mandating that network operators use "means to prevent the use of their broadband networks to transfer pirated content"[52] does not constitute the regulation of "communication by wire or radio;"[53] instead, it transforms the FCC into a copyright agency and would in practice limit rights of fair use. The FCC's authority to regulate "communication" does not give it the general authority, absent an express delegation of power from Congress, to regulate content.[54] Additionally, under any mandated scheme of network filtration, disputes would undoubtedly arise hinging on whether a particular *unauthorized* use is in fact an *illegal* one. The FCC has no authority to hear or decide this kind of

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[48] Digital Broadcast Content Protection, *Report & Order & Further Notice of Proposed Rulemaking*, 18 FCC Rcd. 23,550 (2003).

[49] *American Library Ass'n. v. F.C.C.*, 406 F.3d 689 (D.C. Cir. 2005) (Commission exceeded its authority by requiring that devices respect the "broadcast flag").

[50] *Motion Picture Ass'n of Am. v. F.C.C.*, 309 F.3d 796 (D.C. Cir. 2002) (Commission exceeded its authority by implementing video description rules).

[51] *Motion Picture Ass'n.*, 309 F.3d at 801 ("An agency may not promulgate even reasonable regulations that claim a force of law without delegated authority from Congress."). Also, in *American Library Ass'n.*, 406 F.3d at 698, the court explains,

> The FCC, like other federal agencies, 'literally has no power to act … unless and until Congress confers power upon it.' *La. Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 … (1986). The Commission 'has no constitutional or common law existence or authority, but only those authorities conferred upon it by Congress.' *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001). Hence, the FCC's power to promulgate legislative regulations is limited to the scope of the authority Congress has delegated to it. *Id.* (citing *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 … (1988)).

[52] Comments of NBC Universal at 8.

[53] *American Library Ass'n.*, 406 F.3d at 703 ("The Federal Communications Commission may not lawfully exercise jurisdiction over activities that do not constitute communication by wire or radio.").

[54] *Motion Picture Ass'n.*, 309 F.3d at 801.

dispute, and cannot require that network operators become "copyright cops."[55] It has no power at all to regulate copyright absent an express delegation of power. As Sen. Patrick J. Leahy, Chairman of the Senate Judiciary Committee has written, Title 47 "grants … the FCC … no express authority … to address the complex issues of intellectual property matters[.]"[56] The Commission should not heed calls for it to again exceed its authority by instituting policies which would, in practice, constitute copyright law.

B. The FCC May Not Declare That Internet Applications Are Illegal

The FCC does not have the authority to declare that Internet applications, such as peer-to-peer technologies, are illegal and should be blocked from the Internet.[57] The Supreme Court has been clear that while individuals and organizations may break the law, technologies which have substantial non-infringing uses are legal.[58] Furthermore, the FCC's *Broadband Policy Statement* is designed to prevent network operators from blocking consumers from using the applications of their choice.[59] Congress refused to mandate in the DMCA that devices respond to specific technological protection measures[60] because of the belief that "[t]echnology and engineers — not lawyers — should dictate product design."[61] Neither should lawyers dictate what Internet

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[55] *Am. Library Ass'n*, 406 F.3d at 702 ("[T]he Commission may not invoke its ancillary jurisdiction under Title I to regulate matters outside of the compass of communication by wire or radio.").

[56] Letter from Sen. Patrick J. Leahy, Chairman, Senate Judiciary Committee and Rep. F. James Sensenbrenner, Jr., Chairman, House Committee on the Judiciary, *et al*. to Michael K. Powell, Chairman, FCC (Sept. 9, 2002).

[57] *Motion Picture Ass'n.*, 309 F.3d at 801; *American Library Ass'n.*, 406 F.3d at 698.

[58] *See Sony*, 464 US at 789; *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 915 (statements or actions directed to promoting infringement required for seller liability).

[59] Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Policy Statement*, 20 FCC Rcd. 14986 (2005).

[60] "Nothing in this section shall require that the design of, or design and selection of parts and components for, a consumer electronics, telecommunications, or computing product provide for a response to any particular technological measure[.]" 17 U.S.C. § 1201(c)(3).

[61] 144 Cong. Rec. S9936 (daily ed. Sept. 3, 1998) (remarks of Sen. Ashcroft); *accord* 144 Cong. Rec. H7100 (daily ed. Aug. 4, 1998) (remarks of Rep. Klug).

products consumers may and may not use. Any such attempt to block certain kinds of applications from networks would run afoul of the law and sensible policy. Imposing intrusive filters on the Internet will not bring us any closer to a solution that ensures that artists and rights-holders are paid, and will simply drive illegal traffic to use more secretive methods.

III. MARKETPLACE INITIATIVES AND ENFORCEMENT OF CURRENT COPYRIGHT LAW, NOT GOVERNMENT MANDATES, ARE THE BEST METHODS FOR COMBATTING WIDESPREAD INFRINGEMENT

The infringement that has attended the digital revolution is a symptom of rapid change and unmet demand. Recognizing this, the motion picture industry has already taken the first step towards curbing infringement by bringing its offerings more into line with customer demand. Services like Amazon Unbox, Netflix Watch Now, CinemaNow, and Vongo offer online streaming of movies. Apple's iTunes store offers an easy-to-use downloading service for movies and television episodes. In other markets, the cable industry continues to improve its Video-On-Demand offerings, and Netflix, Greencine, and Blockbuster Online have revolutionized traditional movie rentals. NBC Television has offered its programs for free streaming on its website, and ABC and other networks have likewise embraced the Internet and new technologies for both promotion and content distribution. Allowing the market to choose among different distribution methods ensures that a variety of approaches can be explored and employed simultaneously, instead of gambling on a government-mandated, one-size-fits-all scheme.[62]

The lack of readily available legal content, not any particular technology, provides the demand for infringement. Much illegal downloading is still driven by the fact that some movies are available illegally online before they are legally available by any means — for instance, most

[62]One active field of experimentation is discovering whether removing digital rights management from content may increase sales. Sales of legal, DRM-free music from the EMI catalog have been surprisingly brisk. Jacqui Cheng, *EMI says DRM-free music is selling well*, ARS TECHNICA, Jun. 20, 2007, http://arstechnica.com/news.ars/post/20070620-emi-says-drm-free-music-is-selling-well.html.

of the movies nominated for the 2007 Oscars were available online at a time when few were available to be seen either in theaters or through rental.[63] A spokesman for Netflix, which offers an online movie streaming service, has noted that "[w]hether it's Netflix or Apple or Amazon or Wal-Mart.com, we're all facing the same constraint: title availability."[64] We are confident, however, that the market will develop solutions that provide customers what they want, when they want it, at a fair price.[65] It is too early for the government to intervene and attempt to "solve" a problem that may be in the process of solving itself.

There are currently-existing legal tools which content providers can and do use to enforce their rights. The Supreme Court in *Grokster* gave content owners a way to take action against companies profiting from and encouraging infringement.[66] Congress has been responsive to some specialized needs of the motion picture industry, as when in the 2005 Family Entertainment and Copyright Act it created a special cause of action against "leaks of pre-release works and made explicit the illegality of bringing a camcorder into a movie theatre."[67] Because of these and other tools that the content industry has used to combat infringement, the RIAA has

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[63] *Pirating the 2007 Oscars*, Waxy.org, http://www.waxy.org/archive/2007/01/23/pirating.shtml (Jan. 23, 2007).

[64] Joe Hutsko, *All the Films You Want to See, but When?*, NY Times, Jun. 21, 2007, *available at* http://www.nytimes.com/2007/06/21/technology/21basics.html?ex=1183089600&en=0530fcff86915bd4&ei=5070&emc=eta1.

[65] File-sharing does not provide anyone with "free" content — time and inconvenience, as well technical and legal risk are costs of these services. Significant technical knowhow is required to even use many of them.

[66] The Grokster decision has proven useful for content owners. As Gigi Sohn has written,

> The Supreme Court's decision in *MGM v. Grokster* [545 U.S. 913] gave content owners a powerful tool against infringement by holding that manufacturers and distributors of technologies that are used to infringe could be found liable for infringement if they actively encourage illegal activity. As a result, a number of commercial peer-to-peer (P2P) distributors have gone out of business, moved out of the U.S., or sold their assets to copyright holders.

Gigi B. Sohn, *Don't Mess With Success: Government Mandates and the Marketplace for Online Content*, 5 J. ON TELECOMM. & HIGH TECH. L. 73, 84 (2006).

[67] *Id.* at 85.

described the problem of file-sharing as "contained."[68] As discussed above, Bob Wright, Vice Chairman of General Electric and former head of NBC Universal, reports that six of the eight largest ISPs are voluntarily cooperating with the content industry on ways to limit copyright infringement.[69] Policymakers should be chary of giving the content industry more and more means to effectuate the same end, particularly when some of the proposed new means would have the effect of limiting competition and limiting alternative legal means of content distribution.

Alternatives exist to network filters that do not suffer those technologies' fatal defects. Most of them require no government involvement or oversight. The Commission should ignore NBC's call for it to mandate flawed technologies and troublesome policies.

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[68] Jefferson Graham, *RIAA Chief Says Illegal Song-Sharing "Contained"*, USA TODAY, Jun. 12, 2006, *available at* http://www.usatoday.com/tech/products/services/2006-06-12-riaa_x.htm.

[69] Anderson, *supra* note 6.

CONCLUSION

For the foregoing reasons, the Commission should reject NBC's invitation to require that broadband providers institute network filters.

Respectfully Submitted,

Public Knowledge
Consumer Federation of America
EDUCAUSE
Electronic Frontier Foundation
Electronic Privacy Information Center
FreeCulture.org
Free Press
Knowledge Ecology International
Media Access Project
New America Foundation
U.S. Public Interest Research Group

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