

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

In the Matter of	)	
	)	
Vuze, Inc.	)	
	)	
Petition to Establish Rules Governing Network	)	RM - _____
Management Practices by Broadband Network	)	
Operators	)	
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
	)	

**PETITION FOR RULEMAKING**

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## SUMMARY

The Commission's broadband policy is shaped largely by its Policy Statement, which announced that consumers are entitled to access the lawful content of their choice, to run applications and use services of their choice, and to benefit from competition among network providers, application and service providers, and content providers. Each of these principles is subject to "reasonable network management."

These policy principles emphasize the importance of an open Internet as a vehicle for empowering consumers, and appropriately put consumers at the forefront of the discussion about whether broadband network operators are inappropriately leveraging their control over their networks by blocking, degrading or unreasonably discriminating against lawful Internet traffic. Though many Internet companies, consumer groups and others have urged the Commission to promulgate clearly enforceable rules to address the parameters of acceptable network management, the Commission has not done so to date and has instead sought to collect information, including examples of actual harm.

However, recent developments have raised serious doubts as to whether network operators are living up to the principles of the Policy Statement, making it imperative that the Commission act to foster an open Internet by establishing rules that codify and add detail to the principles already encompassed by the Policy Statement. Vuze, the leading destination for downloading and viewing licensed and self-published high-resolution video content online, has detected clandestine attempts to degrade and,

in some cases, block its users' traffic by at least one network operator, Comcast. While Vuze has been able to work around Comcast's actions and minimize the consequences of the tactics, it still must waste precious resources by engaging in a "cat-and-mouse game" in which it must stay one step ahead of network operators' attempts to degrade its traffic.

Comcast's actions starkly raise the issue of whether broadband network operators should be permitted the unfettered discretion to restrict or block traffic carried on their networks and to censor legal content or discriminate against applications and services that they may perceive as competing with their offerings. While Comcast has apparently justified its actions as legitimate "network management" or mere traffic "shaping," Vuze believes that such overbroad and clandestine attempts to interfere with traffic – regardless of the legality of the content or the specific impact on the network – cannot amount to "reasonable network management."

The time is ripe for the Commission to examine the network operators' network management practices and to adopt reasonable rules that would prevent the network operators from engaging in practices that discriminate against particular Internet applications, content or technologies. With appropriate rules and the resultant transparency as to the nature and extent of broadband operators' reasonable network management practices, both consumers and Internet companies, such as Vuze, will have certainty as to what operating practices and conditions to expect on the network, as well as an effective remedy if the Commission's rules are violated.

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**PETITION FOR RULEMAKING**

Vuze, Inc. (“Vuze”) hereby requests the Commission to commence a rulemaking proceeding to determine the parameters of “reasonable network management” by broadband network operators and to establish that such network management does not permit network operators to block, degrade, or unreasonably discriminate against lawful Internet applications, content or technologies.

Vuze is one of the fastest growing platforms for delivery of high-resolution digital content over the Internet. Consumers can use Vuze’s desktop application to download and view licensed and self-published DVD-quality and High Definition (“HD”) content from a variety of sources, ranging from “traditional” networks such as A&E, The History Channel, National Geographic, BBC and PBS, to newer sources that, until now, have lacked an effective means of finding viewers and efficiently delivering content to them. Vuze also provides access to a growing number of licensed video game software applications. Put simply, Vuze delivers on the promise of the Internet to

serve as an outlet for a richer and wider array of content than is available through traditional distribution mechanisms. Vuze is powered by an award-winning peer-to-peer (“P2P”) client that enables consumers to download large files conveniently and efficiently.

As described in greater detail below, Vuze is aware that at least one major broadband network operator, Comcast, is attempting deliberately to degrade and, at times, block content from Vuze and other Internet companies that use similar P2P technology. Vuze believes that other broadband network operators are engaging in similar tactics. Such arbitrary discrimination against traffic carried on their networks runs counter to the Commission’s policy of “preserv[ing] and promot[ing] the open and interconnected nature of the public Internet.”<sup>1</sup> The deliberate degrading and blocking of content also calls into question whether consumers are effectively able to “access the lawful Internet content of their choice,” “run applications and use services of their choice,” and benefit fully from “competition among network providers, application and service providers, and content providers,” again as required by Commission policy.<sup>2</sup>

Comcast’s actions starkly raise the issue of whether broadband network operators should be permitted the unfettered discretion to restrict or block traffic carried on their networks and to censor legal content or discriminate against applications and services that they may perceive as competing with their offerings. The time is ripe for the Commission to act to foster an open Internet in the face of the

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<sup>1</sup> *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, CC Docket No. 02-33, FCC 05-151, at 3 (“*Broadband Policy Statement*”).

<sup>2</sup> *Id.*

growing power of network operators and their seeming willingness to ignore the essential elements of the Commission's broadband policy and the imperatives of future innovation on the Internet.

The Commission well appreciates the importance of an open Internet as a vehicle for empowering consumers and advancing First Amendment values and as an engine for economic activity.<sup>3</sup> The Commission also knows that the broadband market is not characterized by effective competition, with the vast majority of consumers having, at most, only one or two realistic choices – cable and DSL.<sup>4</sup> Nonetheless, since broadband network operators have heretofore maintained that they do not block or intend to block or otherwise discriminate against Internet traffic,<sup>5</sup> the Commission has

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<sup>3</sup> Comments of the Open Internet Coalition, WC Docket No. 07-52, at 3-5 (June 15, 2007) (“OIC Broadband NOI Comments”); *Broadband Industry Practices*, Notice of Inquiry, WC Docket No. 07-52, FCC 07-31, at 12 (rel. Apr. 16, 2007) (“Broadband NOI”) (Separate Statement of Comm. Jonathan S. Adelstein) (“The Internet is increasingly becoming the dominant medium binding us. The neutral communications medium is essential to our society. It is the basis of a fair competitive market economy. It is the basis of democracy, by which community should decide what to do. It is the basis of science, by which human kind should decide what is true.”) (quoting Sir Tim Berners Lee, the Inventor of the World Wide Web).

<sup>4</sup> Cable and DSL together account for almost 95 percent of residential high-speed lines according to the most recent FCC statistics. FCC Wireline Competition Bureau, Industry Analysis and Technology Division, High-Speed Services for Internet Access: Status as of December 31, 2006, at Table 3, Chart 6 (Oct. 2007); OIC Broadband NOI Comments at 5-8.

<sup>5</sup> Comments of the National Cable & Telecommunications Association, WC Docket No. 07-52, at 31 (June 15, 2007) (“[C]able operators will not go down the path of blocking access to video or P2P services. Blocking such services would be a recipe for stagnation of the Internet and massive dissatisfaction among consumers, which would lead to loss of customers to our competitors. As noted above, NCTA has stated that its members will not block access to any lawful content, application, or service available on the public Internet.”); Comments of AT&T Inc., WC Docket No. 07-52, at 64 (June 15, 2007) (“No major U.S. broadband provider has ever violated [the FCC’s *Broadband Policy Statement*] . . . .”); Comments of Verizon and Verizon Wireless, WC Docket No. 07-52, at 30 (June 15, 2007) (“Verizon Broadband NOI Comments”) (“Verizon does not block or degrade packets traveling over the public Internet; in particular, it does not deprioritize or block traffic traveling over the Internet based on the senders’ affiliation with Verizon (or lack thereof) or because that traffic may be considered harmful (or beneficial)

been reluctant to go much beyond adopting its Policy Statement in support of open Internet principles and commencing a *Notice of Inquiry* into broadband industry practices, including the types of network management practices employed by broadband network operators.<sup>6</sup>

Recent actions by Comcast and other broadband network operators make clear, however, that a mere statement of policy is no longer enough. The Commission must now undertake efforts to put reasonable boundaries on the operators' "gatekeeper" power over applications and content. As discussed below, by degrading and blocking Internet traffic, network operators are interfering with consumers' ability to access content and use services of their choice. The harm that the Commission feared when it adopted its broadband Policy Statement is now real. Accordingly, while recognizing that network operators must be able to manage their networks, Vuze urges the Commission to commence a proceeding to establish rules that ensure that network operators do not block, degrade, or unreasonably discriminate against lawful Internet

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to Verizon's commercial interests."); Comments of Hands Off The Internet, WC Docket No. 07-52, at 4 (June 15, 2007) ("Consistent with the Policy Statement, broadband Internet access service providers have not been blocking or degrading services to consumers."); Comments of Time Warner Inc., WC Docket No. 07-52, at 6-7 (June 15, 2007) (claiming that there has been no harm in the marketplace and that network operators have incentives to not block lawful content or discriminate unreasonably); Comments of CTIA – The Wireless Association, WC Docket No. 07-52, at 10 (June 15, 2007) (claiming the absence of blocking behavior by wireless carriers). *See also* Verizon Broadband NOI Comments at 30-31 n.107 (statements from major broadband network operators indicating they will not block content).

<sup>6</sup> *See* Broadband NOI at 8 (Separate Statement of Chairman Kevin J. Martin) (stating what the Commission was "not aware of any current blocking situations" but that it "remains vigilant in protecting consumers' access to content on the Internet"); *id.* at 15 (Separate Statement of Comm. Deborah Taylor Tate) ("In many ways, I think this issue has focused too much on the need to define a cure before there has been a disease, or even a high fever."); *id.* at 16 (Separate Statement of Comm. Robert M. McDowell) (stating that there has been no evidence up to that point of abuses in the marketplace).



content or technologies. With such rules and the resultant transparency as to the nature and extent of broadband operators' reasonable network management practices, both consumers and Internet companies, such as Vuze, will have certainty as to what operating practices and conditions to expect on the network, as well as an effective remedy if the Commission's rules are violated.

## **I. BACKGROUND AND INTRODUCTION**

### **A. Vuze**

Vuze is the leading destination for the downloading and viewing of licensed and self-published high resolution video content over the Internet.<sup>7</sup> Through Vuze, consumers can access DVD to HD-quality video content from a diverse array of global television networks, production studios and maverick content creators; the image quality of its video content is one of the principal ways in which Vuze differentiates itself in the marketplace. Since its launch in January of this year, more than 12.5 million consumers have downloaded the Vuze software client, and Vuze's audience continues to grow at an accelerating rate, as evidenced by the additional 2.2 million new downloads in October 2007 alone.

Vuze's technology and user base place it in an optimal position to offer an extensive and diverse content line-up which maximizes consumer choice from a wide variety of sources. In a few short months, Vuze has attracted over 100 content partners, including A&E, BBC, CBC, G4 TV, Geneon, The History Channel, Ministry of Sound

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<sup>7</sup> Vuze is distributed by Vuze, Inc, which was formerly known as Azureus Inc. Vuze content may be seen at [www.vuze.com](http://www.vuze.com) and through the Vuze software platform. The Vuze publishing platform may be seen at <http://www.vuze.com/Publish.html>.

TV, National Geographic, PBS, Showtime, Starz Media, The Poker Channel, TV Guide Channel, and many more. Popular content categories include science fiction, extreme sports, documentaries, music videos and anime, and range from short clips to full length features.

In addition to offering licensed content to its users, Vuze also has built an open platform, which enables independent content producers – such as independent producers of films and documentaries and other small publishers – to distribute their content to a global audience in a simple and cost effective fashion, and further enables them to monetize their content in a way that was not possible before. Content owners of all sizes can offer their content to viewers for free, for free with ad support, or at a price they choose. This unique business model dramatically brings efficiency to what is otherwise a tightly controlled and highly inefficient market for the distribution and monetization of entertainment content.

With this ever-expanding variety of content and flexible options for pricing content, Vuze delivers on the promise of the Internet, in which users can access as well as produce and distribute any content of their choice.

#### **B. Distributed Computing, P2P and Torrent Technology**

As the amount of data transmitted over the Internet grows, companies of all kinds are increasingly relying on distributed computing technologies, often referred to as “peer-to-peer” or “P2P” technologies, for efficient transmission of content. Over time, the original peer-to-peer software approaches were optimized to accommodate larger files, particularly software and video. One popular approach relies on the use of

“torrent” files and is often referred to as “torrent technology.”<sup>8</sup> Torrent technologies make use of resources — bandwidth, storage, and processing power — on a decentralized basis, allowing large data transfers to be made more efficiently and cost-effectively than ever before. Torrent technologies leverage the power of many individual computers by enabling each computer interested in a piece of content to obtain small pieces of it from multiple other computers, and simultaneously play the same role to others who seek the same content in the future.

Accordingly, a distributor of content need not have many large central servers to store and send a file each time an Internet user is interested in a particular piece of content; instead, the content distributor need only have a handful of servers that operate as initial “seed servers” for the content, and can then rely on the distributed computing capacity of all of the individual user computers (the “swarm”) that have agreed to be used as a “seed” for others.

For both downloading and uploading content, torrent technology uses fewer resources than traditional non-P2P protocols such as HTTP because distributed computing permits uploads and downloads to be resumed mid-way rather than restarted, and transmission errors can easily be fixed without resending an entire file. Torrent technology also provides a superior experience for end-users because it allows them to use their Internet connection for other tasks while they are

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<sup>8</sup> So-called “bittorrent” technology refers to applications based upon a particular open source protocol developed by BitTorrent, Inc. and is but one approach to distributed computing. Vuze’s underlying delivery mechanism is based upon the BitTorrent protocol, but has been optimized by Vuze.

publishing/uploading, while a non-P2P protocol such as HTTP would tend to slow down the connection as it consumes a much higher share of available bandwidth.<sup>9</sup>

Once an Internet user initially downloads torrent-based client software, it can download content. In particular, the user begins a content download by searching for a “torrent” file, which includes data that identifies the file and acts as a pointer to the target file’s location. The torrent file notifies a central server, which coordinates the transmission of the target file to the downloading user. Other users on the network who are either downloading or who otherwise possess the target file transmit small pieces of it to the downloading user seeking the particular file. As the user downloads these pieces, the user’s computer acts as a server to other users who have requested the same file. This process of each computer making torrent files available to other users is known as “seeding.”<sup>10</sup>

While peer-to-peer software is sometimes associated with illegal file-sharing of copyrighted material, distributed computing approaches were first used to distribute open source software, such as the Linux operating system. Today it is used by a growing number of legal content distributors. Even major copyright holders have embraced the utility of torrent technology for distributing large video and software files efficiently and rapidly. In addition to Vuze, other legal video sources that use torrent

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<sup>9</sup> Services like YouTube rely on traditional methods of transmission. Such services often degrade the quality of uploaded video to reduce the cost of transmission and establish maximum allowable files sizes. A service like Vuze, which uses distributed computing, can accommodate large files and therefore enables delivery of very high quality viewing, including High Definition (HD), to consumers.

<sup>10</sup> For a description of the BitTorrent protocol and Comcast’s actions, see *Comcast Blockage of BitTorrent 101*, Free Press (Oct. 23, 2007), available at [http://www.freepress.net/docs/comcast\\_blocking\\_factsheet.pdf](http://www.freepress.net/docs/comcast_blocking_factsheet.pdf).

technology include companies that together distribute content from sources such as CBS, MTV, Paramount, 20th Century Fox, the Discovery Channel, BET, Dow Jones, Sony Pictures Television, Sports Illustrated, and sports leagues such as the NHL and MLB. Given this, it comes as no surprise that the financial community too has taken a keen interest in torrent technology, and legal applications of distributed computing for video content distribution have been the subject of numerous articles in such publications as the *Wall Street Journal* and *Forbes*.<sup>11</sup>

## **II. CERTAIN NETWORK OPERATOR PRACTICES THREATEN THE FREE FLOW OF INFORMATION THAT HAS CHARACTERIZED THE INTERNET FROM ITS INCEPTION**

### **A. Network Operators Attempt to Degrade or Block Vuze Content**

Vuze has recently observed that, as the Associated Press reported,<sup>12</sup> Comcast has taken steps designed to impede large file traffic by actively interfering with its subscribers' ability to upload and share files.<sup>13</sup> While the clandestine nature of

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<sup>11</sup> Peter Grant, *Companies Try New Ways To Boost Web Video Quality*, Wall St. J., Oct. 9, 2007, at B10 (discussing the use of torrent technology to transmit high quality video files); Quentin Hardy & Evan Hessel, *Peer Play*, Forbes, Mar. 26, 2007, at 82 ("These days, however, P2P is going legit, winning fans for its sleek and powerful design and drawing programmers and hungry entrepreneurs eager to build businesses around the swapping services. . . . P2P networks can move large files (like movies) faster than traditional server-based networks, because they harness the unused power of millions of PCs.").

<sup>12</sup> Peter Svensson, *Comcast Activity Hinders Subscribers' File-Sharing Traffic*, AP Testing Shows, Associated Press, Oct. 19, 2007 (describing studies showing hindering of access to P2P traffic, including quotes from Comcast users whose uploads were stifled).

<sup>13</sup> Such conduct has been brought to the attention of the Commission by a coalition of consumer and public interest groups and legal scholars. See Petition for Declaratory Ruling of Free Press et al., CC Docket No. 02-33, WC Docket No. 07-52 (filed Nov. 1, 2007); Formal Complaint of Free Press and Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications (filed Nov. 1, 2007). By filing its petition for rulemaking, Vuze in no way intends to imply that a complaint is not an appropriate vehicle to bring Comcast's "traffic shaping" practices before the Commission or that violations of existing Commission rules have not occurred.

Comcast's tactics has prevented Vuze from determining all the technical details of Comcast's actions, we have detected their efforts to interfere with the seeding process. When a user is engaging in "pure seeding" (*i.e.*, when the user is only sending packets to others and not downloading them), Comcast shuts down the connection between that user and other non-Comcast users by interfering with communications at the transport layer. Comcast does this by hacking into its own network and using a clandestine "man in the middle" tactic whereby each party is sent a communication "RST" (reset) message which falsely tells the other party to shut down the connection. A particularly troubling aspect of these tactics is that, through a third party, Comcast is engaging in "deep packet inspection" and then inserting false RST messages into transmissions between two network users.

Comcast's actions affect companies that use distributed computing technology by making it more difficult and less efficient for consumers to download content. Because Comcast interferes with the ability of its subscribers to seed content downloads by others, the overall speed of content downloads is potentially degraded. Downloads are degraded by a factor related to the percentage of Comcast subscribers among all the Internet company's users; if other network operators also interfered with large file traffic, the download speeds would decline even further. By degrading downloads in this manner, Comcast is affecting not only the bandwidth resources available for downloads, but also other resources made available by Comcast subscribers such as processing power and disk storage. These effects are not disclosed to Comcast subscribers or companies that rely on transmission services either at the time they

subscribe to the network or when they experience difficulties with downloads.

Comcast's actions also create an additional harm. In some cases, they effectively block the ability of certain subscribers to upload or publish content on various Internet platforms using distributed computing clients. Thus, for example, independent content creators who happen to be Comcast subscribers are not able to easily upload content to Vuze via the Comcast broadband network, frustrating their ability to distribute and possibly monetize their content. Comcast's actions thereby limit the amount and diversity of content available to consumers and the opportunity for innovation, creativity and free speech for content publishers.

In order to preserve the integrity and efficiency of its delivery systems, Vuze has been required to modify its technical systems and alter the way it does business through implementation of a number of counter-measures. And while Vuze has been able to minimize any serious impact on its service, it has been forced to engage in constant guesswork – since the tactics are largely hidden – and to play a “cat and mouse” game with network operators in order to maintain superior service for consumers.

**B. Other Recent Examples Raise Serious Concerns Regarding the Network Operators' Ability to Control the Content Available to Consumers and Diminish the Quality of Consumers' Internet Experiences.**

While the Comcast example most vividly exemplifies the betrayal of the Commission's open Internet principles by a large network operator, there have been other recent actions by network operators that should give policymakers cause for concern. Recently, it was reported that Verizon refused to allow opt-in text messages from NARAL, a large pro-choice advocacy group – a decision which it quickly

reversed following a story in the *New York Times* and subsequent outcry.<sup>14</sup> Within the last few weeks, Rebtel, a VoIP company offering low-cost international calls on mobile phones, was denied access to wireless networks by Verizon Wireless, T-Mobile, and Alltel.<sup>15</sup> A few months ago, AT&T was in the news for allegedly censoring comments critical of President Bush during a webcast of a concert by Pearl Jam.<sup>16</sup> Finally, at least two major broadband network operators, Verizon and AT&T, include clauses in their Terms of Service that allow them to terminate the service contracts of subscribers who criticize the network operators or their business partners.<sup>17</sup>

The common thread in the above examples is that network operators exert unfettered control over their users' ability to communicate (including engaging in political speech) and over providers of Internet applications, content and technologies that seek to reach their subscribers. The public interest is harmed whenever network operators restrict innovation and access to content, censor political speech, or unreasonably discriminate against or frustrate the legitimate efforts of their

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<sup>14</sup> See Adam Liptak, *Verizon Rejects Text Messages From An Abortion Rights Group*, N.Y. Times, Sep. 27, 2007, at A1; Adam Liptak, *In Reversal, Verizon Says It Will Allow Group's Texts*, N.Y. Times, Sep. 28, 2007, at A20. Verizon's actions were apparently enough to result in the unlikely cooperation of groups diametrically opposed on the abortion issue. See Nancy Keenan & Roberta Combs, *Can You Hear Us Now?; Verizon Shouldn't Be A Cellphone Censor*, Wash. Post, Oct. 17, 2007, at A17 (joint op-ed by the presidents of NARAL Pro-Choice America and the Christian Coalition of America).

<sup>15</sup> Jeffrey Silva, *VOIP Provider Denied Short-Code Access; VZW, T-Mobile USA and Alltel Nix Text Message Application*, RCR Wireless News, Nov. 2, 2007.

<sup>16</sup> Ryan Blethen, *Add Internet Freedom to Pearl Jam's Greatest Hits*, Seattle Times, Aug. 17, 2007, at B6; John Nichols, *Censored Show Proves AT&T's Bad Faith*, Capital Times (Madison, WI), Aug. 16, 2007, at A8.

<sup>17</sup> David Lazarus, *Free Speech Could Lead to Online Disconnect*, L.A. Times, Oct. 10, 2007, at C1 ("Buried deep within both companies' voluminous service contracts is language that says your Net access can be terminated for any behavior that AT&T or Verizon believes might harm its "name or reputation," or even the reputation of its business partners.").



competitors.

**III. THE COMMISSION SHOULD ESTABLISH REASONABLE RULES THAT SAFEGUARD AND FOSTER AN OPEN INTERNET AND PROHIBIT PRACTICES SUCH AS BLOCKING AND DEGRADING TRAFFIC**

The network operator practices discussed above, demonstrate the need for the Commission to act now to establish rules to safeguard and foster an open Internet. The rules should ensure that network operators do not block, degrade, or unreasonably discriminate against lawful Internet applications, content or technologies. While the necessity for such rules already has been evidenced in ongoing Commission proceedings,<sup>18</sup> Comcast's recently-revealed actions bring into focus three principal reasons for immediate Commission rulemaking action.

First, actions like those described above interfere with the ability of consumers to access content and use services of their choice. As discussed above, affected Comcast subscribers may find their downloads degraded, sometimes to the point of being effectively blocked, thereby harming their overall experience with Internet services that use distributed computing technology. Perhaps more significantly, smaller content producers and publishers – such as independent film makers for whom the Internet may be the only realistic means to distribute their content – may be unable to easily upload their content if they are Comcast subscribers. Moreover, in both cases, the users

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<sup>18</sup> See, e.g., the numerous comments filed in the Commission's open Broadband NOI proceeding, WC Docket No. 07-52, particularly the filings by the Open Internet Coalition, Google, DivX, Inc., Consumer Federation of America, Consumers Union, and Free Press, Computer & Communications Industry Association, National Association of State Utility Consumer Advocates, Center for Democracy and Technology, American Library Association, New Jersey Division of Rate Counsel, Data Foundry, Earthlink, Inc. and New Edge Network, Inc., and BT Americas Inc.

seeking to download content and the content publishers seeking to upload content have no way of knowing that their traffic is being degraded or blocked by Comcast and may mistakenly believe that this is a failure on the part of the content delivery company. Such ignorance not only results in frustration as the Comcast subscribers retry downloading or uploading content, but also keeps such subscribers from switching to a competing broadband service provider that may not engage in such discrimination – assuming, of course, that the subscriber even has such a choice for broadband service.

Second, such actions could injure innovative companies that provide an increasingly valued service to consumers. Vuze and a growing number of content distribution companies are distributing legal content using a particular lawful technology – a technology that it now finds is being discriminated against by at least one of the major broadband network operators. While network operators certainly should have the ability to engage in reasonable network management, without clear rules and greater transparency, Vuze and other content distribution companies will have no assurance that a redesigned distribution mechanism will be acceptable to network operators. While some uncertainty – technical and otherwise – is part of any Internet business, the uncertainty in this case stems from the whims of network operators rather than the effects of the free market.

Third, while Comcast asserts that its actions amount to nothing more than “reasonable network management,” such characterizations must be met with a degree of skepticism when the content they are degrading is likely perceived as a threat to their dominance in the market for electronic distribution of video content. As discussed

above, Vuze is a rapidly growing source of legal downloads of high quality video content from a variety of traditional and new sources. Distribution of such video content is no doubt looked upon with apprehension by network operators who would prefer to restrict their subscribers to content in which the network operator has a financial interest. Indeed, by degrading the high-quality video content by which Vuze differentiates itself in the marketplace, network operators can seek a competitive edge. Network operators must not be allowed to undermine the promise of the Internet as a means for distributing diverse content and satisfying actual consumer demand for particular content.

Accordingly, Vuze urges the Commission to adopt reasonable rules that would prevent network operators from engaging in the practices described herein that discriminate against particular Internet applications, content, or technologies.<sup>19</sup> As noted above, while Vuze does not dispute the need for network operators to reasonably manage traffic on their networks, the Commission should ensure that, at a minimum, such network management meets the following conditions:

1. The network operators' network management practices should be based on actual impact on the network, rather than targeting or disproportionately impacting specific services or technologies;
2. Network management practices should be transparent and publicly disclosed, providing consumers, content providers, applications developers, and service

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<sup>19</sup> In the context of this proceeding, the Commission should encourage network operators, Internet companies, consumer groups, and other interested to discuss a variety of reasonable network management practices.

providers greater certainty that their preferred technology and services are acceptable and not subject to interference on broadband networks; and

3. Network management practices should not be used as a pretext for discriminating against particular types of content or services that the network operators may view as unacceptable or potential sources of competition.

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In light of the recent actions that degrade content from Vuze and other companies that use similar technology, the Commission should act promptly to provide consumers, network operators and Internet businesses greater clarity regarding what to expect with respect to broadband network management practices.

Respectfully submitted,

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