
**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)
)
Broadband Industry Practices) WC Docket No. 07-52
)
Vuze, Inc. Petition for Rulemaking to Establish) WC Docket No. 07-52
Rules Governing Network Management)
Practices By Broadband)
Network Operators)
)
Free Press et al. Petition for Declaratory) CC Docket No. 02-33 et al.
Ruling)

To: The Commission

COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Danielle Coffey
Vice President, Government Affairs

Patrick Donovan
Director, Government Affairs

Rebecca Schwartz
Manager, Government Affairs

TELECOMMUNICATIONS INDUSTRY ASSOCIATION
10 G Street N.E.
Suite 550
Washington, D.C. 20002
(202) 346-3240

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COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Telecommunications Industry Association (“TIA”) hereby submits its comments in response to the Commission’s two Public Notices regarding broadband network management practices.¹ The Commission can – and should – vigilantly monitor broadband providers’ practices and take action where required. However, it must also recognize that the *Internet Policy Statement*² has succeeded in promoting a vibrant Internet ecosystem and significant investment in broadband infrastructure, and that its success has depended in large part not only on the willingness and authority of the Commission to police anticompetitive conduct but on the

¹ *Comment Sought on Petition for Declaratory Ruling Regarding Internet Management Policies*, WC Docket No. 07-72, Public Notice, DA 08-91 (rel. Jan. 14, 2008); *Comment Sought on Petition for Rulemaking to Establish Rules Governing Network Management Practices by Broadband Network Operators*, WC Docket No. 07-72, Public Notice, DA 08-92 (rel. Jan. 14, 2008).

² *See Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, CC Docket Nos. 02-33, 01-337, 95-20, 98-10; GN Docket No. 00-185; CS Docket No. 02-52; WC Docket No. 07-52, Policy Statement, 20 FCC Rcd 14986 (2005) (“*Internet Policy Statement*”).

flexibility it affords to providers and to consumers. In light of this success, the Commission must resist calls to replace the Policy Statement's flexibility with specific, blanket rules, and should instead rely on case-by-case evaluations of challenged practices to permit continued innovation in broadband services while guarding against anticompetitive conduct.

TIA is a leading trade association for the information and communications technology industry, with 500 member companies that manufacture or supply the products and services used in the provision of broadband and broadband-enabled applications. As TIA has previously made clear, the issues involved in this proceeding are of great importance to the organization's member companies, as they impact investment in and deployment of next-generation broadband networks, applications, and devices across the United States.

INTRODUCTION AND SUMMARY

As an organization representing the producers of broadband networks, services, and devices, TIA enjoys a unique perspective on questions regarding broadband policy, and its interests match those of the public. Specifically, TIA supports policies that will enhance broadband infrastructure deployment, promote facilities-based broadband competition, encourage the proliferation of broadband-enabled devices, protect against anticompetitive behavior in the marketplace, and guarantee consumer satisfaction with their communications experiences. In the instant proceeding, these interests would best be served by an approach that (1) reflects the values underlying the Commission's broad and flexible *Internet Policy Statement*; (2) employs case-by-case adjudications that recognizes the critical importance of reasonable network management rather relying on specific, detailed rules regarding network management; and (3) promotes the disclosure of meaningful service-plan information to customers.

As the Commission has recognized time and again, consumers are best served by a light regulatory touch with regard to competitive broadband offerings. Petitioners in the instant matter

ask the Commission to repudiate this light touch by adopting broad prophylactic regulation on the basis of an insufficiently developed factual record. Petitioners are correct in pointing out that the Commission must police providers' network-management practices and take action where required, but their prescriptions for how the Commission should do this must be rejected.

These comments focus on three fundamental points. First, the Commission should continue to abide by the principles set forth by its *Internet Policy Statement*. TIA has supported those principles for almost five years, encouraging the Commission to monitor the marketplace and if needed take action on a case-by-case basis, and believes that they have served consumers well. In evaluating the claims before it here, however, the Commission must recognize all of the varied benefits conferred by that *Statement*. As suggested by Free Press et al., the *Statement* can facilitate enforcement action when necessary. But the *Statement's* generality and flexibility, which Petitioners appear to believe must be remedied, in fact are among its most important strengths. This flexibility and generality promote self-regulation by providers, enable customers to make informed market decisions, and drive investment in next-generation broadband networks. The Commission must give weight to all these aspects of the *Policy Statement*.

Second, as TIA and its members have emphasized in previous pleadings filed with the FCC and the Federal Trade Commission ("FTC"), modern broadband networks require intensive network management. This management not only enhances the consumer experience, but in a very real way is a *necessary* component of that experience, permitting meaningful use of applications that otherwise would suffer from frequent, intolerable interruptions. Without reasonable network management, use of high-bandwidth applications such as VoIP, streaming video, video conferencing, and gaming would be constrained or infeasible. Thus, in addressing the threat of *unreasonable* network management, the Commission should act with great caution: It should eschew calls for bright-line rules that would "lock in" assumptions based on current

technologies and market structures, by anticipating every imaginable harm possible. Not only would this produce a static standard, but the continuing evolution of technology would render any such rules inevitably incomplete. Rather, the Commission should adopt a flexible case-by-case approach that weighs the benefits of any particular network management technique against its harmful effects. This approach will allow the Commission to punish anticompetitive policies – which *can* and *should* be punished – while allowing providers to adapt flexibly to changing consumer needs.

Third, the Commission should make clear that broadband providers must provide their current and prospective customers with meaningful information regarding their service plans. This transparency will protect consumers from learning too late of previously undisclosed limitations on their service, and will enable the Commission to rely on the market rather than on regulation to address claims of misconduct.

I. TIA HAS LONG SUPPORTED THE COMMISSION’S *INTERNET POLICY STATEMENT* AS A POSITIVE FORCE IN TECHNOLOGY POLICY.

TIA reiterates its support for the principles set forth in the Commission’s *Internet Policy Statement*. Indeed, as the Commission knows, TIA and its fellow members of the High Tech Broadband Coalition (“HTBC”) proposed principles very similar to those set forth in the *Internet Policy Statement* almost two years before the *Statement* was adopted. In a September 2003 letter and several subsequent filings, the HTBC urged the adoption of four “connectivity principles.”³ The 2005 *Internet Policy Statement* adopted most (though, as discussed below, not all) of the

³ HTBC Letter to Chairman Powell, September 25, 2003, CS Docket No. 02-52; GN Docket No. 00-185; CC Docket Nos. 02-33, 95-20 & 98-10 (“*HTBC September 2003 Letter*”). See also HTBC filings in CS Docket No. 02-52; GN Docket No. 00-185; CC Docket Nos. 02-33, 95-20 & 98-10

principles set forth by HTBC. Since then, TIA has continued to support the *Policy Statement* and believes that the broadband marketplace can be vigilantly monitored and complaints of anticompetitive activity can be addressed through appropriate legal and regulatory oversight. TIA has maintained that the Commission has such authority today.⁴

It is critical, however, to be clear about just how the *Internet Policy Statement* has worked to enhance consumers' welfare and protect consumers' rights in the broadband market. The petitions under review in this docket suggest – wrongly – that the *Policy Statement* has no inherent value except insofar as it is relied upon as a basis for specific regulations designed to micro-manage the broadband marketplace. This view badly misunderstands both the role that the *Policy Statement* has played and the nature of the broadband market itself. Indeed, while the Commission may undertake enforcement action in efforts to promote the *Policy Statement's* purposes, the prospect of such enforcement is not the *Statement's* only benefit, or even its chief benefit. For this reason, as described in Part II of these Comments, the adoption of intrusive regulation establishing bright-line prohibitions would in fact undermine rather than further the *Policy Statement's* effectiveness.

There are at least four ways the *Internet Policy Statement* benefits broadband consumers. First, of course, the *Internet Policy Statement* undeniably benefits consumers by setting out specific entitlements that the Commission can and will safeguard. The Commission adopted the *Policy Statement* alongside its order classifying wireline broadband Internet access as an

⁴ Comments of Telecommunications Industry Association, WC Docket No. 07-52 (filed June 13, 2007) (“TIA NOI Comments”) (filed in response to *Broadband Market Practices*, WC Docket No. 07-52, Notice of Inquiry, FCC 07-31 (rel. April 16, 2007)) (“NOI”).

integrated information service largely free from Title II regulation.⁵ At the time, the Commission indicated that the *Policy Statement* was intended to ensure that its policy choice to relieve broadband providers from the Communications Act’s common-carriage requirements did not hinder consumers’ access to the content and applications of their choosing.⁶ Declining requests to impose formal requirements regarding access to Internet materials, the Commission pointed to the simultaneously adopted *Internet Policy Statement*, stating that “if we see evidence that providers of telecommunications for Internet access or IP-enabled services are violating the[] principles, we will not hesitate to take action to address that conduct.”⁷ Since then, the Commission has vigilantly and appropriately monitored developments in the marketplace, seeking input on network-management practices, pricing practices, and the state of deployment. Indeed, Chairman Martin has affirmed his commitment to taking action where necessary to secure consumers’ entitlements, noting that the Policy Statement expresses the Commission’s view that “blocking or restricting consumers’ access to the content of their choice would not be tolerated” and emphasizing that “the Commission remains vigilant and stands ready to step in to protect consumers’ access to content on the Internet.”⁸

Second, even in the absence of enforcement action, the *Policy Statement* influences the behavior of providers wishing to avoid the adoption of innovation-stifling rules. The

⁵ See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33 et al., Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005) (“*Wireline Broadband Order*”).

⁶ *Wireline Broadband Order*, 20 FCC Rcd at 14903 ¶ 96.

⁷ *Id.*

⁸ Statement of Federal Communications Commission Chairman Kevin J. Martin before the Senate Committee on Commerce, Science & Transportation, Feb 1, 2007, *available at* http://commerce.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=1809&Witness_ID=1951.

Commission has on several occasions expressed its view that it has the authority to apply prescriptive mandates to broadband Internet access service under the doctrine of “ancillary jurisdiction.”⁹ Providers understand that they must work to protect the interests embodied by the *Statement*, lest the Commission feel the need to adopt specific and burdensome mandates to prevent future misconduct. In this sense, the *Policy Statement* promotes self-regulation, which is more sensitive to evolving needs than regulatory intervention and requires far less governmental oversight than would a set of formal mandates.

Third, the *Internet Policy Statement* facilitates market decisions by end users themselves by informing them of their reasonable expectations in the online world. Thanks in part to the *Policy Statement* and the advocacy it has engendered, users understand that they can expect to access content and applications of their choice. Educated users will be well-equipped to complain to the Commission if they detect inappropriate and/or anticompetitive network management practices. Moreover, they are far more likely to realize that even if one Internet service provider (“ISP”) imposes unreasonable restrictions on their Internet access, they will likely be able to find – and subscribe to – a competing ISP that does not. This knowledge, and the competitive threat it entails, make it far less likely that the original ISP will impose unreasonable restrictions in the first place. Indeed, the limited number of minor incidents relating to the *Internet Policy Statement* since its adoption strongly suggests that this consumer-awareness function has been extremely successful in policing the broadband market.

Finally – and perhaps most importantly – by relying on a flexible *Internet Policy Statement* that permits case-by-case evaluation of alleged harms, rather than on rigid bright-line

⁹ See *Wireline Broadband Order*, 20 FCC Rcd at 14913 ¶ 109; NOI at ¶ 4.

requirements that cannot account for evolving technological and market conditions, the Commission has promoted investment in next-generation broadband networks. More than 50% of all adult Americans had a broadband connection at home as of September 2007, a seven percentage point increase from early 2006.¹⁰ High-speed subscribers climbed from 44.9 million in 2005 to 69 million in 2007 – an increase of more than 50%.¹¹ And network operators continue to invest in infrastructure – over \$16 billion was spent on services in support of broadband network infrastructure in 2007, and we project investment will increase to \$25.2 billion annually by 2011.¹² Preserving the current flexible, case-by-case approach to evaluating network management practices will protect and encourage such investment, ultimately benefiting consumers.

* * *

In arguing that the *Policy Statement* cannot protect consumers in the absence of specific bright-line requirements and prohibitions, the Petitioners suggest that the *Statement's* only proper function is as a means for command and control of market actors. As the discussion above

¹⁰ John B. Horrigan, “Why We Don’t Know Enough About Broadband in the U.S.,” PEW Internet Project Report at 1, November 14, 2007 (citing the as-yet unpublished PEW Internet Project’s September 2007 survey), available at http://www.pewinternet.org/PPF/r/226/report_display.asp

¹¹ 2008 TIA Market Review & Forecast, Table II-2.36 “High Speed Subscribers by Access Technology in the United States,” (“2008 TIA Market Review & Forecast”) available at <http://www.tiaonline.org/business/research/mrf/>. See also *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45, Notice of Inquiry - Separate Statement of Chairman Martin, FCC 07-21 (rel. April 16, 2007) (noting that consumers with home broadband connections grew from 60 million in March 2005 to 84 million in March 2006 – a leap of 40%.) (citing John B. Horrigan, “Home Broadband Adoption 2006,” PEW Internet Project Report at 1, May 28, 2006, available at http://www.pewinternet.org/PPF/r/184/report_display.asp)

¹² See 2008 TIA Market Review & Forecast.

indicates, however, the benefits arising from the *Internet Policy Statement* stem not only from its prescriptive requirements but also from its flexibility and the signals it sends to market actors. Put differently, the *Policy Statement's* “failure” to set forth detailed lists of mandates and prohibitions is not a sign of its weakness, but rather a critical component of its effectiveness. For this reason, as described below, the preemptive, prophylactic regulation urged by Petitioners would in fact be *harmful* to the public interest.

II. REASONABLE NETWORK MANAGEMENT TECHNIQUES ARE ESSENTIAL TO THE CONSUMER'S ONLINE EXPERIENCE, AND SHOULD ONLY BE PROHIBITED IN RARE CASES INVOLVING ANTICOMPETITIVE ACTIVITY.

Any approach to network management adopted by the Commission must account for the necessity of robust yet reasonable network management in the face of growing demand on the network and the growing use of applications sensitive to packet delay and packet loss. Network providers employ network management tools to enhance their typical users' experience without burdening those users with the costs of the additional capacity enhancements that would otherwise be necessary. Moreover, network management needs are likely to evolve as technology and the market evolve. For this reason, bright-line prescriptive rules regarding network management would disserve consumers, providers, and other Internet players, and deplete much of the value of the *Internet Policy Statement* in its current form. Instead, the Commission should pursue a case-by-case approach, much like that already employed by the FCC, the FTC, and the courts in evaluating other challenges to providers' practices. That approach, moreover, must properly account for the effects of these policies on consumer interests.

A. Contemporary Broadband Networks Require Active Management.

Consumer demand for bandwidth-intensive applications such as VoIP, audio and video streaming, and peer-to-peer (“P2P”) file-sharing has encouraged adoption of broadband services and has also completely revolutionized Internet usage patterns. Just several years ago, a typical user could be expected to utilize network resources only periodically, to “pull” only minute amounts of information (*e.g.*, e-mail messages, web pages, infrequent audio clips, instant messages and the like) from the Internet, and to “push” almost inconsequential quantities of information back (*e.g.*, key clicks associated with web navigation, e-mail messages, instant messages). Today, an increasing number of users can be expected to download *and upload* real-time voice and video content, to utilize high-bandwidth online gaming applications, or to subscribe to P2P file-sharing programs that utilize network resources at all times of the day, whether or not the user is at his or her computer.¹³ Video poses a particular challenge to current network resources: As TIA and member-company Corning told the Senate Commerce Committee in 2006, “[e]ven with the latest compression techniques, a high definition television signal uses approximately 8 to 9 Mbps, several times faster than current generation

¹³ The Associated Press article on which Vuze bases its petition indicates that P2P applications “account for between 50 percent and 90 percent of overall Internet traffic.” See *Vuze, Inc. Petition for Rulemaking to Establish Rules Governing Network Management Practices By Broadband Network Operators*, WC Docket No. 07-52, at 9-11 (filed Nov. 14, 2007) (“*Vuze Petition*”) (summarizing Peter Svensson, “Comcast Activity Hinders Subscribers’ File-Sharing Traffic, AP Testing Shows,” Associated Press, Oct. 19, 2007).

broadband.”¹⁴ Today’s user, in short, consumes far more network capacity than the user of just several years ago.¹⁵

While demands on the network are increasing, usage is shifting to applications that are far less tolerant of “latency” and “jitter.” Generally, “latency” refers to the amount of time it takes a packetized communication to traverse the network, and “jitter” refers to a phenomenon whereby the degree of latency changes during the course of a communication, such that packets arrive out of (chronological) order. Traditional online applications such as web browsing, e-mail, and point-to-point file-sharing are generally tolerant of both latency and jitter: If the packets comprising an e-mail message take several seconds to arrive, the only consequence is that the recipient must wait several seconds to read the message. Similarly, if the packets comprising the message arrive out of order, they will be reassembled when they all arrive. In contrast, contemporary applications – especially those involving real-time voice, music or video – do not tolerate latency or jitter. For example, a VoIP conversation or real-time videoconference would be disrupted by significant latency, because users would need to wait to hear and/or see one another. Similarly, in cases of jitter, transmission of the underlying message would be delayed as the system worked to retrieve the entire segment of the message and to reconstruct the packets in proper sequence.¹⁶

¹⁴ See Testimony of Timothy J. Regan, Senior Vice President for Global Government Affairs, Before the Senate Commerce, Science and Transportation Committee at 6 (May 25, 2006), *available at* <http://commerce.senate.gov/public/_files/regan052506.pdf> (“Corning/TIA Testimony”).

¹⁵ See generally Reply Comments of Cisco Systems, Inc., WC Docket No. 07-52 (filed July 17, 2007) (“Cisco NOI Reply Comments”), and sources cited therein.

¹⁶ See, e.g., Comments of AT&T, Inc., WC Docket No. 07-52, at 32-33 (filed June 15, 2007) (“AT&T NOI Comments”); Comments of Verizon and Verizon Wireless, WC Docket No. 07-52, at 17 (filed June 15, 2007) (“Verizon NOI Comments”); Cisco NOI Reply Comments at 6.

The sharp expansion in capacity demand and concurrent rise of jitter- and latency-sensitive applications described above has produced a quandary for network providers. Most Internet traffic is delivered on a “best efforts” basis, where “best efforts” refers to basic connectivity with no guarantees regarding delivery of every packet. Even under ideal circumstances, delivery of packets over the best-efforts Internet will often entail degrees of latency and jitter that are incompatible with contemporary users’ needs. Faced with sharply rising capacity demand, however, best-efforts service can stray far even from this flawed ideal: When network resources are overwhelmed, the best-efforts Internet will be forced to “drop” packets and resend them from the point of origination, further delaying delivery. Put simply, rising network capacity has prompted increased use of high-bandwidth applications intolerant of latency and jitter, but that increased use has strained network resources, heightening the likelihood of such latency and jitter.

Network operators could respond to these increased network needs in either of two ways. First, network owners could simply construct more and more capacity. Needless to say, thanks to the FCC’s forward-looking broadband policy choices, network providers *are* adding more capacity on all manner of platforms, and TIA supports these efforts. However, increased network usage cannot economically be addressed through increased network deployment alone. The deployment necessary to meet current network needs in the absence of management tools would be exorbitantly expensive, and the associated costs would fall on end users, making broadband usage uneconomic for many. According to one recent estimate, a regime that required network-capacity constraints to be addressed solely through increased capacity would

cost consumers about \$9.3 billion annually.¹⁷ As TIA and Corning indicated in their joint testimony to the Senate Commerce Committee, if policy-makers required this outcome, “most Americans who use Internet access for simple applications like e-mail will carry an enormous, unfair burden.”¹⁸

Reasonable network management techniques offer consumers a path to a quality broadband experience without these prohibitive costs. Such management can ensure that jitter- and latency-sensitive traffic, as well as traffic designed to enhance public health safety, is afforded end-to-end prioritization. Generally, traffic subject to this type of quality-of-service (“QoS”) management will be prioritized over other traffic, and will be protected against the packet loss that might otherwise occur when the network is taxed beyond its capacity. QoS management has become an increasingly important tool for network providers, enabling them to ensure timely passage of time-sensitive or especially important content such as VoIP traffic, streaming video, and telemedicine applications not amenable to latency or jitter. While prioritization of a traffic stream could have the effect of “deprioritizing” another traffic stream, such a result is hardly a given. Prioritization’s impact on nonprioritized traffic is the result of a number of factors, such as bandwidth availability, network engineering, and traffic congestion. In fact, prioritization can be engineered in such a manner as to have absolutely no impact on nonprioritized traffic.¹⁹ Where “deprioritization” of traffic that is not time-sensitive does occur,

¹⁷ See Benjamin E. Hermalin & Michael L. Katz, *The Economics of Product-Line Restrictions With an Application to the Network Neutrality Debate* 28 (AEI-Brookings Joint Center for Regulatory Studies, Working Paper 07-02, 2007), available at <<http://www.reg-markets.org/publications/abstract.php?pid=1157>>.

¹⁸ See Corning/TIA Testimony at 11.

¹⁹ Reply Comments of Alcatel-Lucent, WC Docket No. 07-52, at 2 (filed July 16, 2007)(“Alcatel-Lucent NOI Reply Comments”).

²⁰ such delays typically last mere seconds – often less – and the benefits of the prioritization itself outweigh the costs imposed. That is, such management shifts resources in a way that trivially inconveniences some but provides substantial benefit to others. As pointed out in the Commission’s Broadband Industry Practices docket:

If a webpage takes a second or two to load, consumers will hardly notice. But network latency, jitter, and packet loss do matter a great deal for many of the new real-time Internet applications such as VoIP, on-line gaming, and video. Consumers will cancel their subscriptions to multiplayer gaming services if inconsistent network handling prevents their on-line characters from reacting quickly enough to surprise attacks. They will be similarly upset if, because of poor network performance, the real-time video stream for a football game freezes during a third-and-long pass into the endzone. And an interruption in a real-time telemedicine session could imperil a patient’s life.²¹

Finally, it is important to note that increased network demand is not the *only* justification – and not the only legitimate justification – for reasonable network management. Subscribers expect network operators to block an assortment of harmful or otherwise undesirable content, including spam, spyware, viruses, and (in the case of ISP-managed parental controls) indecent or violent materials.²² Moreover, as the proliferation of broadband facilities continues, we might expect to see a rise in the number of “niche ISPs” catering to consumers who rely on their ISPs

²⁰ As explained in section II.B.2 below, anticompetitive treatment of similarly situated (*i.e.*, competitive) traffic should not be tolerated.

²¹ AT&T NOI Comments at 32-33. *See also* TIA NOI Comments at 4-5 (“In order to address the problems surrounding congestion, networks must use traffic management and Quality of Service (QoS) to ensure that time sensitive traffic reaches the user at the appropriate time. These traffic management systems can include traffic prioritization end to end virtual connectivity (often known as ‘traffic prioritization’), which is a form of QoS, to limit packet loss of time sensitive traffic.”).

²² *See generally* Comments of American Cable Association, WC Docket No. 07-52, at 2-3 (filed June 15, 2007); Comments of Competitive Enterprise Institute, WC Docket No. 07-52, at 17 (filed June 15, 2007); Comments of Embarq, WC Docket No. 07-52, at 6 (filed June 15, 2007); TIA NOI Comments at 5-6; Comments of Time Warner, Inc., WC Docket No. 07-52, at 12 (filed June 15, 2007).

to block content or applications of various types. In all of these cases, reasonable network management plays a critical and beneficial role in shaping the user's experience to his or her preferences.

B. The Commission Should Evaluate Alleged Policy Statement Violations Under a Case-by-Case Framework That Recognizes the Importance of Reasonable Network Management.

In light of the above, the Commission should reject calls for detailed and restrictive bright-line prohibitions regarding network management. Such requirements would undercut the *Policy Statement* by diminishing providers' incentives to self-regulate and to solve the underlying capacity limitations that necessitate reasonable network management in the first place. They also would undermine consumer welfare by diminishing the market's ability to respond to users' changing needs. Rather than adopting such bright-line requirements, the Commission should evaluate the net effects of these practices on a case-by-case basis – just as it does when it evaluates complaints involving sections 201 and 202 – giving proper weight to the benefits of the particular network-management tool under consideration.

1. Detailed Bright-Line Rules Would Distort Market Incentives and Undermine the User Experience.

The adoption of specific, bright-line network-management rules at this time would be imprudent and would stymie consumer interests. Such rules would necessarily be based on current conceptions of what the Internet is, what the broadband Internet access market looks like, what consumers expect from their providers, what obligations should properly fall on users and applications providers, and so forth. These current conceptions, however, are unlikely to reflect technical and market developments over the coming years – as demonstrated by the fact that broadband deployment and Internet usage figures have consistently outpaced and otherwise defied experts' predictions. Thus, the enactment of rules codifying today's understandings

would rob the Internet and broadband markets of the dynamism that has fueled their meteoric rise.

Prescriptive regulation would disserve consumers, broadband providers, content providers, and applications developers alike, in very concrete ways: Innovators looking to develop new high-bandwidth applications might decline to do so under a regime that flatly prohibits the types of prioritization that would be necessary to support the products they envision. Consumers that prefer low-cost “best-efforts” and understand that their traffic will sometimes receive lower priority than that of other customers could be denied a chance to buy such discounted service if all users are forced into a single “tier.” And network operators hampered by *ex ante* requirements tied to current bandwidth levels (*e.g.*, prohibitions on permitting “higher speed” access to any user in excess of their current service’s speed) will likely decline to invest in new network facilities that would improve existing capacity limitations. In other words, the approach sought by Petitioners would “flatten” the *Policy Statement*, transforming it from a tool that recognizes and capitalizes on the value of flexibility into a mere set of wooden commands.

Undue emphasis on reigning assumptions would not be the only problem with the adoption of bright-line rules. Such rules would necessarily address harms that have yet to materialize. At best, Petitioners have alleged just a handful of scattered, temporary instances of possible unreasonable network management.²³ In the absence of anything more than anecdotal claims of abuse, it would be particularly unwise to adopt regulations that could distort the

²³ TIA does not in these comments address allegations regarding network provider Comcast. The Petitions have not offered sufficient information to permit evaluation of Comcast’s alleged activities. It is notable that Petitioners offer no evidence, either documentary or testimonial, to substantiate their claims.

broadband market and thus undercut the public interest in further network deployment. Moreover, the adoption of specific network-management rules could force providers to focus their efforts on fitting within the formal contours of those rules rather than on meaningful attempts to enhance their users' online experiences.²⁴

The case for prophylactic regulation is weakened still further in the face of growing competition both among network providers and among the providers of content and applications. In a competitive environment, the market will force providers to give their customers the content they demand. Indeed, Vuze's petition itself demonstrates the difficulties broadband providers will face if they attempt to foreclose access to competing content providers: Vuze notes that "[i]n a few short months, Vuze has attracted over 100 content partners, including A&E, CBC, G4 TV, Geneon, The History Channel, Ministry of Sound TV, National Geographic, PBS, Showtime, Starz Media, The Poker Channel, TV Guide Channel, and many more."²⁵ If a broadband provider attempted to foreclose access to Vuze and thereby denied its users access to that content, those customers would complain bitterly and threaten to migrate to other providers. Ultimately, the provider would change its ways, or its customers would move on to providers better able to meet their needs.

To the extent that broad rules are deemed to be appropriate at this time, the Commission must consider why it makes more sense to micro-manage the market than it does to promote

²⁴ See, e.g., Robert D. Atkinson and Philip J. Weiser, *A Third Way on Network Neutrality*, THE NEW ATLANTIS, at 56 (Summer 2006) ("*A Third Way*") ("The problem with rules that limit behavior before-the-fact is that they often sweep broadly and address speculative harms. Moreover, such rules create incentives for gamesmanship, such as an effort to have a video-over-Internet service classified as a 'cable service' and thus outside the scope of any network neutrality regulations. By contrast, an after-the-fact approach provides regulatory flexibility, viewing discriminatory conduct by providers with market power with a degree of skepticism, but judging such conduct on a case-by-case basis.").

²⁵ *Vuze Petition* at 5-6.

additional facilities-based competition and to address the problem at its root. In its recent Report on Broadband Connectivity Competition Policy (“*FTC Staff Report*”), for example, the FTC staff concluded that “[t]o the extent that calls for regulation are based on concerns that competition is not sufficiently vigorous to protect consumers’ interests, then pursuing ways to increase that competition would seem to attack the potential problem directly at its source.”²⁶ Thus, rather than enacting specific network-management requirements, the Commission should continue to build on its impressive record of pro-investment broadband policies: It should continue to make clear that broadband services are free from Title II’s mandates, enhance its spectrum policies to facilitate wireless broadband, develop incentives for rural broadband deployment, and so forth.

Moreover, it can pursue these measures confident that existing state and federal antitrust and unfair competition laws *already* protect consumers from unreasonable management practices. These laws apply to broadband service providers just as they do to other entities. In the recent *FTC Staff Report*, for example, the FTC staff found that “competitive issues relating to last-mile access to consumers that have been raised in the network neutrality debate largely can be addressed through antitrust enforcement.”²⁷ Similarly, the consumer protection requirements set forth in section 5 of the Federal Trade Commission Act permits the FTC to declare an act or business practice unfair if it “causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”²⁸ These antitrust and consumer-protection

²⁶ FTC Staff Report, BROADBAND CONNECTIVITY COMPETITION POLICY 156 (June 2007) (“*FTC Staff Report*”).

²⁷ *FTC Staff Report* at 121.

²⁸ 5 U.S.C. § 45(n).

mechanisms and their state-law analogues – particularly when joined with FCC oversight – will ensure a baseline level of service that renders adoption of broadband-specific protections unnecessary at this time.

2. The Commission Should Evaluate Claims Regarding Network Management Case-by-Case, Placing Due Emphasis on the Benefits of the Challenged Network-Management Practice.

In view of the many flaws associated with specific *ex ante* prohibitions on specific network-management techniques, the Commission should rely instead on case-by-case adjudications, just as it does when it evaluates alleged violations of the “just and reasonable” requirements set forth in sections 201(b) and 202(a) of the Act. This approach will permit a thoughtful, calibrated approach to network management that is responsive to changing market and technological conditions and is capable of punishing conduct that warrants punishment.

To begin with, TIA does *not* believe that “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.”²⁹ Indeed, while, as explained above, TIA believes that reasonable network management is critical to efficiently manage evolving broadband networks and that different tiers of service over a provider’s network may be permitted (provided that clear and sufficient disclosure of such practices and pricing is provided to end users), anticompetitive treatment of similarly situated (*i.e.* competitive) traffic should not be tolerated. Limitations on a competing service or application where network management techniques result in an anticompetitive effect that harms consumers for a vertically (upstream or downstream) related service or application

²⁹ *Vuze Petition* at ii, 2.

should be prohibited. The Commission has adopted meaningful principles in its *Internet Policy Statement*, and practices found to violate those principles must be curbed. A case-by-case approach to alleged improprieties can and will be effective in policing providers' practices.

Nor would a case-by-case approach be at all novel or unusual. The Commission, the FTC, and the courts have all recognized that individual adjudication is the best means for evaluating claims of anticompetitive activity. Thus, for example, the Commission has generally evaluated claims that providers have engaged in unjust or unreasonable behavior in the context of dispute-specific adjudications.³⁰ Similarly, the FTC has also urged a case-by-case approach to network management claims, noting "the potentially adverse and unintended effects of regulation generally," and explaining that "[e]ven if regulation does not have adverse effects on consumer welfare in the short term, it may nonetheless be welfare-reducing in the long term, particularly in terms of product and service innovation."³¹ And the courts, too, have over the past century developed a case-by-case approach used to adjudicate most claims of anticompetitive conduct, recognizing that decision-makers must evaluate the net effects of a particular practice.³²

Critically, such case-by-case adjudications must properly account for market power and a particular practice's procompetitive rationale and welfare-enhancing effects as well as any anticompetitive rationale and/or welfare-diminishing effects. As the FTC has made clear, even

³⁰ See, e.g., *Business Discount Plan, Inc.*, 15 FCC Rcd 24396, 24399 (2000) ("In enacting section 201(b), Congress did not enumerate or otherwise limit the specific practices to which this provision applies. Instead, it granted us a more general authority to address such practices as they might arise in a changing telecommunications marketplace."). See also *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information, et al.*, 17 FCC Rcd 14860, 14917 (2002) ("For conduct to be unlawful under section 201, the Commission must find that the conduct is 'unjust or unreasonable.' We believe that this standard requires a review of case-specific facts....").

³¹ *FTC Staff Report* at 159-60.

³² See, e.g., *Board of Trade of the City of Chicago et al. v. United States*, 246 U.S. 231 (1918).

facially anticompetitive conduct may have fundamentally procompetitive effects. This principle applies to the broadband market just as strongly as it applies elsewhere:

Even assuming discrimination against content or applications providers took place, moreover, there remains the question – also unanswerable in the abstract – whether such discrimination would be harmful, on balance, to consumer welfare. For example, such discrimination may facilitate product differentiation, such as the provision of Internet access services designed specifically for certain population segments or other audiences with specialized preferences.³³

Thus, the Commission must give full consideration to the net effect an activity has on the market as a whole: Truly anticompetitive activity can and must be penalized, but activity that promotes deployment or the development of new products responsive to consumer needs should not be subject to any categorical bar.

III. CONSUMERS MUST RECEIVE MEANINGFUL DISCLOSURE OF MATERIAL TERMS OF SERVICE.

Although it would be imprudent for the Commission to adopt broad rules governing providers' network-management practices, the market will function best if users are made aware of the capabilities and limitations associated with competing broadband offerings. Such information will enhance the operation and efficiency of the market, ensuring that economic signals reflect consumers' actual knowledge rather than their assumptions. It will also minimize the confusion and anger that arises when customers discover limitations that providers had not previously disclosed.

The adequate disclosure of relevant information to consumers is an essential component of the *Internet Policy Statement*. It is axiomatic that free markets require the free flow of

³³ *FTC Staff Report* at 157-58.

information regarding the goods and services for sale. Indeed, economists often cite a lack of information as one of the two main causes of market failure.³⁴ This principle applies to the broadband market as well. For this reason, TIA has long urged the Commission to guarantee that consumers receive relevant information regarding their broadband service plans. As noted above, TIA was a member of the HTBC, which first set forth broadband “connectivity principles” almost five years ago. First among these was a principle stating that “[c]onsumers should receive meaningful information regarding their broadband service plans.”³⁵ Although this principle was not expressly adopted in the *Internet Policy Statement*, the interests it is meant to ensure fall squarely under the rubric of the *Policy Statement*’s fourth principle, which declares that “consumers are entitled to competition among network providers, application and service providers, and content providers.” If consumers lack “meaningful information regarding their broadband service plans,” they cannot make informed decisions as to their purchase of broadband service, and in turn cannot expect meaningful “competition among network providers, application and service providers, and content providers.” As TIA noted in response to the Commission’s *Broadband Industry Practices* NOI, however, current disclosure practices are uneven and often insufficient:

Full disclosure is an important cornerstone of the connectivity principles. Today the majority of broadband offerings disclose no more than price and a peak bandwidth number that in actuality is only attained on a limited basis. Quantity, duration, and time of day limitations that affect the quality of the bandwidth are not

³⁴ See, e.g., Robert S. Pindyck & Daniel L. Rubinfeld, MICROECONOMICS 294 (5th ed. 2001) (“Market failure can also occur when consumers lack information about the quality or nature of a product and so cannot make utility-maximizing purchase decisions. Government intervention (e.g., requiring ‘truth-in-labeling’) may then be desirable.”). The other principal cause for market failure is the presence of externalities. *Id.*

³⁵ *HTBC September 2003 Letter*.

being disclosed. Any application and device limitations (*i.e.*, that are deemed necessary to protect the integrity of the network) also must be disclosed so that the connectivity principles can work together. This disclosure helps create an environment where market forces and regulatory oversight could more readily distinguish between acceptable network management practices and anticompetitive or unreasonably discriminatory behavior.³⁶

Thus, the fourth *Internet Policy Statement* principle must be understood to require providers to ensure that consumers have information regarding upstream and downstream throughput speeds, bandwidth usage limitations, the use of technologies designed to block spam, viruses, or other content deemed to be harmful, and any other limitations associated with a particular service plan.

These disclosures will not only safeguard consumers directly, but also mitigate the need for heavy-handed regulation or aggressive enforcement action. This will become more and more the case as users enjoy competition among more and more broadband providers. Once consumers are made aware of a service's limitations and given the opportunity to select another provider, the need for regulation of a particular provider's practices will diminish substantially.

As some commentators have put it:

To the extent that [broadband usage policies are transparent], it is quite possible that the most effective protection for consumers will be their own vigilance about what services network providers offer them. To facilitate such vigilance, all providers should be required to state clearly to which extent content and services enjoy preferential delivery opportunities and to what extent limitations exist on the ability of consumers to access the content and services of their choice.³⁷

Finally, reliance on a competitive market fueled by freely flowing information rather than relying upon static technological assumptions, cemented in place, will also promote diversity and

³⁶ TIA NOI Comments at 9.

³⁷ See *A Third Way* at 55.

innovation in the broadband industry. One of the central insights animating market-based economic theory is that different individuals have different preferences, display different preferences, and place differing values on a product or service's specific features. Some homebuyers will pay a premium to be closer to a major city, while others would rather spend the same sum on a larger but more remote home. Some restaurant-goers may require a child-friendly environment, while others will intentionally avoid such environments. Likewise, different consumers of broadband service will display different preferences, and will continue to do so as services evolve. Some users will prefer high-capacity broadband Internet access that can be used to access any application at any time; others will wish to pay less, recognizing that as a result there are limits on their use of some offerings. Some will seek access to all content available; others will want their providers to block materials that are not "family-friendly" or that involve offensive subjects or views. Some will pay to avoid certain types of advertising, while others will believe it worthwhile to view advertisements in exchange for reduced broadband prices. Thus, given a choice between (1) a market in which providers are prohibited from pursuing certain approaches to network management and (2) a market in which providers face no such *ex ante* prohibitions, but must provide consumers with information regarding all material features of their services, the latter option is clearly superior. Notification, in short, is an effective and relatively unintrusive substitute for command-and-control regulation. Thus, to the extent the Commission believes that affirmative steps must be taken at this time to address network management practices, it should require disclosure of material terms rather than limiting the options of providers and consumers.

CONCLUSION

For the reasons set forth above, the Commission should decline to adopt specific requirements governing broadband providers' network management principles. Instead, it should continue to promote the *Internet Policy Statement*, work to ensure that providers give their current and prospective customers meaningful information regarding their broadband connectivity plans, and respond to complaints regarding alleged unreasonable network management practices on a case-by-case basis. Such inquiries, moreover, should be guided by the Commission's recognition that many forms of reasonable network management may not only be beneficial to users overall but indeed necessary to the provision of continuing widespread deployment of broadband service.

Respectfully submitted,

TELECOMMUNICATIONS INDUSTRY ASSOCIATION

By: _____

Danielle Coffey
Vice President, Government Affairs

Patrick Donovan
Director, Government Affairs

Rebecca Schwartz
Manager, Government Affairs

TELECOMMUNICATIONS INDUSTRY ASSOCIATION
10 G Street N.E.
Suite 550
Washington, D.C. 20002
(202) 346-3240

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