Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Preserving the Open Internet	)	GN Docket No. 09-191
	)	
Broadband Industry Practices	)	WC Docket No. 07-52
	)	

COMMENTS OF VONAGE HOLDINGS CORP.

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Executive Summary

Vonage files these comments in response to the Notice of Proposed Rulemaking on the development of rules to preserve an open Internet. Vonage strongly supports the Commission's proposed rules. There is a clear need for the Commission to adopt the proposed rules and adopting these rules is the logical next step in the Commission's efforts to preserve the open Internet. Innovation and competition enabled by the open Internet have generated tremendous economic and social benefits. Yet there is significant uncertainty about the enforceability of the principles in the *Internet Policy Statement*, which is the Commission's current tool to protect the open Internet. Further, the current level of competition in the broadband market is not sufficient to ensure that broadband network operators do not engage in conduct that would put the tremendous economic and social benefits generated by the open Internet at risk. In order to ensure that innovation and competition continue to flourish on the open Internet driving large social and economic benefits, the Commission must adopt its proposed rules. The Commission has ample statutory authority to take this step.

While Vonage supports the Commission's proposal to codify the existing *Internet Policy Statement* principles, it recommends that the Commission modify each of the first three principles to clarify that a provider of broadband Internet access service "may not prevent *or hinder*" users from obtaining lawful content or applications or attaching lawful devices to the network. This change will better capture the harm to consumers that the Commission designed these principles to prevent: degradation of service as well as a complete loss of service.

Vonage also supports adoption of the Commission's new proposed nondiscrimination principle. Vonage believes the proposed nondiscrimination rule promotes the Commission's goals while remaining flexible enough to minimize the potential harm to broadband service providers from this principle. The nondiscrimination principle promotes innovation. The decentralized architecture of the Internet has pushed content, application, and service innovation to the edge of the network and has made it possible for almost anyone to innovate. In fact, some of the most successful Internet fueled innovations were made by small and thinly funded indi-

viduals and entities. The nondiscrimination principle ensures that broadband network providers do not insert themselves into this dynamic innovation process and determine winners and losers in the content, application and service markets by granting preferential access to favored content, application and service providers. The proposed nondiscrimination rule will also promote competition because it will prevent broadband providers from tilting the competitive balance by favoring their own or favored applications, content, or services over competing applications, content, or services. At the same time, the nondiscrimination principle is flexible enough to allow for network level innovation and competition.

In addition to the proposed nondiscrimination principle, Vonage believes that the Commission should adopt a separate principle to address charges for access to subscribers on a broadband provider's network that states: "Subject to reasonable network management, a provider of broadband Internet access may not charge a content, application, or service provider for access to the subscribers of the broadband Internet access provider." The concept of a broadband network provider charging for access to its customers does not fit neatly into the proposed nondiscrimination principle and seemingly would be better as a standalone principle. Further, the harm from charging for access to broadband subscribers is not limited to charges for prioritized or preferential access and the principle should reflect this consideration.

Additionally, Vonage supports the Commission's transparency principle with minor modifications to make clear that it does <u>not</u> exempt reasonable network management from the fundamental requirement that network operators inform customers about their practices. This principle promotes innovation by giving content, application, and service providers the information necessary to tailor their products to work most effectively with existing network management practices. Further, it protects the interests of consumers by giving them the information to make informed purchasing decisions for broadband service.

Vonage likewise supports the Commission's proposed definition of "reasonable network management." The proposed reasonable network management definition will further the Commission's goals of promoting innovation and competition and protecting consumers' interests.

The proposed definition of reasonable network management is also flexible enough to balance the concerns raised in the NPRM over service quality management. Network providers need to maintain flexibility to address quality of service, especially for those services and applications that provide two-way, real time communications that are disproportionately affected by transmission jitter, latency, packet loss, and other delays.

Vonage appreciates the Commission's concern over whether it should exclude certain "Managed" or "Specialized" service from the requirements of the proposed open Internet principles. Vonage urges the Commission to proceed cautiously in this area to ensure that any exemption granted for Managed or Specialized Services does not undermine the Commission's goals of promoting innovation and competition. To limit the potential negative impacts that such an exemption may create, the Commission should consider requiring a broadband network service provider to offer its Managed and Specialized services to competitors at the same prices and terms as it provides to itself.

Vonage also believes that the *Internet Policy* principles should apply to all broadband services that provide consumer access to the Internet, including wireless services. Increasingly, the wired and wireless broadband experiences are converging. Wireless providers are promoting their latest devices as offering consumers the ability to realize the full potential of the web from the palms of their hands. Consumers expect that wireless devices will be able to deliver a full web experience. Failing to apply the same principles to wireless broadband networks as applied to wired broadband networks would frustrate consumer expectations. Further, failing to apply the proposed principles to wireless broadband networks could prevent wireless broadband from developing into a viable competitor for wired broadband.

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COMMENTS OF VONAGE HOLDINGS CORP.

I. INTRODUCTION

Vonage Holdings Corporation ("Vonage") files these comments in response to the Notice of Proposed Rulemaking ("NPRM") issued by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceeding on the Commission's development of rules to preserve an open Internet.[1] Vonage strongly supports the Commission's proposed rules.

II. THERE IS A CLEAR NEED FOR COMMISSION ACTION

A. An Open Internet Generates Tremendous Economic and Social Benefits

The FCC's *Internet Policy Statement*[2] discusses the significant role that an open Internet plays in the American economy and culture, noting that it has served "as an engine for productivity growth and cost savings," it has a "profound impact on American life," and it provides "a

[1] *Preserving the Open Internet, Broadband Industry Practices*, Notice of Proposed Rulemaking, GN Docket No. 09-191& WC Docket No. 07-92, FCC 09-93 (rel. Oct. 22, 2009) ("NPRM").

[2] *See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review–Review of Computer III and ONA Safeguards and Requirements; Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*; CC Docket Nos. 02-33, 01-337, 95-20 & 98-10, GN Docket No. 00-185, CS Docket No. 02-52, *Policy Statement*, 20 FCC Rcd 14986 (2005) ("*Internet Policy Statement*").

forum for a true diversity of political discourse, unique opportunities for cultural development, and myriad avenues for intellectual activity."[3] Many others have echoed the FCC's conclusions, documenting billions of dollars of cost savings and dramatic increases in productivity resulting from adoption of Internet access services and related technologies.[4] "No modern phenomenon better demonstrates the importance of free resources to innovation and creativity than the Internet."[5] Further, the Internet sets low barriers to entry for entrepreneurs and content creators due to its free and open nature, and provides innovators with a low-cost opportunity to distribute ideas and products far and wide.[6] The diversity of online content, services, and applications available today are reflections of the economic and social benefits associated with an open Internet, and highlight the importance of ensuring that this platform remains open to all Americans.

Likewise, the openness of the Internet has been, and remains, a significant driver of American job growth. One study has estimated that a seven percent increase in broadband adoption could result in, among other things, 2.4 million jobs created or saved annually, as well

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[3] *Internet Policy Statement*, ¶ 1.

[4] Hal Varian *et al*., The Net Impact Study (Jan. 2002), *available at*: http://www.netimpactstudy.com/nis_2002.html; *see also* Robert Crandall *et al.*, The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data, The Brookings Institution (July 2007) (finding that "for every one percentage point increase in broadband penetration in a state, employment is predicted to increase by 0.2 to 0.3 percent per year"), *available at:* http://www.brookings.edu/~/media/Files/rc/reports/2007/06labor_crandall/200706litan.pdf; Bill D. Herman, Opening Bottlenecks: On Behalf of Mandated Network Neutrality, 59 Fed. Comm. L.J. 103, 109 (2006) ("As neutral and therefore controlled platforms, both the Internet generally and the Web specifically have spawned a dazzling rate and range of innovation.")

[5] Lawrence Lessig, The Future of Ideas at 14 (First ed., Random House) (2001), *available at*: http://thefutureofideas.s3.amazonaws.com/lessig_FOI.pdf; *see also* Yochai Benkler, The Wealth of Networks at 1-2 (2006) (discussing the emergence of a "new information environment" and its potential to "achieve improvements in human development everywhere").

[6] *See, e.g.*, Lawrence Lessig, In Support of Network Neutrality, 3 ISJLP 185, 188 (2007) ("Indeed, if you consider some of the most important innovations in this history of the Internet-from the development of the World Wide Web by a Swiss researcher at CERN, to the first peer-to-peer instant messaging chat service, ICQ, developed by a young Israeli, to the first web based (or HTML-based) email, HoTMaiL, developed by an Indian immigrant – these are all innovations by kids or non-Americans, outsiders to the network owners.").

as over $35 billion per year in hours saved from accessing broadband at home.[7] Similarly, other studies have estimated that "for every one percentage point increase in broadband penetration in a state, employment is projected to increase by 0.2 to 0.3 percent per year." [8] Broadband adoption positively affects employment, "especially finance, education, and health care."[9]

As an Internet application and service developer, Vonage has been a participant in the open Internet, and its innovations have helped add to the social and economic benefits generated by the open Internet. Vonage harnessed technology to bring its customers an unprecedented wealth of features at an unheard of price. Today's residential voice market – where consumers expect bundled all distance plans with a wide range of features at prices that have continued to decline – was shaped in large part by Vonage's entrance into the market, which spurred others to compete, and resulted in lower communications costs for many millions of Americans, whether Vonage customers or not. For example, when Vonage launched in 2002, the price for its bundled local and long distance offering was $40 per month. At the time, the average cost for just local service from a Plain Old Telephone Service ("POTS") carrier was approximately $36 per month.[10] Today, Vonage provides consumers with a bundle of unlimited local, long distance, and international calling for $25 per month, and offers other tailored plans for less for those consumers that do not need unlimited calling.

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[7] *The Economic Impact of Stimulating Broadband Nationally*, Connected Nation, Inc., at 7 (Feb. 21, 2008), *available at*: http://connectednation.com/research/publications/Connected%20Nation%20Broadband%20Economic%20Impact%20Study%20Full%20Report_2008%2002%2021_web%20version.pdf.

[8] *See, e.g.*, *The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data*, Robert Crandall, William Lehr, & Robert Litan, Issues in Economic Policy: The Brookings Institution, at 2 (July 2007), *available at*: http://www.brookings.edu/views/papers/crandall/200706litan.pdf.

[9] *Id*. A 2007 study prepared for AT&T, for example, similarly found that just a moderate increase in broadband use over a ten-year period "could generate a cumulative gain of 1.8 million jobs and $132 billion of payroll in California relative to the baseline forecast of economic growth. *See Economic Effects of Increased Broadband Use in California*, Dr. Kristin Van Gaasbeck, Dr. Stephen Perez, Ryan Sharp, Helen Schaubmeyer, Angela Owens, & Lindsay Cox, Sacramento Regional Research Institute, at 30 (Nov. 2007), *available at*: http://www.srri.net/AboutUs/EconEffectsBB_Research.pdf.

[10] *See* Peter Rojas, *Bon Vonage, Baby Bells, A New Internet Service Means You Don't Need the Phone Company Anymore*, Slate (Dec. 17, 2002), *available at*: http://www.slate.com/id/2075534/.

Several studies have projected VoIP providers to be among the top job creators over the next several years.[11] A leading business research firm has listed VoIP services at the top of those industries it expects to provide "hot jobs," estimating that average annualized job growth in this industry will exceed 19% and that average annualized wage growth through 2012 is estimated to be over 21%.[12] Indeed, the rate of job and wage growth for VoIP services far outpaced other job categories on the list. For example, wage growth in VoIP services is expected to outperform the second best job category by almost four times.[13]

Similarly, the consumer cost savings from VoIP cannot be understated. "Over-the-top" VoIP providers, of which Vonage is far and away the largest, will save consumers over $1 billion per year in communications services costs.[14] Further, it is estimated that competition by VoIP and other services will create $111 billion in total savings for consumers over the five-year period 2008-2012.[15] These savings, however, are not only a reflection of the price differences between VoIP and traditional wireline telephony services. A large portion of these savings, approximately $87 billion, will come from the competitive response of traditional wireline service providers to increased competition by alternative services.[16]

While the tremendous economic and social benefits generated by the open Internet are impressive, they are by no means ensured. Conduct by broadband network operators that restricts the availability of applications and services or different viewpoints over the Internet puts

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[11] *Report: VoIP the Place to be For Jobs, Money*, Triangle Business Journal, Report (Apr. 2, 2008), *available at*: http://www.bizjournals.com/triangle/stories/2008/03/31/daily21.html.

[12] *Id.*

[13] *See id.*

[14] *See* Consumer Benefits from Cable-Telco Competition, MiCRA, at 15-16 (Nov. 2007), *available at*: http://www.micradc.com/news/publications/pdfs/Updated_MiCRA_Report_FINAL.pdf (providing economic analysis of the savings to residential consumers of new and emerging technologies, including VoIP).

[15] *Id.*, at 27.

[16] *Id.*

the economic and social benefits generated by the open Internet at risk.[17]

B. The Proposed Rules Are Necessary to Provide Regulatory Certainty

Unfortunately under the current framework, the Commission's ability to take action to protect the economic and social benefits generated the open Internet is unclear. The FCC's *Internet Policy Statement* is a significant step taken to "preserve and promote the open and interconnected nature of the public Internet."[18] As the FCC's *Comcast Order* makes clear, the *Internet Policy Statement* principles standing alone do not preserve openness.[19] The confusion surrounding the force and effect of the *Internet Policy Statement* is apparent, and has been subject to debate for some time. The comments filed with the Commission in the *Vuze Petition* proceeding[20] demonstrate an industry divide as to whether the *Internet Policy Statement* is, by itself, enforceable. According to some, the *Internet Policy Statement* "was not intended to, and cannot, have binding legal effect."[21] Others believe that the Commission has the authority to

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[17] *See* Barbara van Schewick, Towards an Economic Framework for Network Neutrality Regulation, 5 J. on Telecomm. & High Tech. L. 329, 378 (2007) ("[T]he threat of discrimination reduces the amount of application-level innovation."); *See* Herman, Opening Bottlenecks, supra note 4, at 110 ("Threats to network neutrality could reduce the level and variety of online innovation.").

[18] *Internet Policy Statement*, ¶ 4 (citations omitted) (italicized emphasis in original). The *Internet Policy Statement* provides that: "(1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers." *Id.*

[19] *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC's Internet Policy Statement and Does Not Meet an Exception for "Reasonable Network Management*, Memorandum Opinion and Order, File No. EB-08-IH-1518 & WC Docket No. 07-52, ¶52 (rel. Aug. 20, 2008) ("*Comcast Order*"). Vonage incorporates its comments filed in WC Docket No. 07-52 on February 13, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519841202, ("*Vonage Vuze Comments*"), and its comments filed in WT Docket No. 08-94 on July 24, 2008, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520035351 ("*Vonage Clearwire Comments*") (discussing the competitive benefits open access broadband services provide). *See Vonage Vuze Comments*, at 8.

[20] *Vuze, Inc. Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators*, WC Docket No. 07-52.

[21] *Vuze, Inc. Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators*, Comcast Comments, WC Docket No. 07-52, at 46 (filed Feb. 12, 2008).

enforce the policy statement principles.[22]

As the Commission is aware, the legal status and enforceability of the *Internet Policy Statement* remains under review at the United States Court of Appeals for the District of Columbia Circuit. In that proceeding Comcast has argued that, as a matter of law, an agency may only "establish binding policy through rulemaking procedures by which it promulgates substantive rules, or through adjudications which constitute binding precedents,"[23] and as a "general statement of policy," the *Internet Policy Statement* is an unenforceable announcement of the policy that the agency hopes to implement in future rulemakings or adjudications.[24] Should the D.C. Circuit agree with this argument, then the FCC may lack the tools to enforce openness standards against network operators that threaten the free and open nature of the Internet. Further increasing industry confusion, the *Comcast Order* sought to enforce "federal Internet policy" referring to several statutory provisions that purportedly underlie the *Internet Policy Statement*, rather than codified rules that govern network operator behavior.[25]

The uncertainty about the enforceability of the principles in the *Internet Policy Statement* dictate that the Commission, at a minimum, adopt the principles as enforceable rules. Continued uncertainty in this area will bring additional litigation, and raise the costs for innovators to access credit markets and invest in ideas. Adopting rules through the rulemaking process will improve market certainty, and allow both application and content providers and broadband network operators to move ahead with investment decisions.

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[22] *See Vuze, Inc. Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators*, Free Press Comments, WC Docket No. 07-52, at 16-18 (filed Feb. 13, 2008); Open Internet Coalition Comments at 10 (filed Feb. 13, 2008) ("[T]he Commission should promptly act on the Free Press Petition, making clear that the *Policy Statement's* four principles are enforceable, and that degrading applications without regard to the actual burden to the network violates the *Policy Statement*."); TIA Comments at 3 ("As suggested by Free Press et al., the *Statement* can facilitate enforcement action when necessary.").

[23] *See* Brief of Petitioners, Comcast Corp. v. FCC, D.C. Cir., No. 08-1291, at 21 (filed July 27, 2009) (citing *Pac. Gas & Elec. Co. v. Fed. Power Comm'n*, 506 F.2d 33, 38 (D.C. Cir. 1974).

[24] *See id.*

[25] *See Comcast Order*, ¶¶ 29, 41 (discussing whether Comcast ran afoul of "federal Internet policy").

C. Broadband "Competition" Does Not Obviate the Need For the Proposed Rules

Although the FCC has stated that it is important to avoid "an inflexible framework" that "micromanag[es] providers' network management practices,"[26] the state of broadband competition, and the uncertainty regarding the Commission's ability to enforce the *Internet Policy Statement*, dictate that the Commission should codify, and expand upon, the open Internet principles set forth in the *Internet Policy Statement*. As discussed above, an open Internet is essential to ensure American economic and social prosperity. However, as Vonage has informed the Commission in the past,[27] consumers in many areas of the country have only one choice of broadband service provider because there is little real competition in the high-speed Internet access services market. In those areas, the service provider faces little risk that consumers can change the way in which they access the Internet, meaning that the network owner can exercise greater control over its network -- and the content that consumers access over that network -- with little to no fear of losing consumers who disagree with the way in which the network is managed.[28]

In theory, competition in the broadband market could ensure that broadband network operators do not engage in actions that would hinder the open Internet such as discriminating against competing content and applications. In reality, however, the broadband market is not competitive.[29] As a threshold matter, there is insufficient data to determine with any granularity whether there is competition in the broadband market.[30] But, it does not appear that the market

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[26] *Comcast Order*, ¶ 50.

[27] Vonage incorporates by reference its comments filed with the Commission in GN Docket No. 09-40 (filed Apr. 13, 2009), *available at*: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520209582 ("*Vonage Broadband Stimulus Comments*").

[28] *Vonage Broadband Stimulus Comments*, at 2-3.

[29] *See generally* Ex Parte Submission of the U.S. Department of Justice, GN Docket No. 09-51 (filed Jan. 4, 2010) ("*DOJ Ex Parte*").

[30] *See* FTC Staff Report, *FTC Broadband Connectivity Competition Policy*, at 105 (June 2007), *available at*: http://www.ftc.gov/reports/broadband/v070000report.pdf ("*FTC Broadband Competition Report*").

is fully competitive.[31] In the best case scenario, retail consumers often only have a choice between two wired broadband providers: an incumbent telecommunications service provider, and an entrenched, incumbent cable operator. There is no compelling evidence that wireless broadband is a substitute for wired broadband.[32] Wireless services today often operate at lower speeds, and can have higher jitter, delay, and latency than wired networks, which make them unsuitable for many real-time, two-way communications services.[33] Further, there are significant physical limitations on their use (geography, weather, ability to penetrate buildings and walls, etc.), which often make them unsuitable for residential access. Even in the best case scenario, the typical broadband access market would not be viewed as a "competitive market" under traditional economic analysis (Herfindahl-Hirschman Index ("HHI") of 5,000 if the market was split 50/50 between two operators, which is considered a highly concentrated market under the Department of Justice's Horizontal Merger Guidelines).[34] Of course, only one broadband provider is available in many rural markets, which obviates even the minor competitive benefits that a second, large, incumbent operator could provide.[35]

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[31] *See DOJ Ex Parte*, at 7 ("Competitive conditions [for broadband services] vary considerably for consumers in different geographic locales."). *See also* Statement of Joseph Farrell, Director, Bureau of Economics, Federal Trade Commission, National Broadband Plan Workshops, Economic Issues in Broadband Competition, at 58 (Oct. 9, 2009) (noting that the broadband market "is not exactly a monopoly and it's not exactly competitive — it's somewhere in between.").

[32] *See* Statement of Judith Chevalier, William S. Beinecke Professor of Finance and Economics, Yale School of Management, National Broadband Plan Workshops, Economic Issues in Broadband Competition, at 109 (Oct. 9, 2009) (noting that wireless broadband is "a pretty imperfect competitor for wireline Internet access."). *See also DOJ Ex Parte*, at 10 (stating that it is unclear whether wireless will become a viable competitive alternative to wireline broadband, and that within the next several years "the limits of wireless broadband will be tested, including the actual delivered speeds, adequacy of in-building coverage, and ability of the networks to accommodate large numbers of users.").

[33] *See DOJ Ex Parte*, at 8 (stating that wireless services may be attractive to consumers that "do not place much value on the highest speeds (e.g., consumers who do not want advanced services, such as HD video streaming).").

[34] *See* U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines, at Sec. 1.5 (rev. Apr. 8, 1997) (noting that an HHI of over 1,800 is considered a highly concentrated market).

[35] *See DOJ Ex Parte*, at 28 ("Nonetheless, some locales may well have only one terrestrial provider able to offer broadband services, especially to consumers who seek to use the most bandwidth-intensive applications, e.g., video teleconferencing.").

The competitive landscape of the wireless broadband market is not much better. Mobile wireless broadband service offerings are concentrated between few carriers. The lack of competition in the special access market also impacts the ability of non-RBOC affiliated wireless broadband services to provide competitive services, since special access services are often used to backhaul traffic from cell sites to the Internet backbone. While the Commission is in the process of examining competition in the special access market,[36] RBOCs appear to exercise significant control over special access market, which in turn, reduces the competitive response that wireless technologies could provide to the wireline broadband market.

Finally, as a practical matter, what little competition that there is has proven inadequate to constrain conduct by broadband network providers that threatens the open Internet. Recent Commission decisions such as *Madison River Order,* the *Comcast Order*, and other Commission intervention,[37] have repeatedly demonstrated that the Commission needs clear rules to ensure that broadband service provider behavior does not harm consumers or application or content providers on the edge of the network.

Even if there were more broadband competition, it would not be adequate to ensure an open Internet. Regardless of whether there is adequate competition to control conduct, like discrimination by broadband network operators against competing content and applications, there are potential threats to an open Internet that would not be eliminated by competition. Foremost among these is the terminating access monopoly problem, which results from the broadband network operator being a monopolist for anyone seeking to deliver content or applica-

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[36] *See* FCC Public Notice, *Parties Asked to Comment on Analytical Framework Necessary to Resolve Issues in the Special Access NPRM*, DA 09-2388 (rel., Nov. 5, 2009).

[37] *See also* Letter from James D. Schlichting, Acting Chief, Wireless Telecommunications Bureau, Federal Communications Commission, to James W. Cicconi Senior Executive Vice President-External and Legislative Affairs, AT&T Services, Inc., DA 09-1737, RM-11361, RM-11497 (July 31, 2009) (investigating the blocking of certain VoIP applications on the iPhone and AT&T network); *See* Letter from Robert W. Quinn, Jr., Senior Vice President, Federal Regulatory, AT&T, to Ruth Milkman, Chief Wireless Telecommunications Bureau Federal Communications Commission, RM-11361, RM-11497 (Oct. 6, 2009) (announcing that the company would allow Skype and other VoIP providers to use AT&T's 2G and 3G capabilities over the iPhone).

tions over the broadband network to a customer served by the network.[38] This can reduce the incentive for content or application providers to innovate because the network operator can extract some of the value of the content or applications by charging for access to the broadband network subscriber. This can also increase the price of content or applications and reduce consumer demand for these products. The FCC has substantial firsthand experience with terminating access monopolies and the distortions that they cause through its regulation of telephone termination charges, including having to regulate access charges of competitive local exchange carriers with little market power.[39] The Commission should not allow the termination charge model (including the terminating access monopoly problems), to take root in broadband networks, especially given the agency's struggles to reform the intercarrier compensation system to address the myriad of problems that the termination charge model has caused on the telephone service platform.

III. THE COMMISSION HAS AUTHORITY TO CODIFY THE PRINCIPLES OF THE INTERNET POLICY STATEMENT INTO FORMAL RULES

A. Wired and Wireless Broadband Internet Service Fall Under the Commission's General Grant of Authority

While the question of the FCC's authority to enforce the *Internet Policy Statement* is currently under consideration before the D.C. Circuit, the Commission has ample statutory authority to adopt formal rules to regulate the broadband service market. Under the Communications Act, the Commission has "ancillary jurisdiction" such as that set forth in section 4(i) of the Act, 47 U.S.C. § 154(i) that authorizes it to "perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions."[40] In order to exercise this authority the Commission must satisfy two criteria: first

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[38] *See FTC Broadband Competition Report*, at 77.

[39] *See*; *Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers*, Seventh Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd 9923 (2001); *Access Charge Reform* , Eighth Report and Order, 19 FCC Rcd 9108 (2004).

[40] *American Library Ass'n v. FCC*, 406 F.3d 689, 692 (D.C. Cir. 2005).

it must act under the "general grant of jurisdiction under Title I of the Communications Act, which … encompasses "'all interstate and foreign communication by wire or radio;'"[41] and second, the Commission's action must be "reasonably ancillary to the effective performance of the Commission's various responsibilities."[42] There is little dispute that the rules the Commission proposed in the NPRM cover interstate communication by wire and fall within the Act's general grant to the Commission to regulate interstate communication by wire or radio. The rules also meet the second criteria for exercise of ancillary jurisdiction. Specifically, the Commission has the power to adopt the NPRM's proposed rules on the grounds that such rules would be reasonably ancillary to the effective performance of the Commission's regulatory responsibilities over common carriers under Title II of the Act, over broadcasting under Title III, and over cable television under Title VI.

B. The Proposed Open Internet Rules are Ancillary to a Number of the Commission's Specific Statutory Responsibilities

1. Title II of the Communications Act.

The Commission has the authority to regulate those services necessary for the proper administration of Title II of the Communications Act. Increasingly broadband Internet access services are being used to deliver voice and video services that compete with traditionally regulated telecommunications and video services. Services provided over the Internet, and using broadband in particular, therefore affect federally regulated communications under Title II.

As an initial matter, wireline broadband services were previously regulated as telecommunications services under Title II of the Act, but in 2005 the Commission re-classified wireline broadband Internet services as information services.[43] For example, under the *Wireline Broad-*

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[41] *United States v. Southwestern Cable Co.*, 392 U.S. 157, 167 (1968) (quoting Section 2(a) of the Act, 47 U.S.C. § 152(a))

[42] *Id*. at 178.

[43] *See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 14853 (2005) ("*Wireline Broadband Order*").

band Order, broadband providers can elect to offer the transmission component of wireline broadband Internet service on a common carrier basis.[44] Such providers are subject to Title II regulation that prevents unjust and unreasonable practices such as those prohibited in the *Comcast Order* and similar to those that would be prohibited under the regulatory regime set forth in the NPRM. The Commission's proposed regulations would help preserve the competitive balance between providers electing to operate under Title II and those operating under Title I. This is analogous to Commission regulation of cable television services that was affirmed in *Southwestern Cable*, as well as the regulation adopted in *Computer II*,[45] and affirmed in *CCIA*,[46] where the court noted: "Given this potentially symbiotic relationship between competitive and monopoly services, the agency charged with ensuring that monopoly rates are just and reasonable can legitimately exercise jurisdiction over the provision of competitive services."[47]

Further, there are a number of broadband transmission services, such as Ethernet, that are and most likely will remain as Title II services that are becoming increasingly important services in the small and medium size business markets.[48] While Ethernet services are clearly subject to Title II,[49] in some cases these services may compete in markets with broadband Internet services offered under Title I. The Commission would be justified in adopting the proposed regulations as a step to preserve and maintain some level of regulatory symmetry between competing Title II and Title I services.

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[44] *Wireline Broadband Order*, 20 FCC Rcd at 14902, ¶ 94.

[45] *See Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry)*, Final Decision, 77 F.C.C.2d 384 (1980).

[46] *Computer & Communications Industry Ass'n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982) ("*CCIA*").

[47] *CCIA*, at 213.

[48] *See generally Petition of AT&T Inc and BellSouth Corporation for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to its Broadband Services*, WC Docket No. 06-125, Memorandum Opinion and Order, FCC 07-180 (rel. Oct. 12, 2007) ("*AT&T Forbearance Order*")

[49] *See AT&T Forbearance Order; see also* Ad Hoc Telecommunications Users Committee v. FCC, 572 F.3d 903 (D.C. Cir. 2009).

2. Title III of the Communications Act.

The Commission also has the authority to regulate those services necessary for the proper administration of Title III of the Act. Increasingly consumers are using broadband Internet access services to obtain video content that is also available on over-the-air broadcast television. Many television networks now offer complete programs on the Internet for free or a modest fee. For example, a number of broadcasting companies collectively own Hulu.com which shows programs broadcast on the network television on the Internet, currently for no charge.[50] Indeed, some commentators have suggested that the Commission reclaim spectrum from broadcasters because video content is available on the Internet as well as from cable television and other multi channel video program delivery ("MVPD") services such as direct to home satellite. Services provided over the Internet, and using broadband in particular, therefore affect the Commission's exercise of its duties under Title III which governs broadcasting.

The situation is analogous to the Commission regulation affirmed by the Supreme Court in *Southwestern Cable*.[51] In that case, the Supreme Court upheld the Commission's decision to prohibit the importation by community antenna television ("CATV") of distant signals into the 100 largest television markets. The FCC relied on its Title I authority to regulate CATV to ensure that benefits arising out of a system of local broadcast stations (governed under other provisions of the Act) would not be jeopardized by CATV. "[T]he Commission has reasonably concluded that regulatory authority over CATV is imperative if it is to perform with appropriate effectiveness certain of its other responsibilities."[52] Just like distribution over cable, video distribution over the Internet can impact the broadcast industry and is therefore akin to the out-of-market programming carried by cable with which the Commission was concerned in the order reviewed in *Southwestern Cable*.[53] Thus, the Commission's authority over broadband Internet

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[50] *See generally* http://www.hulu.com/about.

[51] *Southwestern Cable*, 392 U.S. 157, 168.

[52] *Id.*, at 174.

[53] *See generally id.*, 392 U.S. at 173-176.

access is reasonably related to the agency's responsibilities under Title III of the Communications Act.

3. Title VI of the Communications Act.

The Commission also has ancillary jurisdiction over broadband Internet access under Title I of the Act related to the proper administration of Title VI of the Act. Increasingly broadband Internet access services are being used to deliver video content that compete with traditional cable programming delivered by MVPD providers such as Comcast. Services provided over the Internet, and using broadband in particular, therefore affect the Commission's exercise of its duties under Title VI.

As discussed above, television networks that provide video programming regularly provide Internet access to complete episodes of programs that are carried on their networks. In addition, there are a number of movie rental services that offer access to movies and other video content online.[54] All of these services pose a challenge to the MVPD services offered by the same companies that are the dominant providers of broadband Internet service to American consumers--namely the major cable operators and the RBOCs. There can be little dispute that the Commission has the authority to regulate under Title I in order to prevent broadband Internet providers that also provide Title VI services from using their control of their broadband networks to degrade their customers ability to obtain unfettered access to video programs over the Internet when such customers choose to do so rather than pay for their Broadband Provider's Title VI offering. Consumers are increasingly exploring ways to use Internet video service as substitute for cable service.[55]

The exercise of the Commission's ancillary jurisdiction here is directly analogous to the

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[54] *See generally* NetFlix, at http://www.netflix.com; and Amazon Video-on-Demand, at http://www.amazon.com/Video-On-Demand/b?ie=UTF8&node=16261631 (providing online video and television programming content).

[55] *See* Brian Stelter, Comcast Introduces a Streaming TV Service , N.Y. Times (Dec. 16, 2009), *available at*: http://www.nytimes.com/2009/12/16/business/media/16comcast.html (discussing Comcast's online video service, and noting the trend towards online video consumption).

regulatory measures the Commission took in its early cable orders covered by *Southwestern Cable*, and in the *Computer II* Order reviewed in *CCIA*. Just like distribution over cable, video distribution over the Internet can impact the broadcast industry and is therefore akin to the out-of-market programming carried by cable with which the Commission was concerned in the order reviewed in *Southwestern Cable*.[56]

Such authority is therefore "reasonably ancillary" to the Commission's oversight of cable television services under Title VI of the Act. Because Congress has given the FCC authority over certain cable service rates,[57] and cable providers have the incentive to squelch competing distribution media and thereby reduce price pressure on their services, the Commission has the authority to ensure that the broadband access market is not manipulated in a manner that would frustrate the purposes of Title VI of the Act.

4. Section 230(b).

The FCC's regulation of broadband Internet services, including, for example, cable modem services, is also "reasonably ancillary" to section 230(b) of the Communications Act, which sets forth the "policy of the United States" to "promote the continued development of the Internet," "to preserve the vibrant and competitive free market that presently exists for the Internet," and to "encourage the development of technologies which maximize user control over what information is received by individuals, families, and schools who use the Internet."[58] Given Congress's charge that the Commission "shall execute and enforce" the provisions of the Act, [59] and its grant of power to "perform any and all acts" and "issue such orders" as may be "necessary in the execution of its functions,"[60] the FCC has authority over those services, including Internet broadband access services, as necessary to effectuate the policies of section 230(b).

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[56] *See generally id.*, 392 U.S. at 173-176.

[57] 47 U.S.C. § 543.

[58] 47 U.S.C. §§ 230(b)(1)–(3)

[59] 47 U.S.C. § 151

[60] 47 U.S.C. § 154(i)

5. Section 706(a).

Section 706(a) of the Telecommunications Act of 1996,[61] likewise provides the Commission an additional source of authority. That section states that the FCC "shall encourage the deployment on a reasonable and timely basis of advanced communications capability." Put simply, the proposed rules are necessary to ensure that carriers do not limit the deployment of an advanced telecommunications capability. Section 706(a) commands the FCC to use its regulatory authority to fulfill the stated goals. As the court found in *Ad Hoc Telecommunications Users Committee v. FCC*, 572 F.3d 903, 906-907 (D.C. Cir. 2009), the "general and generous phrasing of § 706 means that the FCC possesses significant … authority and discretion to settle on the best regulatory or deregulatory approach to broadband." The Commission, therefore, may promulgate the proposed rules as ancillary to its responsibilities under section 706(a).

IV. THE COMMISSION SHOULD ADOPT ITS PROPOSED RULES

A. The Commission Should Adopt the Principles of the *Internet Policy Statement* as Final Rules, With Minor Modification

Vonage has long supported the adoption of the four *Internet Policy Statement* principles as formal rules[62] and agrees with the Commission that adopting *Internet Policy Statement* principles as rules furthers the Commission's goals of promoting innovation and competition and protecting users.[63] In addition to promoting the Commission's goals, as discussed above, adopting these principles will provide the industry with certainty regarding their regulatory obligations. This will decrease the cost of investment, enhance innovation, and reduce barriers to entry. Codification of these principles also promotes fairness by providing a basis for a flexible *ex post facto* enforcement regime that may not precisely define what is permissible and not for

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[61] 47 U.S.C. § 1302(a)

[62] *See Vonage Vuze Comments*, at 2. *See also* Reply Comments of Vonage Holdings Corp., WC Docket No. 07-52, at 1 (filed Feb. 28, 2008) ("*Vonage Vuze Reply Comments*"), *available at*: http://fjallfoss.fcc.gov/ecfs/document/view?id=6519855212 at 1 ("First, the Commission should codify the four principles contained in its Internet Policy Statement and enforce those principles on a case-by-case basis.").

[63] *See* NPRM, ¶¶ 93-94.

every imaginable situation, but instead provides a framework for considering particular facts and controversies, which will allow for changes in technology over time.

While Vonage supports the codification of the principles, it respectfully asserts that the Commission should modify the first three principles to clarify that a provider of broadband Internet access service "may not prevent *or hinder*" users from obtaining lawful content or applications or attaching lawful devices to the network. This change will better capture the harm to consumers that the Commission designed these principles to prevent: degradation of service as well as a complete loss of service. Broadband providers harm consumers not only by preventing them from obtaining lawful content or applications or attaching lawful devices to the network, but also by *hindering* the consumers' ability to obtain lawful content or applications or to attach lawful devices to the network. For example, in some cases broadband providers blocked end users from using a particular lawful application,[64] but in other cases the broadband provider "interfered" with the transmission of peer-to-peer traffic, which slowed or "reset" the transmission of the data between users.[65] Vonage believes that the proposed modification would better define the full scope of behavior that the *Internet Policy Statement* principles are intended to address. Both blocking content and delaying transmission hinder consumer access to lawful content. The Commission has noted that the distinction between the two are "semantic."[66] While that may be true, the plain text of the rule should prohibit both types of content. To do otherwise runs the risk that a strict construction of the rules would require complete blocking before a violation is found.

B. The Commission Should Adopt its Proposed Nondiscrimination Principle

The NPRM requests comment on the Commission's proposed nondiscrimination princi-

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[64] *See generally Madison River Order*.

[65] *See Comcast Order*, ¶ 9.

[66] *See Comcast Order*, ¶ 41 (noting that the case did not turn on whether Comcast "blocked" or "delayed").

ple, and whether its codification is in the public interest.[67] The proposed rule would prohibit a broadband Internet access service provider from discriminating against, or in favor of, any content, application, or service, subject to reasonable network management. Vonage believes this rule promotes the Commission's goals while remaining flexible enough to minimize the potential harms to broadband service providers.

1. The Proposed Principle Furthers the Commission's Goals

The nondiscrimination principle promotes innovation. The decentralized architecture of the Internet has pushed innovation to the edge of the network, which has been a key factor to Internet-spawned innovation.[68] By not vesting control over innovation process in the network operators, the open Internet has created an innovation process that allows for maximum participation with minimum cost that has helped drive the tremendous economic and social benefits delivered by the open Internet. In contrast, innovation will be negatively impacted if broadband network operators are allowed to discriminate among content, service or application providers and thereby help pick winners and losers.[69] For example, if small and thinly funded innovators are forced into a low-priority lane because they lack the resources to get higher priority access to a broadband network provider's customers, the next revolutionary website or application may never be developed because the innovator lacks the resources to obtain the level of access to broadband networks subscribers necessary to make the application or service feasible. Alternatively, network providers could force innovators to proceed to the market through established businesses with significant capital and relationships with network operators in order to obtain the necessary access to broadband network customers to enable the innovator's service or applica-

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[67] *See* NPRM, ¶ 106.

[68] *See Comcast Order*, n.94 (citing Testimony of Lawrence Lessig, C. Wendell and Edith M. Carlsmith Professor of Law, Stanford Law School, Senate Committee on Commerce, Science and Transportation Hearing on "Network Neutrality," at 4 (Feb. 7, 2006) ("By minimizing control by the network itself, the 'end-to-end' design maximizes the range of competitors for the network. Rather than concentrating the right to innovate in a few network owners, the right to innovate is open to anyone, anywhere.").

[69] *See, e.g., FTC Broadband Competition Report,* at 57-58.

tion, which would also increase costs and reduce innovation. In short, the nondiscrimination principle will prevent broadband network operators from hampering innovation on the Internet.

The proposed nondiscrimination rule will also promote competition because it will prevent broadband providers from favoring their own or favored applications, content, or services with better transmission services or priority. Similarly it will ensure that competition between non-affiliated content, applications, and services is not tilted by one content, application, or service provider that may have preferential access to broadband network subscribers. Thus, competition between application, content, and service providers will be determined by the best product instead of the best relationship with the broadband network operator. Further, the proposed nondiscrimination rule will protect consumers, who, as discussed above, have benefited from Internet innovations. The proposed nondiscrimination principle would ensure that the conditions that allowed these consumer benefits over the past two decades persist far into the future.

While the nondiscrimination principle furthers the Commission's goals, the potential harm from the nondiscrimination principle should not be significant for broadband network providers, and in any event, the substantial flexibility of the "reasonable network management" definition should allow broadband network providers to address these harms if necessary. One potential harm from a nondiscrimination principle is the loss of innovation that would only be possible in a network that allows price and quality differentiation.[70] While it may be true that a non-differentiated network is not perfect for all things,[71] the existing architecture has done an excellent job promoting innovation to date.

Further, as discussed in greater detail below, the proposed nondiscrimination rule is likely

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[70] *See* NPRM, ¶ 65.

[71] *See* Tim Wu, Network Neutrality, Broadband Discrimination, Journal of Telecommunications and High Technology Law, at 141 (Vol 2. 2003) ("*Network Neutrality, Broadband Discrimination*") ("Proponents of open access have generally overlooked the fact that, to the extent an open access rule inhibits vertical relationships, it can help maintain the Internet's greatest deviation from network neutrality. That deviation is favoritism of data applications, as a class, over latency-sensitive applications involving voice or video.").

flexible enough to allow for some network differentiation. The definition of "reasonable network management," for example, leaves open the possibility that carriers may need to employ network administration to address service quality issues and "other reasonable network management practices," which could allow for reasonable quality differentiation.[72]

Another potential harm often cited by opponents to a nondiscrimination principle is that charging content, application and service providers may be necessary to recover cost of network and fund investment in research and development and charging only end users increases end-user prices, limits number of users, and reduces revenue discouraging network improvement.[73] As an initial matter, there is no evidence to support the proposition that charging content, application and service providers is necessary to recover the cost of network and fund investment in research and development, and that charging only end users increases end-user prices, limits number of users, and reduces revenue discouraging network improvement. On the contrary, the broadband market (with only end user charges) has increased greatly according to FCC broadband statistics.[74] Further, the Commission's rules provide for waivers if the applicant meets certain criteria.[75] Any network provider facing unique circumstances would have the ability to show that such circumstances justify a waiver of the nondiscrimination principle.

Another potential harm from a nondiscrimination principle is that imposition of a discrimination rule could result in loss of network innovation by foreclosing broadband network providers from developing different network models to compete with each other.[76] This argu-

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[72] *See* NPRM, ¶ 108 ("reasonable network management would provide broadband Internet access service providers substantial flexibility to take reasonable measures to manage their networks, including but not limited to measures to address and mitigate the effects of congestion on their networks or to address quality-of-service needs, and to provide a safe and secure Internet experience for their users.").

[73] *See* NPRM, ¶ 65.

[74] The number of high speed lines have increased from under 10 million in 2000, to over 132 million as of June 2008. *See* High-Speed Services for Internet Access: Status as of June 30, 2008, Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, at 5 (July 2009).

[75] *See, e.g.*, 47 C.F.R. § 1.3.

[76] *See FTC Broadband Competition Report*, at 65 (noting that network operators should be allowed to experiment with different network models to compete with each other and locking broadband providers

ment appears to assume that there is adequate competition to restrain undesirable discrimination, which as discussed above is questionable at best. Further, the definition of reasonable network management allows discrimination for, among other reasons, to address network congestion or service quality issues and for other reasonable network management practices. Thus, the Commission's proposed nondiscrimination principle does not necessarily foreclose broadband network providers from adopting differentiated network models.

2. The Commission Should Adopt a Separate Principle For Charges to Access Broadband Network Subscribers

The NPRM states that "[w]e understand the term "nondiscriminatory" to mean that a broadband Internet access service provider may not charge a content, application, or service provider for enhanced or prioritized access to the subscribers of the broadband Internet access service provider…."[77] Vonage supports this concept. This concept, however, might not address "discrimination" in a literal sense of the term if a broadband service provider offers the same terms for prioritized or preferential access to all similarly situated content or application providers. As such, Vonage believes that there should be a separate principle to address charges for access to subscribers on a broadband provider's network.

Vonage is also concerned that this concept is missing a key element in that broadband network providers may not limit charges to access their subscribers to only charges for prioritized or preferential access. For example, a network operator could impose charges on all application and content providers for ANY access to its subscribers, not just prioritized access. Thus, Vonage proposes that the Commission establish a separate rule that states: "Subject to reasonable network management, a provider of broadband Internet access may not charge a content, application, or service provider for access to the subscribers of the broadband Internet access provider."

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into one business model in the nascent and evolving broadband market is likely to have unintended consequences).

[77] NPRM, ¶ 106.

Vonage's proposed language differs from the Commission's proposed understanding in the NPRM[78] in that it is not limited to charges for enhanced or prioritized access. While "prioritization fees" could harm innovation, a charge to access a broadband provider's subscribers for *all* content, application, or services (akin to access charges in the wireline telephone world) would certainly frustrate innovation because it would raise the costs and complexity for low-resource innovators to reach end user customers.[79] Given the significant market distortions, arbitrage, and other problems that termination charges have caused in the "traditional" telephone market, it would be unwise for the Commission to allow the exportation of this model to the Internet.

C. The Commission Should Adopt Its Proposed Transparency Principle

The NPRM also seeks comment on the adoption of a transparency principal, which states that "subject to reasonable network management, a provider of broadband Internet access service must disclose such information concerning network management and other practices as is reasonably required for users and content, application, and service providers to enjoy the protections specified in this part."[80] While Vonage requests a minor modification to the proposed language, it supports the principle as a necessary means to promote the Commission's goals and the public welfare.

As the Department of Justice has aptly stated: "The Commission is uniquely situated to ensure more effective public disclosure of such data and should use its authority to do so. To the extent is does so, private parties, non-profits, and researchers can creatively use such information to provide not only greater awareness of the options available, but also valuable insights and analyses."[81] Adopting disclosure requirements, as suggested by the Department of Justice, will

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[78] NPRM, ¶ 106

[79] *See* NPRM ¶ 63. *See also generally* Lawrence Lessig, In Support of Network Neutrality, 3 ISJLP 185, 188 (2007).

[80] NPRM, ¶ 119.

[81] *DOJ Ex Parte*, at 25.

promote innovation. The work of content, application, and service providers will be bolstered if they are able to ascertain how network providers manage traffic and tailor their products to work most effectively with the existing management practices. Likewise, the information provided by the broadband network provider will enable consumers to make rational purchasing decisions, and to determine what services or products meet their needs, which is necessary for a well functioning market.[82] In the same regard, the transparency principle will empower consumers. Without this information, consumers have little ability to know if a broadband provider's network management practices would hinder their planned use of their broadband service.

The transparency principle is also critical for consumers, content, application, and service providers to exercise their rights under the proposed substantive principles. If consumers, and content, application and service providers do not know about a "management practice" because a network provider has deemed the practice not "reasonably required" to enjoy the protections specified in the rules, it will be difficult to enforce the Commission's principles. Transparency is, therefore, a fundamental element of the open Internet principles, and the Commission should tightly circumscribe any exemptions.

As such, the Commission should modify the transparency principle, as drafted, to make clear that it <u>is not</u> subject to reasonable network management. Instead, the Commission should specifically exempt those network management practices that should not be disclosed to the public because of law enforcement, public safety, and homeland and national security concerns, rather than place them under a more generalized "reasonable network management" exemption. Unless a network management practice is exempt from disclosure due to these concerns, it should be disclosed in order to realize the full benefits of a transparency principle.

Further, in order maximize the benefits of the transparency principle, the Commission

[82] *See DOJ Ex Parte*, at 25 ("Consumers need access to up-to-date information on broadband services in making intelligent choices about the options available to them in the market. Timeliness is important since consumer choices must be based on current information in order to be meaningful. Moreover, consumers must be able to compare the choices available to them in their own geographic areas; data aggregated at the national or state level is of little use.").

should create a website "clearinghouse" where network providers must post such information. Content, application and service providers will benefit from having a central source for this information. Consumers, likewise, will not be burdened with searching a provider's website, which are often difficult to navigate. Such a central clearinghouse could also ensure that all Americans have access to relevant network information. The Commission should establish a reasonable deadline after it adopts the open Internet rules by which network providers must post this information. The Commission should only require broadband providers to update the information if it changes, and only upon thirty (30) days prior notification. These procedural safeguards will ensure that the information posted is accessible and current.

D. The Commission Should Adopt Its Proposed Definition of Reasonable Network Management

The NPRM seeks comment on "reasonable network management," its definition, and how to enforce that standard.[83] The NPRM proposes the following definition of reasonable network management: "Reasonable network management consists of: (a) reasonable practices employed by a provider of broadband Internet access service to (i) reduce or mitigate the effects of congestion on its network or to address quality-of-service concerns; (ii) address traffic that is unwanted by users or harmful; (iii) prevent the transfer of unlawful content; or (iv) prevent the unlawful transfer of content; and (b) other reasonable network management practices."[84]

Vonage believes that the definition proposed by the Commission will further the Commission's goals of promoting innovation and competition and protect consumers' interests. As discussed above, the reasonable network management definition will promote innovation and competition by providing flexibility to potentially allow broadband network operators to engage in network level innovation and competition between networks based on different service models. Similarly, by potentially allowing this network level competition and innovation, the definition of reasonable network management will help ensure that consumers are not deprived

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[83] *See* NPRM, ¶ 141.

[84] NPRM, ¶ 135.

of the potential benefits of this network level competition and innovation.

One particular area where the Commission seeks comment is on the inclusion of service of quality management as part of the definition of reasonable network management, with consideration to the potential conflict between policies to promote content, application, and service level innovation and policies to promote competition and network level innovation.[85] The Commission's proposed framework is flexible enough to balance the competing concerns surrounding quality of service network management.

While Vonage's VoIP service is not dependent on broadband network providers giving Vonage packets preferential treatment, Vonage believes that it is important to maintain flexibility with respect to reasonable network management designed to address quality of service concerns, especially for those services and applications that provide two-way, real time communications that are disproportionately affected by transmission jitter, latency, packet loss, and other delays. As noted by even strong net neutrality proponents, open access conditions "can help maintain the Internet's greatest deviation from network neutrality. That deviation is favoritism of data applications, as a class, over latency-sensitive applications involving voice or video."[86] In order to counteract this bias, prioritizing packets more sensitive to transmission delays over packets that are not sensitive to such delays (such as e-mail, non-interactive one-way video, FTP and other file transfer applications, and other similar services) could improve service quality and benefit consumers. As more communications move onto the Internet, the more important it will be to ensure that those communications function properly, especially as consumers increasingly rely on IP-enabled services for 911, E911, and other emergency assistance. Adopting a logical order of packet priority that gives greatest priority to real-time, two-way, delay sensitive applications (*e.g.*, video conferencing, VoIP, and on-line gaming, IPTV, emergency services) and lesser priority to applications that are not as sensitive to delay (*e.g.*, peer-to-peer traffic, one-way video,

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[85] *See* NPRM, ¶ 137.

[86] *See Network Neutrality, Broadband Discrimination*, *supra* Note 71.

email, and other data transfer protocols) can allow delay sensitive applications to run more efficiently during times of network congestion without significantly impacting less delay sensitive applications.[87]

While Vonage recognizes that there are some critics of quality of service management,[88] few suggest that the Commission should outright prohibit quality of service management, and the Commission's proposed framework is well-suited to address the concerns about such techniques. First, the proposed transparency principle will ensure that interested parties are aware of broadband provider practices that prioritize real-time, two-way communications over other services that are not as latency-dependant. Further, case-by-case enforcement of principles will allow the Commission to assess the actual impact of quality of service management practices instead of speculating about what may or may not happen, and will also allow the Commission to modify its position on the issue in the future, as technology advances. Conversely, disallowing quality of service management by removing it from the definition of reasonable network management could foreclose the development of quality of service management practices that are efficient and beneficial to consumers and effectively deal with potential concerns.

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[87] *See* George Ou, Managing Broadband Networks: A Policymaker's Guide, The Information Technology and Innovation Foundation, at 23, *available at*: http://www.itif.org/index.php?id=205. ("*Ou Paper*") In one example, Mr. Ou shows that granting priority to interactive web traffic would enable this web surfing to work nine times faster without impacting the lower priority peer-to-peer traffic because the interactive web traffic only occupies the bandwidth for only 1/9 the time on a managed network versus an unmanaged network, allowing the peer-to-peer service to return more quickly to utilizing the full bandwidth. *See id.*, at 24-25.

[88] *See generally* M. Chris Riley, Robb Topolski, *A Free/Press New American Foundation Policy Brief: The Hidden Harms of Application Bias* (Nov. 2009), *available at*: http://www.freepress.net/files/The_Hidden_Harms_of_Application_Bias.pdf (suggesting that service quality management could: (1) restrict consumer choice by degrading the performance of some high priority applications that use P2P protocol, (2) impede innovation at edge of the network by locking the Internet into 2009 usage patterns, and (3) degrade overall network performance due to the time necessary to engage in deep packet inspection to determine if a byte is high priority).

V. THE COMMISSION SHOULD PROCEED CAUTIOUSLY ON MANAGED OR SPECIALIZED SERVICES

A. Managed or Specialized Services Could Undermine the Commission's Goals of Promoting Innovation and Competition

The NPRM seeks comment on the role that Managed or Specialized Services[89] should play in the development of the Commission's open Internet rules.[90] Vonage appreciates the Commission's concern over whether it should exclude certain types of services from the requirements of the proposed open Internet principles. However, Vonage urges the Commission to proceed cautiously in this area to ensure that any exemption granted for Managed or Specialized Services not undermine the Commission's goals of promoting innovation and competition. Without clear boundaries and limitations on what services should be included in these categories, broadband network providers could, for example, position their voice and video services as "Managed" or "Specialized," exempting them from the Commission's proposed principles. Such a loophole would allow such providers to guarantee that their most basic service offerings receive higher service quality and prioritization over competitor services, especially those provided from the network edge. If broadband network providers have unfettered ability to designate their services as Managed or Specialized, competing services would not be able to match the quality of service offered by the broadband network providers, which would reduce competition and innovation in the service market.

An exemption for Managed and Specialized Services will reduce innovation. For example, potential innovators in areas where broadband network providers offer Managed or Specialized Services would know that they would be at a technological disadvantage to the broadband

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[89] The Commission's initial classification of services that may fall within these categories includes: "Internet-Protocol-based offerings (including voice and subscription video services, and certain business services provided to enterprise customers), often provided over the same networks used for broadband Internet access service, that have not been classified by the Commission." NPRM, ¶ 148.

[90] *See* NPRM, ¶¶ 150-153.

network providers' services, and will therefore have less incentive to develop new products and services and innovate. Incentives to innovate even in areas where broadband network providers do not currently offer Managed or Specialized Services could also be negatively impacted because potential innovators will realize that if they create a successful service or application for use on the open Internet, a broadband network provider can copy the service or application and position it as a Managed or Specialized Service, thereby giving itself an advantage over the original innovator.

An exemption for Managed or Specialized Services could also undermine competition. Much like Microsoft incorporating ancillary products such as Internet browsers into their operating systems, broadband network operators may be able to create Managed or Specialized Services by adding an additional service element to an otherwise base product, thereby allowing the network service provider to gain an advantage over competing services and applications provided on the open Internet.[91]

B. The FCC Should Consider Requiring Broadband Network Providers to Offer Managed or Specialized Services to Competitors To Address Potential Harm to Innovation and Competition

To limit the potential negative impact on innovation and competition from exempting Managed or Specialized Services from the open Internet principles, the Commission should consider requiring broadband network service providers to offer their Managed and Specialized services to competitors. The Commission faced a similar issue in the *Computer Inquiries* when it differentiated between "enhanced services" that combined computer processing with basic telecommunications service (*e.g.*, dial-up Internet access) from basic telecommunications transmission services. To address the potential harm from the ILECs that provided basic telecommunications transmission service favoring their own enhanced services over services provided by nonaffiliated enhanced service providers, the Commission required ILECs to offer basic

[91] *See generally U.S. v. Microsoft Corp.*, Dist. D.C., Civ. Action No. 98-1232 (CKK), Final Judgment (Nov. 12, 2002), *available at*: http://www.justice.gov/atr/cases/f200400/200457.pdf.

service to all enhanced service providers at the same rates and terms that it offered to their own affiliated enhanced service providers.[92] Requiring broadband network providers to offer the same protected channels used to offer their own Managed or Specialized Services to competitors at the same prices and terms as it provides to itself could likewise mitigate the potential harm to innovation and competition that could be created by allowing broadband network providers to provide their own services as a Managed or Specialized service.

VI. THE COMMISSION SHOULD APPLY ITS PRINCIPLES INCLUDING THE "ANY DEVICE" PRINCIPLE TO WIRELESS BROADBAND PROVIDERS

The NPRM seeks comment on the application of the proposed open Internet principles to wireless and other broadband systems,[93] and the application of the "any device rule" to wireless broadband Internet platforms. As a general matter, all of the Commission's proposed principles should apply to wireline and wireless broadband networks. In addition to promoting innovation and competition and protecting consumers interests, as discussed above and equally applicable to wireless broadband service, there are number of specific reasons why wireless broadband should be subject to the same requirements as wired broadband.

First, treating wireless broadband networks differently than wireline providers would frustrate consumer expectations. Increasingly, it appears that wired and wireless broadband experiences are converging. Advertisements for the new Motorola Droid smartphone proclaim that it allows users to surf the web with the "speed and power of a pro surfer at pipeline" and allows users to view the Web "in all its glory and intended pixels" and "reach the farthest expanses of its universe, deepest depths of its ocean." Meanwhile it shows the Droid smartphone playing YouTube surfing videos just like consumers can view at home. Consumers are being given the message that they should expect a full web experience on their mobile devices. Allowing wireless broadband providers to avoid the Commission's proposed principles would be inconsis-

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[92] *See, e.g.*, *Second Computer Inquiry*, Final Decision, 77 FCC2d 384, ¶ 231 (1980); *Policy and Rules Concerning the Interstate, Interexchange Marketplace*, Report and Order, 16 FCC Rcd. 7418, ¶ 4 (2001) (describing the Commission's access requirements under *Computer II*).

[93] *See* NPRM, ¶¶ 154-157.

tent with what consumers are coming to expect from wireless broadband service.

Further, failing to apply the proposed principles to wireless broadband providers could prevent wireless broadband providers from developing into a viable competitor to wired broadband providers. Finally, the Commission should apply the proposed open Internet principles to all broadband platforms as doing so would be consistent with the FCC's goal of a unified regulatory regime for all like services. Communications regulatory policy should be technology neutral. The Commission has classified wireless broadband services as Title I "information services,"[94] just like DSL,[95] cable modem,[96] and broadband over power line,[97] and noted that such a classification "furthers [the Commission's] efforts to establish a consistent regulatory framework across broadband platforms by regulating like services in a similar manner."[98] By affirming that the proposed principles apply to all networks, including wireless networks, the Commission would further this important policy of technological neutrality.

In addition to the general reasons for applying the proposed principles to wireless broadband networks, applying the "Any Device" principle will generate substantial consumer benefits.

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[94] *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, Declaratory Ruling, WT Docket No. 07-53, FCC 07-30, at 2, ¶ 2 (rel. Mar. 23, 2007) ("Wireless Broadband Order").

[95] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Universal Service Obligations of Broadband Providers; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review - Review of Computer III and ONA Safeguards and Requirements; Conditional Petition of the Verizon Telephone Companies for Forbearance Under 47 USC §160(c) with Regard to Broadband Services Provided via Fiber to the Premises; Petition of the Verizon Telephone Companies for Declaratory Ruling or, Alternatively, for Interim Waiver with Regard to Broadband Services Provided via Fiber to the Premises; Consumer Protection in the Broadband Era*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005).

[96] *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002).

[97] *United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, WC Docket No. 06-10, Memorandum Opinion and Order, 21 FCC Rcd 13281 (2006).

[98] *Id.*

To date the Commission has allowed the wireless providers to maintain substantial control over devices used on their networks. Though wireless carriers often attempt to justify restrictions based on the need to "manage their networks," many of their restrictions are overbroad and anti-competitive.[99] These practices often reflect an incumbent business model more than *bona fide* effort to "prevent harm" to the network.

In stark contrast to the situation in the wireless market, the *Carterfone* decision allowed consumers to attach any non-harmful device to the wireline network.[100] This decision unleashed a wave of innovation that led to the creation of devices like fax machines, answering machines, and modems. It also unleashed competition in the telecommunications equipment market. Similar to the wireline market at the time of the *Carterfone* decision, wireless network operators today dictate which devices, applications, and services can be used over the network. As a result, compared to the rest of the world, the United States device market has fewer choices, and in many cases, the network operators in the United States disable advanced features on the devices that are available in other markets.[101] Application of the "any device" principle to wireless broadband providers will likewise unleash innovation and competition in the wireless market, reduce the ability of carriers to engage in anti-consumer handset exclusivity contracts, and open the mobile Internet to a new wave of innovation and growth.

VII. THE COMMISSION SHOULD ADOPT PROCEDURAL RULES FOR COMPLAINTS UNDER ITS OPEN INTERNET PRINCIPLES

The NPRM requests comment on the burden of proof for complaints under the open In-

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[99] *See generally* Letter to Acting Chairman Michael J. Copps, FCC, from Ben Scott, Policy Director and Chris Riley, Policy Counsel, Free Press, WC Docket No. 07-52, 2 (Apr. 3, 2009) *available at*: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520205185 ("Free Press April 9, 2009 Letter") (requesting FCC investigation into wireless carrier practices, including those undertaken with respect to Skype's mobile application).

[100] *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968).

[101] *See, e.g.*, Reply Comments of Skype Communications S.A.R.L., WT Docket No. 09-66 (filed Oct. 22, 2009) (noting the significant competitive disparities between the U.S. CMRS marketplace and other OECD markets).

ternet principles.[102] Vonage respectfully submits that as an initiator of a complaint, the complainant should bear the burden of proof that a network management practice violates one of the codified principles, and that the respondent (the network service provider) is subject to the Commission's relevant open Internet rule. However, as the holder of technical information concerning the management of the network, the broadband network provider should bear the burden of proof that the alleged network management practice is "reasonable." It would be unfair to require the complainant to establish both that a practice violates a principle and that it is unreasonable because the complainant is unlikely to have the information necessary to show that the practice does not address network congestion, service quality concerns, or other reasonable measures.

VIII. CONCLUSION

Vonage appreciates the Commission's focus on this area, and strongly supports the Commission's proposed rules to preserve the open Internet. The proposed rules, with minor modifications discussed herein, will ensure that consumer interests are protected, and that competition and innovation can continue to thrive on the Internet. Vonage looks forward to working with the Commission on this endeavor, and supports the flexible framework the Commission has proposed.

Respectfully submitted,

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[102] *See* NPRM, ¶ 141.