

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 8

[GN Docket No. 09–191; WC Docket No. 07–52; FCC 09–93]

Preserving the Open Internet, Broadband Industry Practices

AGENCY: Federal Communications Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: In this Notice of Proposed Rulemaking (NPRM), the Commission considers adopting rules to preserve the open Internet. In this NPRM, the Commission proposes draft language to codify the four principles the Commission articulated in the *Internet Policy Statement*; a fifth principle that would require a broadband Internet access service provider to treat lawful content, applications, and services in a nondiscriminatory manner; and a sixth principle that would require a broadband Internet access service provider to 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 rulemaking. The Commission also proposes draft language to make clear that the principles would be subject to reasonable network management and would not supersede any obligation a broadband Internet access service provider may have—or limit its ability—to deliver emergency communications or to address the needs of law enforcement, public safety, or national or homeland security authorities, consistent with applicable law. The draft rules would not prohibit broadband Internet access service providers from taking reasonable action to prevent the transfer of unlawful content, such as the unlawful distribution of copyrighted works. Nor would the draft rules be intended to prevent a provider of broadband Internet access service from complying with other laws. The NPRM seeks comment on a category of “managed” or “specialized” services, how to define such services, and what principles or rules, if any, should apply to them. The NPRM affirms that the six principles the Commission proposes to codify apply to all platforms for broadband Internet access, and seeks comment on how, in what time frames or phases, and to what extent the principles should apply to non-wireline forms of Internet access, including, but not limited to, terrestrial mobile wireless, unlicensed wireless,

licensed fixed wireless, and satellite. The NPRM also seeks comment on the enforcement procedures that the Commission should use to ensure compliance with the proposed principles.

DATES: Comments are due on or before January 14, 2010 and reply comments are due on or before March 5, 2010. Written comments on the Paperwork Reduction Act proposed information collection requirements must be submitted by the public, Office of Management and Budget (OMB), and other interested parties on or before January 29, 2010.

ADDRESSES: You may submit comments, identified by GN Docket No. 09–191 and WC Docket No. 07–52, by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Federal Communications Commission's Web site:* <http://www.fcc.gov/cgb/ecfs/>. Follow the instructions for submitting comments.
- *E-mail:* ecfs@fcc.gov. and include the following words in the body of the message: “get form.” A sample form and directions will be sent in response. Include the docket number(s) in the subject line of the message.
- *Blog Filers:* In addition to the usual methods for filing electronic comments, the Commission is allowing comments, reply comments, and ex parte comments in this proceeding to be filed by posting comments on <http://blog.openinternet.gov> and on <http://openinternet.ideascale.com>.
- *Mail:* Secretary, Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554.
- *Hand Delivery/Courier:* 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002.
- *People with Disabilities:* Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov or phone: 202–418–0530 or TTY: 202–418–0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document. In addition to filing comments with the Secretary of the Commission, a copy of any comments on the Paperwork Reduction Act information collection requirements contained herein should be submitted to the Federal Communications Commission via e-mail to PRA@fcc.gov and to Nicholas A. Fraser, Office of Management and Budget, via e-mail to

Nicholas_A_Fraser@omb.eop.gov or via fax at 202–395–5167.

FOR FURTHER INFORMATION CONTACT:

Claude Aiken, Competition Policy Division, Wireline Competition Bureau, at 202–418–1580 or clauda.aiken@fcc.gov, or John Spencer, Broadband Division, Wireless Telecommunications Bureau, at 202–418–2487 or john.spencer@fcc.gov. For additional information concerning the Paperwork Reduction Act information collection requirements contained in this document, send an e-mail to PRA@fcc.gov or contact Judith B. Herman at 202–418–0214, or via e-mail at Judith.Herman@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking (NPRM) in GN Docket No. 09–191, WC Docket No. 07–52, FCC 09–93 adopted on October 22, 2009. The complete text of this document is available on the Commission's Internet site at www.fcc.gov and for public inspection Monday through Thursday from 8 a.m. to 4:30 p.m. and Friday from 8 a.m. to 11:30 a.m. in the Commission's Consumer and Governmental Affairs Bureau Reference Information Center, Room CY–A257, 445 12th Street, SW., Washington, DC 20554. The full text of the NPRM may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, SW., Washington, DC 20554, telephone 202–488–5300, facsimile 202–488–5563, e-mail at fcc@bcpiweb.com, or via its Web site at <http://www.bcpiweb.com>.

Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated in the DATES section of this NPRM. Comments may be filed: (1) By using the Commission's Electronic Comment Filing System (ECFS), (2) by using the Federal Government's eRulemaking Portal, (3) by filing paper copies, or (4) by using the Commission's Ideascale and *Openinternet.gov* sites. See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

• *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the Web site for submitting comments.

• *ECFS filers* must transmit one electronic copy of the comments for each docket referenced in the caption of this proceeding. In completing the

transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number.

- Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

- *Paper Filers:* Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location are 8 a.m. to 7 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW., Washington, DC 20554.

- *Blog Filers:* In addition to the usual methods for filing electronic comments, the Commission is allowing comments, reply comments, and ex parte comments in this proceeding to be filed by posting comments on <http://blog.openinternet.gov> and on <http://openinternet.ideascale.com>. Accordingly, persons wishing to examine the record in this proceeding should examine the record on ECFS, <http://blog.openinternet.gov>, and <http://openinternet.ideascale.com>. Although those posting comments on the blog may choose to provide identifying information or may comment anonymously, anonymous comments will not be part of the record in this proceeding and accordingly will not be

relied on by the Commission in reaching its conclusions in this rulemaking. The Commission will not rely on anonymous postings in reaching conclusions in this matter because of the difficulty in verifying the accuracy of information in anonymous postings. Should posters provide identifying information, they should be aware that although such information will not be posted on the blog, it will be publicly available for inspection upon request.

This document contains proposed information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments on the proposed information collection requirements are due January 29, 2010.

Comments on the proposed information collection requirements should address: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

OMB Control Number: None.

Title: Disclosure of Network Management Practices.

Form Number: N/A.

Type of Review: New Collection.

Respondents: Business or other for-profit; not-for-profit institutions; and State, Local or Tribal governments.

Number of Respondents and Responses: 1,674 respondents; 1,674 responses.

Estimated Time per Response: 327 hours.

Frequency of Response: Third party disclosure; reporting on occasion.

Obligation to Respond: Mandatory.

Total Annual Burden: 546,840 hours.

Total Annual Costs: \$4,687,000.

Privacy Act Impact Assessment: No impact.

Nature and Extent of Confidentiality: The Commission does not expect to provide respondents with any assurance of confidentiality.

Needs and Uses: The Federal Communications Commission proposes to require providers of broadband Internet access service to 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 its October 22, 2009 Notice of Proposed Rulemaking (FCC 09-93).

To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format) or to request reasonable accommodations for filing comments (accessible format documents, sign language interpreters, CART, etc.), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice) or 202-418-0432 (TTY).

Synopsis of Notice of Proposed Rulemaking

1. When the Telecommunications Act of 1996 was enacted, very few Americans had residential broadband Internet access service. Since the competition-based policies ushered in by the Telecommunications Act first took root through Commission implementation in the late 1990s, broadband Internet access service adoption has increased dramatically, with broadband in approximately thirty percent of American households in 2005 and sixty-three percent today. It is important to note that from 1996 to the adoption of the Commission's *Internet Policy Statement* in August of 2005, digital subscriber line (DSL) service offered by telecommunications carriers was regulated under Title II of the Act and experienced explosive growth. Since the Commission adopted the *Internet Policy Statement* over four years ago, our nation has seen even greater expansion of broadband Internet access service. In 2005, access to the Internet was split evenly between dial-up and broadband; now less than ten percent of Americans access the Internet with dial-up. Online retail spending increased 65 percent between 2005 and 2007. Today nearly a fifth of online adults access Internet video on a daily basis, compared with eight percent in 2006. Broadband Internet access has become a vital resource for, among other things, commerce, civic engagement, and communications and telecommuting options for people with

disabilities, health care, and education. For purposes of this proceeding, we propose to define the Internet as the system of interconnected networks that use the Internet Protocol for communication with resources or endpoints (including computers, web servers, hosts, or other devices) that are reachable, directly or through a proxy, via a globally unique Internet address assigned by the Internet Assigned Numbers Authority. To be considered part of the "Internet" for this proceeding, an Internet end point must be identified by a unique address assigned through the Internet Assigned Numbers Authority or its delegate registry, not an address created by a user for its internal purposes. We do not intend for this definition of the Internet to encompass private intranets generally inaccessible to users of the Internet. We seek comment on these proposals.

2. The evolution in Internet usage, and associated developments in network technology, have respectively motivated and enabled network operators to differentiate price and service for end users and for providers of content, applications, and services. A significant debate has developed over how best to preserve the Internet's openness. We thus find it appropriate at this time to evaluate the need for oversight of broadband Internet access service providers' practices. Given the evolution of the Internet and the broadband marketplace, we believe that high-level rules specifying impermissible practices will best promote an Internet environment of widespread innovation and light-handed regulation.

A. The Need for Commission Action

3. Despite our efforts to date, some conduct is occurring in the marketplace that warrants closer attention and could call for additional action by the Commission, including instances in which some Internet access service providers have been blocking or degrading Internet traffic, and doing so without disclosing those practices to users. We also believe it is important to provide greater clarity and certainty to Internet users; content, application, and service providers; and broadband Internet access service providers regarding the Commission's approach to safeguarding the open Internet. As discussed below, we seek comment on the reasons either for or against particular types of oversight by the Commission of broadband Internet access service providers' practices, including possible specific rules. In undertaking this examination, we seek to preserve the open, safe, and secure

Internet and to promote and protect the legitimate business needs of broadband Internet access service providers and broader public interests such as innovation, investment, research and development, competition, consumer protection, speech, and democratic engagement. Thus, in the subsequent parts of this NPRM, we seek comment on how to tailor rules to achieve this balance.

1. Commission Goals

4. The Communications Act, related statutes, and Commission precedent establish a number of interrelated goals that inform the Commission's approach to broadband Internet access service. For one, the Commission seeks to promote investment and innovation with respect to the Internet, as with other communications technologies. As the Commission has recognized, "[t]he Internet has served as a critical platform for innovation for nearly two decades," and "[h]istorically, 'the innovation and explosive growth of the Internet [have been] directly linked to its particular architectural design.'"

5. Promoting competition for Internet access and Internet content, applications, and services is another key goal. In particular, Section 230 of the Act states that "[i]t is the policy of the United States * * * to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services." In adopting its *Internet Policy Statement*, the Commission recognized the importance of such competition not only "among network providers," but also among "application and service providers, and content providers." As the Commission has observed, "[s]o far in the Internet's history," the basic standards underlying the operation of the Internet "have created 'the equivalent of perfect competition * * * among applications and content * * * with a minimum [of] interference by the network or platform owner.'"

6. The Act and Commission precedent likewise demonstrate the importance of protecting users' interests as a Commission goal. These interests are wide-ranging, including consumer protection in commercial contexts; the development of technological tools to empower users; and speech and democratic participation. As Congress has observed, "[t]he rapidly developing array of Internet * * * services available to individual Americans represent an extraordinary advance in the availability of educational and informational resources to our citizens," and the Internet "offer[s] a forum for a true diversity of political discourse,

unique opportunities for cultural development, and myriad avenues for intellectual activity."

7. Other statutory objectives are relevant to our evaluation of broadband Internet access service providers' practices, including addressing the needs of law enforcement and public safety. Each of the goals described above informs our policy analyses, and we seek comment on how these and other relevant policy goals should affect our analysis of the Internet principles discussed below.

8. As a general matter, we believe that our proposals should have broad application so that the protections that we propose are widely enjoyed. As such, we propose to define broadband Internet access service for the purpose of these rules as "[a]ny communication service by wire or radio that provides broadband Internet access directly to the public, or to such classes of users as to be effectively available directly to the public." We do not intend that our proposals would apply to "establishments that acquire broadband Internet access service from a facilities-based provider to enable their patrons or customers to access the Internet from their respective establishments." For example, we would not intend to include coffee shops, waiting rooms, or rest areas. Nor would we intend to include broadband Internet access service that is not intentionally offered for the benefit of others, such as service from personal Wi-Fi networks whose signal may be detectable outside the user's premises. We seek comment on this approach for defining the scope of entities covered by our proposals, including ways to make clear who is and is not subject to these rules.

2. Evolution of the Internet Marketplace and Technologies

9. We also note that Internet technologies have changed markedly along with the evolution of the Internet marketplace. The Internet has traditionally relied on an end-to-end, open architecture, in which network operators use their "best effort" to deliver packets to their intended destinations without quality-of-service guarantees. This open architecture "allowed all application developers to make their innovations available to all by placing a software program on a publicly available server," but the best-effort nature of early networks presented challenges for the deployment of applications requiring quality-of-service assurances.

10. With the rapid growth of broadband applications and content, especially video, access providers may

face capacity constraints. In many cases, either provisioning additional bandwidth or using sophisticated software techniques has been sufficient to support applications requiring reliable delivery or low latency, such as real-time voice and video. For example, Skype has more than 440 million registered users for its Internet-based real-time communications application, which runs over the best-effort Internet. As Internet infrastructure and the content, applications, and services delivered over the Internet have evolved, network equipment makers have also responded with new technologies, including more sophisticated routers that enable network operators to distinguish among different classes of traffic and offer different qualities of service to different traffic (service differentiation), which enables charging different prices for different traffic (price differentiation). For example, a broadband Internet access service provider can ensure that one class of traffic enjoys a greater share of capacity than another when there is contention for resources. A broadband Internet access service provider can also differentiate among different packet streams or classes of traffic by scheduling the transmission of certain packets waiting in a buffer ahead of others, determining by algorithm which packets in a buffer are dropped (*i.e.*, discarded and not transmitted), blocking an entire packet stream by means of an admission control algorithm, transmitting data over more (or less) efficient routing, redirecting traffic to another site, or blocking traffic entirely. With “deep packet inspection,” a broadband Internet access service provider can determine which packets to favor by examining “in detail the content of [an] e-mail, or Web page, or downloaded file. It is possible to distinguish music files from text from pictures, or to search for key words within any text.” A broadband Internet access service provider can also favor certain parties by providing access to information cached at the provider’s facility, allowing consumers quicker access to Web sites using the caching services.

11. Any of these techniques may be provided only to an Internet access service provider’s own affiliates and partners. Or they may be turned into a service that Internet access service providers offer to content and application providers for a fee. Equipment manufacturers note that these new technologies allow Internet access service providers to maximize the revenue opportunities associated

with their networks. For example, Sandvine, a technology vendor, claims to offer a “range of policy management options such as application-based and subscriber-based approaches, aggregate and per-subscriber shaping, prioritization, caching and content acceleration.” ProCera Networks advertises its PacketLogic technology as giving network providers the ability to “monetize your network” by monitoring user traffic on a real-time basis and using “optimization that distinguishes between interactive and downloading traffic.” And Cisco offers network providers the ability to “identify[] services that might be riding an operator’s network for free” and “extend quality of service guarantees to that third party for a share of the profits.”

12. Four years ago, changes that were already taking place in the Internet marketplace and among network technologies led the Commission to adopt the *Internet Policy Statement*. Since then, the Internet marketplace and underlying technologies have continued to evolve, and we seek more detailed comment on the technological capabilities available today, as offered for sale and as actually deployed in providers’ networks. We further seek comment on the effects of those technologies on the content, applications, and services being provided—or capable of being provided—over the Internet.

3. The Debate Regarding Oversight of Traffic Management Pricing and Practices

13. The increasing capability of broadband Internet access service providers to offer differentiated services and prices for traffic flowing over their networks has spurred a debate about the public policy implications of using that capability. In particular, some parties have expressed concerns that, absent appropriate oversight, broadband Internet access service providers could make the Internet less useful for some users or applications by differentiating traffic based upon the user, the application provider, or the type of traffic. Other parties have suggested that “the problems are all potential problems, not actual problems” and that the “fundamental inability to demonstrate any evidence of an actual market failure confirms what all the rhetoric in the world cannot obscure: ‘Net neutrality’ is a solution in search of a problem.”

14. In determining the Commission’s proper role with respect to safeguarding the open Internet, we believe it is helpful to examine this debate and the arguments that have been made in favor

of and against open Internet policies. The arguments in this area have largely revolved around four issues: (1) How best to promote investment and innovation; (2) the current and future adequacy of competition and market forces; (3) how best to promote speech and civic participation; and (4) the practical significance of network congestion to the other considerations. We summarize and seek evidence supporting or refuting a number of these key arguments.

a. Investment and Innovation

15. The Commission has recognized that the historically open architecture of the Internet has facilitated entrepreneurs’ entry into the market with new Internet services and promoted the Act’s policies favoring “a diversity of media voices” and “technological advancement.” As discussed above, however, technologies now allow network operators to distinguish different classes of traffic, to offer different qualities of service, and to charge different prices to each class.

16. In light of these developments, some parties have contended that safeguarding historic Internet traffic pricing and practices is needed to preserve the end-to-end architecture of the Internet, with intelligence and control at the edge of the network. These proponents of open Internet policies maintain that the end-to-end architecture is essential to give entrepreneurs confidence that they will be free to innovate on the Internet without first seeking permission from broadband Internet access service providers and, accordingly, is necessary to promote innovation and growth. Supporters argue that differentiation by Internet access service providers can be especially harmful to innovation by outsiders—individuals and entities unaffiliated with network owners—who have been responsible for some of the most important innovations in the history of the Internet. These outsiders, many of whom may have limited resources but can innovate on today’s Internet with very low marginal costs, could choose not to innovate if faced with fees from Internet access service providers for equal access to end users. And the potential for such fees may deter outsiders from investing in long-term research and development that could benefit all of society.

17. Some parties characterize the Internet as a “general purpose technology,” which “does not create value through its existence alone” but “by enabling users to do the things they want or need to do.” “[T]he rate at which a general purpose technology

affects economic growth depends on the rate of co-invention (*i.e.*, the rate at which potential uses of the technology are identified and realized).” In the case of the Internet, this means “that identifying potential uses for the Internet and developing the corresponding applications is the prerequisite for realizing the enormous growth potential inherent in the Internet as a general-purpose technology. As a result, measures that reduce the amount of application-level innovation have the potential to significantly harm social welfare by significantly limiting economic growth.”

18. Parties opposing further Commission action in this area raise several arguments in response. First, they contend that differentiation in pricing or quality of service may enable different types of innovation that might not be feasible with a network lacking such capabilities. Second, they assert that some traffic imposes greater burdens on the network than other traffic and that “innovation could be even better for consumers if it could respond to price signals from platform providers,” such as by “tak[ing] into account potential congestion costs of bandwidth-intensive applications.” Third, they often claim that charging content, application, and service providers may be necessary to recover the cost of the investment in their networks and to fund additional investment in research, development, and infrastructure. According to opponents, charging only end users instead would increase end-user prices, limit the number of users, and reduce revenue, discouraging network improvements.

19. Opponents also cite economic theory that holds that benefits can arise from price and quality discrimination, at least in certain cases. For example, they argue that the ability of a provider to price discriminate not only will benefit the provider, but may also benefit the public as a whole (although not necessarily in all cases). Further, economists have recognized that the Internet is an example of a “two-sided market,” in that broadband Internet access service providers offer service to both end-user customers and to content, application, and service providers simultaneously. Theoretical economic analyses suggest that price discrimination may be more beneficial in a two-sided market than in the standard one-sided market.

b. Competition and Market Forces

20. Supporters of open Internet policies contend that market forces alone are unlikely to ensure that

broadband Internet access service providers will discriminate in socially efficient ways and that, absent regulation, such discrimination is likely to change fundamentally the nature of the Internet, reduce competition, and hinder innovation and growth. Furthermore, some have noted that the justification for government oversight of key infrastructure has not always relied solely on lack of competition in the relevant market, and argue that the long-standing doctrines of common carriage or bailment should inform policies for broadband Internet access service providers.

21. Even where there is effective competition in the Internet access market, individual broadband Internet access service providers may charge inefficiently high prices to content, application, and service providers, even though it may be in the collective interest of all providers to charge a lower price or zero price in order to maximize innovation at the edge of the network and thereby increase the overall value of broadband Internet access. Investing in innovative Internet content, applications, and services is risky, and firms will not invest unless their expected revenues exceed their expected costs. If allowed to do so, broadband Internet access service providers may attempt to extract some of the profit earned by content, application, and service providers by charging them fees for providing access (or prioritized access) to the broadband Internet access service providers’ subscribers. These fees will reduce the potential profit that a content, application, or service provider can expect to earn and hence reduce the provider’s incentive to make future investments in the quantity or quality of its content, application, or service.

22. If enough broadband Internet access service providers impose a fee, or if the fees are sufficiently high across a small number of broadband Internet access service providers with sufficient market share, then not only will content, application, and service providers’ incentive to innovate be reduced, but the fees could drive some content, application, and service providers from the market. This would reduce the quantity and quality of Internet content, applications, and services, reducing the overall value of the Internet to end users and thereby reducing demand for broadband Internet access services. This dynamic raises a collective action problem: Although it might be in the collective interest of competing broadband Internet access service providers to refrain from charging access or prioritization fees to

content, application, and service providers, it is in the interest of each individual access provider to charge a fee, and given multiple providers, it is unlikely that access providers could tacitly agree not to charge such fees. Furthermore, it is unlikely that competitive forces are sufficient to eliminate the incentive to charge a fee, particularly where the imposition of such a fee will not cause the access provider to lose many customers. Thus, allowing broadband Internet access service providers to impose access or prioritization fees may inefficiently reduce innovation and investment in content, applications, and services, generating a suboptimal economic outcome.

23. Where effective competition is lacking (*i.e.*, where broadband Internet access service providers have market power), it is more likely that price and quality discrimination will have socially adverse effects. Broadband Internet access service providers possessing market power may have an incentive to raise prices charged to content, application, and service providers and end users. Not only would that harm users overall, but it could reduce innovation at the edge of the network and cause some end users to decide not to subscribe to broadband Internet access service. Moreover, imposing a fee on content, application, and service providers could reduce total welfare more than imposing the same fee on the end users and no fee on the content, application, and service providers. In particular, such pricing may disproportionately affect “socially produced” content, *i.e.*, content produced collaboratively by individuals without a direct financial incentive, such as Wikipedia.

24. In addition, broadband Internet access service providers generally, and particularly broadband Internet access service providers with market power, may have the incentive and ability to reduce or fail to increase the transmission capacity available for standard best-effort Internet access service, particularly relative to other services they offer, in order to increase the revenues obtained from content, application, and service providers or individual users who desire a higher quality of service. The result may be insufficient transmission capacity allocated to some content, application, or service providers and a misallocation of transmission capacity across quality-of-service classes.

25. Where broadband Internet access service providers have market power and are vertically integrated or affiliated with content, application, or service

providers, additional concerns may arise. By providing a user's broadband connection to the Internet, a broadband Internet access service provider serves as a gatekeeper to the content, applications, and services offered on the Internet. Broadband Internet access service providers have an incentive to use this gatekeeper role to make it more difficult or expensive for end users to access services competing with those offered by the network operator or its affiliates. For example, a broadband Internet access service provider that is also a pay television provider could charge providers or end users more to transmit or receive video programming over the Internet in order to protect the broadband Internet access service provider's own pay television service. Alternatively, such a broadband Internet access service provider could seek to protect its pay television service by degrading the performance of video programming delivered over the Internet by third parties. The result may be higher prices or worse service for some content and applications and inefficiently low investment in some content and application markets.

26. This analysis is further complicated by control that the broadband Internet access service provider has over the delivery of traffic to its subscribers. In particular, there are typically multiple paths for routing packets over the Internet. For those packets to reach the end users that subscribe to a particular broadband Internet access service, however, they ultimately must be transported on that broadband Internet access service provider's network. Thus, even if there is competition among broadband Internet access service providers, once an end-user customer has chosen to subscribe to a particular broadband Internet access service provider, this may give that broadband Internet access service provider the ability, at least in theory, to favor or disfavor any traffic destined for that subscriber. And as discussed throughout this section, there may be various circumstances when the broadband Internet access service provider would have the incentive to do so.

27. Opponents have responded that the markets for broadband Internet access services are sufficiently competitive to allay these concerns. They further contend that, even if a broadband Internet access service provider possessed market power, it generally would have an incentive to discriminate only in a socially efficient manner. Finally, opponents argue that, even if broadband Internet access service providers occasionally

discriminate in a socially inefficient manner, open Internet policies would impose greater costs and inefficiency than the absence of policies.

c. Speech and Civic Participation

28. Congress has recognized that the Internet "offer[s] a forum for a true diversity of political discourse, unique opportunities for cultural development, and myriad avenues for intellectual activity." Numerous judicial opinions have noted the Internet's potential for facilitating speech. The bipartisan Knight Commission recently reported that the Internet has brought about "new forms of collaboration between full-time journalists and the general citizenry," opening the age of networked journalism. It also observed that "[p]olitical leaders and many government agencies are staking out ambitious agendas for openness," and "[t]he potential for using technology to create a more transparent and connected democracy has never seemed brighter." At the same time, however, broadband Internet access service providers today could block, slow, or redirect access to Web sites espousing public policy positions that the broadband Internet access service provider considers contrary to its interests, or controversial content to which the service provider wants to avoid any connection. Broadband Internet access service providers also have the ability to delete or hinder e-mail based on inspection of its contents. Because broadband Internet access service providers are not government actors, the First Amendment does not directly govern their actions.

29. Proponents therefore argue that the Commission should take steps to preserve the Internet "as a general purpose technology that supports wide open speech." Others have argued that "the openness of networks [is] essential to meeting community information needs," and that the Internet could be conceived of as a "new marketplace of ideas"—a "core common infrastructure" that "giv[es] users the capacity to participate in building our common informational and cultural environment and the freedom to construct their personal information environment that is the greatest promise of networked communications."

30. Some proponents of oversight have thus argued that the Commission should apply a standard similar to strict scrutiny to content-based discrimination, to ensure that any discrimination be carefully tailored to serve the public interest, not merely a private interest. (As discussed below, we do not adopt this standard in the

draft rules we propose.) Some parties further argue that broadband Internet access service providers should not be left to balance among competing public interests themselves, but rather that the Commission (or other government entity) must be the one to do so. In support of such oversight, proponents note that the government has undertaken a role in promoting communications technologies as a channel for speech and democratic content in other contexts, such as the cable "must carry" rules.

31. Opponents respond that such policies are unnecessary. In particular, they claim that a "firestorm of controversy * * * would erupt if a major network owner embarked on a systematic campaign of censorship on its network," thus mitigating the need for formal policies.

d. Congestion

32. The existence of congestion in the network is a major motivating factor in the open Internet debate, and is central to arguments that differential pricing or service quality is necessary. Moreover, because the effects of delays or dropping of packets arising from congestion are not the same for all applications, broadband Internet access service providers and content, application, and service providers may have incentives to seek agreements for the prioritization of traffic or other quality of service guarantees. Permitting these activities without appropriate oversight could lead to a number of harms, undermining the public interest goals of the Act discussed above.

33. Although network operators may seek to alleviate congestion by increasing capacity, such actions would involve costs—in some cases large costs—and revenue opportunities might not justify the required investment. As a result, we must balance the need for incentives for infrastructure investment with the need to ensure that network operators do not adopt congestion management measures that could undermine the usefulness of the Internet to the public as a whole. We seek further comment on these issues below.

4. Next Steps

34. We summarized above a number of the key arguments in the ongoing open Internet debate. We recognize, however, that this summary may be incomplete. Thus, we seek comment on what other considerations should inform our analysis. We also seek qualitative or quantitative evidence and analysis that illuminates any of the above arguments, including specific examples. To what extent are particular

arguments independent of competitive conclusions regarding particular markets for broadband Internet access services? Even in effectively competitive markets for broadband Internet access service, what impact do switching costs and consumer lock-in effects have on broadband Internet access service providers' ability to act in ways that limit innovation in content, applications, and services and/or reduce overall welfare? To the extent that certain arguments do depend upon the particular competitive state of a market, how should the Commission define and evaluate such markets? What specific evidence is there regarding the competitive state of those markets? We also seek comment on whether and to what extent application of the generally applicable antitrust laws is sufficient to address the concerns we identify here. We further seek comment on the effect of our decision to promulgate or not promulgate rules on the availability of antitrust law to address anticompetitive conduct in the broadband Internet access service market, particularly in light of *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP* and *Credit Suisse Securities (USA) LLC v. Billing*. We note that policymakers in a number of other countries are considering similar issues, and we seek comment on the analyses of these issues that have been raised in those contexts, as well.

35. We also seek comment on possible implications that the draft rules we propose here might have on efforts to close the digital divide and encourage robust broadband adoption and participation in the Internet community by minorities and other socially and economically disadvantaged groups. According to a recent study, broadband adoption varies significantly across demographic groups, and African Americans, Hispanics, and lower-income Americans, among others, trail the national average in home broadband adoption. This disparity among broadband adoption rates is significant and impacts efforts to promote employment, education, healthcare, and consumer welfare. Minorities and other socially and economically disadvantaged groups may also face unique or particularly high barriers to innovation, communication, and civic participation on the Internet, and may be susceptible to discrimination. This may make open Internet protections particularly important for these groups. We invite comment on these and related issues.

B. Our Authority To Prescribe Rules Implementing Federal Internet Policy

36. Consistent with the *Comcast Network Management Practices Order*, we may exercise jurisdiction under the Act to regulate the network practices of facilities-based broadband Internet access service providers. We have ancillary jurisdiction over matters not directly addressed in the Act when the subject matter falls within the agency's general statutory grant of jurisdiction and the regulation is "reasonably ancillary to the effective performance of the Commission's various responsibilities." That test is met with respect to broadband Internet access service.

37. As explained in the *Comcast Network Management Practices Order*, we believe that exercising ancillary authority over facilities-based Internet access will "promote the objectives for which the Commission has been [specifically] assigned jurisdiction" and "further the achievement of * * * [legitimate] regulatory goals." The proposed rules we enunciate here will, we believe, advance the federal Internet policy set forth by Congress in section 230(b) as well as the broadband goals that section 706(a) of the Telecommunications Act of 1996 charges the Commission with achieving. Section 201(b), moreover, gives the Commission specific authority "to prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of th[e] Act."

38. Voice and video services are increasingly delivered over the Internet, in actual or potential competition with voice and video offerings of companies that provide broadband Internet access. This growing interrelationship with voice and video services that the Commission has traditionally regulated pursuant to express statutory obligations and its general public interest mandate further supports the Commission's consideration of regulatory requirements for the provision of broadband Internet access service, and its ancillary jurisdiction to establish appropriate rules.

39. With respect to Internet access via spectrum-based facilities, we have additional authority pursuant to Title III of the Communications Act. We have recognized previously that the spectrum allocation and licensing provisions of Title III and the Commission's rules continue to apply to wireless broadband Internet access services because these services use radio spectrum. We have relied upon Title III authority in the past to regulate services provided by wireless carriers.

40. We invite comment on our view that we have jurisdiction over broadband Internet access service sufficient to adopt and enforce the proposed rules, or other rules that commenters propose.

C. Codifying the Existing Four Internet Principles

41. We believe that the four Internet principles have performed effectively their role of explicating statutory federal Internet policy. At the time the Commission adopted the principles, it stated that they were not rules but that it would "incorporate the above principles into its ongoing policymaking activities." Those ongoing activities included a broadband practices proceeding, two public field hearings, and an enforcement action. After four years of evaluating market developments, we now believe it is appropriate to codify the four principles. Codification will increase certainty regarding the Commission's approach to preserving the open Internet.

42. We propose to codify the four principles at their current level of generality. Doing so will help establish clear requirements while giving us the flexibility to consider particular circumstances case by case. In that way, we will be able to generate over time a body of law that develops as technology and the marketplace evolve. As one commenter observed, "given the extraordinarily rapid and wholly unpredictable evolution of services and applications, we see the need for policymaking principles centered on supporting innovation and protecting consumer interests in an agile, rather than prescriptive, way."

43. We also propose to codify the principles as obligations of broadband Internet access service providers, rather than as describing what "consumers are entitled" to do with their service, as the original Internet principles were phrased. We believe that codifying them as obligations of particular entities, rather than just as principles, would make clear precisely who must comply and in what way. Making these rules apply to particular entities will also provide certainty to all Internet participants as to what to expect and who bears responsibility for what types of actions.

44. Finally, we affirm that these principles apply to all providers of Internet access service (other than via dial-up), regardless of the technology over which such service is delivered. We recognize that in other contexts, the term "broadband" may be used differently. We believe, however, that

defining broadband here to encompass all non-dial-up Internet access will ensure that our open Internet rules benefit as many users as possible and have broad application to protect the open Internet, however accessed. We seek comment on this approach to defining “broadband.” We propose that these rules should not apply to dial-up Internet access service. Title II regulation applies to users’ telephone connections to dial-up Internet access service providers, and the Commission’s interpretation of those obligations appears to have resulted in a market for dial-up Internet access service providers that does not present the same concerns as the market for broadband Internet access. In addition, because of the lower speed of dial-up Internet access service, many of the Internet applications and services that may benefit from quality-of-service assurances and that raise the greatest concerns regarding discrimination are unavailable over dial-up Internet connections as a practical matter. We seek comment on our proposal. We note that our use of the term “broadband Internet access service” in the context of this NPRM does not prejudice how the Commission might define that term in other contexts.

45. Specifically, we propose that all providers of broadband Internet access service must comply with the following four rules:

1. *Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from sending or receiving the lawful content of the user’s choice over the Internet.*

2. *Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from running the lawful applications or using the lawful services of the user’s choice.*

3. *Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from connecting to and using on its network the user’s choice of lawful devices that do not harm the network.*

4. *Subject to reasonable network management, a provider of broadband Internet access service may not deprive any of its users of the user’s entitlement to competition among network providers, application providers, service providers, and content providers.*

46. We believe that applying these rules to all providers of broadband Internet access service would support the statutory and policy goals we articulated above. First, these rules would support our goals of protecting consumers and encouraging innovation

and investment. Ensuring that users can send and receive content, run applications, and use services of their choice allows them to take advantage of the diverse results of past investment and innovation, which in turn encourages further innovation and investment, and research and development. Likewise, ensuring that users can connect the devices of their choice to the network would encourage investment and innovation in the device market, and permits customers to change Internet access service providers more easily, which in turn would encourage more innovation among providers to win their business.

47. Second, these rules would support our goals of promoting competition. They would promote competition in the upstream markets for content, applications, and services by ensuring that users can take advantage of any offerings, not just those that are approved or selected by their Internet access service provider. These rules would also support our goals of promoting consumer protection, user empowerment, speech, and democratic participation.

48. We now address each principle in turn. The first principle in the *Internet Policy Statement*, and the first rule we propose to codify here, ensures that users are in control of the content that they send and receive. Making sure that users can express themselves freely on the Internet and receive the content of their choice ensures that users are unconstrained by broadband Internet access service providers in their ability to participate in the marketplace of ideas. Indeed, to further this interest in encouraging freedom of expression, we propose that the first rule make explicit that users can both send the content of their choice and receive the content of their choice. While the *Internet Policy Statement* principle referred only to users’ “access” to content, we believe that the ability of a user to produce or distribute content is just as important as the ability to receive it. Indeed, anyone who posts a comment on a blog is “sending” content.

49. The second principle in the original *Internet Policy Statement* protects the ability of consumers to run applications and use services of their choice, subject to the needs of law enforcement. As explained below, we propose that all the principles be subject to the needs of law enforcement, as well as public safety, and national and homeland security, by proposing separate draft rules on these topics. As explained in more detail below, we intend to leave sufficient flexibility in all our rules to allow broadband Internet

access service providers to address law enforcement, public safety, and national and homeland security needs.

Furthermore, we have no intention of protecting unlawful activities in these rules. Therefore, for additional precision, we add the word “lawful” to the proposed second rule to make clear that nothing here requires broadband Internet access service providers to allow users to engage in unlawful activities. The addition of the word “lawful” also harmonizes the second proposed rule with the first and third.

50. The third principle in the original *Internet Policy Statement* allows users to connect their choice of legal devices that do not harm the network. The proposed rule changes the word “legal” to “lawful” for harmony with the other proposed rules. We do not intend any difference in meaning by changing this particular word. In addition, the proposed rule would protect the ability of users to connect and use such devices. We add this clarification to avoid any overly narrow reading of the proposed rule, and as discussed below, seek comment on the application of this proposed rule to wireless networks.

51. The fourth principle in the original *Internet Policy Statement* protects competition among network providers, application and service providers, and content providers. Here, we change the proposed wording of the last three types of providers—application, service, and content—to be consistent with other proposed rules. Again, no substantive difference is intended by that change.

52. We propose not to adopt a specific definition of “content, application, or service provider,” because any user of the Internet can be such a provider. For example, anyone who creates a family Web site for sharing photographs could be reasonably classified as a “content provider.” We believe that this broad interpretation of the phrase would reinforce the other principles and the overall goals of this rulemaking.

53. As stated, we propose that all four principles would apply to all forms of broadband Internet access service, regardless over which technology platform they are provided. We explain below that all four principles would be subject to reasonable network management and the needs of law enforcement, public safety, and homeland and national security authorities. In addition, we seek comment on the implications of these principles for broadband Internet access over mobile wireless networks and how, and in what time frames or phases, and to what extent they can be fairly and appropriately implemented.

54. At least one commenter in this proceeding has suggested that we should read the *Internet Policy Statement* as embodying obligations binding on content, applications, and service providers in addition to broadband Internet access service providers. Although the question of Internet openness at the Commission has traditionally focused on providers of broadband Internet access service, we seek comment on the pros and cons of phrasing one or more of the Internet openness principles as obligations of other entities, in addition to providers of broadband Internet access service.

55. We also seek comment in general on our formulation of these proposed rules, including whether the fourth principle is appropriate for codification as a rule or whether the other rules we propose in this NPRM adequately achieve the fourth principle's purposes. We seek comment, including any applicable data and specific examples, on the likely costs and benefits of each of these proposed rules. We also seek comment on whether and how codifying these principles will promote free speech, civic participation, and democratic engagement. Will codifying these principles help preserve the Internet's status as "a forum for a true diversity of political discourse" and an open platform for publication of information?

D. Codifying a Principle of Nondiscrimination

56. As discussed above, the ability of network operators to discriminate in price or service quality among different types of traffic or different providers or users may impose significant social costs, particularly if the discrimination is motivated by anticompetitive purposes. At the same time, we recognize that traffic on the Internet is increasing rapidly and that broadband Internet access service providers must be able to manage their networks and experiment with new technologies and business models in ways that benefit consumers. The key issue we face is distinguishing socially beneficial discrimination from socially harmful discrimination in a workable manner.

57. Based on the record, we propose a general rule prohibiting a broadband Internet access service provider from discriminating against, or in favor of, any content, application, or service, subject to reasonable network management. More specifically we propose the following new rule:

5. Subject to reasonable network management, a provider of broadband Internet access service must treat lawful

content, applications, and services in a nondiscriminatory manner.

58. We further propose that, as with the previous four rules, this rule should be subject to exceptions for the needs of law enforcement, public safety, national and homeland security authorities, as discussed at greater length below.

59. We 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. We propose that this rule would not prevent a broadband Internet access service provider from charging subscribers different prices for different services. We seek comment on each of these proposals. We also seek comment on whether the specific language of this draft rule best serves the public interest.

60. In defining the scope of this proposed fifth rule, we propose to focus on that portion of the connection between a broadband Internet access service subscriber and the Internet for which the broadband Internet access service provider, as discussed above, may have the ability and the incentive to favor or disfavor traffic destined for its end-user customers. We seek comment on this proposal, and how best to define the portion of the network subject to the fifth rule.

61. We believe that the proposed nondiscrimination rule, subject to reasonable network management and understood in the context of our proposal for a separate category of "managed" or "specialized" services (described below), may offer an appropriately light and flexible policy to preserve the open Internet. Our intent is to provide industry and consumers with clearer expectations, while accommodating the changing needs of Internet-related technologies and business practices. Greater predictability in this area will enable broadband providers to better plan for the future, relying on clear guidelines for what practices are consistent with federal Internet policy. First, as explained in detail below, 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. We also recognize that what is reasonable may be different for different providers

depending on what technologies they use to provide broadband Internet access service (e.g., fiber optic networks differ in many important respects from 3G and 4G wireless broadband networks). We intend reasonable network management to be meaningful and flexible. Second, as explained below, we recognize that some services, such as some services provided to enterprise customers, IP-enabled "cable television" delivery, facilities-based VoIP services, or a specialized telemedicine application, may be provided to end users over the same facilities as broadband Internet access service, but may not themselves be an Internet access service and instead may be classified as distinct managed or specialized services. These services may require enhanced quality of service to work well. As these may not be "broadband Internet access services," none of the principles we propose would necessarily or automatically apply to these services. In this context, with a flexible approach to reasonable network management, and understanding that managed or specialized services, to which the principles do not apply in part or full, may be offered over the same facilities as those used to provide broadband Internet access service, we believe that the proposed approach to nondiscrimination will promote the goals of an open Internet.

62. We note that our proposed nondiscrimination and reasonable network management rule bears more resemblance to unqualified prohibitions on discrimination added to Title II in the 1996 Telecommunications Act than it does to the general prohibition on "unjust or unreasonable discrimination" by common carriers in section 202(a) of the Act. We seek comment on whether an "unjust or unreasonable discrimination" standard would be preferable to the approach we propose. As explained above, rather than extending that common carrier standard to broadband Internet access services, we propose a general nondiscrimination rule subject to reasonable network management and specifically enumerated exceptions (including separate treatment of managed or specialized services). We believe that a bright-line rule against discrimination, subject to reasonable network management and enumerated exceptions, may better fit the unique characteristics of the Internet, which differs from other communications networks in that it was not initially designed to support just one application (like telephone and cable television

networks), but rather to allow users at the edge of the network to decide toward which lawful uses to direct the network.

63. If we were to prohibit “unjust or unreasonable” discrimination by broadband providers, we anticipate that the types of discrimination that would be considered “just” and “reasonable” would likely be reasonable network management or fall within one of the exceptions described below. We base that belief on our four years of experience under the *Internet Policy Statement* and our familiarity with the debate over open Internet principles, which began well before 2005. As we note below, we believe that a case-by-case approach to providing more detailed rulings in this area is inevitable and valuable. At the same time, where we can identify and describe *ex ante* exceptions to the general nondiscrimination rule, we believe it is helpful to do so. As explained below, moreover, we propose that the nondiscrimination rule would be subject to reasonable network management, which we believe would be sufficient to address concerns that a general prohibition on discrimination lacks necessary flexibility. To be sure, the contours of our proposed exceptions would be subject to development in future adjudications. We would not, however, have to establish the exceptions themselves through that process.

64. We seek comment on these proposals. We seek comment generally on the costs and benefits of this proposed nondiscrimination rule, both in the near-term and long-term. In particular, would a rule prohibiting broadband Internet access service providers from charging content, application and service providers fees be likely to result in higher social welfare than would result in a market in which no constraints on such fees are imposed? What would the effects be on future innovation?

65. We seek comment on the effects that prohibiting charges to content, application, and service providers for enhanced or prioritized service would have on broadband Internet access service users. In discussing these issues, we encourage parties to be specific in describing whether, when, and how broadband Internet access service providers charge content, application, and service providers for prioritization of traffic today, and any consequences they believe would arise from prohibiting broadband Internet access service providers from charging for prioritization.

66. More generally, we seek comment on how the proposed nondiscrimination rule would affect broadband Internet access service providers’ pricing and practices, including network deployment, and the current or planned offerings of particular Internet content, application, and service providers. Are there particular content, applications, or services whose quality and utility to end users depends on a broadband Internet access service provider’s assuring a certain quality of service? For example, do services such as VoIP, video conferencing, IP video, or telemedicine applications depend on discrimination in how traffic is handled? To the extent that parties believe enhanced or guaranteed quality of service is required for certain content, applications, or services, they should identify specifically the content, applications, and services for which such practices are required and explain why it is required. What would the practical differences be between permitting operators to manage their networks to assure quality of service to particular types of traffic—*e.g.*, all VoIP traffic—and the offering of such management for a fee or other consideration? Would the proposed nondiscrimination rule discourage innovation in or development of certain types of content, applications, or services? Should these services be more properly understood as managed or specialized services rather than broadband Internet access services?

67. Have we correctly identified the costs and benefits of the alternative approaches? Does subjecting the nondiscrimination rule to reasonable network management ensure that network operators can reasonably manage their networks consistent with the intent of preserving the free and open Internet? Does the separate regulatory category of managed or specialized services allow beneficial discrimination to serve the public? Conversely, are there any socially beneficial forms of discrimination that would not fall within the category of reasonable network management or the exceptions discussed below? If so, should we instead adopt a rule prohibiting only unreasonable discrimination? Would a rule prohibiting unreasonable discrimination permit socially beneficial discrimination that would be prohibited under a nondiscrimination rule? Would such a rule be inconsistent with the Internet’s traditional operation or otherwise undermine the manifold benefits the open Internet has provided? Would a prohibition on unreasonable discrimination, standing alone, be less

certain, harder to enforce, or both? Would it create greater incentives for broadband Internet access service providers to engage in socially harmful discrimination?

68. More generally, we seek comment on the relationship between the proposed rules and the requirements of Title II of the Act. For example, should the standards for evaluating discrimination be based on the Commission’s precedent under either section 202 or section 272 of the Act? Has *ex post* enforcement of similar prohibitions on discrimination and unreasonable discrimination proven adequate in other contexts?

69. We also seek comment on whether our proposed nondiscrimination rule will promote free speech, civic participation, and democratic engagement. Would discrimination by access providers interfere with those goals? Conversely, would our proposed rule impose any burdens on access providers’ speech that would be cognizable for purposes of the First Amendment, and if so, how? Would any burden on access providers’ speech be outweighed by the speech-enabling benefits of an open Internet that provides a non-discriminatory platform for the robust interchange of ideas?

70. Finally, we note that NTIA and RUS, in administering the BTOP and BIP broadband grant and loan programs, required applicants to agree, among other things, “not [to] favor any lawful Internet applications and content over others.” We seek comment on how BTOP and BIP applicants have proposed to comply with these requirements and how this might inform the Commission’s definition of a nondiscrimination rule.

E. Codifying a Principle of Transparency

71. In this part, we propose to codify a sixth principle of transparency. In general, we believe that sunlight is the best disinfectant and that transparency discourages inefficient and socially harmful market behavior. As we noted in our recent Consumer Information and Disclosure Notice of Inquiry (NOI), access to accurate information plays a vital role in maintaining a well-functioning marketplace that encourages competition, innovation, low prices, and high-quality services. The Consumer Information and Disclosure NOI, however, focuses on a broad array of consumer issues that cut across all communications service offerings, while here we seek comment on the specific issue, not raised in that NOI, of how broadband Internet access service providers should disclose relevant network management practices to

consumers as well as to content, application, and service providers and to government. As previously noted, recipients of BTOP and BIP grants are required to disclose network management practices on their Web sites. We propose a transparency principle to protect and empower consumers and to maximize the efficient operation of relevant markets by ensuring that all interested parties have access to necessary information about the traffic management practices of networks. At the same time, recognizing the potential burdens of such rules, we seek to design a transparency rule that is minimally intrusive. We seek comment below on how to balance these goals and reiterate our desire for comments that include data and specific examples.

72. We believe that adopting a rule requiring transparency would benefit several constituencies. First, disclosure rules would enable broadband subscribers to understand and take advantage of the technical capabilities and limitations of the services they purchase. Second, disclosure would benefit content, application, and service providers and investors by increasing access to information needed to develop and market new Internet offerings. Third, disclosure would benefit policy makers and the Internet users who rely on them by providing an empirical foundation for evaluating the effectiveness and necessity of ongoing policies. As such, we propose codifying a sixth principle of transparency as follows:

6. 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.

We propose that, as with the previous five rules, this rule should be subject to reasonable network management and the needs of law enforcement, public safety, and homeland and national security, as discussed at greater length below.

73. We seek comment on the specific wording of this proposed rule. In particular, we seek comment on how we should interpret what information is "reasonably required" and whether there are some standard practices that should be excluded from such mandatory disclosure. We also seek comment on alternative proposed formulations of the rule, including whether the rule should require

disclosure of information directly to the Commission.

74. *Disclosure to Users.* In the Consumer Information and Disclosure NOI, we sought comment on a broad range of issues related to disclosure to consumers. In this NPRM, we seek comment more narrowly on the kind of required disclosures to users that would effectuate the Internet principles discussed herein. Specifically, we propose that broadband Internet access service providers should be required to disclose information to users concerning network management and other practices that may reasonably affect the ability of users to use the devices, send or receive the content, use the services, run the applications, and enjoy the competitive offerings of their choice.

75. Commenters to the National Broadband Plan NOI have generally agreed that disclosure of network management practices is important for users. A large number of commentators on open Internet principles in our Broadband Industry Practices proceeding—both those in favor of a nondiscrimination principle and those opposed—likewise believe that broadband Internet access service providers should be required to disclose more information about their network management practices than they currently disclose. Disclosure of this information would correct information asymmetries and allow users to make informed purchasing and usage decisions.

76. We have in the past found evidence of service providers concealing information that consumers would consider relevant in choosing a service provider or a particular service option. For example, in Madison River and Comcast, broadband Internet access service providers blocked specific applications desired by users without informing them. In a recent academic study, thousands of incidents were observed in which BitTorrent uploads were blocked in the United States during early 2008. Specifically, the study found that "BitTorrent uploads are being blocked for a significant number of hosts, mostly from ISPs in the USA and in Singapore." At that time, the U.S. Internet service providers whose customers experienced the most blocking had not publicly disclosed their network and congestion management practices, nor had most other providers. Of major broadband providers, only a handful appear to publicly disclose their network and congestion management practices.

77. After the Commission issued the *Comcast Network Management Practices Order*, some providers

voluntarily disclosed congestion management practices on their Web sites. Nevertheless, there may be other instances of unreported application blocking or other practices that limit consumers' ability to access content, applications, or services of their choice on the Internet. In the absence of disclosure rules, we have no way of knowing the full extent of these practices. Nor do users.

78. We seek comment on what consumers need to know about network management practices to make informed purchasing decisions and to make informed use of the services they purchase. We believe that many consumers need information concerning actual (as opposed to advertised) transmission rates, capacity, and any network management practices that affect their quality of service. Commenters should address what types of network management practices could interfere with or restrict service and what types of disclosure would be appropriate. Should broadband Internet access service providers be required to disclose, for example, the times of day users are most likely to be affected by network congestion, or the steps providers might take to control or alleviate congestion? Disclosure of service information is vital to consumer choice both before and after a consumer decides to purchase a service. Thus, we seek comment on the types of information broadband Internet access service providers should be required to disclose to consumers before and after purchase.

79. We also seek comment on how this information should be disclosed to users. Are there standard labeling formats that could be used to disclose network management practices to users? Are there technological tools available now, or current tools that could be easily adapted, to facilitate consumer comparisons of network management practices? We seek examples of disclosure, both within and outside the communications market, that are both useful for consumers and not unnecessarily burdensome. We note that some current disclosure practices appear too general to be useful to users. On the other hand, too much detail may be counter-productive if users ignore or find it difficult to understand those details. We seek comment on the appropriate balance. Similarly, we seek comment on how disclosure can be tailored not to unduly burden broadband Internet access service providers. We propose that providers should be able to publicly disclose their practices on their Web sites and promotional material. Are there other

consumer-friendly outlets for this information that broadband Internet access service providers can use without undue cost and effort?

80. *Disclosure to Content, Application, and Service Providers.* Content, application, and service providers should have adequate information about network management practices to enable them to innovate and provide their products and services effectively to users. By reducing uncertainty, transparency should increase the ability and incentives of these providers to invest and innovate and engage in research and development. We seek comment on what information is currently available, what additional information should be made available, and how this information should be made available to content, application, and service providers. Are there current examples of disclosure to upstream entities by broadband Internet access service providers that could serve as a useful model for any disclosure requirements? Would the comparably efficient interconnection (CEI) and open network architecture (ONA) rules the Commission adopted in *Computer III* provide a useful guide in developing disclosure requirements in this context? Should broadband Internet access service providers make such disclosures available on their Web sites? Are there particular formats that would make the disclosures more accessible and useful for content, application, and service providers? We also seek comment on how such required disclosures can be tailored not to unduly burden broadband Internet access service providers.

81. *Disclosure to Government.* The Commission should have access to the information it needs to enforce any rules adopted in this proceeding and to make informed policy decisions going forward. We seek comment on the frequency and content of any reports from broadband Internet access service providers that would make open Internet policies enforceable and/or provide a useful tool for policy making. Specifically, what should broadband Internet access service providers be required to disclose to the Commission, if anything? Network management practices disclosed to consumers both before and after they purchase broadband Internet access service? A list of the methods of disclosure? Should providers report the number and content of any consumer complaints about the adequacy of disclosure both pre- and post-sale? Should broadband Internet access service providers also report the same information for

complaints filed by content, application, and service providers? How frequently should the Commission require such reports? Are there governmental agencies, other than this Commission, to which disclosures should be made, and if so, what information should be disclosed?

82. *General Issues.* We seek comment on what events should trigger disclosure obligations, how these disclosures should be made and in what format, how often they should be made, and whether the disclosures should be uniform or tailored to specific purposes and audiences. Should broadband Internet access service providers be required to disclose any changes to their network management practices before or within a certain period of time after implementing those changes? Would current or past disclosure practices serve as good models for disclosure to consumers; content, application, and service providers; and the Commission?

83. We do not anticipate that any disclosures required by the proposed transparency rule would implicate personally identifiable information or individuals' privacy interests or any proprietary network data. However, we seek comment on whether this assumption is correct. We further seek comment on any network security, online safety, and competition concerns that might be raised by the proposed transparency rule. If such concerns exist, how can we best address them in our rules? Should certain information be disclosed only to the Commission and not to the public, upon a showing of good cause that public disclosure would cause significant harms? We note that parties in other proceedings have raised public safety and competitive harm concerns about such reports. We also propose that any routine reports should not affect our ability or the ability of other government entities to gather any network management information necessary to comply with or enforce the law.

84. We also seek comment on general arguments against disclosure requirements. Specifically, is network management information genuinely of use to users and/or content, application, and service providers? Would disclosure slow innovation in the network or slow or deter research in efficient network design? We also seek comment on whether transparency will encourage or enable users and/or content, application, and service providers to circumvent legitimate network management tools designed, for example, to manage congestion.

85. Finally, we seek comment on legal limitations on the type of information

broadband Internet access service providers may disclose. For example, we note there are several laws that prohibit disclosure by a broadband Internet access service provider to the end user of the provider's compliance with certain requests of law enforcement authorities. We seek comment on whether the proposed exception to the rules for the needs of law enforcement, discussed below, adequately addresses this issue.

F. Reasonable Network Management, Law Enforcement, Public Safety, and Homeland and National Security

86. As stated above, our goals in this proceeding are to encourage investment and innovation, promote competition, and protect the rights of users, including promoting speech and democratic participation. While the six rules proposed above are derived from and designed to support these goals, there may be times when strict application of those rules would be in tension with these goals. For example, the general usefulness of the Internet could suffer if spam floods the inboxes of users, if viruses affect their computers, or if network congestion impairs their access to the Internet. Other critical governmental interests such as law enforcement, national security, and public safety may require that Internet access service providers discriminate with regard to particular traffic. For example, a failure to prioritize certain types of traffic in the case of an emergency could impair the efforts of first responders. Consequently, we must ensure that our framework provides a way to balance potentially competing interests while helping to ensure an open, safe, and secure Internet. We propose that all six proposed rules should be subject to (1) reasonable network management, (2) the needs of law enforcement, and (3) the needs of public safety and homeland and national security. The original second Internet principle, rather than all four, was subject to the needs of law enforcement. We believe it would be preferable to make clear that all principles are subject to the needs of law enforcement, as well as those of public safety and homeland and national security, and seek comment on that proposal.

87. As with the six proposed rules, we propose to describe these concepts at a relatively general level and leave more detailed rulings to the adjudications of particular cases, as we did in the *Comcast Network Management Practices Order*. As in that order, the novelty of Internet access and traffic management questions, the complex

nature of the Internet, and a general policy of restraint in setting policy for Internet access service providers weigh in favor of a case-by-case approach. We contemplate that individual adjudications will principally involve resolution of complaints about broadband Internet access service providers' specific practices. Providers would not be required to seek a declaratory ruling from the Commission before a practice is actually deployed, but they or others would be free to do so. Accordingly, we propose to lay out a few examples of proper and improper application of the concepts here but to reserve definition of the precise contours of these concepts for future adjudications. This course should allow us to proceed cautiously with respect to these emerging issues and to do so with sensitivity to the fast-changing nature of the Internet and its continued growth. We discuss each of these concepts in turn.

1. Reasonable Network Management

88. Here we discuss the proposed 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.

89. There appear to be several types of situations that could justify a broadband Internet access service provider's acting inconsistently with the six open Internet principles described above. First, if a broadband Internet access service provider's network is or appears likely to become congested to such a degree that an individual user's Internet access is noticeably affected, the broadband Internet access service provider may be justified in taking reasonable steps to reduce or mitigate the adverse effects of that congestion or to address quality-of-service concerns. Second, it may be reasonable for a provider to take measures to counter traffic that is harmful or unwanted by users. Third, if particular content or a particular transfer of content is prohibited by law, the provider may be justified in not carrying that traffic. Finally, there may be other situations in which network management practices do not fall into one of these categories but may nevertheless be reasonable. We address each of these categories in turn.

90. First, we propose that a broadband Internet access service provider may take reasonable steps to reduce or mitigate the adverse effects of congestion on its network or to address quality-of-service concerns. What constitutes congestion, and what measures are reasonable to address it, may vary depending on the technology platform for a particular broadband Internet access service. For example, if cable Internet subscribers in a particular neighborhood are experiencing congestion, it may be reasonable for an Internet service provider to temporarily limit the bandwidth available to individual users in that neighborhood who are using a substantially disproportionate amount of bandwidth until the period of congestion has passed. Alternatively, a broadband Internet service provider might seek to manage congestion by limiting usage or charging subscribers based on their usage rather than a flat monthly fee. Some have suggested it would be beneficial for a broadband provider to protect the quality of service for those applications for which quality of service is important by implementing a network management practice of prioritizing classes of latency-sensitive traffic over classes of latency-insensitive traffic (such as prioritizing all VoIP, gaming, and streaming media traffic). Others have suggested that such a practice would be difficult to implement in a competitively fair manner and could undermine the benefits of a nondiscrimination rule, including keeping barriers to innovation low. We seek comment on whether these and other potential approaches to addressing congestion would be reasonable. On the other hand, we believe that it would likely not be reasonable network management to block or degrade VoIP traffic but not other services that similarly affect bandwidth usage and have similar quality-of-service requirements. Nor would we consider the singling out of any particular content (*i.e.*, viewpoint) for blocking or deprioritization to be reasonable, in the absence of evidence that such traffic or content was harmful. We recognize that in a past adjudication, the Commission proposed that for a network management practice to be considered "reasonable," it "should further a critically important interest and be narrowly or carefully tailored to serve that interest." We believe that this standard is unnecessarily restrictive in the context of a rule that generally prohibits discrimination subject to a flexible category of reasonable network management. We seek comment on our

proposal not to adopt the standard articulated in the *Comcast Network Management Practices Order* in this rulemaking.

91. Second, we propose that broadband Internet access service providers may address harmful traffic or traffic unwanted by users as a reasonable network management practice. For example, blocking spam appears to be a reasonable network management practice, as does blocking malware or malicious traffic originating from malware, as well as any traffic that a particular user has requested be blocked (*e.g.*, blocking pornography for a particular user who has asked the broadband Internet access service provider to do so).

92. Third, we propose that broadband Internet access service providers would not violate the principles in taking reasonable steps to address unlawful conduct on the Internet. Specifically, we propose that broadband Internet access service providers may reasonably prevent the transfer of content that is unlawful. For example, as the possession of child pornography is unlawful, consistent with applicable law, it appears reasonable for a broadband Internet access service provider to refuse to transmit child pornography. Moreover, it is important to emphasize that open Internet principles apply only to lawful transfers of content. They do not, for example, apply to activities such as the unlawful distribution of copyrighted works, which has adverse consequences on the economy and the overall broadband ecosystem. In order for network openness obligations and appropriate enforcement of copyright laws to co-exist, it appears reasonable for a broadband Internet access service provider to refuse to transmit copyrighted material if the transfer of that material would violate applicable laws. Such a rule would be consistent with the *Comcast Network Management Practices Order*, in which the Commission stated that "providers, consistent with federal policy, may block * * * transmissions that violate copyright law."

93. Finally, we propose that broadband Internet access service providers may take other reasonable steps to maintain the proper functioning of their networks. We include this catch-all for two reasons. First, we do not presume to know now everything that providers may need to do to provide robust, safe, and secure Internet access to their subscribers, much less everything they may need to do as technologies and usage patterns change in the future. Second, we believe that

additional flexibility to engage in reasonable network management provides network operators with an important tool to experiment and innovate as user needs change.

94. We seek comment on the specific wording of the proposed definition of reasonable network management. We seek comment on how to evaluate whether particular network management practices fall into one or more of these categories and on who should bear the burden of proof on that issue. We ask parties to identify other laws that would require or permit broadband Internet access service providers to act in a manner inconsistent with the six rules. We seek comment on whether certain network management techniques are considered best practices in the network engineering community or are consistent with industry standards and cooperative agreements. We note that in section IV.H we seek comment on how to consider reasonable network management practices in the context of broadband Internet access over mobile wireless networks. We also note that standards bodies such as the Internet Engineering Task Force (IETF) have played a significant role in developing network management protocols, and we seek comment on whether the IETF, other standards bodies, or other third parties could help define more precisely what practices are reasonable or, specifically in the context of copyright protection, how it could be determined whether the transfer of particular content is unlawful. We ask that parties support their comments with data and specific examples where possible.

2. Law Enforcement

95. Federal law has long recognized the importance of permitting law enforcement access to communications networks in certain circumstances. The Communications Assistance for Law Enforcement Act, for example, requires broadband Internet access service providers to assist law enforcement in intercepting, tracking, and identifying communications made over their networks. The Foreign Intelligence Surveillance Act authorizes law enforcement collecting foreign intelligence or working to thwart a threat to national security to wiretap communications over the Internet and prohibits an Internet access service provider from disclosing the existence of the wiretap to its subscriber. And the Electronic Communications Privacy Act creates a framework for law enforcement to work with Internet access service providers and others for the purpose of investigating and monitoring

information stored on or transiting the Internet while balancing the privacy interests of affected parties. We believe that a broadband Internet access service provider may comply with these laws and otherwise meet the needs of law enforcement without violating the rules we propose today. For example, we do not believe that nondisclosure of a wiretap to a surveillance target would violate a carrier's transparency obligations as proposed here.

96. Accordingly, we propose the following new rule:

Nothing in this part supersedes any obligation a provider of broadband Internet access service may have—or limits its ability—to address the needs of law enforcement, consistent with applicable law.

97. We seek comment on our conclusions and on the specific wording of this proposed rule. We also seek comment on instances in which broadband Internet access service providers have or may in the future need to facilitate the needs of law enforcement, including in ways that, in the absence of the exception proposed in this section, might conflict with the rules we propose today. In particular, we seek specific examples and data regarding these issues.

3. Public Safety and Homeland and National Security

98. In connection with a local, regional, or national emergency, federal, state, tribal, and local public safety entities; homeland security personnel; and other appropriate governmental agencies may need guaranteed access to reliable communications over the Internet in order to coordinate disaster relief and other response efforts, or for other emergency communications. Guaranteeing quality of service for these purposes may be critically important to our national security and safety. For example, during a public health emergency, increased absenteeism and utilization of teleworking would likely increase the number of users seeking to access the Internet from numerous discrete points (e.g., residences). The performance of essential functions could be impeded by unmanaged network congestion resulting from this change in usage patterns.

99. Accordingly, we propose the following new rule:

Nothing in this part supersedes any obligation a provider of broadband Internet access service may have—or limits its ability—to deliver emergency communications, or to address the needs of public safety or national or homeland security authorities, consistent with applicable law.

100. We seek comment on our conclusions and on the specific wording of this proposed rule. We also seek comment on instances in which broadband Internet access service providers have or may in the future need to facilitate the needs of public safety or national or homeland security, including in ways that, in the absence of the exception proposed in this section, might conflict with the rules we propose today. We reiterate our desire for specific examples and data regarding these issues.

G. Managed or Specialized Services

101. As rapid innovation in Internet-related services continues, we recognize that there are and will continue to be 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. We use the term “managed” or “specialized” services to describe these types of offerings. The existence of these services may provide consumer benefits, including greater competition among voice and subscription video providers, and may lead to increased deployment of broadband networks.

102. We recognize that these managed or specialized services may differ from broadband Internet access services in ways that recommend a different policy approach, and it may be inappropriate to apply the rules proposed here to managed or specialized services. However, we are sensitive to any risk that the growth of managed or specialized services might supplant or otherwise negatively affect the open Internet. In this section, we seek comment on whether and, if so, how the Commission should address managed or specialized IP-based services in order to allow providers to develop new and innovative technologies and business models and to otherwise further the goals of innovation, investment, competition, and consumer choice, while safeguarding the open Internet.

103. We begin by seeking comment on what functions such managed or specialized services might fulfill. For example, AT&T offers its U-verse multi-channel, Internet-Protocol-based video service through the same network as its fiber-based broadband Internet access offering, and the record in our National Broadband Plan proceeding includes discussion of potential future offerings such as specialized telemedicine, smart grid, or eLearning applications that may require or benefit from enhanced quality

of service rather than traditional best-effort Internet delivery. What other managed or specialized services are currently being offered or may be offered in the near future? What specific content, applications, or services may require enhanced quality-of-service offerings, and why? What kinds of special or enhanced treatment are required? Are or will managed or specialized services be provided over the same network and to the same users who subscribe to broadband Internet access service? We encourage commenters to be as specific as possible about the current or likely future identity of such offerings; their technical characteristics, including whether they traverse more than one service provider's network; the technical characteristics of any enhanced quality of service offering that might be required for such content, application, or service; and sales and marketing arrangements for such content, application, or service, as well as for any enhanced quality of service offering (e.g., are or would such offerings be sold or marketed as part of other services or as a distinct service, whether bundled or stand-alone?).

104. More generally, how should we define the category of managed or specialized services? How are managed or specialized services different from broadband Internet access service as defined in this NPRM, and what are their essential distinguishing characteristics? Is allocation of available bandwidth for managed or specialized services versus broadband Internet access services a critical factor in analyzing such issues?

105. In addition, we seek comment on what policies should apply to managed or specialized services, if any, in light of the Commission's statutory mandate and the goals of this rulemaking process. Should the Commission classify these services for policymaking purposes, and if so, how? If rules are appropriate in this area, what should those rules state? Should any of the rules proposed here for broadband Internet access service apply to managed or specialized services?

106. Finally, we seek comment on what impact managed or specialized services might have on the open Internet and the advancement of the goals of this rulemaking process, and how the Commission should address any such impacts. Will managed or specialized services increase or reduce investment in broadband network deployment and upgrades? Will network providers provide sufficient capacity for robust broadband Internet access service on shared networks used for managed or

specialized services? Again, we encourage commenters to be as specific and fact-based as possible in addressing these issues.

H. Applicability of Principles to Different Broadband Technology Platforms

107. As our choices for accessing the Internet continue to increase, and as users connect to the Internet through different technologies, the principles we propose today seek to safeguard its openness for all users. We affirm that the six principles that we propose to codify today would apply to all platforms for broadband Internet access. Nevertheless, we acknowledge that technological, market structure, consumer usage, and historical regulatory differences between different Internet access platforms may justify differences in how we apply the Internet openness principles to advance the goals of innovation, investment, research and development, competition, and consumer choice. While there has been considerable discussion and factual development regarding openness issues in the wireline context, other Internet access platforms present additional important issues related to openness that merit focused attention. In this section, we seek comment on the application of the principles to different access platforms, including how, in what time frames or phases, and to what extent the principles should apply to non-wireline forms of Internet access, including, but not limited to, terrestrial mobile wireless, unlicensed wireless, licensed fixed wireless, and satellite.

108. Since the adoption of the *Internet Policy Statement* in 2005, alternative platforms for accessing the Internet have flourished, unleashing tremendous innovation and investment. In particular, wireless broadband Internet access has emerged as a technology that, from a consumer's perspective, now supports many of the same functions as DSL and cable modem service. For example, a consumer's laptop can be connected to the Internet through wireless or landline technologies. As noted above, the AT&T-BellSouth neutrality commitment extended to fixed WiMAX service. Wireless Internet access is provided through a variety of methods and technologies and is faster in most cases than dial up.

109. Because of the rapid growth and increasing use of mobile wireless as a platform for broadband Internet access, we will examine in greater detail in the following parts the application of the principles to mobile broadband Internet access. We note as a threshold matter that wireless providers may offer a range

of services—including traditional voice, short message service (SMS), and media messaging service (MMS)—that are not broadband Internet access services and thus are not included in the scope of the draft rules discussed above.

110. The manner in which the principles apply to mobile Internet access raises challenging questions, particularly with respect to the attachment of devices to the network and discrimination with regard to access to content, applications, and services, subject to reasonable network management. The difficulty of the questions is in part due to the way in which devices, applications, and content are provided today in the mobile wireless context. Moreover, we note that mobile wireless networks are not as far along in the process of transitioning to IP-based traffic as wireline networks. We seek to analyze fully the implications of these principles for mobile network architectures and practices as well as how, in what time frames or phases, and to what extent they can be fairly and appropriately implemented. We undertake this analysis with a focus on promoting innovation, investment, research and development, competition, and consumer choice, in order to support a thriving Internet and robust mobile wireless broadband networks.

1. Emergence of Mobile Internet Access

111. Mobile wireless is now a key platform enabling consumers to access communications services. Since 2004, the number of mobile telephone subscribers has exceeded the number of landlines. More recently, mobile wireless has emerged as an important method of Internet access. The first 3G networks went into service in 2003, and today tens of millions of Americans access the Internet through mobile handheld devices or through personal computers or other devices equipped with wireless Internet capability. In the past four years, the number of mobile devices capable of high-speed Internet access grew from approximately 400,000 to more than 59 million by the end of June 2008. 3G networks have enabled speeds comparable to some fixed access networks, offering a robust Internet experience. And in the future, with new 3.5G and 4G networks, some consumers may use mobile wireless devices for all of their Internet access services. Simultaneously, new devices have emerged to take advantage of faster 3G network speeds. Many of today's smartphones (e.g., Blackberry, iPhone, Palm Pre, and phones based on the Android or Windows Mobile platforms) are essentially handheld computers

with fully featured Web browsers and the ability to run thousands of applications, many of which utilize the Internet, and more and more Americans are using these devices. Similarly, wireless modems are increasingly allowing laptops, netbooks, and desktop computers to connect to the Internet.

112. In evaluating the highly dynamic landscape for mobile wireless broadband Internet access, we recognize that there are technological, structural, consumer usage, and historical differences between mobile wireless and wireline/cable networks. In order to facilitate connection and quality of communications over these radio links, wireless networks employ technical controls over factors such as the frequency, time, and power of the phones' signals. The customer device communicates with the network using a specified technical interface. Moreover, cellular wireless networks are shared networks (as are some types of wireline networks), with limited resources typically shared among multiple users. Wireless networks must deal with particularly dynamic changes in the communications path due to radio interference and propagation effects such as signal loss with increasing distance of the wireless phone from the base stations, fading, multipath, and shadowing.

113. The mobile wireless industry structure has evolved differently as well. As part of the effort to promote widespread use of mobile wireless, service providers package devices with services, often subsidizing these devices, and in the process, they may work directly with handset manufacturers to develop the design of their end-user devices. Mobile broadband customers generally purchase their devices directly from the wireless provider, often at a significant discount pursuant to a long-term service contract. Moreover, as mobile broadband service has developed, it has been integrated with end-user devices that are used to deliver traditional voice service.

2. Background of Wireless Open Platforms

114. In 2007, the Commission adopted a rule that required certain licensees to provide an open platform on their networks for devices and applications. Specifically, the open platform rule requires that Upper 700 MHz C-Block licensees must allow customers, device manufacturers, third-party application developers, and others to use or develop the devices and applications of their choice, so long as they meet all applicable regulatory requirements and

do not cause harm to the network. The Commission also prohibited all handset locking for Upper 700 MHz C-Block licensees.

115. In addition, some service and equipment providers have opened their networks to certain third-party devices and/or applications. For example, in 2008, T-Mobile with Google unveiled the G1, the first Android device using Android's free, open-source mobile operating system platform, and since that time, T-Mobile has offered additional Android devices. Verizon Wireless established its Open Development Program, to allow its customers to use the devices and applications of their choice on its network. Clearwire launched its CLEAR 4G WiMAX Innovation Network in Silicon Valley, a 4G WiMAX "sandbox" for application developers to use to develop wireless Internet applications. With the development of more advanced smartphone devices (such as the iPhone and the Palm Pre) over more robust wireless networks, many new and innovative applications have also been developed, which are typically offered to consumers through applications stores. These stores are often operated by wireless handset manufacturers and operating system developers, including Apple, Palm, and Research in Motion (for BlackBerry), and others are in development.

3. Application of the Internet Principles to Wireless

a. Connection to the Network and Device Attachment

116. In the wireless Internet context, different devices may interconnect to the network in different ways. Smartphones have built-in radio capability, and typically may connect to the network following a registration procedure (e.g., entering an authorization code) or by inserting a preregistered chip (e.g., a subscriber identity module (SIM) card). Some laptop and netbook computers now have pre-installed radios and attach to the network in a manner similar to smartphones. Many laptops and other devices do not have built-in radios, but have a slot or port whereby a modem can be easily connected. Wireless interconnection is complicated by the fact that different operators utilize different network standards, which require devices to have a compatible "air interface" in order to operate. Further, as explained above, consumers typically purchase their wireless devices directly from their wireless providers (or their agents), and providers often restrict consumers from

attaching certain third-party devices to their networks.

117. In the residential landline context, broadband providers typically provide a modem that attaches to the network, but allow users freely to interconnect devices locally to the modem through an Ethernet or WiFi connection. An analogous practice in the wireless context is known as "tethering," whereby a wireless handset or device can be used as a modem to connect with other devices such as a laptop computer by wire or radio (e.g., WiFi or Bluetooth). Similarly, some providers have begun to introduce "personal hotspot" devices (e.g., the MiFi) that combine a 3G modem with a WiFi hub that can serve multiple devices. Tethering is not universally permitted by providers.

118. Unlicensed wireless devices can generally attach to a local-area or personal-area network without requiring the network owner (typically a consumer) to test for whether the device is non-harmful, since this would be impractical. Typically this is accomplished by using industry standard interfaces such as a WiFi connection. We note that private sector certification programs have been established to ensure compatibility with the standards. For example, in order to advertise a product as WiFi compliant the device must undergo third-party testing in accordance with a program established by the WiFi Alliance.

119. In this context, we ask how, in what time frames or phases, and to what extent the "any device" rule should apply to mobile wireless broadband Internet access. In particular, we seek concrete data and specific examples that will inform our consideration of the issue. Should we require a mobile broadband Internet access service provider to allow users to attach any device with a compatible air interface directly to its network? If so, what procedures may providers use to prevent harm to the network? Who should ensure that devices are non-harmful: the providers themselves, third-party organizations, industry associations/laboratories, or the Commission? Should we allow providers to satisfy the device-attachment principle by providing wireless modems or SIM cards that could be easily inserted into end-user devices?

120. Should we require providers to allow "tethering" as a form of device interconnection? If we required wireless providers to permit tethering, what impact would that have on wireless network congestion, and what reasonable network management

measures should providers be allowed to take to ensure that their networks can support tethering? Alternatively, should a tethering requirement be sufficient to satisfy the “any device” requirement in the wireless context?

121. In the interest of ensuring that the application of the “any device” rule is fair and appropriate, we also seek comment on realistic and reasonable time frames or phases for applying this rule to mobile wireless broadband Internet access services.

122. We note that the “any device” rule proposed in this NPRM would differ from the rules that the Commission adopted for Upper 700 MHz C Block licensees in several respects. For example, the rule proposed in this NPRM would not necessarily prohibit the practice of “handset locking” (*i.e.*, preventing a subscriber from transferring a handset to another provider’s network during the time the contract with the subscriber is in place), which was explicitly prohibited in the rules applicable to the Upper 700 MHz C Block licensees. Further, the “any device” rule proposed in this NPRM, as well as the “any application” rule proposed herein, would require a provider of broadband Internet access service to allow users to connect to the provider’s network their choice of lawful devices that do not harm the network and to run the lawful applications of the users’ choice. In contrast, the rules the Commission adopted for Upper 700 MHz C Block licensees, which have been in effect since 2007, require licensees offering any service on Upper 700 MHz C Block spectrum, without limitation to broadband Internet access service, to allow use of the devices and applications of the user’s choice on the licensee’s C Block network.

123. In addition, we note that rural wireless carriers have raised an additional issue that relates to devices, asking the Commission to address exclusive handset arrangements between wireless service providers and device manufacturers. We do not view the open Internet rules proposed here as directly related to handset exclusivity, and we do not intend to address that issue in this proceeding, but rather will consider it separately.

b. Application of Nondiscrimination With Respect to Access to Content, Applications, and Services, Subject to Reasonable Network Management

124. Application of a nondiscrimination principle raises important questions in wireless, given the provision of voice, SMS/MMS, and Internet service through a single device,

typically sold by the same network operator. We seek comment on how, in what time frames or phases, and to what extent the prohibition on discrimination, subject to reasonable network management, should be administered for wireless services, including specific examples and data regarding practices. Would it be desirable to treat different devices and networks differently? Should the principle apply in the same way to an iPhone connected to a 3G network and to a laptop connected to a modem that is connected to a wireless mesh network? How should this principle apply in the context of 4G networks capable of supporting voice, video, and data services on a converged platform architecture? We also seek comment on time frames or phases that would facilitate fair and appropriate application of the nondiscrimination principle to mobile wireless broadband Internet access services.

125. With respect to the identification of reasonable network management practices for mobile broadband, we note that each provider has a finite amount of spectrum available to it. The users in a cell share the spectrum at any given time and the demands on capacity can vary widely depending on such factors as the number of users within that cell at any given time and the applications they are using. Moreover, while all networks must be designed to deal with various factors that can affect performance, wireless networks must be designed to deal with wide variations in signal levels across the service area as well as interference from other devices. In order to maximize utility to all users in a given cell sector, certain basic technical “rules of the road” are critical. What implications do these technical characteristics have for practices that might be considered reasonable network management in the wireless context? Further, for a given application, wireless networks are more sensitive to user behavior than wireline networks, so capacity management is a constant concern of wireless engineers. Bandwidth-intensive Internet services already create challenges for wireless networks, and these challenges are likely to increase, although the effects may be ameliorated by new technology, investment, innovation in business models, and/or additional spectrum. On the other hand, for the most bandwidth-intensive service today—streaming video—many wireless users view video content on smaller screens, which requires less bandwidth than typical video services consumed over a wireline Internet connection.

126. In what way do these wireless characteristics affect what kinds of network management practices are or are not reasonable? Are there particular wireless network management practices that should be identified by the Commission as reasonable? For example, are there any circumstances in which it could be reasonable for a wireless network to block video applications because they consume too much capacity? What about third-party VoIP applications or peer-to-peer applications?

127. We further seek comment on what access to applications means in the mobile wireless context. Does the quality of a user’s experience with an application vary depending on whether the application is downloaded onto the user’s device or whether it is accessed in the cloud using the device’s Web browser?

I. Enforcement

128. In this NPRM, we propose to codify six principles that will govern the conduct of broadband Internet access service providers, and to enforce those rules on a case-by-case basis through adjudication. The Commission has authority to enforce its rules. Section 503(b) of the Act authorizes the Commission to issue citations and impose forfeiture penalties for violations of the Commission’s rules. The Commission may initiate an enforcement action on its own motion or in response to a complaint filed by an outside party. We note that in the *Adelphia/Time Warner/Comcast Order*, the Commission invited parties to file complaints if evidence arose that Comcast was willfully blocking or degrading access to Internet content. And in the *Comcast Network Management Practices Order*, we addressed a complaint concerning alleged blocking or degrading of Internet content.

129. We seek comment on whether the Commission should adopt procedural rules specifically governing complaints involving alleged violations of any Internet principles we codify in our regulations. Should the Commission adopt formal complaint procedures for alleged violations of its open Internet rules? If so, what process should govern such complaints? Would any of the Commission’s existing rules, such as the rules governing formal complaints under section 208 of the Act or the rules governing complaints related to cable service, provide a suitable model in developing new procedural rules for open Internet complaints? Should the procedural rules differ depending on characteristics of the defendant (*e.g.*,

common carrier, cable provider)? Are there statutory limits on the scope of relief that the Commission may award in a formal complaint proceeding involving a violation of any open Internet rules? For example, may the Commission award damages to a complainant? If so, under what circumstances? What other issues concerning enforcement should the Commission consider? We invite comment.

J. Technical Advisory Process

130. We recognize that our decisions in this rulemaking must reflect a thorough understanding of current technology and future technological trends. To ensure that we have this understanding, the Chief of the Commission's Office of Engineering & Technology will create an inclusive, open, and transparent process for obtaining the best technical advice and information from a broad range of engineers.

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities from the policies and rules proposed in this Notice of Proposed Rulemaking (NPRM). The Commission requests written public comment on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the NPRM provided on the first page of the NPRM. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA). In addition, the NPRM and IRFA (or summaries thereof) will be published in the **Federal Register**.

A. Need for, and Objectives of, the Proposed Rules

2. Today's Internet is shaped by a legacy of openness and transparency that has been critical to its success as an engine for creativity, innovation, and economic growth. The NPRM seeks comment on a number of issues relating to preserving this openness and transparency. In the NPRM the Commission proposes draft language to codify the four principles the Commission articulated in the *Internet Policy Statement* that providers must allow consumers to:

*access the lawful Internet content of their choice[;] * * * run applications and use services of their choice, subject*

*to the needs of law enforcement[;] * * * connect their choice of legal devices that do not harm the network[; and] * * * [benefit from] competition among network providers, application and service providers, and content providers.*

3. The Commission also proposes draft language to codify a fifth principle that would require a broadband Internet access service provider to treat lawful content, applications, and services in a nondiscriminatory manner and draft language to codify a sixth principle that would require a broadband Internet access service provider to 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 rulemaking.

4. The NPRM proposes draft language to make clear that the principles would be subject to reasonable network management and would not supersede any obligation a broadband Internet access service provider may have—or limit its ability—to deliver emergency communications or to address the needs of law enforcement, public safety, or national or homeland security authorities, consistent with applicable law. The draft rules do not prohibit broadband Internet access service providers from taking reasonable action to prevent the transfer of unlawful content, such as the unlawful distribution of copyrighted works. Nor are the draft rules intended to prevent a provider of broadband Internet access service from complying with other laws.

5. The NPRM seeks comment on defining a category of managed or specialized services, how to define such services, and what principles or rules, if any, should apply to them. The NPRM also seeks comment on how, to what extent, and when the principles should apply to wireless broadband Internet access service, whether such access is obtained via terrestrial mobile wireless, unlicensed wireless, licensed fixed wireless, or satellite. Finally, the NPRM seeks comment on the enforcement procedures that the Commission should use to ensure compliance with the proposed principles.

B. Legal Basis

6. The legal basis for any action that may be taken pursuant to the NPRM is contained in sections 1, 2, 4(i)–(j), 201(b), 230, 257, 303(r), and 503 of the Communications Act of 1934, as amended, and section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. 151, 152, 154(i)–(j), 201(b), 230, 257, 303(r), 503, 1302.

C. Description and Estimate of the Number of Small Entities to Which the Rules Would Apply

7. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein. The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A “small business concern” is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).

1. Total Small Entities

8. Our proposed action, if implemented, may, over time, affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three comprehensive, statutory small entity size standards. First, nationwide, there are a total of approximately 27.2 million small businesses, according to the SBA. In addition, a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” Nationwide, as of 2002, there were approximately 1.6 million small organizations. Finally, the term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.” Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States. We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.” Thus, we estimate that most governmental jurisdictions are small.

2. Internet Access Service Providers

9. The actions proposed in the NPRM would apply to broadband Internet access service providers. In 2007, the SBA recognized two new small businesses, economic census categories. They are (1) Internet Publishing and Broadcasting and Web Search Portals and (2) All Other Information Services. However, census data do not yet exist that may be used to calculate the number of small entities that fit these definitions. Therefore, we will use the prior definition of Internet Service

Providers (ISPs) in order to estimate numbers of potentially-affected small business entities.

10. The 2007 Economic Census places these providers, which includes voice over Internet protocol (VoIP) providers, in the category of All Other Telecommunications. The SBA small business size standard for such firms is: those having annual average receipts of \$25 million or less. The most current Census Bureau data on such entities, however, are the 2002 data for the previous census category called Internet Service Providers. The 2002 data show that there were 2,529 such firms that operated for the entire year. Of those, 2,437 firms had annual receipts of under \$10 million and an additional 47 firms had receipts of between \$10 million and \$24,999,999. Consequently, we estimate that the majority of ISP firms are small entities that may be affected by our action.

11. The ISP industry has changed dramatically since 2002. The 2002 data cited above therefore may include entities that no longer provide Internet access service and may exclude entities that now provide broadband Internet access service. To ensure that this IRFA describes the universe of small entities that the proposals in the NPRM may affect, we discuss in turn several different types of entities that may be providing broadband Internet access service. We note that, although we have no specific information on the number of small entities that provide broadband Internet access service over unlicensed spectrum, we include these entities in our Initial Regulatory Flexibility Analysis.

3. Wireline Providers

12. Incumbent Local Exchange Carriers (Incumbent LECs). Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees. According to Commission data, 1,311 carriers have reported that they are engaged in the provision of incumbent local exchange services. Of these 1,311 carriers, an estimated 1,024 have 1,500 or fewer employees and 287 have more than 1,500 employees. Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by our proposed action.

13. Competitive Local Exchange Carriers (Competitive LECs),

Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers. Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees. According to Commission data, 1005 carriers have reported that they are engaged in the provision of either competitive access provider services or competitive local exchange carrier services. Of these 1005 carriers, an estimated 918 have 1,500 or fewer employees and 87 have more than 1,500 employees. In addition, 16 carriers have reported that they are "Shared-Tenant Service Providers," and all 16 are estimated to have 1,500 or fewer employees. In addition, 89 carriers have reported that they are "Other Local Service Providers." Of the 89, all have 1,500 or fewer employees. Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, Shared-Tenant Service Providers, and other local service providers are small entities that may be affected by our proposed action.

14. We have included small incumbent LECs in this present RFA analysis. As noted above, a "small business" under the RFA is one that, inter alia, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation." The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope. We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

15. *Interexchange Carriers*. Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees. According to Commission data, 300 carriers have reported that they are engaged in the provision of interexchange service. Of these, an estimated 268 have 1,500 or

fewer employees and 32 have more than 1,500 employees. Consequently, the Commission estimates that the majority of IXC are small entities that may be affected by our proposed action.

16. *Operator Service Providers (OSPs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for operator service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees. According to Commission data, 28 carriers have reported that they are engaged in the provision of operator services. Of these, an estimated 27 have 1,500 or fewer employees and one has more than 1,500 employees. Consequently, the Commission estimates that the majority of OSPs are small entities that may be affected by our proposed action.

4. Wireless Providers

17. The broadband Internet access service provider category covered by this NPRM may cover multiple wireless firms and categories of regulated wireless services. Thus, to the extent the wireless services listed below are used by wireless firms for broadband Internet access services, the proposed actions may have an impact on those small businesses as set forth above and further below. In addition, for those services subject to auctions, we note that, as a general matter, the number of winning bidders that claim to qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments and transfers or reportable eligibility events, unjust enrichment issues are implicated.

18. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category. Prior to that time, such firms were within the now-superseded categories of "Paging" and "Cellular and Other Wireless Telecommunications." Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees. For the category of Wireless Telecommunications Carriers (except Satellite), preliminary data for 2007 show that there were 11,927 firms operating that year. While the Census Bureau has not released data on the establishments broken down by number of employees, we note that the Census Bureau lists total employment for all

firms in that sector at 281,262. Since all firms with fewer than 1,500 employees are considered small, given the total employment in the sector, we estimate that the vast majority of wireless firms are small.

19. *Wireless Communications Services.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission defined “small business” for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a “very small business” as an entity with average gross revenues of \$15 million for each of the three preceding years. The SBA has approved these definitions. The Commission auctioned geographic area licenses in the WCS service. In the auction, which commenced on April 15, 1997 and closed on April 25, 1997, seven bidders won 31 licenses that qualified as very small business entities, and one bidder won one license that qualified as a small business entity.

20. *1670–1675 MHz Services.* This service can be used for fixed and mobile uses, except aeronautical mobile. An auction for one license in the 1670–1675 MHz band commenced on April 30, 2003 and closed the same day. One license was awarded. The winning bidder was not a small entity.

21. *Wireless Telephony.* Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. As noted, the SBA has developed a small business size standard for Wireless Telecommunications Carriers (except Satellite). Under the SBA small business size standard, a business is small if it has 1,500 or fewer employees. According to Trends in Telephone Service data, 434 carriers reported that they were engaged in wireless telephony. Of these, an estimated 222 have 1,500 or fewer employees and 212 have more than 1,500 employees. Therefore, approximately half of these entities can be considered small.

22. *Broadband Personal Communications Service.* The broadband personal communications services (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission initially defined a “small business” for C- and F-Block licenses as an entity that has average gross revenues of \$40 million or less in the three previous calendar years. For F-Block licenses, an additional small business size standard for “very small business”

was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years. These small business size standards, in the context of broadband PCS auctions, have been approved by the SBA. No small businesses within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that claimed small business status in the first two C-Block auctions. A total of 93 bidders that claimed small business status won approximately 40 percent of the 1,479 licenses in the first auction for the D, E, and F Blocks. On April 15, 1999, the Commission completed the reauction of 347 C-, D-, E-, and F-Block licenses in Auction No. 22. Of the 57 winning bidders in that auction, 48 claimed small business status and won 277 licenses.

23. On January 26, 2001, the Commission completed the auction of 422 C- and F-Block Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in that auction, 29 claimed small business status. Subsequent events concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C- and F-Block licenses being available for grant. On February 15, 2005, the Commission completed an auction of 242 C-, D-, E-, and F-Block licenses in Auction No. 58. Of the 24 winning bidders in that auction, 16 claimed small business status and won 156 licenses. On May 21, 2007, the Commission completed an auction of 33 licenses in the A, C, and F Blocks in Auction No. 71. Of the 12 winning bidders in that auction, five claimed small business status and won 18 licenses. On August 20, 2008, the Commission completed the auction of 20 C-, D-, E-, and F-Block Broadband PCS licenses in Auction No. 78. Of the eight winning bidders for Broadband PCS licenses in that auction, six claimed small business status and won 14 licenses.

24. *Specialized Mobile Radio Licenses.* The Commission awards “small entity” bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than \$15 million in each of the three previous calendar years. The Commission awards “very small entity” bidding credits to firms that had revenues of no more than \$3 million in each of the three previous calendar years. The SBA has approved these small business size standards for the 900 MHz Service. The Commission

has held auctions for geographic area licenses in the 800 MHz and 900 MHz bands. The 900 MHz SMR auction began on December 5, 1995, and closed on April 15, 1996. Sixty bidders claiming that they qualified as small businesses under the \$15 million size standard won 263 geographic area licenses in the 900 MHz SMR band. The 800 MHz SMR auction for the upper 200 channels began on October 28, 1997, and was completed on December 8, 1997. Ten bidders claiming that they qualified as small businesses under the \$15 million size standard won 38 geographic area licenses for the upper 200 channels in the 800 MHz SMR band. A second auction for the 800 MHz band was held on January 10, 2002 and closed on January 17, 2002 and included 23 BEA licenses. One bidder claiming small business status won five licenses.

25. The auction of the 1,053 800 MHz SMR geographic area licenses for the General Category channels began on August 16, 2000, and was completed on September 1, 2000. Eleven bidders won 108 geographic area licenses for the General Category channels in the 800 MHz SMR band and qualified as small businesses under the \$15 million size standard. In an auction completed on December 5, 2000, a total of 2,800 Economic Area licenses in the lower 80 channels of the 800 MHz SMR service were awarded. Of the 22 winning bidders, 19 claimed small business status and won 129 licenses. Thus, combining all four auctions, 41 winning bidders for geographic licenses in the 800 MHz SMR band claimed status as small businesses.

26. In addition, there are numerous incumbent site-by-site SMR licenses and licensees with extended implementation authorizations in the 800 and 900 MHz bands. We do not know how many firms provide 800 MHz or 900 MHz geographic area SMR service pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than \$15 million. One firm has over \$15 million in revenues. In addition, we do not know how many of these firms have 1,500 or fewer employees, which is the SBA-determined size standard. We assume, for purposes of this analysis, that all of the remaining extended implementation authorizations are held by small entities, as defined by the SBA.

27. *Lower 700 MHz Band Licenses.* The Commission previously adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits. The Commission defined a “small business”

as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years. A “very small business” is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years. Additionally, the lower 700 MHz Service had a third category of small business status for Metropolitan/Rural Service Area (MSA/RSA) licenses—“entrepreneur”—which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years. The SBA approved these small size standards. An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) commenced on August 27, 2002, and closed on September 18, 2002. Of the 740 licenses available for auction, 484 licenses were won by 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won a total of 329 licenses. A second auction commenced on May 28, 2003, closed on June 13, 2003, and included 256 licenses: 5 EAG licenses and 476 Cellular Market Area licenses. Seventeen winning bidders claimed small or very small business status and won 60 licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses. On July 26, 2005, the Commission completed an auction of 5 licenses in the Lower 700 MHz band (Auction No. 60). There were three winning bidders for five licenses. All three winning bidders claimed small business status.

28. In 2007, the Commission reexamined its rules governing the 700 MHz band in the 700 MHz Second Report and Order. An auction of 700 MHz licenses commenced January 24, 2008 and closed on March 18, 2008, which included 176 Economic Area licenses in the A Block, 734 Cellular Market Area licenses in the B Block, and 176 EA licenses in the E Block. Twenty winning bidders, claiming small business status (those with attributable average annual gross revenues that exceed \$15 million and do not exceed \$40 million for the preceding three years) won 49 licenses. Thirty-three winning bidders claiming very small business status (those with attributable average annual gross revenues that do not exceed \$15 million for the preceding three years) won 325 licenses.

29. *Upper 700 MHz Band Licenses.* In the 700 MHz Second Report and Order, the Commission revised its rules regarding Upper 700 MHz licenses. On January 24, 2008, the Commission commenced Auction 73 in which several licenses in the Upper 700 MHz band were available for licensing: 12 Regional Economic Area Grouping licenses in the C Block, and one nationwide license in the D Block. The auction concluded on March 18, 2008, with 3 winning bidders claiming very small business status (those with attributable average annual gross revenues that do not exceed \$15 million for the preceding three years) and winning five licenses.

30. *700 MHz Guard Band Licensees.* In 2000, in the 700 MHz Guard Band Order, the Commission adopted size standards for “small businesses” and “very small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments. A small business in this service is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the preceding three years. Additionally, a very small business is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$15 million for the preceding three years. SBA approval of these definitions is not required. An auction of 52 Major Economic Area licenses commenced on September 6, 2000, and closed on September 21, 2000. Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001, and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.

31. *Air-Ground Radiotelephone Service.* The Commission has previously used the SBA’s small business size standard applicable to Wireless Telecommunications Carriers (except Satellite), *i.e.*, an entity employing no more than 1,500 persons. There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and under that definition, we estimate that almost all of them qualify as small entities under the SBA definition. For purposes of assigning Air-Ground Radiotelephone Service licenses through competitive bidding, the Commission has defined “small business” as an entity that, together

with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$40 million. A “very small business” is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding \$15 million. These definitions were approved by the SBA. In May 2006, the Commission completed an auction of nationwide commercial Air-Ground Radiotelephone Service licenses in the 800 MHz band (Auction No. 65). On June 2, 2006, the auction closed with two winning bidders winning two Air-Ground Radiotelephone Services licenses. Neither of the winning bidders claimed small business status.

32. *AWS Services (1710–1755 MHz and 2110–2155 MHz bands (AWS-1); 1915–1920 MHz, 1995–2000 MHz, 2020–2025 MHz and 2175–2180 MHz bands (AWS-2); 2155–2175 MHz band (AWS-3)).* For the AWS-1 bands, the Commission has defined a “small business” as an entity with average annual gross revenues for the preceding three years not exceeding \$40 million, and a “very small business” as an entity with average annual gross revenues for the preceding three years not exceeding \$15 million. For AWS-2 and AWS-3, although we do not know for certain which entities are likely to apply for these frequencies, we note that the AWS-1 bands are comparable to those used for cellular service and personal communications service. The Commission has not yet adopted size standards for the AWS-2 or AWS-3 bands but proposes to treat both AWS-2 and AWS-3 similarly to broadband PCS service and AWS-1 service due to the comparable capital requirements and other factors, such as issues involved in relocating incumbents and developing markets, technologies, and services.

33. *3650–3700 MHz band.* In March 2005, the Commission released a Report and Order and Memorandum Opinion and Order that provides for nationwide, non-exclusive licensing of terrestrial operations, utilizing contention-based technologies, in the 3650 MHz band (*i.e.*, 3650–3700 MHz). As of September 2009, more than 1,080 licenses have been granted and more than 4,870 sites have been registered. The Commission has not developed a definition of small entities applicable to 3650–3700 MHz band nationwide, non-exclusive licensees. However, we estimate that the majority of these licensees are Internet Access Service Providers (ISPs) and that most of those licensees are small businesses.

34. *Fixed Microwave Services.*

Microwave services include common carrier, private-operational fixed, and broadcast auxiliary radio services. They also include the Local Multipoint Distribution Service (LMDS), the Digital Electronic Message Service (DEMS), and the 24 GHz Service, where licensees can choose between common carrier and non-common carrier status. At present, there are approximately 36,708 common carrier fixed licensees and 59,291 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. There are approximately 135 LMDS licensees, three DEMS licensees, and three 24 GHz licensees. The Commission has not yet defined a small business with respect to microwave services. For purposes of the IRFA, we will use the SBA's definition applicable to Wireless Telecommunications Carriers (except satellite)—*i.e.*, an entity with no more than 1,500 persons. Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees. For the category of Wireless Telecommunications Carriers (except Satellite), preliminary data for 2007 show that there were 11,927 firms operating that year. While the Census Bureau has not released data on the establishments broken down by number of employees, we note that the Census Bureau lists total employment for all firms in that sector at 281,262. Since all firms with fewer than 1,500 employees are considered small, given the total employment in the sector, we estimate that the vast majority of firms using microwave services are small. We note that the number of firms does not necessarily track the number of licensees. We estimate that virtually all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition.

35. *Broadband Radio Service and Educational Broadband Service.* Broadband Radio Service systems, previously referred to as Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) systems, and “wireless cable,” transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service (ITFS)). In connection with the 1996 BRS auction, the Commission established a small business size

standard as an entity that had annual average gross revenues of no more than \$40 million in the previous three calendar years. The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. At this time, we estimate that of the 61 small business BRS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent BRS licensees that are considered small entities. After adding the number of small business auction licensees to the number of incumbent licensees not already counted, we find that there are currently approximately 440 BRS licensees that are defined as small businesses under either the SBA or the Commission's rules.

36. In addition, the SBA's Cable Television Distribution Services small business size standard is applicable to EBS. There are presently 2,436 EBS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in this analysis as small entities. Thus, we estimate that at least 2,336 licensees are small businesses. Since 2007, Cable Television Distribution Services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: “This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies.” The SBA has developed a small business size standard for this category, which is: All such firms having 1,500 or fewer employees. To gauge small business prevalence for these cable services we must, however, use the most current census data that are based on the previous category of Cable and Other Program Distribution and its associated size standard; that size standard was: All such firms having \$13.5 million or less in annual receipts. According to Census Bureau data for 2002, there were a total of 1,191 firms in this previous category that operated for the entire year. Of this total, 1,087 firms had annual receipts of under \$10 million, and 43 firms had receipts of \$10 million or more but less than \$25

million. Thus, the majority of these firms can be considered small.

5. Satellite Service Providers

37. *Satellite Telecommunications Providers.* Two economic census categories address the satellite industry. The first category has a small business size standard of \$15 million or less in average annual receipts, under SBA rules. The second has a size standard of \$25 million or less in annual receipts. The most current Census Bureau data in this context, however, are from the (last) economic census of 2002, and we will use those figures to gauge the prevalence of small businesses in these categories.

38. The category of Satellite Telecommunications “comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.” For this category, Census Bureau data for 2002 show that there were a total of 371 firms that operated for the entire year. Of this total, 307 firms had annual receipts of under \$10 million, and 26 firms had receipts of \$10 million to \$24,999,999. Consequently, we estimate that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

39. The second category of All Other Telecommunications comprises, *inter alia*, “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.” For this category, Census Bureau data for 2002 show that there were a total of 332 firms that operated for the entire year. Of this total, 303 firms had annual receipts of under \$10 million and 15 firms had annual receipts of \$10 million to \$24,999,999. Consequently, we estimate that the majority of All Other Telecommunications firms are small entities that might be affected by our action.

6. Cable Service Providers

40. Because section 706 requires us to monitor the deployment of broadband

regardless of technology or transmission media employed, we anticipate that some broadband service providers may not provide telephone service. Accordingly, we describe below other types of firms that may provide broadband services, including cable companies, MDS providers, and utilities, among others.

41. *Cable and Other Program Distributors.* Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: "This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies." The SBA has developed a small business size standard for this category, which is: All such firms having 1,500 or fewer employees. To gauge small business prevalence for these cable services we must, however, use current census data that are based on the previous category of Cable and Other Program Distribution and its associated size standard; that size standard was: All such firms having \$13.5 million or less in annual receipts. According to Census Bureau data for 2002, there were a total of 1,191 firms in this previous category that operated for the entire year. Of this total, 1,087 firms had annual receipts of under \$10 million, and 43 firms had receipts of \$10 million or more but less than \$25 million. Thus, the majority of these firms can be considered small.

42. *Cable Companies and Systems.* The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers, nationwide. Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard. In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers. Industry data indicate that, of 7,208 systems nationwide, 6,139 systems have under 10,000 subscribers, and an additional 379 systems have 10,000–19,999 subscribers. Thus, under this second size standard, most cable systems are small.

43. *Cable System Operators.* The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which

is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000." The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate. Industry data indicate that, of 1,076 cable operators nationwide, all but ten are small under this size standard. We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million, and therefore we are unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

7. Electric Power Generators, Transmitters, and Distributors

44. *Electric Power Generators, Transmitters, and Distributors.* The Census Bureau defines an industry group comprised of "establishments, primarily engaged in generating, transmitting, and/or distributing electric power. Establishments in this industry group may perform one or more of the following activities: (1) Operate generation facilities that produce electric energy; (2) operate transmission systems that convey the electricity from the generation facility to the distribution system; and (3) operate distribution systems that convey electric power received from the generation facility or the transmission system to the final consumer." The SBA has developed a small business size standard for firms in this category: "A firm is small if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours." According to Census Bureau data for 2002, there were 1,644 firms in this category that operated for the entire year. Census data do not track electric output and we have not determined how many of these firms fit the SBA size standard for small, with no more than 4 million megawatt hours of electric output. Consequently, we estimate that 1,644 or fewer firms may be considered small under the SBA small business size standard.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

45. As indicated above, the Internet's legacy of openness and transparency has been critical to its success as an engine for creativity, innovation, and economic development. To help preserve this fundamental character of the Internet, the NPRM proposes a transparency principle that may impose a reporting, recordkeeping, or other compliance burden on some small entities. We do not attempt here to provide an estimate in terms of potential burden hours. Rather, we anticipate that commenters will provide the Commission with reliable information on any costs and burdens on small entities.

E. Steps Taken To Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

46. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities. While we have yet to describe any significant alternatives, we expect to consider all of these factors when we have received substantive comment from the public and potentially affected entities.

47. The open and transparent Internet has been a launching pad for innumerable creative and entrepreneurial ventures and enabled businesses small and large, wherever located, to reach customers around the globe. As discussed above, the NPRM seeks comment on a variety of issues relating to preserving this openness and transparency, including the codification of the four existing Internet principles, the codification of additional nondiscrimination and transparency principles, and how, to what extent, and when the principles should apply to wireless Internet access service providers. In issuing this NPRM, the Commission is attempting to preserve the historically open architecture that has enabled the Internet to become a platform for commerce and innovation that it equally accessible to the new

entrant and the more established enterprise, without imposing unnecessary burdens on ISPs, including those that are small entities. We anticipate that the record will suggest alternative ways in which the Commission could increase the overall benefits for, and lessen the overall burdens on, small entities.

F. Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rules

48. None.

Procedural Matters

Ex Parte Presentations. The rulemaking this NPRM initiates shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s ex parte rules. Persons making oral ex parte presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one- or two-sentence description of the views and arguments presented generally is required. Other requirements pertaining to oral and written presentations are set forth in section 1.1206(b) of the Commission’s rules.

Parties should send a copy of their filings to the Competition Policy Division, Wireline Competition Bureau, Federal Communications Commission, Room 5–C140, 445 12th Street, SW., Washington, DC 20554, or by e-mail to cpdcopies@fcc.gov. Parties shall also serve one copy with the Commission’s copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, 445 12th Street, SW., Room CY–B402, Washington, DC 20554, 202–488–5300, or via e-mail to fcc@bcpiweb.com.

Paperwork Reduction Act

This document contains proposed new information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, we seek specific comment on how we might “further reduce the information collection burden for small business concerns with fewer than 25 employees.”

Ordering Clauses

Accordingly, *it is ordered* that, pursuant to sections 1, 2, 4(i)–(j), 201(b),

230, 257, 303(r), and 503 of the Communications Act of 1934, as amended, and section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. 151, 152, 154(i)–(j), 201(b), 230, 257, 303(r), 503, 1302, this NPRM of Proposed Rulemaking *is adopted it is further ordered* that the Commission’s Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this NPRM, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 8

Cable television, Communications, Common carriers, Communications common carriers, Radio, Satellites, Telecommunications, Telephone.

Federal Communications Commission.

Marlene H. Dortch,
Secretary.

For the reasons stated in the preamble, the Federal Communications Commission proposes to add Part 8 of Title 47 of the Code of Federal Regulations as set forth below:

PART 8—PRESERVING THE OPEN INTERNET

Sec.

- 8.1 Purpose and scope.
- 8.3 Definitions.
- 8.5 Content.
- 8.7 Applications and services.
- 8.9 Devices.
- 8.11 Competitive options.
- 8.13 Nondiscrimination.
- 8.15 Transparency.
- 8.17 Reasonable network management
- 8.19 Law enforcement.
- 8.21 Public safety and homeland and national security.
- 8.23 Other laws.

Authority: 47 U.S.C. 151, 152, 154(i)–(j), 201(b), 230, 257, 303(r), 503, 1302.

§ 8.1 Purpose and scope.

The purpose of these rules is to preserve the open Internet. These rules apply to broadband Internet access service providers only to the extent they are providing broadband Internet access services.

§ 8.3 Definitions.

Internet. The system of interconnected networks that use the Internet Protocol for communication with resources or endpoints reachable, directly or through a proxy, via a globally unique Internet address assigned by the Internet Assigned Numbers Authority.

Broadband Internet access. Internet Protocol data transmission between an end user and the Internet. For purposes

of this definition, dial-up access requiring an end user to initiate a call across the public switched telephone network to establish a connection shall not constitute broadband Internet access.

Broadband Internet access service.

Any communication service by wire or radio that provides broadband Internet access directly to the public, or to such classes of users as to be effectively available directly to the public.

Reasonable network management.

Reasonable network management consists of:

(1) 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

(2) Other reasonable network management practices.

§ 8.5 Content.

Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from sending or receiving the lawful content of the user’s choice over the Internet.

§ 8.7 Applications and services.

Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from running the lawful applications or using the lawful services of the user’s choice.

§ 8.9 Devices.

Subject to reasonable network management, a provider of broadband Internet access service may not prevent any of its users from connecting to and using on its network the user’s choice of lawful devices that do not harm the network.

§ 8.11 Competitive options.

Subject to reasonable network management, a provider of broadband Internet access service may not deprive any of its users of the user’s entitlement to competition among network providers, application providers, service providers, and content providers.

§ 8.13 Nondiscrimination.

Subject to reasonable network management, a provider of broadband Internet access service must treat lawful content, applications, and services in a nondiscriminatory manner.

§ 8.15 Transparency.

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.

§ 8.19 Law enforcement.

Nothing in this part supersedes any obligation a provider of broadband Internet access service may have—or limits its ability—to address the needs of law enforcement, consistent with applicable law.

§ 8.21 Public safety and homeland and national security.

Nothing in this part supersedes any obligation a provider of broadband Internet access service may have—or

limits its ability—to deliver emergency communications or to address the needs of public safety or national or homeland security authorities, consistent with applicable law.

§ 8.23 Other laws.

Nothing in this part is intended to prevent a provider of broadband Internet access service from complying with other laws.

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