

Access to Broadband Networks: The Net Neutrality Debate

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Summary

As congressional policymakers continue to debate telecommunications reform, a major point of contention is the question of whether action is needed to ensure unfettered access to the Internet. The move to place restrictions on the owners of the networks that compose and provide access to the Internet, to ensure equal access and non-discriminatory treatment, is referred to as "net neutrality." There is no single accepted definition of "net neutrality." However, most agree that any such definition should include the general principles that owners of the networks that compose and provide access to the Internet should not control how consumers lawfully use that network, and they should not be able to discriminate against content provider access to that network.

Concern over whether it is necessary for policymakers to take steps to ensure access to the Internet for content, services, and applications providers, as well as consumers, and if so, what these steps should be, is a major focus in the debate over telecommunications reform. Some policymakers contend that more specific regulatory guidelines may be necessary to protect the marketplace from potential abuses which could threaten the net neutrality concept. Others contend that existing laws and Federal Communications Commission (FCC) policies are sufficient to deal with potential anti-competitive behavior and that additional regulations would have negative effects on the expansion and future development of the Internet. Although most concede that networks have and will always need some management, the use of prioritization tools, such as deep packet inspection, as well as the initiation of metered/consumption-based billing practices have further fueled the debate.

A consensus on this issue has not yet formed, and the 111th Congress, to date, has not introduced stand-alone legislation to address this issue. However, the net neutrality issue has been narrowly addressed within the context of the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5). Provisions require the National Telecommunications and Information Administration (NTIA), in consultation with the FCC, to establish "... nondiscrimination and network interconnection obligations" as a requirement for grant participants in the Broadband Technology Opportunities Program (BTOP). It is anticipated that the NTIA will release these rules by summer 2009. The ARRA also requires the FCC to submit a report, containing a national broadband plan, to both the House and Senate Commerce Committees by February 2010. The FCC adopted, on April 8, 2009, a Notice of Inquiry (NOI) to seek input from stakeholders as it begins to develop this plan. Included among the issues under discussion in the NOI is the question of the role of "open networks."

This report will be updated as events warrant.

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Introduction

As congressional policymakers continue to debate telecommunications reform, a major point of contention is the question of whether action is needed to ensure unfettered access to the Internet. The move to place restrictions on the owners of the networks that compose and provide access to the Internet, to ensure equal access and non-discriminatory treatment, is referred to as "net neutrality." There is no single accepted definition of "net neutrality." However, most agree that any such definition should include the general principles that owners of the networks that compose and provide access to the Internet should not control how consumers lawfully use that network, and they should not be able to discriminate against content provider access to that network.

What, if any, action should be taken to ensure "net neutrality" has become a major focal point in the debate over broadband regulation. As the marketplace for broadband continues to evolve, some contend that no new regulations are needed, and if enacted will slow deployment of and access to the Internet, as well as limit innovation. Others, however, contend that the consolidation and diversification of broadband providers into content providers has the potential to lead to discriminatory behaviors which conflict with net neutrality principles. The two potential behaviors most often cited are the network providers' ability to control access to and the pricing of broadband facilities, and the incentive to favor network-owned content, thereby placing unaffiliated content providers at a competitive disadvantage.[1]

Federal Communications Commission Activity

The Information Services Designation

In 2005 two major actions dramatically changed the regulatory landscape as it applied to broadband services, further fueling the net neutrality debate. In both cases these actions led to the classification of broadband Internet access services as Title I information services, thereby subjecting them to a less rigorous regulatory framework than those services classified as telecommunications services. In the first action, the U.S. Supreme Court, in a June 2005 decision (*National Cable & Telecommunications Association v. Brand X Internet Services*), upheld the Federal Communications Commission's (FCC) 2002 ruling that the provision of cable modem service (i.e., cable television broadband Internet) is an interstate information service and is therefore subject to the less stringent regulatory regime under Title I of the Communications Act of 1934.[2] In a second action, the FCC, in an August 5, 2005 decision, extended the same regulatory relief to telephone company Internet access services (i.e., wireline broadband Internet access, or DSL), thereby also defining such services as information services subject to Title I regulation.[3] As a result neither telephone companies nor cable companies, when providing

[1] The practice of charging of different rates to subscribers based on access speed is not the concern.

[2] 47 U.S.C. 151 et seq. For a full discussion of the Brand X decision see CRS Report RL32985, *Defining Cable Broadband Internet Access Service: Background and Analysis of the Supreme Court's Brand X Decision*, by Angie A. Welborn and Charles B. Goldfarb.

[3] See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260433A2.pdf for a copy of former FCC Chairman Martin's statement. For a summary of the final rule see Appropriate Framework for Broadband Access to the Internet (continued...)

broadband services, are required to adhere to the more stringent regulatory regime for telecommunications services found under Title II (common carrier) of the 1934 Act.[4] However, classification as an information service does not free the service from regulation. The FCC continues to have regulatory authority over information services under its Title I, ancillary jurisdiction.[5]

The Internet Policy Statement

Simultaneous to the issuing of its August 2005 information services classification order, the FCC also adopted a policy statement (Internet Policy Statement) outlining four principles to "encourage broadband deployment and preserve and promote the open and interconnected nature of [the] public Internet." The four principles are: (1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and services of their choice (subject to the needs of law enforcement); (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers. Then-FCC Chairman Martin did not call for their codification. However, he stated that they will be incorporated into the policymaking activities of the Commission.[6] For example, one of the agreed upon conditions for the October 2005 approval of both the Verizon/MCI and the SBC/AT&T mergers was an agreement made by the involved parties to commit, for two years, "... to conduct business in a way that comports with the Commission's (2005) Internet policy statement.... "[7] In a further action AT&T included in its concessions to gain FCC approval of its merger to BellSouth to adhering, for two years, to significant net neutrality requirements. Under terms of the merger agreement, which was approved on December 29, 2006, AT&T agreed to not only uphold, for 30 months, the FCC's Internet policy statement principles, but also committed, for two years (expired December 2008), to stringent requirements to "... maintain a neutral network and neutral routing in its wireline broadband Internet access service."[8]

The Comcast Decision

In perhaps one of its most significant actions relating to its Internet Policy Statement to date, the FCC, on August 1, 2008, ruled that Comcast Corp., a provider of Internet access over cable lines, violated the FCC's policy statement when it selectively blocked peer-to-peer connections in an attempt to manage its traffic.[9] This practice, the FCC concluded, "... unduly interfered with

(...continued)

Over Wireline Facilities. *Federal Register*, Vol. 70, No. 199, October 17, 2005, p. 60222.

[4] For example, Title II regulations impose rigorous anti-discrimination, interconnection and access requirements. For a further discussion of Title I versus Title II regulatory authority see CRS Report RL32985, cited above.

[5] Title I of the 1934 Communications Act gives the FCC such authority if assertion of jurisdiction is "reasonably ancillary to the effective performance of [its] various responsibilities." The FCC in its order cites consumer protection, network reliability, or national security obligations as examples of cases where such authority would apply (see paragraph 36 of the final rule summarized in the *Federal Register* cite in footnote 3, above).

[6] See http://www.fcc.gov/headlines2005.html. August 5, 2005. *FCC Adopts Policy Statement on Broadband Internet Access.*

[7] See http://hraunfoss.FCC.gov/edocs_public/attachmatch/DOC-261936A1.pdf. It should be noted that applicants offered certain voluntary commitments, of which this was one.

[8] See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-269275A1.pdf.

[9] See http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-183A1.pdf.

Internet users' rights to access the lawful Internet content and to use the applications of their choice." Although no monetary penalties were imposed, Comcast was required to stop these practices by the end of 2008. Comcast complied with the order, and developed a new system to manage network congestion. Comcast no longer manages congestion by focusing on specific applications (such as peer-to-peer), nor by focusing on online activities, or protocols, but identifies individual users within congested neighborhoods that are using large amounts of bandwidth in real time and slows them down, by placing them in a lower priority category, for short periods.[10] This new system complies with the FCC Internet principles in that it is application agnostic; that is, it does not discriminate against or favor one application over another but manages congestion based on the amount of a user's real-time bandwidth usage. Despite this compliance, however, Comcast filed an appeal, which is still pending, in the U.S. DC Court of Appeals claiming that the FCC does not have the authority to enforce its Internet policy statement, therefore making the order invalid.[11]

The American Recovery and Reinvestment Act

The FCC has also been called upon to address net neutrality principles within the context of the implementation of the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5). Provisions require the National Telecommunications and Information Administration (NTIA), in consultation with the FCC, to establish "... nondiscrimination and network interconnection obligations" as a requirement for grant participants in the Broadband Technology Opportunities Program (BTOP). It is anticipated that the NTIA will release these rules by summer 2009.

The ARRA also requires the FCC to submit a report, containing a national broadband plan, to both the House and Senate Commerce Committees by February 2010. The FCC adopted, on April 8, 2009, a Notice of Inquiry (NOI) to seek input from stakeholders as it begins to develop this plan.[12] Included among the issues under discussion in the NOI is the question of the role of "open networks." More specifically the FCC is seeking comment "on the value of open networks as an effective and efficient mechanism for ensuring broadband access for all Americans" and how the term "open" should be defined. Additional comment is sought regarding the possible adoption of a fifth "nondiscrimination" principle to its August 2005 Internet Policy Statement including whether one is needed and, if so, how "nondiscrimination" should be defined.[13] Comments are due June 8, 2009, and replies July 7, 2009.

Additional Activity

Separately, in an April 2007 action, the FCC released a notice of inquiry (WC Docket No. 07-52), which is still pending, on broadband industry practices seeking comment on a wide range of issues including whether the August 2005 Internet policy statement should be amended to

[10] Comcast, *Frequently Asked Questions and Network Management.* Available at http://help.comcast.net/content/faq/Frequently-Asked-Questions-about-Network-Management.

[11] For a legal discussion of the FCC's Comcast decision see CRS Report R40234, *Net Neutrality: The Federal Communications Commission's Authority to Enforce Its Network Management Principles*, by Kathleen Ann Ruane.

[12] *In the Matter of A National Broadband Plan for Our Future*, GN Docket No. 09-51. Notice of Inquiry, released April 8, 2009. Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-31A1.pdf.

[13] For the specific discussion on open networks see paragraphs 47 and 48 of *In the Matter of A National Broadband Plan for Our Future,* cited above.

incorporate a new principle of nondiscrimination and if so, what form it should take.[14] On January 14, 2008, the FCC issued three public notices seeking comment on issues related to network management (including the now-completed Comcast ruling, discussed above) and held two (February 25 and April 17, 2008) public hearings specific to broadband network management practices.

Network Management

As consumers expand their use of the Internet and new multimedia and voice services become more commonplace, control over network quality and pricing is an issue. The ability of data bits to travel the network in a nondiscriminatory manner, as well as the pricing structure established by broadband service providers for consumer access to that data, have become significant issues in the debate.

Prioritization

In the past, Internet traffic has been delivered on a "best efforts" basis. The quality of service needed for the delivery of the most popular uses, such as e-mail or surfing the Web, is not as dependent on guaranteed quality. However, as Internet use expands to include video, online gaming, and voice service, the need for uninterrupted streams of data becomes important. As the demand for such services continues to expand, network broadband operators are moving to prioritize network traffic to ensure the quality of these services. Prioritization may benefit consumers by ensuring faster delivery and quality of service and may be necessary to ensure the proper functioning of expanded service options. However, the move on the part of network operators to establish prioritized networks, although embraced by some, has led to a number of policy concerns.

There is concern that the ability of network providers to prioritize traffic may give them too much power over the operation of and access to the Internet. If a multi-tiered Internet develops where content providers pay for different service levels, the potential to limit competition exists if smaller, less financially secure content providers are unable to afford to pay for a higher level of access. Also, if network providers have control over who is given priority access, the ability to discriminate among who gets such access is also present. If such a scenario were to develop, the potential benefits to consumers of a prioritized network would be lessened by a decrease in consumer choice and/or increased costs, if the fees charged for premium access are passed on to the consumer. The potential for these abuses, however, is significantly decreased in a marketplace where multiple, competing broadband providers exist. If a network broadband provider blocks access to content or charges unreasonable fees, in a competitive market, content providers and consumers could obtain their access from other network providers. As consumers and content providers migrate to these competitors, market share and profits of the offending network provider will decrease, leading to corrective action or failure. However, this scenario assumes that every market will have a number of equally competitive broadband options from which to choose, and all competitors will have equal access to, if not identical, at least comparable content.

[14] *Broadband Industry Practices*, WC Docket No. 07-52, Notice of Inquiry, 22 FCC Record 7894 (2007).

Deep Packet Inspection

The use of one management tool, deep packet inspection (DPI), illustrates the complexity of the net neutrality debate. DPI refers to a network management technique that enables network operators to inspect, in real time, both the header and the data field of the packets.[15] As a result DPI can allow network operators to not only identify the origin and destination points of the data packet but also enables the network operator to determine the application used and content of that packet. The information that DPI provides enables the network operator to differentiate, or discriminate, among the packets travelling over its network. The ability to discriminate among packets enables the network operator to treat packets differently. This ability itself is not necessarily viewed in a negative light. Network managers use DPI to assist them in performing various functions that are necessary for network management and that contribute to a positive user experience. For example, DPI technology is used in filters and firewalls to detect and prevent spam, viruses, worms, and malware. DPI is also used to gain information to help plan network capacity and diagnostics, as well as to respond to law enforcement requests.[16] However, the ability to discriminate based on the information gained via DPI also has the potential to be misused.[17] It is the potential negative impact that DPI use can have on consumers and suppliers that raises concern for policymakers. For example, the information gained could be used to discriminate against a competing service causing harm to both the competitor and consumer choice. This could be accomplished by routing a network operator's own, or other preferred content, along a faster priority path, or selectively slowing down competitor's traffic. DPI also has the potential to extract personal information about the data that it inspects, generating concerns about consumer privacy.[18]

Therefore it is not the management tool itself that is under scrutiny, but how it is applied. The DPI technology, in itself, is not what is of concern. It is the behavior that potentially may occur as a result of the information that DPI provides. How to develop a policy that permits some types of discrimination (i.e., "good" discrimination) that may be beneficial to network operation and improve the user experience, while protecting against what would be considered "harmful" or anticompetitive discrimination becomes the crux of the policy debate.

[15] The header contains the processing information which includes the source and destination addresses, and the data field includes the message content and the identity of the source application.

[16] For a further discussion of the positive uses, by network operators, of DPI technologies see testimony of Kyle McSlarrow, President and CEO National Cable and Telecommunications Association, hearings on "Communications Networks and Consumer Privacy: Recent Developments," House Committee on Energy and Commerce, Subcommittee on Communications, Technology, and the Internet, April 23, 2009. Available at http://energycommercehouse.gov/Press_111/20090423/testimony_mcslarrow.pdf.

[17] For a further discussion of the potential abuses associated with DPI technology see testimony of Ben Scott, Policy Director, Free Press, hearings on "Communications Networks and Consumer Privacy: Recent Developments," House Committee on Energy and Commerce, Subcommittee on Communications, Technology, and the Internet, April 23, 2009. Available at http://energycommercehouse.gov/Press_111/20090423/testimony_scott.pdf.

[18] For example, concern that information can be gathered, without permission, based on consumer use of the Internet to develop user profiles to provide targeted online advertising, also known as "behavioral advertising," has raised privacy issues. For an examination of this issue see testimony from hearings "Communications Networks and Consumer Privacy: Recent Developments," held April 23, 2009, by the House Energy and Commerce Subcommittee on Communications, Technology, and the Internet. Available at http://energycommerce.house.gov/.

Metered/Consumption-Based Billing

The move by some network broadband operators towards the use of metered or consumption-based billing has caused considerable controversy. Under such a plan, users subscribe to a set monthly bandwidth cap, for an established fee, and are charged additional fees if that usage level is exceeded. Although still not the industry norm in the United States, the use of such billing practices, on both a trial and permanent basis, is becoming more commonplace. For example, in 2008, Time Warner Cable established a usage trial in Beaumont, Texas, that offers a range of service tiers. Similarly, AT&T is currently conducting usage-based trials in Reno, Nevada, and Beaumont, Texas. The move by Time Warner Cable to expand these trials to four additional locations[19] caused considerable controversy and has since been deferred.[20] Some network broadband providers, most notably Time Warner Cable and AT&T, have stressed that these are not permanent pricing structures, but trials established to gain more insight into how consumers use their Internet services and subsequently how best to manage their networks. However, other providers, particularly smaller more regional providers, have stated that such pricing models are already being used and will be necessary in the future as the demand for high bandwidth applications increases.[21] For example, one provider, Sunflower Broadband, located in Kansas, has used such a pricing model for four years. Sunflower offers a range of service levels with a $2 per Gigabyte overcharge which is levied only after a second over usage.[22] Supporters of such billing models state that a small percentage of users consume a disproportionately high percentage of bandwidth and that some form of usage-based pricing may benefit the majority of subscribers, particularly those who are light users.[23] Furthermore, they state that offering a range of service tiers at varying prices offers consumers more choice and control over their usage and subsequent costs. The major growth in bandwidth usage, they also claim, places financial pressure on existing networks for both maintenance and expansion, and establishing a pricing system which charges high bandwidth users is more equitable.

Opponents to such billing plans claim that such practices will stifle innovation in high bandwidth applications and are likely to discourage the experimentation with and adoption of new applications and services. Some concerns have also been expressed that a move to metered/consumption-based pricing will help to protect the market share for video services, offered in packaged bundles by network broadband service providers, that compete with new applications. The move to usage-based pricing, they state, will unfairly disadvantage competing

[19] Time Warner Cable announced, on April 9, 2009, plans to implement usage-based billing trials in Rochester, New York and Greensboro, North Carolina, in August 2009, and Austin and San Antonio, Texas, in October, 2009. See *Statement from Landel Hobbs, Chief Operating Officer, Time Warner Cable Re: Consumption based billing trials*, April 9, 2009. Available at http://www.timewarnercable.com/corporate/announcements/cbb.html.

[20] Citing "misunderstanding about our trials," Time Warner Cable announced plans to deferred implementation of usage-based billing trials in Rochester, New York, Greensboro, North Carolina, and Austin and San Antonio, Texas, to enable "consultation with our customers and other interested parties." See *Time Warner Cable Charts a New Course on Consumption Based Billing Measurement Tools to be Made Available,* April 16, 2009. Available at http://www.timewarnercable.com/Corporate/announcements/cbb.html.

[21] For example see *ACA: Metered Bandwidth Pricing Is Coming,* available at http://www.broadcastingcable.com/article/print/210247-ACA_Metered_Bandwidth_Pricing_Is_Coming.php.

[22] For additional information on Sunflower Broadband bandwidth management see http://www.sunflowerbroadband.com/bandwidth.

[23] For example, Time Warner states that the top 25% of its users consume 100 times more bandwidth than the bottom 25% and 30% of its high speed Internet service (i.e., Road Runner) customers use less than 1 GB (Gigabyte) per month. See *Consumption Based Billing FAQs.* Available at http://www.timewarnercable.com/corporate/announcements/cbb_faq.html.

online video services and stifle a nascent market since video applications are more bandwidth-intensive. Opponents have also questioned the specific usage limits and overage fees established in specific trials, stating that the former seem to be "arbitrarily low" and the latter "arbitrarily high."[24] Citing the generally falling costs of network equipment and the stability of profit margins, they also question the claims of network broadband operators that increased revenues streams are needed to supply the necessary capital to invest in new infrastructure to meet the growing demand for high bandwidth applications.[25]

The Policy Debate

Despite the FCC's ability to regulate broadband services under its Title I ancillary authority and the issuing of its broadband principles, some policymakers feel that more specific regulatory guidelines may be necessary to protect the marketplace from potential abuses; a consensus on what these should specifically entail, however, has yet to form. Others feel that existing laws and FCC policies regarding competitive behavior are sufficient to deal with potential anti-competitive behavior and that no action is needed and, if enacted at this time, could result in harm.

The issue of net neutrality, and whether legislation is needed to ensure access to broadband networks and services, has become a major focal point in the debate over telecommunications reform.[26] Those opposed to the enactment of legislation to impose specific Internet network access or "net neutrality" mandates claim that such action goes against the long standing policy to keep the Internet as free as possible from regulation. They have claimed that the imposition of such requirements is not only unnecessary, but would have negative consequences for the deployment and advancement of broadband facilities. For example, further expansion of networks by existing providers and the entrance of new network providers would be discouraged, they claim, as investors would be less willing to finance networks that may be operating under mandatory build-out and/or access requirements. Application innovation could also be discouraged, they contend, if, for example, network providers are restricted in the way they manage their networks or are limited in their ability to offer new service packages or formats. Such legislation is not needed, they claim, as major Internet access providers have stated publicly that they are committed to upholding the FCC's four policy principles.[27] Opponents also state that advocates of regulation cannot point to any widespread behavior that justifies the need to establish such regulations and note that competition between telephone and cable system providers, as well as the growing presence of new technologies (e.g., satellite, wireless, and power lines) will serve to counteract any potential anti-discriminatory behavior. Furthermore, opponents claim, even if such a violation should occur, the FCC already has the needed authority to pursue violators. They note that the FCC has not requested further authority[28] and has

[24] See Free Press letter to House Energy and Commerce Committee, April 22, 2009. Available at http://www.Freepress.net/files/FP_metering_letter.pdf.

[25] *As Costs Fall, Companies Push to Raise Internet Price*, New York Times, April 20, 2009. Available at htttp://www.nytimes.com/2009/04/20/business/20isp.html.

[26] For a more lengthy discussion regarding proponents' and opponents' views see, for example, testimony from Senate Commerce Committee hearings on Net Neutrality, February 7, 2006. Available at http://commerce.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=1708.

[27] See testimony of Kyle McSlarrow, President and CEO of the National Cable and Telecommunications Association, and Walter McCormick, President and CEO of the United States Telecom Association, hearing on Net Neutrality before the Senate Commerce Committee, February 7, 2006, cited above.

[28] Former FCC Chairman Martin indicated that the FCC has the necessary tools to uphold the FCC's stated policy (continued...)

successfully used its existing authority in the August 1, 2008 Comcast decision (see above) as well as in a March 3, 2005 action against Madison River Communications. In the latter case, the FCC intervened and resolved, through a consent decree, an alleged case of port blocking by Madison River Communications, a local exchange (telephone) company.[29] The full force of antitrust law is also available, they claim, in cases of discriminatory behavior.

Proponents of net neutrality legislation, however, feel that absent some regulation, Internet access providers will become gatekeepers and use their market power to the disadvantage of Internet users and competing content and application providers. They cite concerns that the Internet could develop into a two-tiered system favoring large, established businesses or those with ties to broadband network providers. While market forces should be a deterrent to such anti-competitive behavior, they point out that today's market for residential broadband delivery is largely dominated by only two providers, the telephone and cable television companies, and that, at a minimum, a strong third player is needed to ensure that the benefits of competition will prevail.[30] The need to formulate a national policy to clarify expectations and ensure the "openness" of the Internet is important to protect the benefits and promote the further expansion of broadband, they claim. The adoption of a single, coherent, regulatory framework to prevent discrimination, supporters claim, would be a positive step for further development of the Internet, by providing the marketplace stability needed to encourage investment and foster the growth of new services and applications. Furthermore, relying on current laws and case-by-case anti-trust-like enforcement, they claim, is too cumbersome, slow, and expensive, particularly for small start-up enterprises.[31]

(...continued)

principles and did not requested additional authority. Furthermore, former Chairman Martin stated that he was "... confident that the marketplace will continue to ensure that these principles are maintained" and is "... confident therefore, that regulation is not, nor will be, required." See former *Chairman Kevin J. Martin Comments on Commission Policy Statement*, at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260435A2.pdf. However, FCC Commissioner Copps, in an April 3, 2006 speech, did express concerns over the concentration in broadband facilities providers and their "... ability, and possibly even the incentive, to act as Internet gatekeepers ..." and called for a "national policy" on "... issues regarding consumer rights, Internet openess, and broadband deployment." See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-264765A1.pdf, for a copy of Commissioner Copps' speech.

[29] The FCC entered into a consent decree with Madison River Communications to settle charges that the company had deliberately blocked the ports on its network that were used by Vonage Corp. to provide voice over Internet protocol (VoIP) service. Under terms of the decree Madison River agreed to pay a $15,000 fine and not block ports used for VoIP applications. See http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf. for a copy of the consent decree.

[30] For FCC market share data for high-speed connections see *High-Speed Services for Internet Access: Status as of December 31, 2007,* Federal Communications Commission, Industry Analysis and Technology Division, Wireline Competition Bureau, released January 2009. View report at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-287962A1.pdf.

[31] For example, see testimony of Vint Cerf, VP Google, Earl Comstock, President and CEO of CompTel, and Jeffrey Citron, Chairman and CEO Vonage, hearing on Net Neutrality, before the Senate Commerce Committee, February 7, 2006, cited above.

Congressional Activity in the 111th Congress

A consensus on this issue has not yet formed, and no stand-alone measures addressing net neutrality have been introduced in the 111th Congress, to date. House Communications, Technology, and the Internet Subcommittee Chairman Boucher has stated that he continues to work with broadband providers and content providers to seek common ground on network management practices, and at this time, is pursuing this approach.[32]

However, the net neutrality issue has been narrowly addressed within the context of the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5). The ARRA contains provisions that require the National Telecommunications and Information Administration (NTIA), in consultation with the FCC, to establish "... nondiscrimination and network interconnection obligations" as a requirement for grant participants in the Broadband Technology Opportunities Program (BTOP). The law further directs that the FCC's four broadband policy principles, issued in August 2005, are the minimum obligations to be imposed.[33] It is anticipated that the NTIA will release these rules by summer 2009.

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[32] *Boucher Opts For Talks, Not Legislation, On Net Neutrality,* National Journal, Congress Daily, February 26, 2009. *Boucher, Stakeholders Working On Network Management Issues,* Telecommunications Reports, March 15, 2009, p.19.

[33] For a further more detailed discussion of the broadband infrastructure programs contained in P.L. 111-5 see CRS Report R40436, *Broadband Infrastructure Programs in the American Recovery and Reinvestment Act*, by Lennard G. Kruger.