

# A PRIMER ON NET NEUTRALITY

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As most people are aware, the Internet is a network of computers joined together with backbone structures owned principally by telephone companies and cable operators. With rare exceptions, those telcos and cable providers have a monopoly on the “last mile” connection between the Internet and the house or apartment of the individual Internet user. Traditionally, data traffic has traversed these networks on a “first-in-first-out” and “best-efforts” basis.<sup>2</sup> The question raised by the “net neutrality” debate is whether these “rules of the road” will continue to prevail or whether the telcos and cable firms which control substantial parts of the network will be permitted to (1) “prioritize” traffic from sources which offer special compensation and/or (2) exclude certain kinds of traffic altogether.

The net neutrality debate pits the telcos and cable operators against firms whose business models require robust and unfettered access to the network by Internet users. Currently, these various constituencies are presenting their positions to the public at large, to federal administrative agencies, and to Congress. The stakes on both sides of the debate are enormous because the issue strikes at the future of the Internet itself.

Although Internet neutrality remains the norm, and no telco or cable company currently charges different rates to different customers based on the nature of the content or the speed of content transmission, various telcos have made it clear that they are eager to do so. Absent action by regulators or Congress, it is conceivable that the conflicts between the various stakeholders could result in regulatory, antitrust or other litigation to the extent telcos begin to impose pricing schemes which differentiate Internet traffic based upon content, nature or source. For that reason, companies may wish to become acquainted with the “net neutrality” issue as well as with regulatory and legislative proposals concerning this issue.

## A. NET NEUTRALITY DEFINED

In its simplest form, the term “net neutrality” refers to an Internet which (i) is completely neutral with respect to content and users, (ii) has no gatekeepers, and (iii) enables users to access every site, provider, application, program, etc. whenever desired. The concept also contemplates that there is only one playing field and it is perfectly even; no one company can stop the user from gaining access to the information sought at the point in time when access is desired.

Tim Wu, a professor at Columbia Law School, is widely credited with coining the term “net neutrality” in a paper he published in 2002. According to Wu, the net neutrality debate grew out of concerns in the late 1990s about possible threats to the end-to-end (“e2e”) nature of the Internet:

Network neutrality is best defined as a network design principle. The idea is that a maximally useful public information network aspires to treat all content, sites, and platforms equally. This allows the network to carry every form of information and support every kind of application. The principle suggests that information networks are often more valuable when they are *less* specialized – when they are a platform for multiple uses, present and future. (For people who know more about network design, what is just described is similar to the “end-to-end” design principle) . . . . The theory behind the network neutrality principle, which the

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<sup>2</sup> This protocol for data transmission was established principally because the Internet was created for use by certain U.S. government agencies, primarily the Department of Defense.

Internet sometimes gets close to, is that a neutral network should be expected to deliver the most to a nation and the world economically, by serving as an innovation platform, and socially, by facilitating the widest variety of interactions between people. The Internet isn't perfect but it aspires for neutrality in its original design. Its decentralized and mostly neutral nature may account for its success as an economic engine and a source of folk culture.<sup>3</sup>

Sir Tim Berners-Lee's, considered one of the founders of the Internet, describes the net neutrality as the freedom of the Internet from all restrictions:

Network neutrality . . . refers to a principle applied to residential broadband networks, and potentially to all networks. Precise definitions vary, but a broadband network free of restrictions on the kinds of equipment attached and the modes of communication allowed would be considered neutral by most advocates, provided it met additional tests relating to the degradation of various communication streams by others. Arguably, no Internet network can be completely neutral unless all of its constituent networks have identical needs, hence neutrality represents an ideal rather than a real condition.<sup>4</sup>

## **B. ARGUMENTS FOR AND AGAINST NET NEUTRALITY.<sup>5</sup>**

The notion that an Internet content provider may have its product blocked by an ISP, or may have to pay to ensure that the product is distributed over an Internet "fast lane," is rejected by companies whose business models depend upon making information on the Internet more accessible to users. Thus, advocates of net neutrality include Amazon.com, Earthlink, eBay, Google, Intel, Microsoft, Facebook, Skype and Yahoo.<sup>6</sup> Advocates contend that allowing telco ISPs to block Internet traffic or prioritize traffic for a fee, or permitting a regime in which service quality levels are guaranteed only at a price, would raise a number of concerns -- particularly given (a) the lack of competition in "last-mile" broadband Internet access markets and (b) the legal and regulatory uncertainty regarding such access.<sup>7</sup> These concerns include: (1) blockage, degradation, and prioritization of content and applications; (2) vertical integration by ISPs and other network operators into content and applications that may reduce competition; (3) reduced innovation at the "edges" of the network (that is, by content and applications providers); (6) the potential diminution of political and other expression on the Internet; and (7) increased costs and reduced access for Internet consumers.<sup>8</sup>

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<sup>3</sup> See [http://timwu.org/network\\_neutrality.html](http://timwu.org/network_neutrality.html).

<sup>4</sup> See Sir Tim Berners-Lee's blog entry on Network Neutrality at <http://dig.csail.mit.edu/breadcrumbs/node/144>.

<sup>5</sup> A recent FTC report on competition in broadband Internet access attempted to summarize the arguments for and against the imposition of a net neutrality regulatory regime. Broadband Connectivity Competition Policy: FTC Staff Report (June 2007), at 2. This portion of the report draws heavily upon that summary.

<sup>6</sup> See <http://www.savetheinternet.com/=faq>. Advocates of net neutrality also include prominent telecommunications and Internet experts such as Internet pioneer Vincent Cerf, FCC Commissioners Michael Copps and Jonathan Adelstein; and major Democratic presidential candidates. Editorial boards at major newspapers across the country, including the New York Times, Los Angeles Times, San Francisco Chronicle, San Jose Mercury News, Seattle Times, St. Petersburg Times and Christian Science Monitor, have published pieces urging Congress to pass certain net neutrality legislation.

<sup>7</sup> Not all proponents of net neutrality regulation oppose all forms of prioritization. For example, some believe that prioritization should be permitted if access to the priority service is open to all content and applications providers on equal terms; that is, without regard to the identity of the content or application provider.

<sup>8</sup> Thus, the Consumers Union and the Consumer Federation of America have asked Congress to enact net neutrality legislation. See Net Neutrality Debate May End Up in Congress, FoxNews.com (Jan. 31, 2006).

Opponents of network neutrality regulation include, among others, facilities-based telco (wireline), cable and wireless network operators.<sup>9</sup> Top executives from the three largest network operators — BellSouth<sup>10</sup>, Verizon<sup>11</sup> and AT&T<sup>12</sup> — have voiced support for the principle that large content providers should pay a premium for priority use of networks controlled by others. They maintain that net neutrality regulation will impede the investment necessary to upgrade Internet access and may hamper technical innovation. Verizon, for example, has made a substantial investment to deploy FiOS, a “fiber to the home” solution<sup>13</sup>, and opposes any regulatory regime which would prohibit it from imposing a fee structure by which it could recoup the cost of this network.

In addition, opponents argue that: (1) neutrality regulations would set in stone the status quo, precluding further technical and business model innovation; (2) effective network management practices require some data prioritization and may require certain content, applications, or attached devices to be blocked altogether; (3) new content and applications are likely to require prioritization and other forms of network intelligence; (4) allowing network operators to innovate freely and differentiate their networks permits competition that is likely to promote enhanced service offerings; (5) prohibiting price differentiation may prevent pricing and service models more advantageous to marginal consumers; (6) vertical integration by network operators into content and applications and certain bundling practices may benefit consumers; and (7) there is insufficient evidence of either the likelihood or severity of the potential harms cited by net neutrality advocates to justify an entirely new regulatory regime, especially given that competition is robust and intensifying and the market generally is characterized by rapid technological change.

### C. POSITIONS OF FEDERAL AGENCIES ON NET NEUTRALITY.

There are currently no legal restrictions against telecommunications providers offering different rates to Internet consumers or content providers based upon content or service type. It was not always this way. When telcos first began to provide Internet service (e.g. “DSL” service), it was considered part and parcel of the “common carrier” telephone service such firms provide. Like other common carriers such as railroads, electric utilities etc., telephone companies were prohibited by federal regulation from limiting access to higher quality service only to select customers who were willing to pay more.

A September 23, 2005 Federal Communications Commission decision changed the landscape. The decision, which the Third Circuit Court of Appeals affirmed on October 16, 2007,<sup>14</sup> essentially decoupled traditional telephone service from broadband Internet services by holding that the latter are “information services” which telcos are not obliged to offer as a common carrier.<sup>15</sup> Under the FCC’s ruling, differentiated service levels based upon negotiated pricing arrangements – prohibited for common carriers – became possible. Although no telco has yet taken advantage of the FCC’s ruling to charge Internet consumers different rates based upon the nature of the content accessed or the speed of content transmission, advocates of network neutrality believe that the decision created a regulatory void which must be filled by FCC rulemaking or by federal legislation.

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<sup>9</sup> Some advocacy organizations focused on the future of the Internet, such as HandsOfftheInternet.com and NetCompetition.org, have also publicly opposed net neutrality legislation. See <http://www.savetheinternet.com/=faq>.

<sup>10</sup> <http://www.networkworld.com/edge/news/2006/020809-bellsouth-cerf.html>.

<sup>11</sup> <http://www.washingtonpost.com/wp-dyn/content/article/2006/02/06/AR2006020601624.html>

<sup>12</sup> [http://news.zdnet.com/2100-1035\\_22-6052239.html](http://news.zdnet.com/2100-1035_22-6052239.html)

<sup>13</sup> <http://www22.verizon.com/content/ConsumerFiOS>

<sup>14</sup> *Time Warner Telecom, Inc. v. Federal Communications Commission*, Nos. 05-4769, 05-5153, 06-1466, 06-1467 (3<sup>rd</sup> Cir. October 16, 2007).

<sup>15</sup> Report and Order, FCC Docket No. 05-150 (Aug. 5, 2005).

The FCC is now considering whether to regulate net neutrality in *In The Matter Of Broadband Industry Practices*, WC Docket No. 07-52. Thus, at some point in the near future, the FCC is likely to issue a ruling directly on the issue.

The FCC appears to have leaned in favor of net neutrality in prior proceedings. For example, in 2005, the FCC issued a policy statement setting out four principles regarding network regulation that seem to favor neutrality. The FCC principles are: “(1) Consumers are entitled to access content of their choice; (2) Consumers have a right to programs of their choice; (3) Consumers should be able to connect legal devices of their choice to networks; and (4) Consumers have a right to select from competing networks, services, and content providers.”<sup>16</sup>

Also in 2005, the FCC initiated an investigation into a small North Carolina ISP, Madison River Communications, which had been accused of acting in a decidedly non-neutral manner: preventing its customers from using Vonage’s IP telephony service by blocking ports needed for VOIP. Before the FCC had completed its investigation or initiated an enforcement action, Madison River entered into a consent agreement under which it promised to stop blocking VoIP service and to pay a \$15,000 fine.<sup>17</sup>

Finally, in December 2006, the FCC required AT&T to guarantee net neutrality on its broadband service for two years as a condition of approving its merger with BellSouth. The FCC was satisfied by AT&T’s statement that:

AT&T/BellSouth commits that it will maintain a neutral network and a neutral routing in its wireline broadband Internet access service. This commitment shall be satisfied by AT&T/BellSouth’s agreement not to provide or to sell to Internet content, application, or service providers, including those affiliated with AT&T/BellSouth, any service that privileges, degrades or prioritizes any packet transmitted over AT&T/BellSouth’s wireline broadband Internet access service based on its source, ownership or destination.

Advocates of net neutrality suggest that this language should serve as a template for an appropriate net neutrality regime.

Two other federal agencies have commented on net neutrality. On June 27, 2007, the Federal Trade Commission published a staff report entitled “Broadband Connectivity Competition Policy.” The report took no position on the net neutrality, but simply outlined the major arguments pro and con, and identified the factors that should be considered by legislators and regulators. As its Executive Summary shows, the FTC took a “wait and see” approach:

The balance between competing incentives on the part of broadband providers to engage in, and the potential benefits and harms from, discrimination and differentiation in the broadband area raise complex empirical questions and may call for substantial additional study of the market generally, of local markets, or of particular transactions. Again, further evidence of particular conduct would be useful for assessing both the likelihood and severity of any potential harm from such conduct.<sup>18</sup>

On September 6, 2007, the Department of Justice submitted a memorandum to the FCC urging it to reject net neutrality regulations. A net neutral regulatory regime, the DOJ stated, “could prohibit broadband

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<sup>16</sup> See FCC Policy Statement No. 05-151, issued September 23, 2005.

<sup>17</sup> See <http://www.fcc.gov/eb/Orders/2005/DA-05-543A2.html>

<sup>18</sup> FTC Staff Report “Broadband Connectivity Competition Policy,” June 2007, at 7.

providers from offering differentiated quality of service. Such a rule . . . would eliminate choice.”<sup>19</sup> The agency concluded that “free market competition, unfettered by unnecessary governmental regulatory restraints, is the best way to foster innovation and development of the Internet.”<sup>20</sup> The DOJ also pointed out that regulation is especially inappropriate where neutrality advocates have been unable to identify any instances of discriminatory Internet conduct on the part of telcos or cable operators.<sup>21</sup> One question raised by the DOJ paper is whether “free market competition” is an accurate description of the market for broadband Internet access as it exists today.

#### D. CONGRESSIONAL ACTION ON NET NEUTRALITY.

In 2005 and 2006, corporations and other organizations on opposite sides of the issue spent large amounts lobbying Congress,<sup>22</sup> and various proposals were advanced that would have imposed a form of network neutrality regulation.<sup>23</sup> In each case, the bill would have prohibited ISPs from offering so-called “tiered service” – service plans priced according to the quality level of the service provided. The “Internet Freedom Preservation Act,” sponsored by Olympia Snowe (R-Me.) and Byron Dorgan (D-ND), was summarized by its sponsors as follows:

Amends the Communications Act of 1934 to establish certain Internet neutrality duties for broadband service providers (providers), including not interfering with, or discriminating against, the ability of any person to use broadband service in a lawful manner. Allows providers to engage in activities in furtherance of certain management and business-related practices, such as protecting network security and offering consumer protection services such as parental controls.

Prohibits a provider from requiring a subscriber, as a condition on the purchase of broadband service, to purchase any cable service, telecommunications service, or IP-enabled voice service.

Requires a report from the Federal Communications Commission (FCC) to specified congressional committees on provider delivery of broadband content, applications, and services.

Each of the net neutrality bills died either during the 109<sup>th</sup> Congress or as it adjourned.

In the 110<sup>th</sup> (current) legislative session, Senators Snowe and Dorgan reintroduced the Internet Freedom Preservation Act as Senate Bill 215, and the bill is currently pending before the Commerce Committee.

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<sup>19</sup> Ex Parte Filing United States Department of Justice, dated September 6, 2007, *In The Matter Of Broadband Industry Practices*, FCC WC Docket No. 07-52.

<sup>20</sup> *Id.*

<sup>21</sup> The blogosphere immediately denounced the DOJ memorandum. One blogger called it a “Cliffsnotes version” of AT&T’s own anti-net neutrality filing.” <http://www.wetmachine.com/item/884>. Another claimed that it “proves” that “[p]owerful corporate and government gatekeepers are working together to dismantle Internet freedoms and impose their will upon the Web.” <http://www.savetheinternet.com/blog/2007/09/09/guess-who%e2%80%99s-scared-of-an-open-internet/>

<sup>22</sup> See AT&T, Comcast Rout Google, Microsoft in Net Neutrality Battle, Bloomberg News (July 20, 2006).

<sup>23</sup> See the Appendix attached hereto for a summary of the bills.

## APPENDIX

### Additional Source Materials On Net Neutrality

#### Academic Writings.

Tim Wu, *Anti-Discrimination Norms in Communications*, 5 J. Telecom. & High Tech 15 (2006) (on the use of anti-discrimination rules in telecommunications law) [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=903324](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=903324).

Tim Wu, *The Broadband Debate: A User's Guide*, 3 J. Telecom. & High Tech 69 (2004) (the deeper questions behind the fight over broadband). [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=557330](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=557330).

Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. Telecom. & High Tech 141 (2003) (The idea of network neutrality, and an empirical depiction of broadband discrimination) [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=388863](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=388863).

Tim Wu, *Network Neutrality, FCC CS Docket 02-52* (with Lawrence Lessig) (PDF). (why a network neutrality regime encourages market competition) [http://www.timwu.org/wu\\_lessig\\_fcc.pdf](http://www.timwu.org/wu_lessig_fcc.pdf).

Christopher Yoo, *Net Neutrality, Clarification: A Case for Non-Neutrality*, [http://www.networkperformancedaily.com/2007/01/clarification\\_a\\_case\\_for\\_nonne\\_1.html](http://www.networkperformancedaily.com/2007/01/clarification_a_case_for_nonne_1.html).

Christopher Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, *Journal of Telecommunications and High Technology Law*, Vol. 3, 2004 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=495502](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=495502).

Christopher Yoo, *Network Neutrality and the Economics of Congestion*, *Georgetown Law Journal*, Vol. 94, June 2006, *Vanderbilt Law and Economics Research Paper No. 05-28*, *Vanderbilt Public Law Research Paper No. 05-33* [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=825669](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=825669).

Christopher Yoo, *Beyond Network Neutrality*, *Harvard Journal of Law and Technology*, Vol. 19, Fall 2005, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=742404](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=742404).

Barbara van Schewick, *Toward an Economic Framework for Network Neutrality Regulation*, *Journal on Telecommunications and High Technology Law*, Vol. 5, 2007, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=812991](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=812991).

#### Other Materials.

Senator Edward Kennedy on Net Neutrality

<http://www.chbn.com/Clip.aspx?key=092693C47371CC3C&OVRAW=net%2oneutrality&OVKEY=net%2oneutrality&OVMTc=standard&OVADID=3573007022&OVKWID=32203932522>.

Materials of the Internet Caucus Advisory Committee, <http://www.netcaucus.org/events/2006/netneutrality/one-pagers>.

Net Neutrality: Fact vs. Fiction Report, [http://www.freepress.net/docs/nn\\_fact\\_v\\_fiction\\_final.pdf](http://www.freepress.net/docs/nn_fact_v_fiction_final.pdf).

FTC Broadband Competition Policy Report, <http://www.ftc.gov/reports/broadband/v070000report.pdf>

#### Legislative Proposals Introduced During The 109<sup>th</sup> Congress

Bill No.	Lead sponsor(s)	Approach	Website Reference	Status
S.2360	Wyden (D)	No two-tier internet	<a href="http://wyden.senate.gov/media/2006/Print/print_06282006_net_neutrality_holds_release.htm">http://wyden.senate.gov/media/2006/Print/print_06282006_net_neutrality_holds_release.htm</a>	Went to the Commerce Committee, but never was considered by the full Senate; died as 109 <sup>th</sup> Congress adjourned
S.2917	Snowe (R) and Dorgan (D)	No two-tier Internet	<a href="http://www.publicknowledge.org/pdf/sn_owe-dorgan-20060519.pdf">http://www.publicknowledge.org/pdf/sn_owe-dorgan-20060519.pdf</a>	Last reported in Commerce Committee and was never considered by full Senate; was reintroduced as S.215 on January 9, 2007 (110 <sup>th</sup> Congress)
H.R.5417	Sensenbrenner (R) and Conyers (D)	Antitrust extended to Net neutrality	<a href="http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05417:@@L&amp;summ2=m&amp;">http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05417:@@L&amp;summ2=m&amp;</a>	Approved by the House Judiciary Committee by a 20-13 vote on May 25, 2006, but no further action was taken
H.R.5273	Markey (D)	No two-tier Internet		Failed as an amendment to H.R. 5252 by a 152-269 vote (See Roll Call 239)
H.R.5252	Barton (R) and Rush (D)	FCC can police complaints	<a href="http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05252:@@L&amp;summ2=m&amp;">http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05252:@@L&amp;summ2=m&amp;</a>	Passed by the full House of Representatives by a 321-101 vote (without Markey amendment); died as 109 <sup>th</sup> Congress adjourned
S.2686	Stevens (R) and Inouye (D)	FCC will do a study	<a href="http://thomas.loc.gov/cgi-bin/bdquery/z?d109:SNo2686:@@L&amp;summ2=m&amp;">http://thomas.loc.gov/cgi-bin/bdquery/z?d109:SNo2686:@@L&amp;summ2=m&amp;</a>	Passed by the Commerce Committee by a 15-7 vote, but never received consideration by the full Senate; died as 109 <sup>th</sup> Congress adjourned