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THE 31 FLAVORS OF THE NET NEUTRALITY DEBATE: BEWARE THE TROJAN HORSE

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Abstract: “Network Neutrality” describes a set of data management regulations that proponents wish to impose on broadband network owners. Over the course of the past few years, net neutrality supporters have been somewhat successful in framing the debate in seemingly benign terms. But the reality of imposing many of the proposed rules is that they would have negative consequences. As California Public Utilities Commissioner, and former FCC Commissioner, Rachelle Chong comments in this Essay, “net neutrality” is a Trojan horse filled with many unintended consequences. Commissioner Chong argues that the only way the Internet can continue to thrive is to keep the regulatory hand off and let the vibrant marketplace for broadband connectivity and Internet applications continue to operate free of unnecessary and anticipatory regulation. The Essay concludes that, in the absence of actual consumer harms by network owners, policy makers should not interfere with properly functioning market forces.

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I. INTRODUCTION

It is with great trepidation that a career communications policymaker like me has watched the concept of “Net Neutrality” take root, grow, and become a junk email political issue in election year 2006 and beyond. The catchy phrase “Net Neutrality,” however, has come to mean as many things as Baskin-Robbins has ice cream flavors.¹ After reviewing the many meanings of “Net Neutrality” and combing through the literature, I conclude that it may be a Trojan horse for increased government regulation of the Internet, seeking to layer monopoly common-carrier concepts onto a lightly-regulated Internet environment.

In considering this complex issue, it is wise to first discern from the questioner what exactly is meant by the term “Net Neutrality.” Traditionally, “network neutrality” meant the neutrality of basic Internet protocols with respect to the ways in which they can be used – the “content neutrality” or “application neutrality” of the transport layer.² To explain, the Internet was engineered in “layers,” which means the basic protocols were designed to ensure that bits of information moved successfully from one computer to another.³ The Internet was a so-called “dumb network” that did not look at the information that it moved; it just moved the bits and left the interpretation of the information to the applications at the end of the communication.⁴ Thus the central Internet Protocol (IP) network is said to have “intelligence around the edges” – meaning the computers hooked up to the central network are intelligent and run the applications and content over the network.⁵ In contrast, the Public Switched Telephone System (PSTN) is an “intelligent network” with “dumb” telephones attached to it.⁶

¹ A simple Google search of the term “net neutrality” returns over 3 million results. However, a Google search for “Define: Network Neutrality” yields only one result, which is courtesy of Wikipedia, a fellow Internet application. Wikipedia’s definition is thus: “Network neutrality [...] refers to a principle that is 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 that may be attached and the modes of communication allowed, and where communication was not unreasonably degraded by other communication streams would be considered neutral by most advocates.” Wikipedia, Network Neutrality, http://en.wikipedia.org/wiki/Network_neutrality (last visited Nov. 2, 2007).

² For a concise overview of the debate over ways to regulate the Internet see Tim Wu, *The Broadband Debate: A User’s Guide*, 3 J. OF TELECOM. & HIGH TECH. LAW 69 (2004) (parsing the argument into two opposing views – the “Openists” vs. the “Deregulationists”).

³ See LAWRENCE LESSIG, *THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD* 23 (First Vintage Books, 2002).

⁴ *Id.* at 34.

⁵ The idea that the Internet’s architecture has “intelligence around the edges” is an outgrowth of the “end-to-end” principle that underlies the Internet. See Jerome Salzer, David Clark & David P. Reed, *End-to-End Arguments in System Design*, 2 ACM TRANSACTIONS ON COMPUTER SYSTEMS 277 (1984) (credited with coining the phrase “end-to-end” and expounding upon it).

⁶ For a primer on telephone network technology, see STUART MINOR BENJAMIN ET AL., *TELECOMMUNICATIONS LAW & POLICY* 613 (Carolina Academic Press, 2001).

More recently, “Net Neutrality” has escalated onto the regulatory and political scene.⁷ Advocates of Net Neutrality include Google, Yahoo, Amazon.com, and other prominent Internet firms.⁸ In doing so, it has come to mean something quite different – the application of common carrier telecommunications rules onto network providers such as the incumbent telephone companies (at&t, Verizon and Qwest) and the cable companies (such as Comcast, Time Warner, and Cox).⁹ In the absence of Net Neutrality regulation, according to this view, a network operator could charge a fee to get or block Internet traffic that has particular content or comes from a particular source. Net Neutrality in its most common sense has come to mean requiring network operators to manage all Internet traffic on equal terms by legislative or regulatory fiat.¹⁰

One way to look at Net Neutrality, then, is from a *consumer* perspective – the consumer should be free to use broadband to access content and applications of his or her choice, and to attach any device that does not harm the network. Moreover, a good measure of consumer welfare is whether the market is responsive to consumer demand. Such a market would be considered competitively healthy and therefore efficient. Health and efficiency can be measured in terms of supply and demand – are consumers getting what they are asking for? By looking at the most recent data, the conclusion is obvious: the current marketplace for broadband service is very healthy, which means that consumers are reaping the rewards of vigorous competition.

Another way to look at Net Neutrality is from a *network* perspective – broadband networks with bottleneck control of parts of the Internet backbone should not arbitrarily discriminate in favor of their own or affiliated content, applications or devices. However, there is something to be said for proprietary control over a network owner’s physical network. A reasonable question to ask is which entity is best positioned to ensure an efficient and safe flow of information over a network: a regulatory agency or the company that actually built the network?

From these major schools of thought, a large number of definitions for Net Neutrality have arisen (discussed below), along with many proposed ways to arrive at a definition, in Congress, in state

⁷ For example, in April 2007, the FCC issued a Notice of Inquiry regarding “Broadband Industry Practices.” Specifically, the FCC sought feedback from the public in order to “enhance [its] understanding of the nature of the market for broadband and related service, whether network platform providers and others favor or disfavor particular content, how consumers are affected by these policies, and whether consumer choice of broadband providers is sufficient to ensure that all such policies ultimately benefit consumers.” *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52, 22 F.C.C.R. 7894 (2007) (“Broadband Industry Practices”).

⁸ These and other Internet firms have formed a coalition called ItsOurNet.org. There are a number of similar coalitions, most notably SaveTheInternet.com. Some of the larger and more vocal companies like Google and Microsoft have created websites to promote their views on the issue. *See, e.g.*, Google Help Center, A Guide to Net Neutrality for Google Users, <http://www.google.com/help/netneutrality.html> (last visited Nov. 2, 2007); *see also*, Letter from Jack Krumholtz, Associate General Counsel, Microsoft, to U.S. House of Representatives (June 5, 2006) *available at* <http://www.microsoft.com/freedomtoinnovate/industry/letter.aspx>.

⁹ *See, e.g.*, James Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L. J. 225 (2002).

¹⁰ Indeed, this is the definition that is supported by those in favor of Network Neutrality regulation. *See, e.g.*, Editorial, *Keeping a Democratic Web*, N.Y. TIMES, May 2, 2006 at A24; Rick Whitt, *What Do We Mean by “Net Neutrality”?*, Google Public Policy Blog, <http://googlepublicpolicy.blogspot.com/2007/06/what-do-we-mean-by-net-neutrality.html> (June 16, 2007 5:52 EST); Comments of Google Inc., *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52 (June 15, 2007).

legislatures, and at state regulatory agencies.¹¹ Once there is some understanding of what is meant by the term Net Neutrality, it is wise to next determine whether there are real world problems occurring that might justify the imposition of government regulations on the Internet. Up to now, the government has taken a “hands off” approach to most Internet regulation, resulting in unprecedented vibrant growth of the Internet.¹² Finally, should there be convincing evidence that government intervention is warranted to fix a serious problem, regulation should be carefully crafted to be the least intrusive one possible, so that the Internet can continue to thrive.

II. UNDERSTANDING THE MANY FLAVORS OF NET NEUTRALITY

The origins of Net Neutrality lie in the “open access” debate relating to cable’s broadband platform.¹³ When cable companies began to upgrade their coaxial systems to build cable modem networks, there were early calls to force cable modem systems to provide access to all Internet service providers (ISPs).¹⁴ After all, ISPs had leased phone lines from telephone companies, and established businesses providing dial up local Internet access to users. Led by AOL, the ISPs wanted direct access to cable broadband platforms, just as they reached subscribers over telephone lines.¹⁵

At that time, most cable companies required their Internet customers to subscribe to a cable-affiliated ISP service, such as Excite@Home or Road Runner before they could access a competing ISP.¹⁶ The cable companies said “no” to the ISPs, arguing that its cable modem services were designed differently from telephone systems and that allowing multiple Internet providers on cable networks would lead to slowed data speeds and glitches. In 2002, the FCC agreed with the cable systems and classified cable modem service as an unregulated

¹¹ In 2006, a number of bills that would have affected the Net Neutrality debate floated through Congress. *See* Communication Opportunity, Promotion and Enhancement (COPE) Act, H.R. 5252, 109th Cong. (2d Sess. 2006). In January 2007, a bill which explicitly calls for net neutrality was introduced in the Senate. Internet Freedom Preservation Act of 2007, S. 215, 110th Cong. (1st Sess. 2007). Individual states have also begun to examine the issue of Net Neutrality. In June 2007, Maine became the first state in the U.S. to pass Net Neutrality legislation in the form of a resolution. L.D. 1675, 123rd Leg., 1st Reg. Sess. (Me. 2007). States like New York are also considering formal legislation. *See* Omnibus Telecommunications Reform Act of 2007, A 3980-B, Reg. Sess., available at <http://assembly.state.ny.us/leg/?bn=A03980&sh=t>. Some states, though, have been more cautious. For example, in March 2007 the Attorney General for Maryland advised that a Net Neutrality bill pending in the Maryland legislature would likely violate the Commerce Clause of the U.S. Constitution due to the inherently interstate nature of the Internet. The bill was ultimately withdrawn.

¹² For example, an early attempt to regulate the Internet manifested itself in the Communications Decency Act (CDA) of 1996, which sought to protect minors from indecent and patently offensive communications on the Internet. The Supreme Court struck down the CDA because the statute “abridge[d] the freedom of speech protected by the First Amendment.” *Reno v. American Civil Liberties Union*, 521 U.S. 844, 849 (1997).

¹³ *See* LESSIG, *supra* note 3, at 164.

¹⁴ *See* Comments of America Online, Inc., *In the Matter of Transfer of Control of FCC Licenses of MediaOne Group, Inc. to AT&T Corporation*, CS Docket No. 99-251 (Aug. 23, 1999).

¹⁵ *Id.*

¹⁶ *See* LESSIG, *supra* note 3, at 154.

“information service” and not a regulated “telecommunications service.”¹⁷ The Ninth Circuit Court of Appeals reversed the FCC,¹⁸ but the FCC’s view was affirmed by the Supreme Court in 2005.¹⁹

Since then, the Net Neutrality issue has “morphed” and taken on a number of other meanings, ranging from content-specific “blocking” to more service-based tiering. The following will delineate the many different “flavors” of net neutrality in order to show both the scope of the argument and its many textures.

A. Blocking and Degrading

One meaning of Net Neutrality has to do with prohibiting blocking and degrading by last mile broadband providers such as telecommunications companies or cable companies. This can mean sheer blocking, denying interconnection, or rerouting data traffic of certain traffic.

1. Blocking

“Blocking” occurs when a broadband provider blocks voice packets or ports to not allow certain data traffic to reach an end user.²⁰ The most oft-cited example is the situation in the *Madison River* blocking complaint case.

On February 11, 2005, the FCC’s Enforcement Bureau issued a Letter of Inquiry (“LOI”) to Madison River Telephone Company, initiating an investigation into allegations that Madison River was blocking ports used for VoIP applications, thereby affecting customers’ ability to use VoIP through one or more VoIP service providers including Vonage. The FCC began an investigation into the allegations that Madison River had violated the requirement to interconnect and carry traffic in section 201(b) of the Communications Act.²¹ On March 3, 2005, the FCC’s Enforcement Bureau reached a Consent Decree with Madison River under which Madison River agreed to not block the “ports” for traffic bound for VOIP providers and to make a voluntary

¹⁷ In its Cable Modem Notice of Inquiry in 2002, the FCC set forth three principles and goals to promote broadband deployment: (1) encourage ubiquitous availability of broadband access to the Net to all Americans; (2) ensure that broadband services exist in a minimal regulatory environment that promotes investment and innovation; and (3) develop an analytical framework that is consistent, to the extent possible, across multiple platforms. *In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, 17 F.C.C.R. 4798 (2002) (Internet over Cable Declaratory Ruling).

¹⁸ *Brand X Internet Serv. v. FCC*, 345 F.3d 1120 (9th Cir., 2003).

¹⁹ *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Serv.*, 545 U.S. 967 (2005).

²⁰ “Port blocking” means that a network operator uses information in the message header which tells the receiving computer which software application to use to open the information. The computer knows which software to use by the “port” through which the message enters the computer’s computer hardware. If a network operator wishes to block a particular application, for example, a VOIP telephone call, it can do so by blocking messages destined for the port used by that application.

²¹ 47 U.S.C. § 201(b) (2007).

payment of \$15,000 to the US Treasury.²² *Madison River* represents an important enforcement action by the FCC, showing that any blocking of VoIP applications would be dealt with swiftly and decisively by the FCC, enforcing its four Internet Freedoms policy enunciated under former FCC Chairman Michael Powell.²³

Most, including proponents of Net Neutrality, politicians and the FCC, criticize a world where a network operator can block and degrade content or applications.²⁴ Many agree with Gary Bachula of the Internet2 group that “users should be able to decide how much bandwidth to buy from network operators – a little or a lot – but once they’ve paid for the bandwidth, they should be able to go to any web page, use any lawful application or service, and send any lawful content.”²⁵ So as to the *consumer* rights side of Net Neutrality, there is widespread agreement about consumer Internet rights, and, in light of *Madison River*, the FCC appears ready, willing and able to enforce these rights even absent a statute.

From the *network* perspective, there is little economic incentive to block access to content. In this robustly competitive marketplace for broadband, users have the option of switching service providers should they be precluded from accessing a website or using a service. Intermodal competition in the wider advanced communications markets has led to fierce competition among network owners to sign up and keep customers. As such, network owners risk alienating consumers by blocking content. Thus market forces, and not regulation, would likely solve any problems should they arise.²⁶

2. *Denying IP-Network Interconnection*

Another “flavor” of Net Neutrality has to do with concerns that a broadband network provider may refuse to physically link its networks with other Internet backbone providers. This view has emanated from competitive telecommunications carriers (CLECs) who advocate that every

²² See *Madison River Commc’ns*, 20 F.C.C.R. 4295 (Enf. Bur. 2005) (“Madison River”).

²³ Then-FCC Chairman Powell enunciated four Freedoms in a speech to the Voice on the Net (VON) Conference in Oct. 19, 2004: (a) Freedom to Access Content – Consumers should have access to their choice of legal content; (b) Freedom to Use Applications -- Consumers should be able to run applications of their choice; (c) Freedom to Attach Personal Devices – Consumers should be permitted to attach any devices they choose to the connection in their homes; and (d) Freedom to Obtain Service Plan Information – Consumers should receive meaningful information regarding their service plans. Michael Powell, Chairman, FCC, Remarks at the VON Conference (Oct. 19, 2004) available at http://www.designnine.com/library/docs/other_papers/FCC_Powell_0410.pdf.

²⁴ See Testimony of Gary R. Bachula, Vice President for External Affairs for Internet2, before the U.S. Senate Committee on Commerce, Science and Transportation Hearing on Network Neutrality, Feb. 7, 2006, at 2.

²⁵ *Id.*

²⁶ This point was recently made by the U.S. Department of Justice in a filing with the FCC. See Ex Parte Filing of the United States Department of Justice, *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52 (Sept. 6, 2007) (DOJ Ex Parte) available at <http://www.usdoj.gov/atr/public/comments/225767.htm> (“The Department submits, however, that free market competition, unfettered by unnecessary governmental regulatory restraints, is the best way to foster innovation and development of the Internet...Past experience has demonstrated that, absent actual market failure, the operation of a free market is a far superior alternative to regulatory restraints.”).

network operator must serve every user and interconnect with other network providers on a nondiscriminatory basis. Comptel, the industry association for CLECs, advocates that the “Internet depends on basic common carrier rules to ensure the availability of an essential ingredient, namely the transmission capacity over which Internet applications reach business and consumers.”²⁷

This argument would impose new interconnection obligations and regulations on every Internet backbone provider. Currently, these “peering” agreements between Internet backbone providers are struck in the marketplace.²⁸ Unlike the PSTN, the Internet backbone is completely unregulated by government.²⁹ The Internet is inherently global and interstate in nature, whereas the PSTN is regulated locally, nationally and sometimes regionally (as in the case of the European Union).³⁰ And unlike the “last mile” from the telephone or cable company to a consumer’s home, there is no bottleneck congestion over the Internet’s backbone. Indeed, during the heyday of the “dot com” boom, many players invested in building the Internet backbone, such as Level 3 and other “carriers’ carriers.”³¹ The congestion over this “golden” mile is where the real Net Neutrality debate takes place, between network owners who have to manage the ever-increasing amount information, data and applications flowing through its bottleneck, and those providing these Internet applications and services, all of whom want to be “first in line” to enter the end user’s home.³²

3. *Rerouting*

Another Net Neutrality “flavor” has to do with fears that a network operator may reroute, or manipulate routes taken by, data traffic. Under this scenario, a broadband provider would reroute or change the routes that data traffic would normally take in order to realize some advantage like blocking a rival’s services or avoiding a transport charge. It is generally believed

²⁷ See Testimony of Earl W. Comstock, President and CEO, COMPTTEL, before the U.S. Senate Committee on Commerce, Science and Transportation Hearing on Network Neutrality, Feb. 7, 2006, at 4.

²⁸ “Peering” is the arrangement of traffic exchange between Internet service providers (ISPs). Larger ISPs with their own backbone networks agree to allow traffic from other large ISPs in exchange for traffic on their backbones. They also exchange traffic with smaller ISPs so that they can reach regional end points. Essentially, this is how individual small network owners cobbled what is today known as the Internet together. To do this, network owners and access providers, the ISPs, work out agreements that describe the terms and conditions to which both are subject.

²⁹ See U.S. General Accounting Office, *Telecommunications: Characteristics and Competitiveness of the Internet Backbone Market*, Report to the Subcommittee on Antitrust, Business Rights and Competition, Committee on the Judiciary, U.S. Senate (October 2001), at 7, available at <http://www.gao.gov/new.items/d0216.pdf>.

³⁰ See London Economics in association with PriceWaterhouseCoopers, *An Assessment of the Regulatory Framework for Electronic Communications Growth and Investment in the EU e-Communications Sector*, Final Report to the European Commission (July 2006), available at http://ec.europa.eu/information_society/policy/ecomms/doc/info_centre/studies_ext_consult/assessmt_growth_invt/investment.pdf.

³¹ For a map that graphically represents ownership across the North American Internet backbone, see CIO Blog, *Who owns the Internet? We have a map that shows you*, <http://blogs.cio.com/node/209> (March 17, 2006 11:11 EST).

³² See *infra* Section II.B for further discussion on this point.

that the FCC or other government entities would discourage or prohibit these blocking and degrading tactics, as in the *Madison River* complaint case.

B. Network Management

Net Neutrality has another set of meanings that have to do with the extent to which broadband providers have rights to perform “network management.” In this area, the FCC has recognized a network owner’s legitimate need to manage its network and has afforded them some latitude in doing so.³³

For example, telephone companies have argued for the ability to adjust their network performances for certain applications, under a “quality of service” argument.³⁴ Further, as the argument goes, in order to protect their users from viruses and spam, they must have the ability to block such antisocial applications for security purposes and the benefit of consumers.³⁵ They have also been adamant that they should be able to reserve bandwidth for their own proprietary uses.³⁶ They defend their ability to have acceptable use policies to prevent spammers and other “bad guys” from using their networks to launch attacks on others. Moreover, they defend their desire to “cache” content nearby their subscription users in order for their user to have a faster download of desired content. They also support the use of “traffic shaping” boxes which, in a passive mode, can allow a company to analyze and classify the traffic that’s flowing on a subnet (to do network planning or resolving performance issues), or in an active mode, these traffic shaping boxes can “shape” or control the traffic that flows over the network.³⁷

³³ In its *Broadband Policy Statement*, which essentially restated the four Internet Freedoms principles enunciated by FCC Chairman Powell in Sept. 23, 2005, the FCC declared in a footnote that it declined to adopt rules and that the principles adopted “are subject to reasonable network management,” *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Policy Statement, 20 F.C.C.R. 14986, 14988 n.15 (2005) (Broadband Policy Statement).

³⁴ See, e.g., Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEORGETOWN L. J. 1847, 1851 (2006); but cf. Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. L. 141 (2005).

³⁵ This is a point that even Net Neutrality proponents agree with. See CommonCause.org, Network Neutrality Fact Sheet, <http://www.commoncause.org/site/pp.asp?c=dkLNK1MQIwG&b=1234951> (last visited Nov. 2, 2007).

³⁶ According to network owners, the ability to reserve bandwidth for proprietary content is necessary if they are to ensure a robust return on investment for their network upgrades. See Tom Tauke, *Viewpoint: Say No to Net Neutrality Rules*, BUSINESS WEEK, March 16, 2006, http://www.businessweek.com/technology/content/mar2006/tc20060316_119464.htm.

³⁷ See Joe St. Sauver, *Understanding the Basics of Traffic Shaping*, COMPUTING NEWS (Univ. of Or., Winter 2002) available at <http://cc.uoregon.edu/cnews/winter2002/traffic.html>. Network traffic mostly flows subject to natural limitations or “choke points”. A choke point is defined as how the application is programmed, the host system on which the application is running, or in the network itself. For example, if you using dial up access to access the Internet, your traffic will be choked by the 50 kbps of effective throughput your modem may deliver. A traffic shaper can identify and categorize specific types of network traffic, constraining each particular category of traffic to use no more than a specified amount of bandwidth, or on certain characteristics (such as the IP protocol used, ports applications are known to use, or basis of connections to a well known host, or on the content of the flow. It can set per user traffic limits to ensure that network traffic is shared fairly among all users.

In this area, Net Neutrality has been argued as being necessary should broadband providers use these network management functions to degrade services of rivals. In particular, Net Neutrality proponents have argued that the reservation of bandwidth for use by network owners for the transmission of proprietary content and applications will result in attempts to disadvantage rivals.³⁸ It is unclear to what extent government would act to limit broadband providers from these generally legitimate functions. So far, in this area, the fears of the Net Neutrality proponents have been anticipatory at best and unsupported by actual evidence of consumer harm or anticompetitive practices.³⁹ Thus, I argue that government regulation is not warranted.

C. Premium Service Fees

Another controversial “flavor” of Net Neutrality is whether broadband providers can charge premium service fees for things like prioritization, tariffed tiering, and access charges.⁴⁰ “Prioritization” essentially means relatively faster delivery of data for an extra fee to a consumer or a service provider.⁴¹ “Tariffed tiering” means offering content/applications providers a fee schedule for improved delivery. Finally, Net Neutrality proponents argue that broadband providers wish to have the freedom to charge an “access fee,” which would entail charging content and applications providers for the ability to deliver traffic to end users over the “last mile” to the user’s home.

Broadband providers argue that if an application provider or a particular consumer (e.g. a small business) would like to pay for faster delivery of their bits, why shouldn’t the provider be able to accommodate this request?⁴² Net Neutrality proponents counter by arguing that this practice would create a “fast lane” for those who can pay (whether an applications provider or a user) and a “slow lane” for all others.⁴³ The issue of prioritization has been a flashpoint of Net Neutrality rhetoric: whether network owners should be allowed to speed up or deprioritize certain applications.

The issue of premium service fees has been a source of confusion in the Net Neutrality debate because the transport layer of the Internet is designed to bring a certain flexibility and uniform

³⁸ See Jeff Chester, *The End of the Internet?*, THE NATION, Feb. 1, 2006, <http://www.thenation.com/doc/20060213/chester>.

³⁹ Indeed, the U.S. Department of Justice, after reviewing the comments filed in the FCC’s *Broadband Industry Practices* docket, found “scant evidence that consumers are being harmed by the business practices of Internet industry participants.” see DOJ Ex Parte, *supra* note 26.

⁴⁰ See, e.g., The Center for Digital Democracy, *Life in the Slow Lane: A Guide to the Un-Neutral Net*, http://www.democraticmedia.org/current_projects/net_neutrality/unneutral_net (last visited Nov. 2, 2007).

⁴¹ See, Anush Yegyzarian & Tom Spring, *Should the Internet Play Favorites?*, PCWORLD, March 25, 2006.

⁴² See, e.g., Joe Waz, Vice President and Public Policy Counsel, Comcast, Keynote Remarks to the 2006 Broadband Policy Summit (May 10, 2006) available at <http://www.ncta.com/ContentView.aspx?hiddenavlink=true&type=lpubtp6&contentId=3158>.

⁴³ See Chester, *supra* note 38.

information flow to users. Internet access is sold to consumers via a pricing scheme based on bandwidth *capacity*. In the Internet backbone world, there has been a long-running debate over the prospect of offering “quality of service” — meaning prioritized treatment of information flows for particular applications — over the IP transport layer (using certain fields provided in the original protocol).⁴⁴ Essentially the basic debate has been over whether the existing Internet Protocol can be used for the purpose of quality of service sought by network owners. The Internet2 project concluded that it “was far more cost effective to simply provide more bandwidth. With enough bandwidth in the network, there is no congestion and video bits do not need preferential treatment. All of the bits arrive fast enough, even if intermingled.”⁴⁵

Should network operators be able to charge more to Internet applications and service providers for bandwidth heavy uses, such as live video or perhaps bandwidth intensive gaming? For low bandwidth uses (e.g. voice and data), the current information flows on the Internet are certainly adequate.⁴⁶ However, a small minority of users require enormous amounts of bandwidth to satisfy their demands for large applications like gaming and streaming video. It is a basic economic fact that “differentiated products and pricing can provide consumers (and content providers) a broader array of choices that meets service preferences more effectively and efficiently.”⁴⁷

At essence, the debate boils down to whether the network operators can create enough additional value in their new upgraded “last mile” systems to charge certain bandwidth intensive application or content providers a premium.⁴⁸ Seen another way, should only consumers pay the price tag for these new upgraded systems or may network operators spread these costs to bandwidth heavy users?

III. BEWARE GEEKS BEARING GIFTS: TOWARDS A CONTINUED MINIMALIST REGULATORY FRAMEWORK FOR THE INTERNET

A few parties to the debate have asked for “minimal regulatory intervention” by government to protect application providers who sit at the edge of the new broadband networks.⁴⁹ While this request seems innocent enough, government and regulators are wont to approach these issues with a traditional common carrier framework in mind, which was born out of a monopoly telephone industry. This mindset is partly due to a lack of a better precedent to apply. In general, common carriers must serve groups of customers with non-discriminatory pricing and

⁴⁴ See, e.g., Hal Singer, *Net Neutrality: A Radical Form of Non-Discrimination*, 30 REGULATION 36 (Summer 2007) available at <http://www.cato.org/pubs/regulation/regv30n2/v30n2-4.pdf>.

⁴⁵ Bachula, *supra* note 24.

⁴⁶ See Wikipedia, *Broadband Internet Access*, http://en.wikipedia.org/wiki/Broadband_Internet_access (last visited Nov. 2, 2007).

⁴⁷ DOJ Ex Parte, *supra* note 26, at 5.

⁴⁸ See Tauke, *supra* note 36.

⁴⁹ See Editorial, *The Eden Illusion*, WASH. POST, March 13, 2006 at A14.

treatment.⁵⁰ This paradigm was applied to the telephone market because it was originally deemed a protected “natural monopoly” that was regulated by the government in exchange for a common carriage approach.⁵¹

To deal with blocking and degrading problems, there are calls for full government mandated interconnection of all Internet backbone providers, similar to the interconnection regime in the telephone world.⁵² To prevent blocking, there have been calls for codification of the FCC’s Broadband Policy Statement and full FCC monitoring and enforcement.⁵³ Others call for an “abuse of market power” test.⁵⁴ These policies, however, make little sense in the current broadband environment.

The history of the Internet shows that government has always used forbearance from regulating the Internet.⁵⁵ Indeed, the 1996 Telecommunications Act, along with FCC decisions like the influential *Computer Inquiries*, espouses an overwhelming desire to keep the regulatory hand off the Internet so it can innovate and flourish organically.⁵⁶ As a result, investment, innovation and consumer choice have flowed due to the certainty of government “non-intervention.” Regulation has not proved necessary and the broadband sector has thrived.

According to the most recent FCC data on broadband, the national market is robust. As of December 31, 2006, there were 82.5 million broadband lines in service across the U.S.⁵⁷ This represented a 61 percent increase in subscribership over the twelve month period ending December 31, 2006.⁵⁸ Broadband is available in over 99% of zip codes across the U.S.⁵⁹ Nationally there are nearly 1,400 broadband providers, which provide service in an increasingly

⁵⁰ See BENJAMIN ET AL, *supra* note 6, at 608.

⁵¹ *Id.* at 615-620; see also Title II – Development of Competitive Markets, 47 U.S.C. § 251 *et seq.* (2007).

⁵² See Internet Freedom Preservation Act, *supra* note 11.

⁵³ For example, Title II of the COPE Act of 2006 would have permitted the FCC to enforce its broadband policy statement. See COPE Act, *supra* note 11.

⁵⁴ See The Progress & Freedom Foundation (PFF), *Digital Age Communications Act: Proposal of the Regulatory Framework Working Group*, 19 (June 2005) available at <http://www.pff.org/issues-pubs/other/050617regframework.pdf>.

⁵⁵ See *Reno v. ACLU*, 521 U.S. at 849.

⁵⁶ See Robert Cannon, *The Legacy of the Federal Communications Commission’s Computer Inquiries*, 55 FED. COMM. L. J. 167, 169 (2003) (describing the *Computer Inquiries* as “a necessary precondition for the success of the Internet.”).

⁵⁷ FCC, High-Speed Services for Internet Access: Status as of December 31, 2006, Industry Analysis and Technology Division, Wireline Competition Bureau, Oct. 2007 at 1, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-277784A1.pdf.

⁵⁸ *Id.*

⁵⁹ *Id.*

varied number of ways: via cable modem, DSL, fiber-optic, and wireless.⁶⁰ Over eighty percent of residents live in areas with 4 or more broadband providers.⁶¹ Take-rates are also increasing in line with network build-out and investment. According to the Pew Internet & American Life Project, fully 47 percent of adult Americans have a broadband connection at home. This represents a five percentage point increase from 2006.⁶²

However, despite the obvious successes of the Internet, the idea of Net Neutrality still lingers. In its most current iteration, it has evolved into a political issue that seems to stand for an Internet user's right to access content they want and to avoid tiered fee structures. Net Neutrality proponents have been successful in setting the tone of the debate. The term itself – net neutrality – seeks to invoke the democratic spirit of the Internet's earliest days.⁶³ This pseudo-consumer rights stance, which has been pushed by Internet application providers like Google and Yahoo!, has become a proxy for corporate self-interest not to pay access fees or to have their content “de-prioritized.” Yet it is incontrovertible that network owners have always been allowed to, and will continue to, manage traffic in such a way that some bits are given more priority than others. Applications and service providers on the Web engage in similar behavior:

“The proponents of net neutrality exaggerate the purity of cyberspace. Big names on the Web already have a huge advantage over no-brand competitors: Surfers go to places that they trust, particularly to make credit-card purchases. Moreover, once you have an advantage on the Web, it becomes self-reinforcing: If your site is popular and many others link to it, search engines such as Google will direct more traffic your way. Corporations already strive mightily to make your Internet experience non-neutral. From the early days of the World Wide Web, America Online Inc. tried to keep customers within its own virtual “walled garden” of services. More recently, Google has elbowed out competitors by offering toolbars and other freebies that keep its friendly search box perpetually on computer screens. Meanwhile, big e-tailers have accelerated their service by paying to “cache” their Web pages on computers close to customers. So if cable and phone companies start delivering some Web content at premium speeds, they will be adding to an existing trend, not sullyng Eden.”⁶⁴

Network owners have managed thus far to let the natural market forces work and manage their affairs in many areas, like setting the terms of interconnection agreements. While some

⁶⁰ *Id.* at Table 7.

⁶¹ *Id.* at Chart 12.

⁶² See John B. Horrigan & Aaron Smith, *Home Broadband Adoption 2007*, Pew Internet & American Life Project (June 2007) available at http://www.pewinternet.org/pdfs/PIP_Broadband%202007.pdf.

⁶³ See Lawrence Lessig & Robert W. McChesney, *No Tolls on the Internet*, WASH. POST, June 8, 2006 at A23.

⁶⁴ *The Eden Illusion*, *supra* note 49.

problems surely exist – for instance, when small network providers request to interconnect with the largest Tier 1 players – policymakers must weigh whether this problem is severe enough to mandate interconnection between every network provider, big and small.

In the absence of clear evidence of problems that the market cannot correct (i.e., a clear market failure), anticipatory law or regulation is poison to a fast paced, quickly evolving world of communications. I caution restraint and urge politicians and policymakers to focus on the following guiding principles before going forward.

A. Understand the market structures that have sustained innovation and growth of the Internet

The success of the Internet, from its inception and throughout its incredible evolution, is inextricably linked to the presence of a flexible and progressive regulatory framework that has encouraged innovation across the Internet. Moreover, Internet application providers have benefited from the build out of next-generation networks that are capable of delivering larger amounts of content more quickly than ever before.⁶⁵ When considering whether and to what extent the Internet needs to be regulated, policymakers should be mindful of the environment that has gotten us to where we currently are.

Those who favor Net Neutrality regulation usually point out that the Internet has been regulated from its birth as a government tool and that additional regulation to protect the web's democratic design would only be a natural extension of this legacy.⁶⁶ While the telecommunications industry has historically been a heavily regulated sector, the 1996 Act sought to open the market to competition by lowering the barriers of entry and leveling the playing field for new entrants. Though the merits and successes of the 1996 Act are heavily debated even to this day, it has been successful in bringing competition to the voice market while also fostering the development of the wireless and cable industries.⁶⁷ Robust, head-to-head intermodal competition has resulted in the build-out and improvement of networks capable of delivering broadband speeds to nearly all Americans.

Discussions about changing the current regulatory system must make sure not to discourage continued investment by network owners. Any attempt to place restrictions on an Internet provider's freedom to manage its network would be counterproductive and ultimately inefficient.⁶⁸ Thus, the regulatory status quo ought to be sufficient if our end goal is to continue encouraging application innovation, network investment and robust competition. The current conditions of the broadband marketplace more than support this argument.

⁶⁵ See Tauke, *supra* note 36

⁶⁶ See LESSIG, *supra* note 3, at 45.

⁶⁷ See Paul A. London, THE COMPETITION SOLUTION 31 (AEI, 2005).

⁶⁸ For an in-depth analysis of the costs of network neutrality regulation to consumers, see J. Gregory Sidak, *A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet*, 2 J. OF COMP. LAW & ECON. 1, 29 (2006).

B. Identify the real ongoing problems, not theoretical “what ifs”

Thus far, there have been very few actual cases of blocking or service degradation, the most notable of which was the *Madison River* case.⁶⁹ In most instances, the claims have been exaggerated and eventually proven false.⁷⁰ The FCC’s recently opened inquiry into broadband practices and the broadband market is a good first step towards assessing whether or not discriminatory methods are being used by network owners.⁷¹ It is telling that one early analysis of the comments has found very few, if any, actual complaints of real consumer harm.⁷² Unless and until these cases become the rule rather than the exception, any efforts to legislate *ex ante* are premature and anticipatory. However, network operators do currently face a number of challenges that support their need to have absolute freedom to manage their networks.

One of the growing concerns for many network operators is managing traffic and ensuring that their “pipes” do not get unnecessarily clogged. For instance, the actions of a few avid Internet users who use peer-to-peer (P2P) applications to trade music and video or who obsess over multiplayer video games require huge amounts of bandwidth, accounting for upwards of 60 percent of bandwidth allocation.⁷³ There is also a discernible rise in bandwidth demands associated with the releases of popular videogames or during peak times at online stores like iTunes.⁷⁴ To put all this into context, consider that “You Tube itself uses as much bandwidth today as the entire Internet did in 2000. In the past year alone, we have witnessed a 1000 percent increase in videos being uploaded or downloaded on the Internet.”⁷⁵ A number of solutions have been developed. Some private institutions, like academic libraries, have countered these problems by instituting bandwidth quotas for users.⁷⁶ Network operators have taken a more market-oriented approach by offering special packages tailored towards videogamers to

⁶⁹ *Madison River*, *supra* note 22.

⁷⁰ *See Sidak*, *supra* note 68, at 60.

⁷¹ *Broadband Industry Practices*, *supra* note 7.

⁷² *See* Jerry Brito & Jerry Ellig, *Net Neutrality: Where’s the beef?*, TCS DAILY, July 24, 2007 available at <http://www.tcsdaily.com/article.aspx?id=071807K> (“Close to 10,000 comments were submitted to the FCC, yet all but 143 were what the FCC calls “brief text comments,” many of which were form letters generated at the behest of advocacy groups...Of the 143 more extensive comments, only 66 are longer than two pages, and of these only 20 advocate some form of new regulation. None of these 20 offers any significant empirical evidence to suggest that there currently exists a “market failure” or other systemic problem justifying regulatory intervention in the name of net neutrality.”) This finding has been supported by the U.S. Department of Justice. *See* DOJ Ex Parte, *supra* note 26.

⁷³ *See Network Neutrality: A Broadband Wild West?* (Sandvine Inc.) March 2005 available at http://www.sandvine.com/solutions/resource_library.asp.

⁷⁴ *See* Lightreading.com, Sandvine: Xbox, iTunes Grow, Dec. 5, 2006, http://www.lightreading.com/document.asp?doc_id=112037.

⁷⁵ Robert M. McDowell, Commissioner, FCC, Luncheon Address at the Broadband Policy Summit III (June 7, 2007) at 13 available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-273742A1.pdf.

⁷⁶ *See, e.g.*, Columbia University’s Bandwidth Quota Policy, <http://www.columbia.edu/cu/policy/bandwidth.html> (last visited Nov. 2, 2007).

guarantee a large amount of bandwidth for a seamless gaming experience.⁷⁷ More casual users, who only use the Internet for, say, email and checking the news, have more affordable service options that parallel their less bandwidth-intensive usage.

These network management approaches have arisen organically as network operators try to apportion their bandwidth as democratically as possible so they can provide consumers with packages and services that fit their needs. However, when confronted with a few very active users who command large swaths of bandwidth, network operators should have the ability to develop solutions on their own without having to conform to statutorily-imposed requirements, which would likely lead to inefficient allocations and a net decrease in consumer welfare.

C. Apply the least intrusive regulatory approach to resolve actual problems

The FCC got it right in *Madison River*. It acted swiftly to address a blatant wrong and, in doing so, it set a precedent that should be applied in similar situations should they arise in the future. And the FCC did not act outside its regulatory purview. It did not adopt new policies or endeavor to impose onerous regulations. Rather, it relegated itself to the role of referee, not legislator. Going forward, the FCC should continue to act on a case-by-case basis. It should apply fundamental rules like those set forth in its Internet “freedoms” and apply precedents like *Madison River*. Anything more constitutes anticipatory policymaking that would create barriers to entry, obstacles for innovation and disincentives to invest in networks. Similarly, in the absence of large-scale problems of blocking or service degradation, Congress should defer to the FCC and allow it to pursue the approach it established during the *Madison River* dispute. Only if and when a critical mass of blocking or other complaints is reached should it be appropriate for Congress to consider legislation to correct this market failure.

IV. CONCLUSION

Net Neutrality has morphed into a political issue that seems to stand for Internet users’ right to access content they want and to avoid tiered types of fee structures. On one side you have the phone and cable companies in a rare alliance. They wish to retain the right to build new networks and recoup the costs of their huge upfront investments. On the other side, you have the new Internet companies that revel in the Internet community’s ideals of traversing networks at little or no cost. In the middle, you have politicians and regulators who are trying to understand this complex and highly technical morass. It seems incomprehensible that this type of very complex technological issue could be reduced to a bumper sticker slogan. Thus far, the market has operated in an efficient manner. Next-generation broadband networks are currently being built as the demand for broadband continues to increase exponentially. Network owners are investing huge sums of money to provide users with faster speeds and better services. Competition is healthy and is driving key innovations across the marketplace.

⁷⁷ Comcast was one of the first companies to offer this sort of package in the form of its Game Invasion package, which guarantees an 8 Mb/s connection for subscribers. Comcast, Game Invasion, <http://gameinvasion.comcast.net/gameinvasion/sales/> (last visited Nov. 2, 2007).

Perhaps we should take our cue from a recent report issued by the Federal Trade Commission (FTC), which is the premier federal agency for monitoring markets. After a comprehensive study of the broadband market, the FTC concluded that “there is evidence at least on a national scale that: (1) consumer demand for broadband is growing quickly; (2) access speeds are increasing; (3) prices (particularly speed-adjusted or quality-adjusted prices) are falling; and (4) new entrants, deploying Wi-Fi, WiMAX, and other broadband technologies, are poised to challenge the incumbent cable and telephone companies.”⁷⁸ Given the high levels of healthy competition and consumer welfare gains, the FTC recommends “proceeding very cautiously” when it comes to imposing Net Neutrality regulations.⁷⁹ As FTC Chairwoman Majoras reiterated, “[p]olicy makers should be wary of enacting regulation solely to prevent prospective harm to consumer welfare, particularly given the indeterminate effects on such welfare of potential conduct by broadband providers.”⁸⁰

The current regulatory environment has gotten us this far and should be allowed to continue to operate unimpeded unless and until a critical mass of real problems arise. Otherwise, anticipatory Net Neutrality rules might result in a legislative Trojan horse filled with unintended consequences.

About the ACLP at New York Law School

ACLP’s mission is to promote robust and solution-focused dialogues among state and federal policy makers, industry, academe, consumers and the financial community concerning changes to the state and federal regulatory regimes governing the advanced communications sector.

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⁷⁸ FTC STAFF REPORT, BROADBAND CONNECTIVITY COMPETITION POLICY, at 155-156 (June 2007) *available at* <http://www.ftc.gov/reports/broadband/v070000report.pdf>.

⁷⁹ *Id.* at 157.

⁸⁰ Deborah Platt Majoras, Chairwoman, FTC, Keynote Address to the Federal Communications Bar Association (June 27, 2007) at 13 *available at* <http://www.ftc.gov/speeches/majoras/070627fcba.pdf>.