Supporting Network Neutrality

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"I have neither given nor received unauthorized assistance while preparing this statement and I have written the code myself."

Abstract

From blogs to online telephone services, the Internet has thrived as a platform of innovation. And much of that success is due to the "hands-off approach" of network neutrality. In a simple sense, the principle advocates allowing consumers to reach the content they want without telecommunication and cable companies degrading service. The issue of network neutrality has drawn rancor from companies who provide the Internet's pipeline infrastructure.

AT&T, Verizon and others contend if they spend billions of dollars to install the infrastructure, then bandwidth users such as Google and Microsoft should pay for the service. Unfortunately, the costs could trickle down to the consumer. Network neutrality supporters fear the telecommunication and cable companies would try to institute a tiered-system of Internet access with special service to a few companies willing to pay fees to deliver content.

While the author recognizes telecommunication and cable companies need to charge fees for use of their pipeline, consumer choices must also be protected. The author will aim to strengthen support for network neutrality principles by looking at telecommunication deregulation, the shortcomings of the Telecommunication Act of 1996 and examples of discriminating practices by the telecommunication and cable companies.

Citing academic papers, online news articles and Web sites, this paper also addresses the movement of lawmakers to codify network neutrality principles.

Vinton Cerf, one of the Internet's founding fathers, proclaims the Internet allows "innovation without permission" (Cerf) and entrepreneurs have thrived on the Internet. A former Harvard student founded the social networking site Facebook (Markoff). Two Stanford students conceived Yahoo! (Answer Bag). Three former PayPal employees created YouTube (Hopkins).

The Internet works as an "unrestricted free marketplace of ideas" (Murkoff). And with 200 million people in the United States using the Internet daily (Worthen), there is certainly a market for innovation. One guiding concept present since the beginning of the Internet's development has been "network neutrality." Advocated by Cerf and content providers such as Google and Amazon.com, network neutrality is "the transmission of data moved without prejudice based on the network's speed and capacity. That's the notion on which the Internet was built" (Wu).

Network neutrality faces a serious challenge from cable and telecommunication companies who provide the Internet's infrastructure. Verizon, Comcast, AT&T and other bandwidth providers control 98 percent of the broadband market (Scott et al). Network neutrality advocates fear the telecommunication and cable companies favor a tiered-system of Internet access with special service to a few companies willing to pay fees to deliver content at fast speeds (Pepper). In the end, the consumer's choice to pick the best product is limited.

Adam L. Penenberg, an assistant professor at New York University, said the tiered-system would allow service providers to give preferential treatment:

> "Some will enjoy first rate access while others would deal with slow connections. This would give companies like Verizon a tremendous advantage as they roll out their television and Voice-Over-Internet Protocol telephone services."

Verizon, Comcast and other telecommunication and cable companies contend if they should spend billions of dollars to install the infrastructure to handle streaming video, for instance, then bandwidth users such as Google and Microsoft should pay to offset costs (Penenberg). Telecommunication and cable companies say revenues from these charges would be used to further improve the network (Reardon). Those costs have increased. AT&T has seen its traffic double since 2006 and the company spent $19 billion to upgrade its network (Reardon). And with 70 percent of Internet users in the United States having access to broadband service at either home or work (Worthen), the demand is sure to expand.

Former AT&T CEO Edward Whitacre strongly supported the notion of a tiered-pricing system in a 2005 interview with Business Week Online:

> "Now what they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital and we have to have a return on it. So there's going to have to be some mechanism for these people who use these pipes to pay for the portion they're using. Why should they be allowed to use my pipes? The Internet can't be free in that sense, because we and the cable companies have made an investment and for a Google or Yahoo! or Vonage or anybody to expect to use these pipes [for] free is nuts!"

Instituting the two-tiered system would stifle the consumer's ability to choose the services they want, Cerf said, since operators will have the power to exercise a great deal of control over any application over the network (Cerf).

The author will aim to support network neutrality principles by looking at telecommunication deregulation, the shortcomings of the Telecommunication Act of 1996 and examples of discriminating practices by telecommunication and cable companies. In highlighting these examples, I hope this paper will continue the network neutrality debate.

Establishing Network Principles

The push for telecommunication companies to provide nondiscriminatory services began in the 1960s**.** The Federal Communications Commission started to address the issue of transmitting data through telephone networks (Scott et al). The commission began a series of hearings where it ultimately decided to prohibit companies providing communication services from "interfering with or discriminating against information services" (Comstock).

The idea of information services being treated in a nondiscriminatory manner gained more traction when the United States government filed an antitrust suit in 1974 against AT&T (AT&T). The matter was settled in 1982 when AT&T agreed to divest its local exchange service operating companies (Manning) and those companies became separate entities. The courts required those new companies to offer interconnection and access to their networks (Scott et al).

Interconnecting directly with similar telecommunication carriers formed the basis of the Telecommunications Act of 1996. The act acknowledged the increasing demand and support of the Internet during its infancy. The act addressed two services: information (e-mail and Web browsing) and telecommunication services (FCC). Legislators focused more on telecommunication services and less on the Internet. In his paper, "Fundamentals of Network Neutrality Debates," Tayfun Uslu recognized telecommunication services are more heavily regulated than information services. In fact, a search for "telecommunication services" provided 65 hits and "information services" resulted in 16 hits (14).

The Telecommunications Act simply calls for open access to the Internet, but not much else relating to cyberspace (FCC). And to date, no federal law prohibits telecommunication and cable companies from discriminating in their handling of network traffic (Mark).

In absence of legislation, the Federal Communications Commission established four network principles calling for consumers to have unfettered access to "lawful content," freedom to run application and use any device of their choice (Powell). The FCC has stated competition among service providers and application providers should also be protected. FCC Chairman Kevin Martin indicated, however, implementing those principles may be difficult to prevent companies from creating tiers and dictating service speeds (Kapustka).

The problem lies in the fact those principles are not enforceable. Rep. Ed Markey (D-Mass.) hopes to change that fact introducing network neutrality legislation. In 2006, Republican majorities in the House and Senate prevented his first bill from reaching a vote (Kessler). The legislation would have prohibited broadband carriers from charging extra fees based on bandwidth consumption (Markey). In addition to its antidiscrimination provisions, the bill would prohibit "interference and surcharges" on outside content and applications (Markey). Fines and other punishments could be levied by government regulators for violations. Markey will introduce a similar bill by mid-December 2007 where the House Subcommittee on Telecommunications and Internet could schedule hearings in 2008 (Broache).

In the Senate, Sens. Bryon Dorgan, D-N.D., and Olympia Snowe, R-Maine, introduced similar legislation last January titled "Internet Freedom Preservation Act." The provisions would codify consumer protections and prevent any network provider from blocking Web access (Mark). The telecommunication and cable companies argue no new laws are needed (Reardon). They also argue regulation is not necessary because network operators do not have the incentive to discriminate (van Schewick 1). A series of actions by Verizon Wireless and Comcast, however, have rekindled the call for network neutrality regulations:

- In September, Verizon rejected a request from the pro-abortion group NARAL (Fisher) to use its mobile network to disseminate news alerts to group members. Verizon defended its decision to block "unsavory or controversial" text messages. Legal experts interviewed by New York Times Reporter Adam Liptak said regulations forbid telecommunication companies from "interfering with voice transmissions on ordinary phone lines," but text messages do not apply.
- In another case, AT&T was streaming a live performance from Pearl Jam at the music festival Lollapalooza in August (Healey). During the band's set singer Eddie Vedder changed lyrics to the song "Daughter" and called for President Bush to find another home. AT&T promptly cut the live feed and edited the performance (Stirland).
- A coalition of university law schools and network neutrality supporters filed a complaint Nov. 1 with the FCC charging Comcast with data discrimination (McCullagh). The nation's second largest broadband provider blocked access to legal peer-to-peer file-sharing networks such as BiTorrent and Gnutella. Company officials denied any wrongdoing and said workers were performing "reasonable network management" (Cheng).

The preceding examples did not involve discriminatory pricing, but they do violate the FCC's four principles guaranteeing consumer access to all content and services. Lauren Weinsten, founder of a watchdog group, said Comcast disregarded those principles with its actions. "They're not suppose to be anti-competitive they're not suppose to discriminate; and worse, they are being secret about it," she said. "Comcast violated all of the rules" (Mark).

Summary and Solutions

The ongoing debate over network neutrality centers on the question of access. Supporters want to codify network neutrality principles into law because such measures are needed to allow consumers to have unfettered access to Internet content. The law would preserve the Internet as a tool of innovation and supporters have cited three examples of how network providers could discriminate against “independent producers of application” (van Schewick 40).

Network neutrality supporters acknowledge telecommunication and cable companies face additional costs in providing bandwidth space to handle demand (Scott et al) but reject a tiered-system of Internet access as a solution. One possible solution offered by economists and law professors such as Tim Wu of Columbia University is to simply charge customers for the bandwidth used (Wu). Just as a customer pays for electricity based on usage, those heavy Internet users could subsidize the Internet for those who do not use it as often.

The plan would also allow consumers to sort through different options and different prices and allow network service providers can see a return on their investments. Markey’s 2006 bill included a similar term which would allow network service providers to charge for higher quality of service (Uslu 53). The idea may prove unpopular, but consumers may be forced to spend more money for better access and higher speeds, said Michael Geist, a University of Ottawa law professor and technologist columnist (Sorensen): “At the end of the day, consumers are going to have to pay,” he said. “It’s just a matter of how they pay.”

Conclusion

When legislators drafted the Telecommunications Act of 1996, they added e-mail and Web browsing provisions under the umbrella of information telecommunication services. The Telecommunications Act focused more on regulating the telecommunication industry and offered basic rules governing open access to the Internet. Lawmakers could not have imagined the rapid growth ushering technological advances from wireless Internet to online telephone services. And that is one reason why work to update the Telecommunications Act is underway. Adding network neutrality provisions, supporters say, would allow for innovations to continue while preventing telecommunication companies from discriminating in favor of their own applications (Scott et al).

Legislators face a difficult task ahead. As innovation continues to yield new applications and technologies, consumers, service providers and network operators need to coexist in the same market. Network neutrality laws help to do just that.

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