



## Does Net Neutrality Help or Hurt Consumers?

An FCC Notice of Proposed Rulemaking (NPRM) seeks to add and codify principles preserving an “open Internet,” innocuously called *net neutrality*.<sup>1</sup> The FCC effort, as well as the introduction of legislation in the United States House of Representatives,<sup>2</sup> comes at a time when Congress has asked the FCC to develop a nationwide broadband plan, one that would spur consumer welfare and more ubiquitous infrastructure investment. As the FCC considers public comments, the wide variance in opinions about what exactly constitutes *net neutrality*, what the principles would encompass and how they should be enforced, create great uncertainty as these principles become regulations. While the FCC appears amenable to allowing Internet Service Providers (ISPs) to engage in reasonable network management, depending on exactly what regulations are eventually enforced could affect ISP pricing, quality and service differentiation, making the Internet look like what some have called a “one-size-fits-all” dumb pipe.<sup>3</sup>

While the industry can be characterized as having high fixed costs and economies of scale, the market performance of the industry points to extraordinary growth, high investment, increased competition, faster speeds and lower prices. According to the FCC’s latest data (June 2008), broadband services reached over 132 million subscribers in the U.S., delivered by 863 asymmetrical digital subscriber line providers, 238 symmetrical digital subscriber line providers, 259 traditional wireline providers, 296 cable modem providers, 308 fiber providers, 4 satellite providers, 6 power line providers, 505 fixed wireless providers and 24 mobile wireless providers.<sup>4</sup> In total, these providers have at least some coverage in every zip code in the U.S. and there are indications that competition continues to increase. For instance, the FCC’s previous broadband report estimated that 77.6% of zip codes had 5 or more providers, while its latest report estimated that 87.4% of zip codes had 5 or more providers – a 10% increase in overall U.S. penetration in just six months. By the middle of last year, there were 130 million more broadband subscribers today than there were just 10 years before. Along with increased speeds and extraordinary increases in growth, prices have significantly declined.<sup>5</sup> Based on market performance, there is no economic justification for a regulatory remedy.

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<sup>1</sup> “In the Matter of Preserving the Open Internet Broadband Industry Practices,” Notice of Proposed Rulemaking, GN Docket No. 09-191 and WC Docket No. 07-52, Released October 22, 2009.

<sup>2</sup> In July 2009, Representatives Markey and Eshoo introduced the Internet Freedom Preservation Act (H.R. 3458), see <http://markey.house.gov/images/PDFs/netneutralitybill.pdf>.

<sup>3</sup> Scott M. Fulton, III, “House Republicans in Uncharacteristic Unison over ‘One-Size-Fits-All’ Net Neutrality,” Betanews.com at <http://www.betanews.com>.

<sup>4</sup> These figures come from the FCC’s broadband report “High-Speed Services for Internet Access” Status as of June 30, 2008, FCC, July 2009.

<sup>5</sup> Evidence of falling prices is documented by the United States Telecom Association, available online at <http://www.ustelecom.org/uploadedFiles/Learn/Broadband.Pricing.Document.pdf>. Also see, J. Gregory Sidak, “A Consumer Welfare Approach to Network Neutrality Regulations of the Internet,” the *Journal of Competition Law & Economics*, Oxford Press, Vol. 2:3, 2006, p. 400.

In fact, the FCC has cited the absence of Internet regulation as aiding the successful promotion of network investment, innovation and growth:

*The Internet has evolved at an unprecedented pace, in large part due to the absence of government regulation. Consistent with the tradition of promoting innovation in new communications services, regulatory agencies should refrain from taking actions that could stifle the growth of the Internet. During this time of rapid telecommunications liberalization and technology innovation, unnecessary regulation can inhibit the global development and expansion of Internet infrastructure and services. To ensure that the Internet is available to as many persons as possible, the FCC has adopted a “hands-off” Internet policy. We are in the early stages of global Internet development, and policymakers should avoid actions that may limit the tremendous potential of Internet delivery.<sup>6</sup>*

While the FCC is now intent on writing net neutrality regulations, there has yet to be any identification of exactly what market failures exist that these regulations would fix, nor has there been any quantitative cost/benefit analysis to demonstrate how consumers would benefit. However, there have been numerous studies demonstrating that net neutrality regulation would, in fact, harm consumers. This, in fact, was the conclusion of the United States Department of Justice in their September 2007 filing to the FCC:

*The FCC should be highly skeptical of calls to substitute special economic regulation of the Internet for free and open competition enforced by the antitrust laws. Marketplace restrictions proposed by some proponents of “net neutrality” could in fact prevent, rather than promote, optimal investment and innovation in the Internet, with significant negative effects for the economy and consumers.<sup>7</sup>*

### **Net Neutrality means that Consumers Pay More for Investment Upgrades**

While the FCC NPRM appears to permit consumers to pay different prices for different services, it clearly prohibits ISPs from offering differentiated prices to applications and content providers, effectively banning multi-sided pricing. Multi-sided pricing exists when a platform brings together independent groups that value each other’s participation in the market. For instance, a newspaper (as the platform) brings together readers and advertisers -- collecting subscription fees from readers and selling ad space to businesses. Hahn and Wallsten observed that banning multi-sided pricing (effectively setting the ISP price for content providers at zero) would lead to consumer welfare losses.<sup>8</sup> In a comprehensive study on this issue, Darby and Fuhr found that a ban on multi-sided pricing would require consumers to pay for all of the upgrades to the Internet, thereby increasing consumer prices and decreasing broadband demand – both of which would reduce network investment.<sup>9</sup> The study estimated the present value of lost consumer welfare to be as much as \$32 billion over 10 years, or about \$285 per broadband household. Sidak evaluated and modified Darby’s figures and re-estimated the welfare losses to

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<sup>6</sup> “Connecting the Globe: A Regulator’s Guide to Building a Global Information Community, Federal Communications Commission, available at <http://www.fcc.gov/connectglobe/>.

<sup>7</sup> “In the Matter of Broadband Industry Practices,” WC Docket No. 07-52, *Ex parte* Filing from the United States Department of Justice to the Federal Communications Commission, September 6, 2007, p. 1, available at <http://www.usdoj.gov/atr/public/comments/225767.htm>.

<sup>8</sup> Robert Hahn and Scott Wallsten, “The Economics of Net Neutrality,” AEI-Brookings Joint Center for Regulatory Studies, 2006.

<sup>9</sup> Larry F. Darby and Joseph P. Fuhr, Jr., “Consumer Welfare, Capital Formation and Net Neutrality: Paying for Next Generation Broadband and Networks,” *Media Law and Policy*, Summer 2007, pp. 122-64.

be in the range of \$3.44 to \$7.74 billion per year.<sup>10</sup> Pociask found that restrictions on multi-sided market pricing would mean that consumers lose \$69 billion in potential benefits over the next 10 years.<sup>11</sup>

Net neutrality, as currently proposed by the FCC in its NPRM, would also prevent ISPs from providing enhanced quality of service to unaffiliated content providers. Litan and Singer estimated that this would lead to billions of dollars of consumer welfare losses – including a \$1.5 billion decrease in consumer welfare just for foreclosing enhanced quality of service offerings to online multi-player video game providers.<sup>12</sup> In other words, net neutrality, as currently proposed, would prohibit voluntary commercial agreements with unaffiliated content providers – a practice that would keep consumers from getting lower broadband prices and make consumers pay for all of the investment and upgrade costs for the next generation network.

### **Net Neutrality Would Make the Network “Dumb” and Costly**

The FCC’s NPRM suggests that ISPs can retain reasonable network management, but how that is defined could make all of difference of whether consumers are adversely impacted by increased congestion, unwanted spam and malicious online attacks. Even requiring ISPs to provide public details on their network management techniques could provide hackers and others the information they need to circumvent network management techniques and protect online consumers.

Studies evaluating the effects of making the Internet a dumb pipe point to adverse consequences for consumers. Litan and Singer cite one study’s estimates that an unmanaged network would cost as much as \$466 per month.<sup>13</sup> In another study, Ford, Koutsky and Spiwak found that a neutral network could cost consumers \$300-\$400 more per month than an “intelligent” network.<sup>14</sup> Yukel, Ramakrishnam, Kalyanaraman, Houle and Sadhvani showed that an undifferentiated service network could require nearly twice the provisioning (and therefore twice the network costs) as a managed network.<sup>15</sup>

### **Net Neutrality Would Raise Prices for Low-Income Consumers**

While the FCC’s NPRM does not appear to take issue with ISPs charging different prices for different end-user services, some advocates for net neutrality have. Restrictions on price discrimination would limit the ability of Internet Service Providers to offer significantly lower priced broadband services at slower speeds and service quality. The effect of this prohibition would be to average service speeds and quality across all consumers, and, accordingly, price. That averaging would benefit high-end consumers by potentially lowering their price, but it would raise prices for lower-end consumers. This point is echoed by Greg Moore, executive director of the National NAACP Voter Fund:

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<sup>10</sup> J. Gregory Sidak, “A Consumer Welfare Approach to Network Neutrality Regulation of the Internet,” *Journal of Competition Law and Economics*, 2:3, pp. 349-474, 2006.

<sup>11</sup> Stephen Pociask, “Net Neutrality and the Effects on Consumers,” The American Consumer Institute, May 9, 2007.

<sup>12</sup> Robert E. Litan and Hal J. Singer, “Unintended Consequences of Net Neutrality Regulation,” *Journal on Telecommunications and High Technology Law*, 2007.

<sup>13</sup> *Ibid*, on p. 15.

<sup>14</sup> George S. Ford, Thomas Koutsky and Lawrence J. Spiwak, “The Efficiency Risk of Network Neutrality Rules,” Phoenix Center, Policy Bulletin No. 16, May 2006.

<sup>15</sup> Murat Yuksel, K. K. Ramakrishnan, Shiv Kalyanaraman, Joseph D. Houle and Rita Sadhvani, “Class-of-Service in IP Backbones: Informing the Network Neutrality Debate,” Proceedings of ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS), Annapolis, MD, June 2008, pp. 465-466.

*The effects could be disastrous for low-income and minority communities, pricing them out of the broadband market by guaranteeing a free ride to companies such as Google and eBay while shifting costs for broadband expansion back to consumers. Although net neutrality activists claim to be protecting free speech, net neutrality regulations would effectively silence many minority voices, as low-income communities drop off the online landscape because they can't afford the price of admission.*<sup>16</sup>

Since broadband services are price elastic and since consumers with lower incomes are apt to be more price sensitive than other online users, any restriction on price discrimination would lead some lower income consumers to drop their online service. Even though high-end consumers are less price sensitive, there would still be some demand stimulation from lower prices, but (because of differences in price elasticity) the demand stimulation affecting high-end users would not offset the demand repression affecting low-end users. One study documents that increased network costs would disproportionately harm lower income consumers:

*Net Neutrality regulations would also increase the price of broadband services, because it increases the cost of the network that provides those services. Because broadband services are very price sensitive, just a \$5 increase in price could lead to a 15% drop in total broadband subscribership and a 60% decline in demand for lower-income, price sensitive consumers.*<sup>17</sup>

### **Service Innovation Threatened by Internet Regulations**

Before the Internet became a mass market service, the idea of prioritizing traffic was considered a natural evolution from a best-effort Internet to an Internet that could meet quality of service standards.<sup>18</sup> Net neutrality regulations would deny ISPs the ability to differentiate services and prices, which may stymie Internet service innovation with the tragic result that some services and applications will never reach the consumer market. Net neutrality advocates support regulations that would prohibit an ISP from giving service guarantees to telemedicine applications between patients and hospitals. They also support provisions that would prevent network operators from giving priority to the delivery of emergency information over downloading music, and prohibiting Internet sponsors from paying for access to super fast Internet customers.

The late Dr. Frank Bowe, longtime distinguished professor for the Study of Disabilities at Hofstra University, wrote that net neutrality regulations would inhibit supportive technologies that can help millions of Americans with special needs.<sup>19</sup> Net neutrality would prohibit service level guarantees, which would hamper video relay and peer-to-peer video services. For Americans with hearing loss, these services are “functionally equivalent to a voice phone,” according to Professor Bowe. Regulations may also inhibit development of innovative Internet services, such as text-to-speech applications that help the blind.

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<sup>16</sup> Greg Moore, *Asbury Park Press*, May 11, 2007.

<sup>17</sup> Pociask, 2007.

<sup>18</sup> Robert Bonometti, Stephen Pociask, Patrick White, Eric Firdman and Stathis Mavrotheris, “The Economics of Multimedia Data Networking,” Harvard University Network Infrastructure Symposium, Dec. 1997, published by MIT Press.

<sup>19</sup> Frank G. Bowe, “Net Neutrality and People with Disabilities,” Hofstra University, May 2006.

Because Internet regulations would prohibit ISPs from offering tailored services to customers, some unique network-based applications would never be developed to help the elderly and infirm. For example, under net neutrality, ISPs could be prohibited from adding extra network security for online access to hospital medical data banks. Dedicating bandwidth to integrated monitoring and interventions systems for chronically ill patients would be illegal, since it would require prioritizing medical needs over less critical information – like music downloads and other entertainment content. Unique video-based applications for telemedicine would be prohibited, including, for example, applications that allow doctors and hospitals to share and send video telecommunications, X-rays, and digital images to doctors and hospitals located in other parts of the country. At risk would be telemedicine applications now used to diagnose diseases such as osteoporosis, arthritis and cancer, as well as services used to monitor homebound patients with diabetes, congestive heart failure and other serious illnesses.

According to Litan, accelerating broadband use – just for senior citizens and those with disabilities alone – will add \$620 billion in economic benefits in the next 25 years.<sup>20</sup> However, Litan sees the imposition of Internet regulations as a real threat to these benefits. One endocrinologist, Max E. Stachura, M.D., correctly summarized the problem with way:

*A telehealth provider could conceive a new application for monitoring or remote management and therapy, but a network neutrality framework could preclude the broadband provider from offering the necessary bandwidth configuration. The point is that it is impossible to know today the network requirements of tomorrow's telemedicine. Policymakers would be unwise to lock in regulations that can only limit the flexibility of the broadband Internet.*<sup>21</sup>

## **Conclusion**

This *ConsumerGram* has provided examples of how net neutrality rules would impede investment and innovation, and would push costs to consumers – particularly, lower-income, those with special needs, low-end online users and others. In the absence of any clear market failure, policymakers need to be cautious about promulgating rules that create more costs than benefits.

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<sup>20</sup> Robert Litan, “Great Expectation: Potential Economic Benefits to the Nation from Accelerated Broadband Deployment to Older Americans and Americans with Disabilities,” NMRC, Dec. 2005.

<sup>21</sup> Max E. Strachura, M.D., “Promoting Telehealth in a Broadband World,” APT, June 2006.