

2012

**Saving the
Open Internet**

**The Importance of
Net Neutrality**



STEPHANIE CHEN and CHRIS BROWN | The Greenlining Institute



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MARCH 2012

About the Greenlining Institute

The Greenlining Institute is a national policy, research, organizing, and leadership institute working for racial and economic justice. We ensure that grassroots leaders are participating in major policy debates by building diverse coalitions that work together to advance solutions to our nation's most pressing problems. Greenlining builds public awareness of issues facing communities of color, increases civic participation, and advocates for public and private policies that create opportunities for people and families to make the American Dream a reality.

About Greenlining's Consumer Protection Program and Our Legal Team

Led by General Counsel Samuel Kang, Greenlining uses in house legal experts to ensure that there is equity in the state's energy, telecom, and cable industries. Greenlining's legal team is one of the few active racial justice advocates at the California Public Utilities Commission, the Federal Communications Commission, and other regulatory bodies.

They work closely with grassroots leaders to ensure that the needs and solutions of communities of color are represented in the halls of these commissions. Greenlining plays a critical role in ensuring that California's regulated companies remain leaders on issues of diversity and economic equity. In addition, our legal team builds bridges between grassroots leaders and corporate CEOs to ensure that positive dialogue leads to win win solutions.

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Acknowledgements:

Editor: Bruce Mirken, Media Relations Coordinator, The Greenlining Institute

Design: Vandy Ritter Design, San Francisco



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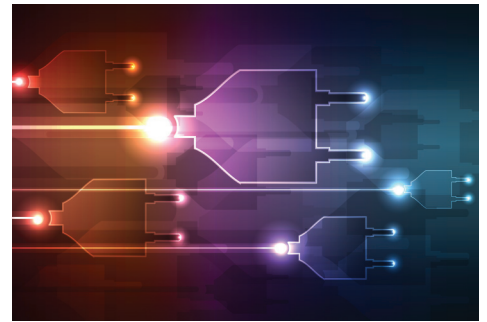
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Executive Summary

The Meaning of Net Neutrality and Why it Matters

- Freedom is at the epicenter of the Internet experience and is the Internet’s defining promise. The Internet is a place where the lowest income user has the same access to unfiltered information as the wealthiest, and where individuals can successfully compete with multibillion dollar corporations.
- Net neutrality means that everyone with access to the Internet has access without censorship or interference by their Internet service provider (“ISP”) – in short, that information remains free. ISPs can’t block their customers’ access to information simply because the ISP dislikes it or because it might help a competitor.
- Without net neutrality, the result would likely be a sort of Internet apartheid, with the least affluent individuals and companies relegated to the slowest lanes with the least access. This hardship will be felt most profoundly in communities of color and by low-income Americans.
- Though the term “net neutrality” was coined in the last decade, the underlying concept dates back to the federal Pacific Telegraph Act of 1860. This law required that telegraph messages “received from any individual, company, or corporation, or from any telegraph lines connecting with this line at either of its termini, shall be impartially transmitted in order of its reception” – without picking favorites. Net neutrality is simply the digital version of this basic principle of impartiality.
- Supporters of net neutrality don’t want the government to regulate the Internet, but simply want to prevent ISPs from misusing their positions as gateways to favor or disfavor certain types of information.
- Proponents of net neutrality can’t be put into one political or ideological box and range from major Internet firms like Yahoo and Google, to conservative organizations like the National Religious Broadcasters.
- Violations of net neutrality by major firms like Comcast, AT&T and Verizon have been documented, including censorship of text messages sent to pro-choice activists who signed up to receive them and of political comments made by the band Pearl Jam during a live-streamed concert.
- In December 2010, the Federal Communications Commission issued its Open Internet Order establishing net neutrality rules for wireline providers and much more limited rules for wireless providers. This order has been challenged in court and the FCC’s statutory authority in this realm remains in doubt.

Policy Recommendations

- Congress should pass Senate Bill 74, currently in the Senate Commerce, Science, and Transportation Committee. This bill would give the FCC the statutory authority to stop ISPs from using their positions as gatekeepers to give complete Internet access only to those who can pay them more.
- Wireless net neutrality rules are too weak and should be strengthened. At present, four companies dominate the wireless market, and only one has a business model that reaches out to value-conscious customers. Wireless providers purchase rivals in order to solve spectrum shortages. However, there are technologies available that can be used to manage spectrum resources more efficiently and responsibly.
- While awaiting clarity from the federal government, states can and should enact legislation that requires ISPs to disclose what types of Internet traffic they discriminate against, to what extent that traffic is blocked or delayed, and why.

Introduction

“Everything that is really great and inspiring is created by the individual who can labor in freedom.”

—Albert Einstein


Freedom is at the epicenter of the Internet experience, and freedom is the Internet’s defining promise. The Internet is a place where the lowest-income user has the same access to unfiltered information as the wealthiest, and where individuals can successfully compete with multibillion dollar corporations. Net neutrality is essential for both free expression and the free market to flourish on the information superhighway, and is particularly crucial for low-income communities. Contrary to some misconceptions, net neutrality is not about some new federal control over the Internet; it is about maintaining the free Internet as we experience it today, protecting consumers while also respecting broadband infrastructure and service provider investments.

What is Net Neutrality?

Net neutrality means that everyone, everywhere in the country, with access to the Internet has access without censorship or interference by their Internet service provider (“ISP”). It means that a single mom of three in Kansas has the same unfettered Internet access as an executive at Google. She can create a video blog and transmit it at the same speed as Netflix, and can freely develop a software program to compete against AT&T’s mobile empire. She can even distribute that program over AT&T’s network without having access to the program slowed or blocked by a large corporation fearing a threat to its business.

In short, net neutrality means that information remains free. ISPs can’t block their customers’ access to information simply because the ISP dislikes it, or because it might help a competitor.

There is an exception: An ISP can manage the type and speed of Internet traffic in order to maintain network quality for consumers, or to service its infrastructure (Steffe, 2010). Streaming video provides an example: Consumers are most likely to watch high definition video during the evening hours, and when they do, they use a high amount of bandwidth.



This leaves less bandwidth available for other consumers. In this situation, an ISP may ensure that there is dedicated bandwidth for applications like e-mail and general web browsing so that low-bandwidth traffic won't be slowed down by other consumers' high-bandwidth usage. Generally speaking, the ISP's do not read or manipulate the traffic that leaves or enters your personal network and computer, and they have no right to do so. This is known as the End-to-End principle (Saltzer).

Though the term “net neutrality” was first coined by Tim Wu in his 2005 article, *Net Neutrality, Broadband Discrimination* (Steffe, 2010), the underlying concept is far older. In the mid-1800s, a federal law regulating telegraph messages ensured that “messages received from any individual, company, or corporation, or from any telegraph lines connecting with this line at either of its termini, shall be impartially transmitted in order of its reception” (Pacific Telegraph Act of 1860). This ensured that the many companies who operated telegraph lines transmitted the messages in order of receipt, regardless of their source, and couldn't pick favorites. Net neutrality is simply the digital version of this basic principle of impartiality.

Net neutrality principles are often miscommunicated by both advocates and detractors. When most people think of neutrality, they think *hands off* in a libertarian sense. Unfortunately, some people misunderstand when they learn that proponents of net neutrality want the government to enforce it (Survell, 2011). What hasn't been clearly communicated is that proponents don't want the government to regulate the Internet, but simply want the government to enforce rules that prevent ISPs from using their positions as gateways to require companies like Netflix to pay high fees for faster Internet access. Such discrimination would result in a slowed Internet and higher fees (or restricted access) for consumers.

Net neutrality keeps the Internet open, the way we experience it today. Forsaking net neutrality will put access to the open Internet out of the reach of many, particularly low income consumers, new or small businesses, and many consumers from communities of color.

Widespread Support

Consumer advocacy organizations and major Internet application companies like Yahoo and Google support net neutrality. According to Google, “network neutrality is the principle that Internet users should be in control of what content they view and what applications they use on the Internet. The Internet has operated according to this neutrality principle since its earliest days” (Whit, 2010). Sir Tim Berners-Lee, the British physicist who is credited with the creation of the World Wide Web, also supports net neutrality and said, “When I invented the Web, I didn't have to ask anyone's permission” (Stokes, 2006).

Although many of the issues surrounding net neutrality have been politicized, neutrality supporters and detractors do not necessarily fall in ranks according to ideology. There is a tendency to portray net neutrality as a liberal issue, but conservative organizations advocate for net neutrality as well. For example, the National Religious Broadcasters have said, “As Christian broadcasters and program producers, the future of an unrestricted Internet has significant implications for us. Increasingly, our ability to reach the broadest audience may be at least partially dependent upon unrestricted access to the Internet” (Wright).



The FCC's Open Internet Order

In December 2010, the Federal Communications Commission established the Open Internet Order. FCC Chairman Julius Genachowski announced that the ISPs have an incentive to violate net neutrality, and that the FCC's old rules were simply not enough to protect consumers (Genachowski, 2010). The order recognizes two types of Internet access; one for the Internet that runs through our homes ("wireline"), and another which connects our mobile devices to the Internet ("wireless"). The Open Internet Order establishes tougher net neutrality rules for wireline than for wireless: Only the first of the order's three specific rules, listed below, applies to wireless broadband providers:

- 1) **Transparency:** Both wireline and wireless providers have to disclose their network management practices, the performance of their connections, and the terms and conditions for use of their service;
- 2) **Blocking:** Wireline providers are prohibited from blocking lawful content, applications, services, and non-harmful devices. Further, mobile devices may not block lawful websites or applications that compete with the service provider's voice and video services;
- 3) **Unreasonable Discrimination:** Wireline providers may not unreasonably discriminate in the transmission of lawful network traffic. What constitutes "unreasonable" is yet to be determined (FCC).

The Open Internet Order received a mixed reception among the ISPs and resulted in lawsuits from both Verizon and MetroPCS (Singer, 2011). Both lawsuits were dismissed as premature since the Open Internet Order had not been officially published in the Federal Register. However, Verizon resubmitted its complaint soon after the order was filed (Reardon, 2011). In April 2011, the Republican-controlled House voted to overturn the FCC's net neutrality rules (Albanesius, 2011), although President Obama has indicated that he would veto the bill if it ever made it to his desk.



A Solution in Response to a Problem

Opponents of net neutrality frequently call it a solution in search of a problem (Laxton, 2006). This is simply not so. There have been many violations of net neutrality, and ISPs are getting both bolder and more creative in an effort to increase their bottom line. Broadband providers have both the incentive and ability to interfere with how users connect to the Internet, and have done so on many occasions, including:

Comcast

Before the FCC's Open Internet Order, there was an infamous contest over net neutrality between the FCC and Comcast concerning high bandwidth users (*Comcast Corp. v. FCC*, 2010). Comcast used software to examine the type of Internet traffic moving through its network and blocked users who used specific high bandwidth applications from connecting to the Internet, while allowing others to go through (Riley, 2009). The FCC ordered Comcast to stop, stating that ISPs could not block consumers from accessing online content; however, the D.C. Court of Appeals held that the FCC failed to prove that it had the authority to regulate Comcast's traffic management. The ruling did not say the FCC decision was wrong in principle; it said that Congress would have to give the FCC the power necessary to prevent the ISP from blocking specific types of consumer traffic.



Net Neutrality Legislation in Congress

Congress has tried to pass net neutrality legislation many times; however, every piece of legislation failed, or died in committee. The latest effort is Senate Bill 74, the Internet Freedom, Broadband Promotion, and Consumer Protection Act of 2011 (Cantwell & Franken, 2011). This bill is co-sponsored by Senators Al Franken (D-Minn.) and Maria Cantwell (D-Wash.). The bill has been read twice and was referred to the Committee on Commerce, Science, and Transportation. SB 74 would give the FCC the authority that the court said it lacked in *Comcast Corp. v. FCC*.

Verizon

In 2007, NARAL Pro-Choice America established a text messaging program whereby individuals would subscribe to NARAL texts (Ammori, 2010). Verizon cut off access to the program, saying that it would not service programs from any group that sought to promote an agenda or distribute content that, in its view, may be seen as controversial or unsavory by any of its users. Verizon reversed course after subsequent public outrage, but this example demonstrates that net neutrality violations are not limited to the wired Internet.

AT&T

In August 2007, the band Pearl Jam gave a performance in Chicago, and AT&T was contracted to stream the live concert over the Internet (Benjamin, 2009). The ISP censored lyrics when the band's lead singer, Eddie Vedder, sang, "George Bush, leave this world alone," and again when he sang, "George Bush, find yourself another home." Although, the words contained no profanity, AT&T's spokesperson claimed that the words were censored to prevent youth who visited the website from being exposed to excessive profanity.

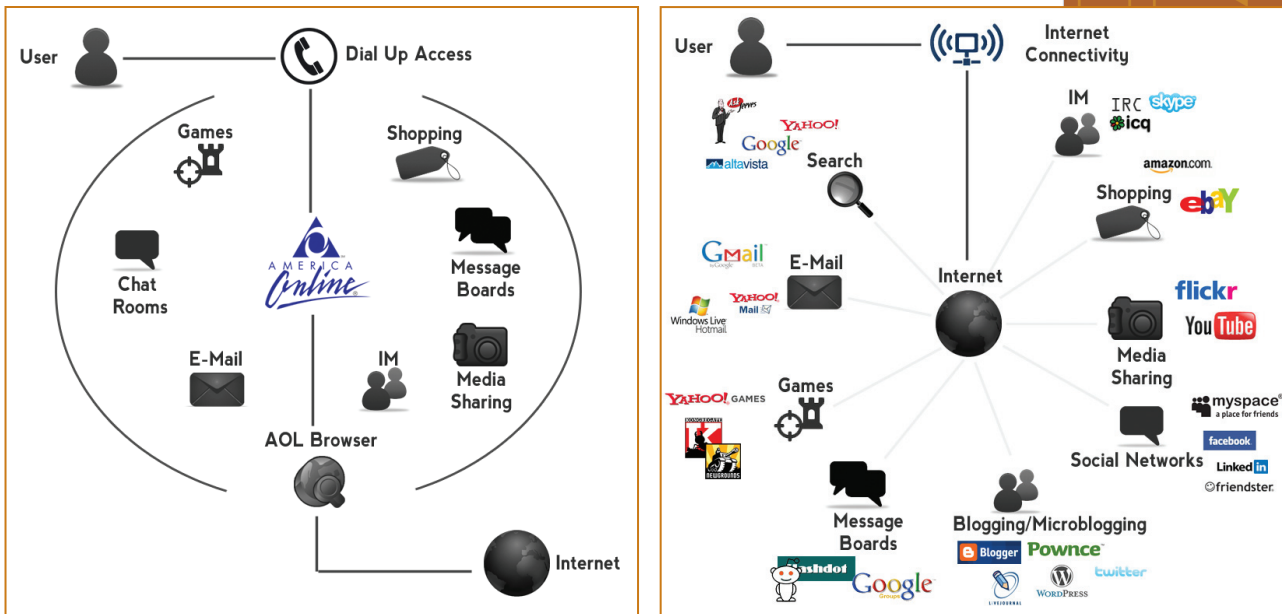
This may not appear to be a net neutrality issue, but it is. When Vedder's lyrics were sent over the Internet, they were sent in packets. These "bits" of information were manipulated by the ISP without consent of either the transmitters (Pearl Jam), or the individuals receiving the signal (the online concertgoers). Since this manipulation had nothing to do with network management, it violated the End-to-End principle.

America Online (AOL)

In 2005, AOL considered charging subscribers a fee to use the junk mail filter on their personal e-mail (Benjamin, 2009). Opponents of the fee considered this a tax on e-mail. A coalition of 600 organizations created a website, DearAOL, and collected over 350,000 signatures in protest of AOL's plans. AOL was accused of more than 300 incidents of blocking e-mails with "DearAOL" in the subject line, though the company claimed that the problem was due to a glitch.

MetroPCS

This example involves a concept known as a "walled garden;" an exclusive group of services offered by an ISP that is limited to only a select group of content providers (Litan, 2007). AOL started with a business model that exemplified the walled garden concept. Rather than offering users access to several sites for shopping or for streaming video, a walled garden offers only one site for shopping, one site for video, etc.



With AOL, on the left, a user had to go through its filter of partner services before reaching the open Internet, whereas on the right, the user's access to the Internet is not filtered.

MetroPCS, the nation's fifth largest wireless carrier, has challenged the FCC's Open Internet Order (Singer). MetroPCS specializes in pay-as-you-go plans, and primarily targets urban youth, minorities, and low-income wireless users for its services (Raymond James Institutional Investor Conference, 2008). MetroPCS uses walled garden services to allow only video streaming from YouTube to reach its phones, blocking other sources. Additionally, MetroPCS's terms of service prohibit the use of VoIP (voice over Internet protocol), including services like Skype, which would directly compete with MetroPCS's phone service (Singer, 2011). The company filed a lawsuit against the FCC's new net neutrality rules in the D.C. Federal Circuit, the same circuit that ultimately ruled that the FCC could not regulate Comcast. The FCC's Open Internet Order provides new neutrality rules, but unless Congress allows the FCC to stop the ISPs from manipulating the Internet, it is uncertain how the D.C. Court will rule in this latest case.

Net Neutrality Protects Consumers

Abandoning net neutrality principles would have dire consequences for the consumer's Internet experience.

Fast Lanes and Slow Lanes Online

There is a limited availability of bandwidth online, and the amount each user uses reduces the amount available to others at any one time. This is a fact that even some experts on the subject fail to convey in their discussions of net neutrality. Former FCC Commissioner Rachelle Chong had this to say about “premium service fees” for websites that would be willing to pay for higher speeds:

“Some people are perfectly fine with mailing a letter for 41 cents with the U.S. Post Office and having it arrive two to three days later. Other folks are in a rush and need to get their letter there faster. So they are willing to pay \$12 to get their letters there overnight via Federal Express or DHL. Different users have different needs, and the market should be free to serve all needs.”

—(Chong, 2008).

The problem with this logic is that when an individual pays \$12 for an overnight FedEx, it does not slow down the cheaper USPS letter. When all the big players choose to have premium services, it will reduce the amount of bandwidth available to the rest of the Internet's users, including start-up companies, individual users, nonprofit and government sites, etc. This will create slow lanes in order to subsidize the fast lane bandwidth (Utter, 2006).

If ISPs are allowed to choose how fast transmitted traffic will move through their infrastructure based on the ownership or affiliation of the content transmitter, there will be clear winners (the websites with the most money), but many more losers. For example, if AT&T makes a deal with the video service Hulu so that Hulu's videos receive priority access, it would force other services like Netflix and YouTube to pay premium service fees in order to compete with Hulu.

The online video streaming companies operate like the offline DVD industry in that there has been steady movement toward higher quality video and extra features to compete for consumer attention. Much like Blu-Ray provides a higher quality, higher priced competitor to the DVD, high definition video is replacing standard definition video online. Premium services will promote high definition video distribution and competition between streaming video websites. This will lead to even larger bandwidth-hogging applications. As these big companies all fall in line to pay for premium service, they will be eating up more bandwidth.

This will result in two unfortunate consequences for consumers: First, the premium service fees that video sites would pay the ISPs will be passed on to consumers through higher subscription fees. Even free services like YouTube would have to charge more for advertising, which itself would result in higher priced products. Second, the small businesses and individuals who could not afford the premium service fees and who also rely on video and other high bandwidth Internet services to compete would be forced into online slow lanes because the big companies would eat up the majority of the available bandwidth.

There is no doubt that high definition video is good for consumers. The widespread availability of high bandwidth video will help to spur innovation among device manufacturers, reducing the price of the computers, laptops, and tablets that can display high definition video. That in turn will provide a technology boost for other applications like word processing, e-mail, and general web access. But premium service fees are not the only way to enable such progress. The ISPs can easily expand their fiber cables for wireline access, and could invest in proven technologies that take mobile traffic out of the air and run it through the same pipes that run their wireline traffic.

Website Suites and Internet Apartheid

Imagine that you pay \$40 a month for Internet access and attempt to connect to YouTube, but the page responds by saying that YouTube is only available on Premium Service at \$59.99 and above. That could happen without net neutrality.

Today, ISPs cannot decide which websites their customers can visit. If a consumer wants to visit YouTube, he or she may do so. However, consumers who use YouTube eat up much more bandwidth than they would browsing news sites or sending e-mail. The ISPs have the technical ability and financial incentive to charge consumers more to use services that eat up more bandwidth. If net neutrality is abandoned, the ISPs will have a free hand to develop suites of Internet access, like the example above. This would place the open Internet out of reach of low income consumers, new or small businesses, and many consumers from communities of color. The result would be a sort of Internet apartheid, with the least affluent relegated to the slowest lanes with the least access.

Walled Gardens

Mobile phone carriers have an incentive to build walled gardens that will disproportionately affect low-income consumers. An example is MetroPCS (discussed above), which only allows video streaming to consumers from YouTube in order to encourage its customers to buy more expensive wireless plans (Litan, 2007), and also bars the use of VoIP, including services like Skype (Singer, 2011).

Today, walled garden services are most likely to come from wireless services and will impact low-income consumers. MetroPCS markets to urban youth, minorities, and low-income consumers, so that consumer market is disproportionately affected. While it may be necessary to discriminate based on the type of data (e.g. streaming video vs. streaming music), it is wrong to discriminate based on who sends the data (Hulu vs. YouTube). Because streaming video takes up a lot of bandwidth on the Internet, a wireless broadband provider is within its rights to maintain its network if it decides not to offer streaming video altogether because to do so would result in poor quality wireless connections. However, it violates net neutrality if it allows streaming video from one legal source but bars streaming video of the same quality from another legal source (FCC, 2010).

Furthermore, walled gardens limit choices and result in limited innovation (Litan, 2007). The Internet is a proving ground where good ideas compete for the attention of the Internet's users. These good ideas don't always come from large corporations, and an increasing number of everyday consumers and small businesses do successfully compete with corporate giants. The cost to compete on the Internet is low, and that keeps larger companies on the Web from charging higher prices for their products and services. This is one of the finest examples of the free market working for each and every consumer, but the free access that makes this possible depends on net neutrality.

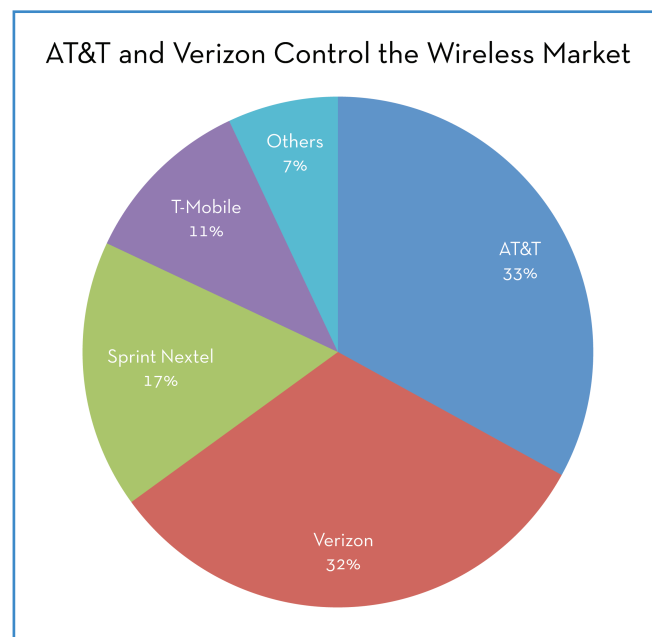


Policy Recommendations

Wireless Internet Neutrality Rules Are Too Weak

The obvious difference between wireless Internet and wired service is that mobile devices like cell phones transmit over spectrum to reach the Internet, rather than via land-based lines. But beyond this, there are significant technological differences. For one, fiber can carry much more traffic, carry it faster, and the cable can always be built out to accommodate increased flow, while wireless spectrum is finite in any given location. No matter how a wireless network is built, there will always be a bandwidth ceiling. This means that the ISPs that operate wireless networks need to be more creative in how they manage their networks.

Four ISPs dominate the wireless market today, but only one of these operates a business model that reaches out to value-conscious consumers. This number would have shrunk to zero if AT&T were to have acquired T-Mobile. AT&T and Verizon, the nation's two largest wireless provider's control 62 percent of the market today. If AT&T were to own T-Mobile, the two giants would control 79 percent. This led Sprint-Nextel CEO Dan Hesse to say that any future acquisition of T-Mobile by AT&T would in essence approve a Sprint/Verizon merger. "It'd be pretty hard not to do that one. And then that number of 79 percent becomes 94 percent in the hands of two." (Hesse).



This failed attempt at acquisition demonstrates that ISPs are more interested in the expansion of their empires than in the proper management of their resources. But this is not the only time the ISPs have demonstrated that expansion is their primary goal. One such example was in 2005 when The Southwestern Bell Company purchased its parent company AT&T, along with AT&T Wireless, Ameritech, PacBell and SNET for \$140 Billion (Berninger). This acquisition lifted the company's market cap by \$40 billion. The other \$100 billion was wasted investment. EDUCAUSE, a group that represents IT managers at over 2,200 colleges and universities, estimates that it would cost approximately \$100 Billion to build broadband networks to every home and business in the nation (EDUCAUSE). This is the same amount that AT&T lost through its 2005 acquisitions.

The ISPs have made no less assertive acquisitions in the wireless industry. When analog televisions were phased out, their spectrum was reserved for use in other wireless applications. A relatively narrow band of that spectrum, the 700 MHz band, was placed on special auction in 2010. The majority of the band sold for \$19.3 billion, with AT&T and Verizon purchasing \$16.5 billion (Silva).

Smartphone innovations in conjunction with increasingly complex smartphone applications eat bandwidth at a pace that reduces available spectrum. However, wireless carriers are not limited to a business model based on acquisition. There are a number of technologies available that can remove cellular traffic from the wireless spectrum by placing it on wireline networks. Some of these devices are available to consumers and can be used in the home. They are simply cellular base stations about the size of a router that are designed to alleviate spectrum congestion and provide 5 bar coverage where there is little coverage or even none (Mavrakis). These are particularly useful since 60-80% of mobile data traffic is done inside (Brookings Institute).

Enact Federal Net Neutrality Legislation

Whether the FCC has the statutory authority to enforce neutrality remains an open question. If the courts rule that it does not, the ISPs will be given a free hand to develop business models such as pricing tiers that will create an artificial bandwidth scarcity instead of investing in the infrastructure that would ensure free and open access for all consumers. The Comcast decision (discussed above) demonstrates that the FCC's authority in the net neutrality debate has been significantly weakened; however, legislation similar to Senate Bill 74 would provide the FCC the jurisdictional authority needed to maintain an open Internet. The government already grants ISPs easements to run their cable, and gives them significant government subsidies and tax breaks (Mitchell, 2007). It is only fair that Congress provides the FCC with the authority necessary to ensure that the Internet access these companies offer remains open and equally available to every consumer.

Enact State Net Neutrality Legislation

Absent federal legislation that empowers the FCC, consumer advocacy organizations and consumers themselves should support state legislation that requires the ISPs to disclose what types of Internet traffic they discriminate against and to what extent that traffic is blocked or delayed, and why. State legislation similar to the federal Next Generation Wireless Disclosure Act, sponsored by Rep. Anna Eshoo (D-Calif.), should be enacted. Rep. Eshoo's bill would, among other things, require that wireless service providers disclose both how the ISPs manage their networks, and whether some Internet traffic receives higher priority (Quinn, 2011). Although this bill is not designed to deal specifically with net neutrality, it is a step in the right direction, and seems to clearly fall within the scope of actions that states can take.

Conclusion

The goal of net neutrality is to ensure that the Internet remains both a repository of free expression and a proving ground for new ideas. Internet service providers should not have a free hand to discriminate against Internet users or their data. The purpose of net neutrality is not to regulate the Internet, but rather to retain our current freedoms of expression. Neutrality is vital to ensure that members of low-income communities have the same access to information as our wealthiest citizens, and that talented individuals have the same freedom to innovate online as multibillion dollar corporations.



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