

Current State and Future of Net Neutrality

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Abstract

The issue of network neutrality has been a source of significant debate in recent years. In this paper, I will discuss the recent history, current state, and potential future of this issue. The recent history of net neutrality is marked by numerous legal maneuverings within the FCC, the courts, and Congress. In particular, the FCC established general guidelines for net neutrality and attempted to enforce them. Congress introduced several laws address net neutrality, but none were successfully passed. In the present year, a number of major developments have occurred in the area of net neutrality. Specifically, a federal court overruled the FCC's authority to enforce net neutrality regulations, prompting the agency to contemplate reclassification of broadband providers in order to regain its authority. However, it has met with significant resistance from ISPs, the telecom industry, and conservative groups. Looking forward, the future of net neutrality promises to hold more interesting developments. The FCC will likely continue to move forward slowly with reclassification, while Congress will remain gridlocked, and the general public will remain mostly confused about the issue.

Introduction

Over the last several years, the issue of net neutrality has become a subject of intense debate within technology policy circles, and within the telecommunications and internet industries. This topic has also witnessed a significant amount of activity within the FCC, the courts, and Congress. This paper will examine of the recent history, current state, and potential future of this debate, in an attempt to better illuminate this complex and fascinating issue.

Definition of Net Neutrality

Network neutrality is the concept that broadband networks should be free of restrictions on content, on the devices that may be connected, and on the forms of communication allowed. In particular, the principle is aimed at preventing internet service providers (ISPs) from using their control over the physical network infrastructure to block or slow down certain internet applications and content. (Wu, n.d.)

Another concern is that broadband providers may impose a tiered service model on the operators of websites or internet services, effectively charging some companies a premium for their data to be given priority and delivered to end users more quickly. Neutrality advocates believe these practices could allow ISPs to gain an unfair advantage over competitors. For example, Comcast might block or degrade performance on streaming YouTube video, in order to compel their subscribers to continue paying for cable service. (Lessig & McChesney, 2006)

Various groups also believe that a non-neutral internet would stifle innovation, prevent upstart companies from challenging today's dominant internet players, and limit the range of free expression online. In other words, companies like Google and Facebook could afford to pay for priority data delivery, thus putting them at an unfair advantage against a small internet startup that could not pay such fees. (Wu, 2006) To be clear, net neutrality would not prevent broadband providers from implementing usage-based pricing for end-users, but it would prevent tiered pricing for website or service operators. (Sohn, 2008)

On the other hand, net neutrality opponents believe that government regulation is unnecessary and would harm the ability of broadband providers to experiment with business models and expand their network infrastructure to meet growing demand. (Mohammed, 2006) Opponents also believe that some network management and traffic shaping will be necessary to guarantee a high quality experience for end-users, especially as the use of streaming video, P2P

file transfers, and online gaming grows in the coming years. However, some neutrality proponents argue that reasonable forms of network management would be acceptable, so long as they provide equal treatment among similar applications or content. (Felten, 2009)

Brief History of Net Neutrality

Origin of the Term

Internet advocates have discussed the concepts behind net neutrality for many years, but Columbia Law professor Tim Wu was the first person to coin the term and outline the principles in detail in his 2003 paper “Network Neutrality, Broadband Discrimination”. (Wu, 2003)

FCC Broadband Policy Statement

In 2005, the Federal Communications Commission (FCC) released its Broadband Policy Statement, which laid out four principles designed to encourage broadband deployment and preserve the open nature of the internet. The principles said that consumers are entitled to access lawful content of their choice, use applications and services of their choice, and connect their choice of devices. The statement also touted the benefits of competition among network providers, applications, services, and content. (Dortch, 2005) The principles outlined by the FCC in its Broadband Policy Statement were explicitly not binding rules, but rather guidance into its approach for regulating the internet and broadband, based on the powers granted to the agency by law. (*Broadband Network Management*, n.d.)

FCC Auction of 700 MHz Wireless Spectrum

The next major development in the net neutrality debate came in 2008 when the FCC auctioned off the 700MHz block of wireless spectrum, which was soon to be freed up by the transition to DTV. Google offered to bid \$4.6 billion for a portion of the spectrum, if the FCC required all wireless operators who won the auction to follow four rules: open applications, open devices, open services, and open networks. (*Google Intends to Bid in Spectrum*, 2007)

This move by Google was an attempt to extend the open nature of the wired internet to the wireless internet, since this characteristic has proven so essential to the internet search company’s business model. Probably by design, Google did not win the auction, but it

succeeded in imposing at least two of the four desired license conditions on the companies that did win. (Whitt & Faber, 2008)

FCC Sanctions Comcast for P2P Blocking

In August of 2008, the FCC ordered the cable company and broadband provider Comcast to disclose the details of its “unreasonable network management practices” to the agency. This order was in response to a complaint lodged with the FCC the year before by net neutrality advocacy groups Public Knowledge and Free Press. Both groups claimed that Comcast had been secretly degrading the speed of P2P traffic on its networks. They believed that this practice was a violation of the FCC’s net neutrality principles and called on the agency to take action against the cable giant. (Bangeman, 2007)

After investigation and deliberation on the issue, the FCC finally released a strongly worded, 67-page order. Comcast was ordered to reveal its past network management practices, develop a compliance plan for nondiscriminatory practices, and publicly disclose the details of its new practices. Failure to comply with these requirements would result in a temporary injunction and eventually a permanent cease-and-desist order. This decision by the FCC was widely praised by net neutrality advocates, but Comcast was expected to challenge it in court. (Lasar, 2008)

This order was also the last major net neutrality related decision made by the Bush-appointed FCC Chairman Kevin Martin. A few months later, Barack Obama won the election for President, resulting in major changes at the FCC, which had been dominated by Republican appointees for 8 years.

American Recovery and Reinvestment Act

In early 2009, President Obama signed the American Recovery and Reinvestment Act into law. This bill included \$7.2 billion of funding for the expansion of broadband services. All companies that received funding were required to pledge to uphold the four principles of internet openness outlined by the FCC in 2005. (Smith, 2009)

FCC Chairman Proposes Two Additional Rules

In late 2009, Julius Genachowski, the newly appointed FCC Chairman, proposed two additional principles to complement the “four freedoms” outlined agency’s 2005 policy statement. Genachowski’s nondiscrimination principle said that ISPs could not engage in throttling of traffic for certain applications or protocols. Meanwhile, his transparency principle stated that ISPs must disclose their network management practices to subscribers.

In addition, Genachowski stated the goal of making all six of the open Internet principles into official FCC rules, thus making them more explicit and binding on broadband providers. Finally, he wishes to have these rules apply to both wired and wireless connections, which is significant since the original policy statement only applied to wired broadband connections. The wireless telecommunications industry quickly stated its opposition to these new proposals, saying that they would have a negative impact on new investments in the sector. (Anderson, 2009)

Competing bills in Congress

In recent years, there have been several attempts to pass bills in Congress that address the issue of net neutrality. In 2006, a number of bills were introduced that included net neutrality provisions. These included the Internet Freedom and Nondiscrimination Act of 2006 and the Network Neutrality Act of 2006. However, all of these proposals were either killed in committee or failed to pass on the floor of Congress. (*Wyden Moves to Ensure*, 2006)

In 2008 and 2009, Congress again attempted to pass a bill that would amend the 1996 Communications Act and enshrine net neutrality principles into law. However, the Internet Freedom Preservation Act has so far failed to reach the floor of the House. (Bosworth, 2009)

Meanwhile, there have also been a handful of bills introduced in Congress that would have actively blocked the FCC from imposing net neutrality rules. Most notably, Senator John McCain introduced his Internet Freedom Act bill in late 2009 in direct response to FCC Chairman Genachowski’s statements on the subject. However, this bill has also failed to pass either house of Congress. (Bradley, 2009)

Current State of Net Neutrality

Court Decision in Comcast Case

In the past year, a number of major developments have occurred on the net neutrality front. On April 6th, a federal appeals court ruled on the FCC's decision to sanction Comcast in 2008 for blocking P2P data on its network. The court ruled that the FCC lacks the authority to sanction Comcast for its network management practices.

The FCC had claimed that Comcast was in violation of its 2005 Broadband Policy Statement, specifically one of the "four freedoms" for internet users that were outlined in that statement. However, the Broadband Policy Statement was not an explicit set of rules, but rather a broad set of principles and guidelines that were not legally enforceable. Therefore, the FCC claimed to derive its authority to impose regulatory obligations on ISPs from its interstate commerce powers. Unfortunately for the agency, the federal appeals court disagreed and held that Congress had never given it this authority. (Anderson, April 2010)

FCC Ponders Next Move

This court decision presented a major challenge to the FCC's authority to regulate the internet, and by extension its efforts to ensure net neutrality. Meanwhile, efforts to enact net neutrality legislation were tied up in Congress with little hope of speedy passage.

However, the FCC had a potential solution to this dilemma related to how it classifies broadband internet providers. The court found that the FCC lacks the authority to regulate ISPs under Title I of the Communications Act. But Title II of the Communications Act declares it unlawful for common carriers "to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service." If the FCC reclassified cable modem ISPs as "telecommunications" services, they would then fall under Title II and would then be theoretically subject to the agency's regulatory authority.

Ironically, cable modem ISPs were originally classified as "telecommunications" services, but in 2002 the FCC redefined them as Title I "information" carriers. The rationale behind this decision was to free the industry from burdensome regulatory oversight, in keeping with the philosophy of the Republican-appointed FCC commissioners. (Lasar, April 2010) However, the combination of this decision and the surprisingly pro-net neutrality sanctions

against Comcast by the FCC in 2008 resulted in an extremely difficult situation for President Obama's newly appointed FCC Chairman.

FCC Proposes “Third Way” Approach

The prospect of being reclassified as Title II “telecommunications” services was very upsetting for broadband providers. In particular, they were concerned about being subject to “common carrier” provisions in Title II, which have long been used to regulate the telephone industry and are significantly more restrictive.

Therefore, on May 6th, FCC Chairman Genachowski outlined his proposal for a “third way” regarding regulation of ISPs. Specifically, he proposed that the agency reclassify broadband providers as “telecommunications” services, but only apply a subset of the provisions in Title II. He argued that the FCC could achieve its goals of ensuring the “four freedoms” (plus his additional two new ones) using only 6 of the 48 provisions found in Title II. .

Genachowski portrayed his proposal as an attempt to reach a common-sense, bipartisan solution. He emphasized his belief that regulation of ISPs should be “light touch”, that his approach is “narrow”, and that the plan is “modest”. (Anderson, May 2010)

FCC Requests Public Comment on “Third Way”

Beginning on June 17th, the FCC announced a Notice of Inquiry on Chairman Genachowski's “third way” proposal, requesting public comment on this new set of ideas.

This prompted many strong opinions from all sides of the net neutrality debate. Conservative groups attacked the plan as a return to heavy-handed telephone industry-style regulation of the 1980s. Also, Republican FCC commissioners suggested that U.S. government interference in the internet would provide cover for totalitarian regimes to do the same on a more significant level. (Lasar, June 2010) The cellular industry trade group (CTIA) said the proposal is a “radical change” and will harm new investments in the industry, reducing its ability to expand networks to meet growing demand. (Lasar, July 2010)

Meanwhile, Democratic FCC commissioners and net neutrality advocates argued that the failure to pass these rules would result in the consolidation of internet power in the hands of a few companies, with catastrophic results. (Lasar, June 2010) The Open Internet Coalition, which represents content companies such as Facebook, eBay, and Amazon, asserted that reclassifying

ISPs and “telecommunication services” is only logical, since they do not qualify as “information services” as defined in the law. Finally, the American Civil Liberties Union expressed its view that enforcing net neutrality is integral to ensuring free speech. (Lasar, July 2010)

Google/Verizon Policy Proposal

The next major development in the net neutrality debate came just a few months later on August 9th, when Google and Verizon released a joint “policy proposal”. The companies said the purpose of this proposal was to serve as a "suggested legislative framework for consideration by lawmakers".

Over the previous months, the FCC had been conducting talks with a number of major ISPs and internet companies, with the goal of hammering out a net neutrality compromise. However, the representatives from Google and Verizon apparently became frustrated at the lack of progress on these talks and began their own private negotiations. This joint policy proposal was the result of those discussions.

The contents of their plan proved to be extremely controversial. First, the proposal says that wireline broadband providers should be prohibited from blocking or degrading internet content or engaging in “paid prioritization”. The plan also calls on wired ISPs to be transparent about their network management practices and gives the FCC power to enforce these principles.

Yet the proposal also indicates that broadband providers could offer “additional or differentiated services” that do include paid prioritization. So, under this scheme, an ISP like Verizon could provide higher priority broadband services, separate from their primary public broadband offering, for applications like video conferencing. The FCC would be required to issue an annual report on these “additional services” to ensure that they did not “threaten the meaningful availability of broadband internet access”. (Lasar, August 2010a)

Net neutrality advocates expressed serious reservations about this part of the Google/Verizon plan, due to the vague nature of the wording. They feared that ISPs would use this loophole to develop a separate, premium internet for corporate customers and neglect investment in their public broadband offerings. Also, the definition of “meaningful availability” was unclear and the plan only gave the FCC limited authority to enforce these requirements. (Lasar, August 2010b)

However, there was an even larger loophole in the plan that concerned net neutrality advocates. Most of the rules outlined above only applied to wired internet service. The only principle that also applied to wireless broadband was the transparency requirement. ISPs were welcome to engage in unlimited paid prioritization and traffic shaping on their wireless spectrum, so long as they disclosed these activities to the public. (Lasar, August 2010a)

Google and Verizon's plan claimed to apply different rules to wireless internet due to "the unique technical and operational characteristics of wireless networks, and the competitive and still-developing nature of wireless broadband services". Clearly, this concept was extremely problematic for net neutrality advocates. They pointed out that wireless broadband traffic is projected to increase 20 to 40 times over the coming years, and that it's likely to become the dominant method of accessing the internet in the future. (Lasar, August 2010b)

Separate from the details of the plan, neutrality supporters also wondered why Google had put forth this joint policy proposal with Verizon, when the company had previously been one of the most staunch advocates of net neutrality. Many speculated that this move was related to Google's Android mobile operating system. The company was attempting to promote wide adoption of this new operating system on smartphones and Verizon had proven to be a valuable asset in this effort. Therefore, many assumed that this plan represented a business deal designed to provide Google continued influence with its new partner.

On the other hand, Google denied that the joint policy proposal was related to Android and insisted that it was done "in the spirit of compromise". The company expressed that having a wireline broadband provider agree to certain principles of net neutrality was a major step forward and a big improvement over the current stalemate. Google also stated that wireless broadband was a fundamentally different animal, due to its use of airwaves and relatively limited capacity. (Lasar, August 2010c)

Final White Spaces Rules Approved

On September 23rd, another major development occurred in the net neutrality debate. All five FCC commissioners voted unanimously on a final set of rules allowing the use of "white spaces" wireless spectrum. "White spaces" is the term commonly used to refer to unlicensed radio frequency spectrum that lies between existing TV channels and wireless microphone broadcasts. Tech companies had long been pushing the FCC to open up these frequencies for

lawful public use, believing they have the potential to power a new generation “Super WiFi” devices with longer range, better building penetration, and more speed. (Anderson, Sept 2010a)

On its surface, this new set of rules may seem to be unrelated to net neutrality, but some believe that “white spaces” will help promote innovation and offset the power of existing large ISPs. In particular, Republican FCC Commissioner Robert McDowell has said that this new initiative renders the net neutrality debate unnecessary and obsolete. (Anderson, Sept 2010b)

Waxman Proposal Shot Down in Congress

On September 29th, another piece of net neutrality legislation once again failed to make progress in Congress. Representative Henry Waxman, the Chair of the House Energy and Commerce Committee, had developed draft legislation on Open Internet rules. His bill would have restored the FCC’s authority to “prevent blocking of Internet content, applications, and services, which was struck down by the court in the Comcast decision”.

The legislation would have also enacted a number additional safeguards and rules to prevent blocking by ISPs. Unfortunately, Waxman’s proposal failed to garner support from Republican members of the committee, so it never reached the floor of the House. The lawmakers promised to revisit the issue after the mid-term elections. (Lasar, Sept 2010)

Mid-Term Elections

On November 2nd, the mid-term elections brought about a major shift in Washington D.C. – a huge number of incumbent Democratic lawmakers were defeated, causing the House of Representatives to become a majority Republican body. Net neutrality opponents pointed out that most of the lawmakers who pledged to support the policy had lost their respective races. On the other hand, neutrality advocates insisted that this was unlikely to have been a motivating factor for voters, instead pointing to high unemployment and slow economic growth.

Regardless, the Republican take-over of the House certainly dimmed the prospects for net neutrality legislation in the near future. Many pundits predict that the divided power in Washington, combined with sharp ideological differences, will result in significant gridlock in the coming two years. (Lasar, Nov 2010)

More Public Comments for FCC

Just after the election, the FCC completed its latest round of public comments on the issue of net neutrality. Again, the agency heard from a number of broadband providers, internet companies, and advocacy groups with their input on the subject. As usual, the groups had strongly diverging opinions on the best steps to take regarding net neutrality. Cable broadband providers argued that imposing regulations on them is unnecessary, and that the FCC should instead focus on the issue of “TV show neutrality”, as related to contract disputes between TV networks and cable companies.

Also, the wireless industry trade group (WCAI), asserted that net neutrality amounts to a government subsidy for web content companies, at the expense of the network operators. Another wireless trade group (CTIA) argued that net neutrality should be avoided, since Wall Street analysts have warned that it may have a chilling effect on investment in broadband.

Meanwhile, neutrality advocacy groups like Free Press reiterated that charging a fee to web content companies is tantamount to placing a private tax on innovation and would harm the internet start-up economy. However, there were some areas of agreement in the filings. Specifically, most groups agreed that different types of broadband service (ex. wired vs. wireless) have unique characteristics and may require slightly different traffic management techniques to ensure a high quality experience for users. However, neutrality advocates insist that this can be achieved using throttling or data caps and still be perfectly consistent with net neutrality principles. (Anderson, Nov 2010)

Future of Net Neutrality

FCC Moving Forward Cautiously

The future of net neutrality promises to be as interesting and unpredictable as its recent past. However, it is worthwhile to speculate about possible next moves and future developments. First, it is clear that the FCC holds the power to greatly influence the direction of this debate. Many neutrality advocates are pushing the agency to move forward with reclassification of ISPs to Title II “telecommunications” providers. This would obviously give the agency authority to enact its proposed net neutrality rules.

Yet the FCC is moving ahead very slowly and cautiously on this front. Many speculate that this is due to a fear of court challenges or restrictive legislation. Whatever rules the FCC

devises will almost certainly be challenged in court and the federal courts have already shown a willingness to restrict the agency's authority when it is not on firm legal footing. Additionally, there is a danger that FCC net neutrality rules could be challenged in the Supreme Court on First Amendment grounds. Since the high court is currently tilting in a decidedly conservative direction, it is not impossible to imagine it overruling net neutrality rules for violating free speech.

The other threat to any FCC net neutrality rules is legislation barring it from exerting authority in this domain. It is doubtful that such legislation would pass, so long as President Obama holds veto power and Democrats maintain a majority in the Senate, but these conditions obviously will not last forever. Therefore, it is essential that the FCC devise any net neutrality rules carefully, in order to avoid being overruled by the courts or by Congress.

Telecom Lobbyists vs. Tech Lobbyists

While the FCC moves ahead slowly, lobbyists on both sides of the net neutrality debate continue to actively petition Congress: On the anti- neutrality side stands a large number of lobbyists hired by the telecom companies and ISPs; On the pro-neutrality side are many lobbyists paid by tech companies and consumer advocacy groups.

However, I predict that little progress will be made on legislation in the near future, due to divided power in Washington. If any net neutrality provisions do end up in a signed bill, I believe they will be very weak with major loopholes, possibly similar to the Google/Verizon proposal.

Tim Wu's Theory of The "Master Switch"

Columbia law professor and net neutrality advocate Tim Wu recently released a new book called "The Master Switch". In it, he traces the history of various communications technologies. He notes that most communication media began in a chaotic state, with many small competing companies, and eventually progressed to become oligopolies where a small number of companies held the vast majority of the power.

Wu believes a similar process is currently under way on the internet and therefore emphasizes the importance of establishing basic rules to prevent abuses by these large, powerful companies, and ensure maximum economic growth. I largely agree with his assessment and find

it to be a compelling argument in favor of net neutrality, although I also strongly support the ability of telecom companies to profit from their investments in network infrastructure. (Wu & Gladstone, 2010)

Lack of Engagement by Voters

One missing element in the net neutrality debate is mass mobilization and engagement by voters around the issue. I believe that this is largely due to the complex nature of the subject. Even many tech-savvy people fail to fully comprehend the concept of net neutrality or grasp its importance. In addition, the U.S. is currently facing many other pressing issues related to the economy, high unemployment, budget deficits, the environment, and multiple wars. Therefore, it is difficult to attract attention to a seemingly abstract issue like net neutrality.

However, I believe the future development of information technology will have a significant impact on human society, so it is essential for voters to engage with this issue and push for action. Unfortunately, I also believe that this will be unlikely to happen without a controversial and galvanizing event, like an ISP blocking or degrading a widely used service or site.

Conclusion

Based on this examination of the current state and potential future of net neutrality, it is clear that this issue is a source of intense debate and complex maneuvering by all sides. Clearly, recent history has shown that both the FCC and Congress have struggled to establish a clear and legally binding set of rules to govern the behavior of broadband providers. Also, telecommunications and internet companies have strongly divergent views on the best path forward on this issue. No doubt net neutrality will continue to be a source of debate and legal wrangling for many years to come.

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