



---

## Analyzing FCC's Open Internet Policy Implications for Broadband ISPs and Policy Reform

**Nikhil Bhagat**

Principal Network Engineer  
Independent Scholar, Network Engineering  
nikhil.bhagat90@gmail.com

---

**Abstract:** The purpose of this brief is to analyze the Federal Communications Commission (FCC)'s Open internet policy. The brief first addresses the network neutrality concepts and its role in formation of the Open Internet Policy by Federal Communications Commission. This Open internet policy showed advantages and concerns for the four groups which connect to this internet world namely Broadband ISPs, Broadband Application providers, Mobile Broadband ISPs and the public. Broadband ISPs, one of the major sufferers of this policy are of the opinion that this policy would hinder innovation plus would demoralize them to stay in the market. Various case studies are demonstrated in this brief order to explain why FCCs Open Internet Policy is not beneficial to the Broadband ISPs. It further explains the policy options which are currently present and point out the loopholes each option has. Recommendations to the existing policies are proposed in order to diminish opposition from any group in future. The policy brief is organized as follows: Section I provides an introduction to FCC's open Internet Policy, Section II describes FCCs four Internet freedoms, Section III explains how it is not optimized from the Broadband ISPs perspective; Section IV studies the policy options and its critiques; and final section concludes with the recommendations.

**Keywords:** FCC's Open Internet Policy, Internet Freedoms, Transparency, No blocking, Attach devices, Policy options, Policy recommendations.

---

### 1. Introduction

In 2005, FCC published open internet rules: a set of rules that support or move towards the network neutrality establishment [1]. Network neutrality is a principle in which no internet service provider or government can prioritize internet traffic with respect to users, application or content [1]. Network neutrality thus wants the internet traffic to be treated equally. Some of the opponents believe that network neutrality would actually hinder innovations as providers won't be able to capitalize on their broadband investments and reinvest into high quality services for consumers. Thus, FCC published the open internet rules which took the advantages of both these concepts [1]. This order classified the internet access with respect to two providers i.e. fixed line broadband providers and mobile broadband providers. The whole open internet order was finally summarized into three basic rules:

#### A. Transparency

"Fixed and mobile broadband providers must disclose performance characteristics, the network management practices, and terms and conditions of their broadband services [1]. A person who is engaged in the provision of broadband Internet access service shall publicly disclose accurate information regarding the network performance, its management practices, and the commercial terms of its broadband Internet access services



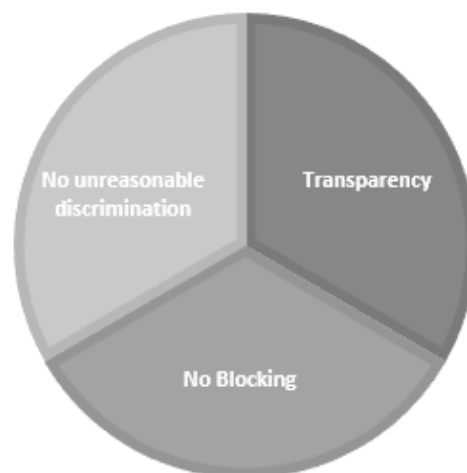
sufficient for the consumers to make them informed about the choices regarding use of such services and for content, service, application and device providers to market, develop, and maintain Internet offerings [2].”

### B. No blocking

“Fixed broadband providers may not block applications, services, non-harmful devices or lawful content; mobile broadband providers may not block applications, or block lawful websites that compete with their voice or video telephony services [1]. A person who is engaged in the provision of fixed broadband Internet access service, insofar as such person is so engaged, shall not block lawful applications, content, services, or non-harmful devices, subject to affordable network management [2].”

## FCC'S OPEN INTERNET POLICY

■ Transparency ■ No Blocking ■ No unreasonable discrimination



*Fig. 1 FCC's Open Internet Policy*

### C. No unreasonable-discrimination

“Fixed broadband providers may not discriminate for no reason in transmitting lawful network traffic [1]. This means that a person who is engaged in the provision of fixed broadband Internet access services shall not unreasonably discriminate in transmitting lawful network traffic over a consumer’s broadband Internet access service. Reasonable network management shall not constitute any unreasonable discrimination [2].”

## 2. FCC's Internet Freedoms

In 2005, FCC formulated the policy which defined some rules. Firstly, FCC sanctioned all small regional telecommunication companies for port blocking of Vonage VoIP services to stem losses to its voice services. Secondly, FCC issued non-enforceable “four Internet freedoms [2]”:

### A. Access content

Consumers are given right to access the lawful Internet content of their choice.

### B. Run applications

Consumers are given right to run applications and use services of their choice, subject to the needs of law enforcement.

### C. Attach devices

Consumers are given right to connect their choice of legal devices that do not harm the network.

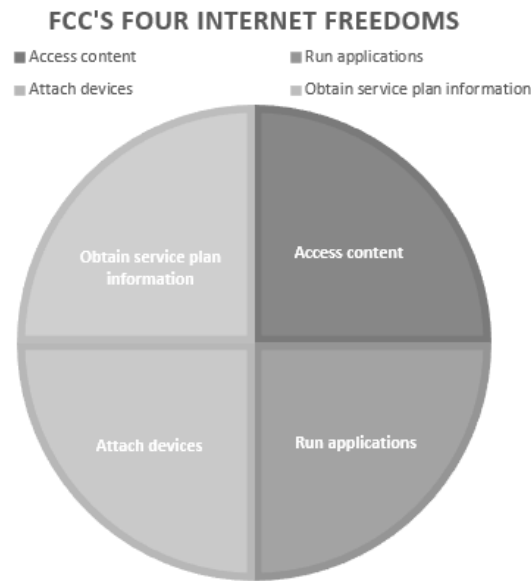
### D. Obtain service plan information

Consumers are given right to select their choice of network providers, application providers, service providers, and content providers.

After this policy was proposed in 2005, many opinions stated that these policy options weren't sufficient. In order to reduce the regulatory uncertainty, in 2010, the FCC Open Internet Order was approved, banning cable



television providers and telephone service providers from preventing the access to certain websites like Netflix or the competitors.



*Fig. 2 FCC's Four Internet Freedoms*

As this policy continues to be implemented since then, it has been observed that this approach has been aggressively implemented towards fixed line broadband providers than mobile broadband providers. Thus, broadband ISPs are more affected due to some of these rules mentioned in this policy [3].

### 3. Point of View

The FCC formulated this policy taking into consideration public interests and how consumers will be benefitted from this policy. FCC claims that Broadband ISPs are taking advantage of the closeness of the internet and are imposing services on the customers. They further say that Broadband ISPs are earning high amounts of money by blocking lawful content [4][5].

From the Broadband ISPs perspective, this policy seems to be very unfair for them. This openness has hindered innovation. Since 2007, there are many legal arguments going in opposition to the network neutrality [3]. Opponents claim that net neutrality regulations unreasonably limit the facilities-based network providers (Broadband ISPs) from charging their customers for different quality of service on the market based rates [6]. If we have a close look, in 2007 a prominent economist Hal Singer wrote a well-convincing article arguing this concept of network neutrality [6]. Hal Singer explained that this policy should be considerate to everyone and not just the customers [6]. He further said that if this policy continues to work, innovation would no longer take place [6]. This would hinder the technological progress of the nation. Even when asked, the network neutrality proponents were unable to answer specifically. The biggest fear of the telecommunications industry is that net neutrality will remove their motivation for developing new networks and infrastructure. The point is that they don't need to upgrade their networks if they can't get higher rates for better priority service. In addition, providers have said that open access rules hinder them from offering higher quality services and tier pricing that would generate additional revenue and enable further investments [9]. What's more, competition and technology changes in the telecoms sector have made it an even greater regulatory nightmare for the FCC. The FCC hasn't kept up with this slew of changes in the telecommunications landscape, where services are combined from different vendors and so have they failed to regulate fairly and effectively. Increasing consumer demand for computer communications has also triggered regulatory and economic complications, as the FCC has been left wrestling with commercial computer-communications services regulation, the use of subscribers' devices interconnected to each other, and data communications rates [11].

In 2008, FCC claimed that Comcast violated the rules by blocking the sharing websites like Bittorrent [2]. The thought provoking point here is that if we have such strong rules against plagiarism, then isn't sharing a plagiarism? Isn't sharing a threat to copyright issues? FCC claimed that Comcast broke the rule of transparency



by not letting customers use applications such as Bittorent [2]. FCC did not mention that giving access to such websites can be a treat to network as torrent sites use more bandwidth which could lead to network congestion. Finally, in 2010, the U.S. Court of Appeals for the District of Columbia annulled the FCC's decision.

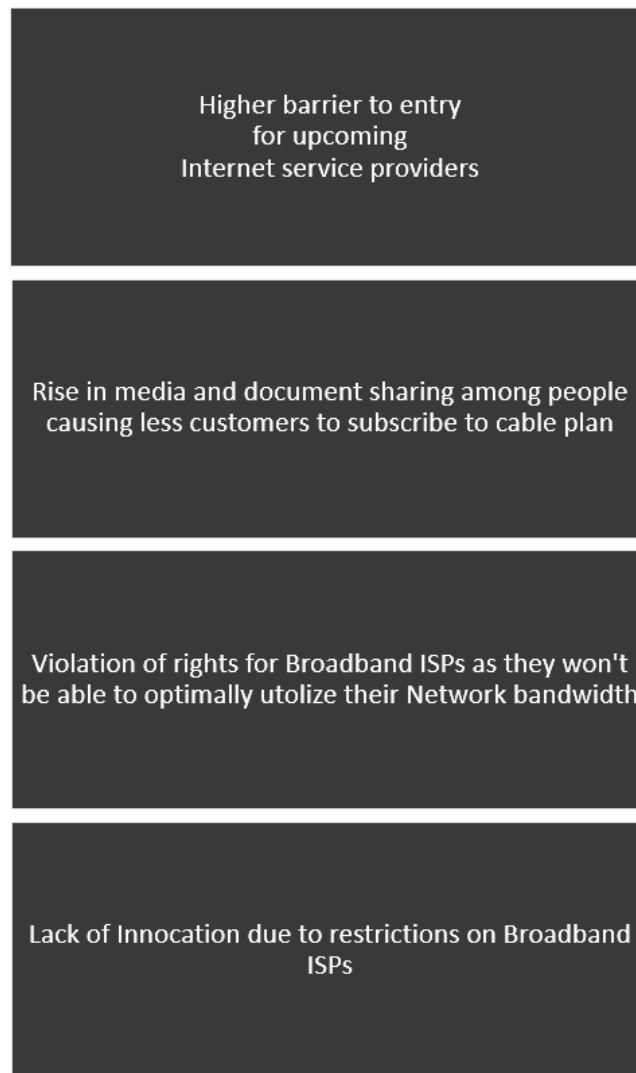
On December 8, 2010 Level 3 signed an agreement with Netflix to allow their traffic. This made many providers like Comcast to lose customers using their cable services. Customers found Netflix cheaper which hampered Comcast cable service [8]. Also, when level 3 started allowing Netflix video traffic to pass through, the local ISPs that didn't have huge infrastructure suffered. It became very difficult for them to manage the network congestion. Also, they were not allowed to take any extra fare from the customers [8]. Ongoing research has made Netflix to launch Full HD videos on their website for the customers to access. This increased network traffic has spread nervousness among all the Broadband ISPs as they are not getting any compensation for their extra efforts [8].

Summing up, it seems very unfair to Broadband ISPs as the policy should actually take consider every entity that is a part of internet.

#### 4. Policy Options

FCCs Open Internet Policy can be classified into aforesaid three rules [1]: Transparency, No Blocking & No unreasonable discrimination.

The four main drawbacks in this policy which greatly affect broadband Internet service providers are stated below:



**Fig. 3** FCC Open Internet Policy's drawbacks



### **A. Critique on Transparency**

If all the information is kept transparent, it would raise competition among the Broadband ISPs to greater extent. Competition is fine but now the consumers can actually see how the network of a particular ISP is. If a new ISP has just entered into the business, it would be very difficult for him to survive between the incumbent ISPs because customers will choose an incumbent rather than a newbie. Also, sharing details about network traffic and how it's managed could weaken the security of the network, making it more susceptible to potential attacks.

### **B. Critique on No blocking is allowed**

Every application should be treated equally:" This has made applications such as Bittorrent that provide users to share movies and entertainment legal [1]. Thus, the broadband ISPs that provide cable service suffer losses because people prefer free torrents than paying extra for the cable service. Also, for instance, as Netflix is providing entertainment in a very less charge broadband ISPs are not able to prioritize their cable television over these application providers. FCCs requirement not to block the unlawful websites has now given an extra work to Broadband ISP with respect to continuous monitoring. Even then FCC has not organized any compensation to the Broadband ISP.

### **C. Critique on No unreasonable discrimination**

"FCC has banned broadband ISPs to block or slow down the flow of data traffic:" This violates the constitutional rights of the broadband ISPs. It also violates the First amendment act as they stripping off the control over the transmission of speech [4]. Thus, these ISPs are not able to optimally utilize the bandwidth over the congested network.

### **D. Innovation is hindered**

This is the main reason why this policy should be reformed [4]. For instance, if one of the two tier-2 ISP decides to prioritize its packets, it can pay more to the transit traffic carrying tier-1 ISP; but due to such regulation the tier 2 ISPs are not able to prioritize their packets by paying more. Thus, transit traffic carrying ISPs also doesn't care to improve their infrastructure because they know that they won't gain extra money.

### **E. Positions of other groups**

The FCC is of the opinion that this Open Internet Policy would help to curb all the bad practices that Broadband ISP's do [4]. They are of the opinion that customers are being forced by the broadband ISP's to follow what they say. (e.g. force to buy their cable service by blocking the Netflix traffic).

Mobile broadband providers are less affected as compared to Broadband ISPs by this policy [1]. However this policy restricts them not to prioritize their applications by giving less priority to the third party applications [4]. They are of the opinion that they should get an opportunity to handle their own networks at their will as they have spent millions of dollars in building the infrastructure.

The Application Providers are happy with the FCC's Open internet policy. They are of the opinion that the openness of the internet has fostered innovation as they enjoy freedom to make new applications [4]. Also, the Customers can benefit from the applications such as Netflix at cheap monthly subscription instead of paying to expensive cable services.

The Public Interest supports the FCC's decision on creating openness in the internet. They are of the opinion that transparency in an open Internet would help them choose ISP depending on its performance [4]. Also, as it fosters innovation application providers would now take interest in bringing new applications which will benefit the public [4].

## **5. Policy recommendations:**

FCC should revise all the three basic policy rules: transparency, no blocking and no unreasonable-discrimination in order to be considerate for all the groups who share a part of internet.

### **A. Policy Recommendation 1**

Policies should be reformed in such a way that innovation would be encouraged thus leading to technological advancement. FCC should reform them such that no one in this telecommunications market should be affected. There should be changes to the open internet policy to make sure both consumers and ISPs are benefitted [9].





*Fig. 4 Policy recommendations*

### **B. Policy Recommendation 2**

The FCC should mandate application providers to set a minimum price on their applications, so that the Broadband ISPs cable service wouldn't rule out. Broadband ISPs could also unilaterally control to throttle speeds on certain applications when they believe network management or quality of service is getting compromised [10][11]. The FCC should also consider the economic and technological realities of telecommunications industry when establishing regulation [9][11]. Open internet laws are years old, but the telecommunications space is still developing and new technologies and models emerge [9].

### **C. Policy Recommendation 3**

The FCC should give a chance for Broadband ISPs to earn money as per their infrastructure or else they won't bother to innovate. FCC should remove some of the conditions for Broadband ISPs in open internet regulations, to give them more leeway to manage their networks and make money from their investments [12]. Over the years, the open internet policy has come under a great amount of criticism, some saying that it prevents broadband providers from properly operating their networks and investing in infrastructure [9].

### **D. Policy Recommendation 4**

The FCC should bring more clarity in "unreasonable discrimination." FCC should update their definition to reflect the evolving technological landscape. The FCC also needs to think about whether the open internet regulations will negatively impact investment and innovation in the broadband market.



### E. Policy Recommendation 5

Discouraging Broadband ISPs by implementing these regulations aggressively and encouraging application providers is not fair. Though our motto is to prioritize public interests, FCC shouldn't forget that customer satisfaction depends on the equal efforts of fixed line broadband ISPs, mobile broadband providers as well as application providers. The FCC's open internet plan has been a contentious issue over the years, with various industry players speculating about how it will affect their businesses and investment [12].

### F. Policy Recommendation 6

If FCC restructures the policy in such a way that every entity who owns a share in forming the internet makes profit, opposition would be diminished. The FCC should conduct extensive dialogue with all interested parties – ISPs, content producers, and consumers to create a balanced solution that encourages innovation, investment, and choice.

## 6. Conclusion

The FCC's Open Internet Policy has long been the subject of controversy. The ideal of an open and accessible internet is commendable, but the new policy has come under scrutiny from many in the telecommunications industry. The policy needs to be reformed to take account all the concerns from broadband ISPs, mobile providers, application vendors, and consumers.

FCC needs to modify the policy to maintain a sensible balance between innovation, investment and choice. FCC should conduct intensive outreach with all parties concerned to formulate a new policy that aligns with the evolving technology and the economic realities of the industry. Through listening to the concerns of all parties, the FCC can develop a policy that does in fact advance the public interest and allow for the evolution and growth of the internet ecosystem.

This paper studies the different perspectives, views and provides policy recommendations to counter the weaknesses of the existing Open Internet Policy. The resulting discussion, based on the interests of both the broadband ISP and the end users, suggests a set of proposals to equalize those interests.

## References

- [1]. Stelter, Brian "F.C.C. is Set to Regulate Internet Access". The New York Times. [April 6, 2013]
- [2]. D. Reed. "Principle of Telecommunication Policy Lecture Notes." [April 20, 2013]
- [3]. Berners-Lee, Tim. "Net Neutrality: This is serious". timbl's blog. [April 6, 2013]
- [4]. Federal Communications Commission. "Preserving the Open Internet". Policy Statement. [April 6, 2013]
- [5]. "Key issues: Network Neutrality" Internet: <http://publicknowledge.org/issues/network-neutrality>, [April 18, 2013]
- [6]. D. Frix. "The Legal Argument for Opposing Open Internet Regulations." Internet: <http://www.tmtperspectives.com/2013/01/14/the-legal-argument-for-opposing-open-internet-regulations/>, [April 18, 2013]
- [7]. T. Schoenberg and T. Shields, "Verizon Says FCC Open-Internet Rule Violates Owner Rights." Internet: <http://www.bloomberg.com/news/2012-07-02/verizon-says-fcc-didn-t-have-authority-for-open-internet-rule.html>, Jul 2, 2012 [April 7, 2013].
- [8]. H. Feld. "Netflix CDN v. The Cable Guys or "Comcast v. Level 3 Part Deux -- Peering Payback!"" Internet: <http://publicknowledge.org/blog/netflix-cdn-v-cable-guys-or-comcast-v-level-3>, [April 20, 2013]
- [9]. I. S. Wu, R. McElvane, A. Dey and K. Duwadi, "The impact of competition and technology on telecommunications regulation: call for further research on regulatory procedures and the convergence of wireless, wireline, and cable".
- [10]. M. K. Shahid, S. Tang and J. Ren, "Convergence in Communications Industry: Regulatory Challenges, Issues and Trends".
- [11]. S. L. Mathison and P. M. Walker, "Regulatory and economic issues in computer communications".
- [12]. J. G. Sidak, "The Failure of Good Intentions: The WorldCom Fraud and the Collapse of American Telecommunications After Deregulation".

