Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	GN Docket No. 14-28
Protecting and Promoting the Open Internet	)	
	)	
	)	

ELECTRONIC FRONTIER FOUNDATION'S REPLY COMMENTS REGARDING PROPOSED RULEMAKING

September 15, 2014

Corynne McSherry
Lee Tien
Mitch Stoltz
Jeremy Gillula
April Glaser
Electronic Frontier Foundation
815 Eddy Street
San Francisco, CA 94109

TABLE OF CONTENTS

I. Overview

For almost 25 years, the Electronic Frontier Foundation has been on the frontlines of virtually every battle to protect the Internet, and the explosion of innovation and expression that depends upon it. We grew up with the Internet, and we understand, better than many, how "fundamentally different the Internet is to the forms of communications which preceded it."[1]

We also understand that the Commission need not reinvent the regulatory wheel in order to preserve the fundamental practices and principles that helped the Internet flourish in the first place. To the contrary, its efforts to do so, i.e., to try to regulate in an *ad hoc* manner with uncertain authority, have led it down a dangerous path that bodes ill for the future of Internet innovation and expression. The Commission can instead borrow principles and authority developed over a hundred years of grappling with earlier communications infrastructure and, *where it makes sense and is necessary,* use them to guide and ground its efforts to protect this new kind of network.

To do this, it must do four things. First, it must reclassify broadband as a common carrier service. Second, it must clearly and explicitly forbear from applying any provisions that are not essential to the narrow goal of preserving the open Internet. Third, to promote service competition, it should offer a path whereby smaller service providers and new entrants can easily and quickly seek exemptions from unduly burdensome regulations, consistent with the overall goal of protecting the open Internet. Fourth, it

[1] Lawrence E. Strickling, Assistant Secretary of Commerce, Remarks at the Brookings Institution's Center for Technology Innovation (Jan. 11, 2012), http://www.ntia.doc.gov/speechtestimony/2012/remarks-assistant-secretary-strickling-brookings-institutions-center-technology.

should revisit the open access rule that once fostered competition for internet services, and explore how it might be updated for the 21st century.

II. Discussion

A. Reclassification Is the Best Way to Protect the Open Internet

Certain commenters have misleadingly suggested that the D.C Circuit has "recognized" the FCC's authority to protect the open Internet under Section 706 and, therefore, the Commission should simply follow the court's guidance.[2] They are half — correct: the Commission should indeed be guided by the *Verizon* opinion. However, the opinion does not provide the "guidance" Comcast claims it does. Quite simply, the D.C. Circuit's decision in *Verizon v. FCC*[3] is very clear: if the Commission is serious about protecting the open Internet, it must abandon its attempts to do so under Section 706. The worrisome ISP practices that the Commission identifies in the NPRM, from Comcast's blocking of peer-to-peer communications to Verizon's ban on tethering apps to pay-for-priority proposals,[4] have at their core an ISP's decision to favor or disfavor certain Internet traffic — in other words, to discriminate. But a firm rule prohibiting "unreasonable discrimination" is precisely what the D.C. Circuit said the Commission cannot impose under Section 706.[5]

The court suggested that *some* rules aimed at preserving the open Internet will be legally permissible under the FCC's Section 706 authority.[6] But the *Verizon* decision makes clear that such rules must be limited in scope, effect, or definiteness to pass muster. A "commercially reasonable" standard, said the court, cannot be applied in a

---

[2] Comments of Comcast Corporation at 4, http://apps.fcc.gov/ecfs/document/view?id=7521479245

[3] 740 F.3d 623 (D.C. Cir. 2014).

[4] NPRM ¶ ¶18, 41.

[5] *Verizon* 740 F.3d 623, 655-58.

[6] *Id*. at 652 (quoting *Cellco Partnership v. FCC*, 700 F.3d 534, 547 (D.C. Cir. 2012)); NPRM ¶¶114-116.

"restrictive manner" that prevents broadband providers from making "individualized decisions."[7] As we discussed in our initial comments, the decision thus sharply limits the Commission's ability to enact meaningful rules.

Some commenters also suggested that reclassification could stifle investment in broadband development. If the Commission regulates lightly, with appropriate forbearance, that is not likely. First, Title II regulation has not stifled investment in wireless services. Second, as research submitted by commenter Free Press shows, when Title II was applied to telecom, average annual investment by telecom carriers was 55 percent higher than it is now.[8] Further, the cable industry's average annual network investments were 250 percent higher in the years before the FCC declared cable modem service not subject to Title II, with the highest investment in the year *after* the 9th Circuit ruled that cable modem service contained a Title II common carrier offering.[9] Third, Comcast concedes that broadband providers have substantial incentives to invest in an increasingly robust network, and offers no evidence that reclassification would reduce those incentives.

Finally, the veiled threat of a legal challenge should the Commission reclassify, see e.g., Comcast comments at 4, is a red herring. The reality is that any meaningful open Internet rules will likely be subject to legal challenge. Reclassification will simply help them survive that challenge.

B. Transparency Is Essential to Promoting Competition and Innovation

Regardless of whether or not the Commission chooses to reclassify, it is clear that one of the best ways to preserve the open Internet is through transparency. As several ISPs pointed out in their comments to the Commission, delivering data from an edge

[7] 740 F.3d at 657
[8] Comments of Free Press pp. 90-103, http://apps.fcc.gov/ecfs/document/view?id=7521701227
[9] Comments of Free Press pp. 90-103, http://apps.fcc.gov/ecfs/document/view?id=7521701227

provider to a broadband consumer in today's Internet environment is a complicated process. As AT&T explained, "a broad array of external conditions . . . might affect broadband speed for an end user."[10] Internet traffic can be subject to congestion, quality-of-service management, and even blocking along dozens of different links (many of them not under the control of a consumer's ISP) as it travels from an edge provider to a broadband subscriber. To complicate matters further, the route data takes might even vary from moment to moment. ISPs cite this complexity to support their claim that the Commission's transparency rule should not be strengthened, insisting, paradoxically, that informed consumers will become more confused about the quality and service levels of their broadband service.[11]

We have more faith in Internet users. The Commission should strengthen its transparency and disclosure requirements *because* of the complex nature of factors that affect broadband service, not despite them.

Unfortunately, ISPs have every incentive *not* to provide information about their service to the public. By keeping data about their operations secret they can claim to have no knowledge of any interference or congestion their customers experience, and shift the blame to forces outside their control. As a result, customers will assume that changing ISPs may not solve the problems they are facing, resulting in a broken market.

It is important to note that this incentive against transparency is not just hypothetical: in 2007, for instance, Comcast denied interfering with its customers'

---

[10] Comments of AT&T Services, Inc. p. 88, http://apps.fcc.gov/ecfs/document/view?id=7521679206

[11] Comments of Verizon and Verizon Wireless p. 25, (http://apps.fcc.gov/ecfs/document/view?id=7521507614), comments of AT&T Services, Inc. p. 88, (http://apps.fcc.gov/ecfs/document/view?id=7521679206)

BitTorrent traffic, until further research proved that Comcast was in fact responsible.[12] Additionally, just last month a Comcast representative tried to tell a customer experiencing problems downloading from the popular Steam online game store that the difficulties were due to his Wi-Fi being insecure, a virus on his computer, or the result of the download being "too heavy and . . . interrupting the Internet" — when it was obvious to the customer that none of those were true.[13] Fortunately in both cases technically savvy users were able to see through their ISPs' obfuscation, but that will not always be the case.

1. What Form Should Transparency Rules Take?

As the Commission has recognized, there are three major areas where increased transparency would further stimulate the virtuous cycle: congestion reporting, enhanced service metrics, and disclosures tailored to edge providers.

a. Congestion Reporting

One of the greatest threats to the free and open Internet is the refusal of some ISPs to augment their interconnections with edge providers, thus leading to congestion and the inability of customers to receive data from those edge providers at the speeds their ISPs have advertised, even when the edge provider is capable of delivering the data to the ISP at those speeds.[14] Given this, it is vitally important that ISPs be required to report, preferably in real time, instances of congestion their networks are experiencing, either internally or on interconnections with peer networks. As we explained above, without this sort of reporting customers will be unable to tell whether connection problems with

[12] https://www.eff.org/wp/packet-forgery-isps-report-comcast-affair
[13] http://arstechnica.com/business/2014/08/confused-comcast-rep-thinks-steam-download-is-a-virus-or-too-heavy/
[14] Comments of Level 3 Communications, LLC p. 7-8, http://apps.fcc.gov/ecfs/document/view?id=7521489301

edge providers are due to issues with the edge provider itself, or with the ISP's own network.

Some ISPs claim that because congestion could occur outside their networks, they should not be required to disclose congestion that occurs on their own networks.[15] That claim does not hold water. By disclosing when congestion occurs on their own networks (especially if such disclosures are made in real time, in a way that allows customers to identify which destinations the congestion is affecting) ISPs will be able to make clear when service issues are not their fault, but the fault of edge providers. Disclosure of this type will also help ensure that ISPs are delivering advertised speeds to their users — after all, by advertising a given speed to a customer, an ISP is essentially promising that customer that they will be able to move data at that speed through the ISP's own network and to any network with which the ISP is peered. If the data transfer is slower because networks beyond the ISP's are congested, that is not the ISP's fault. But if the data transfer is slower than advertised because the ISP refuses to augment congested ports to a peer network, even when the peer network is willing to do so, then that congestion is solely the fault of the ISP. By requiring ISPs to disclose instances of such congestion, customers will be able to discern who is at fault for service problems caused by such congestion.

b. Additional Metrics

In its notice of proposed rulemaking, the Commission asked if ISPs should be required to report other metrics such as packet loss, corruption, and jitter.[16] As we

[15] Comments of Verizon and Verizon Wireless p. 25, (http://apps.fcc.gov/ecfs/document/view?id=7521507614), comments of AT&T Services, Inc. p. 88, (http://apps.fcc.gov/ecfs/document/view?id=7521679206)
[16] NPRM ¶ 72

explained in our original comments, the answer is "Yes."[17] Disclosure of these sorts of metrics will help ISPs distinguish their offerings from one another, thereby fostering increased competition. And while it is true that such technical metrics might not be easily understood by the average consumer,[18] more sophisticated third parties may use the information to evaluate ISPs' services and make recommendations that will be useful to the average subscriber.

Such metrics would also be useful for inventors, innovators, and startups that wish to know whether or not America's broadband infrastructure will support new Internet services or protocols they are developing. For example, a startup might not pursue a new video-conferencing technology if it cannot predict whether or not a significant portion of the consumer broadband market has connections with low enough jitter to support their new protocol. By requiring ISPs to report these additional metrics, the Commission will be helping to support the virtuous cycle of innovation and investment in the Internet.

To further assist subscribers, an enhanced transparency rule could require ISPs to make two types of disclosures. The first disclosure would be targeted toward consumers and be present at the point of sale as well as part of any advertisements. This disclosure would prominently mention the "95% percentile minimum and maximum speeds the user will experience to a realistic population of well-connected servers, . . . clear warnings about any fast lanes, premium services, blocking or filtering that the user will not have a

[17] Comments of Electronic Frontier Foundation p. 29, http://apps.fcc.gov/ecfs/document/view?id=7521488017
[18] Comments of AT&T Services, Inc. p. 88, http://apps.fcc.gov/ecfs/document/view?id=7521679206

simple and practical way to avoid,"[19] and any applicable data caps. The second disclosure could be more detailed, containing additional statistics on jitter, uptime, packet loss and corruption, as well as information on congestion as described above.

c. Disclosures to Edge Providers

Finally, the Commission asked in the NPRM if ISPs should be required to make transparency disclosures tailored to "providers who seek to exchange traffic with broadband provider networks."[20] ISPs claim they do not know what sort of information such providers would want.[21] We are happy to clarify: we believe providers would benefit from ISPs' making public the terms of any peering, interconnection, CDN, or co-location agreements they make with other parties. Given the tremendous power ISPs have over how or even if an edge provider will be able to reach their customers, this sort of disclosure will be vital if we want to preserve an Internet where new providers can connect to incumbent ISPs on a fair, equitable, and commercially reasonable basis.

2. Other Red Herring Arguments Against Transparency

a. Increased Transparency Means More Security, Not Less

Several ISPs have argued that increasing transparency surrounding their network management practices will expose their networks to increased risk of attack by malicious agents and criminals.[22] This is incorrect. Security researchers have long known that

---

[19] Comments of Electronic Frontier Foundation p. 29, http://apps.fcc.gov/ecfs/document/view?id=7521488017

[20] NPRM ¶ 75-76

[21] See comments of Comcast pp. 16-17, http://apps.fcc.gov/ecfs/document/view?id=7521479245

[22] See, e.g., comments of T-Mobile USA, Inc. p. 10, (http://apps.fcc.gov/ecfs/document/view?id=7521706016), comments of AT&T Services, Inc. pp. 90-91, (http://apps.fcc.gov/ecfs/document/view?id=7521679206), comments of Verizon and Verizon Wireless p. 24, (http://apps.fcc.gov/ecfs/document/view?id=7521507614)

"security through obscurity," in which a system's security relies on attackers not knowing how the underlying system works, is generally a poor way of ensuring security. "Black hat" attackers are usually capable of probing the system and figuring out how it works even without the sort of information ISPs should be required to disclose. At the same time, this sort of obscurity prevents the security community from analyzing the security system and making suggestions on how to improve it.

To quote security expert Bruce Schneier: "Today, there is considerable benefit in publication, and there is even more benefit from using already published, already analyzed, designs of others. Keeping these designs secret is needless obscurity."[23] Given the large community of security researchers dedicated to studying and fixing security issues on the Internet, requiring ISPs to publish details about their network management practices is likely to lead to greater security, not less.

b. Disclosing Network Management Practices Will Not Blunt Competition

Several ISPs also argued that "requiring ISPs to disclose network practices associated with new service features 'in advance of their implementation' would undermine competition in the broadband marketplace."[24] Given that ISPs do not generally compete based on their network management practices, additional disclosure should not impede competition. Of course, if an ISP's network management practices were discriminatory, then requiring their disclosure would allow that ISP's competitors to

[23] Bruce Schneier. "Crypto-Gram Newsletter" (May 15, 2002). https://www.schneier.com/crypto-gram-0205.html

[24] Comments of AT&T Services, Inc. p. 90, (http://apps.fcc.gov/ecfs/document/view?id=7521679206). See also comments of Verizon and Verizon Wireless p. 24, (http://apps.fcc.gov/ecfs/document/view?id=7521507614), comments of T-Mobile USA, Inc. p. 10, (http://apps.fcc.gov/ecfs/document/view?id=7521706016).

compete by touting their own openness — in which case the disclosure would be serving its purpose of promoting competition.

c. Transparency Will Not Be an Undue Burden

Finally, ISPs are understandably concerned that increased transparency requirements will be a burden they will be required to pass on to their customers in the form of higher prices. However, the burden should not be significant. Most ISPs already monitor their networks for congestion as part of ongoing efforts to enhance network performance, and tying these monitoring systems into an automated reporting system (or publishing this information automatically in an open format) should be a relatively simple technical effort. It should also be relatively easy for the Commission to include measurements of jitter, packet loss, and packet corruption in its current Measuring Broadband America program (in which most of the major ISPs participate) with very little additional cost.[25]

3. Good Transparency is Necessary, and Will Stimulate the Virtuous Cycle of Broadband Innovation and Investment

In their comments, several broadband ISPs claim that "the disclosure requirements now in place are working effectively."[26] As we have demonstrated, this is simply not true. The current transparency rule does little more than ensure that ISPs deliver the throughput they promise to their customers within their own network. But Internet users care about the speed of their access to the Internet generally. In its current form, the transparency rule cannot help consumers (or the Commission) determine the causes of congestion, cannot provide innovators and startups the information they need to

[25] Federal Communications Commission, Measuring Broadband America, https://www.fcc.gov/measuring-broadband-america

[26] Comments of Time Warner Cable Inc. p. 31, http://apps.fcc.gov/ecfs/document/view?id=7521480407

decide if a new idea is worth investing in, and cannot make visible the potentially discriminatory peering and interconnection terms that ISPs can demand from other networks who wish to reach their customers.[27] Put plainly, the current transparency rule is ineffective at ensuring that users have sufficient information about ISPs' practices in order for the broadband Internet market to function efficiently. By adopting a stronger transparency rule, the Commission will help ensure that the virtuous cycle of broadband innovation and investment continues for years to come.

C. For the Open Internet to Flourish, Mobile and Fixed Broadband Must Be Treated in a Similar Manner

Given the increasingly important role mobile broadband plays in how Americans access the Internet, we strongly urge the Commission to adopt rules that treat mobile and fixed broadband as effectively the same — and we are not the only organization to urge the Commission to do so.[28] In particular, as we explained in our original comments, we believe that the same sort of no-discrimination, no-blocking, and transparency rules that apply to fixed broadband providers should also apply to mobile broadband providers. Of course, it is no surprise that mobile broadband providers disagree, claiming that mobile broadband is somehow uniquely different. While there are some engineering differences between fixed and mobile broadband, the concept of freedom does not change depending on the technological platform.

---

[27] See, e.g., comments of Level 3 Communications, LLC p. 7, http://apps.fcc.gov/ecfs/document/view?id=7521489301 describing demands by some last-mile ISPs for interconnection fees greater than the amount Level 3 charges its own customers for transit services.

[28] See, e.g., comments of Comcast Corporation p. 40, (http://apps.fcc.gov/ecfs/document/view?id=7521479245), comments of Time Warner Cable Inc. p. 6, (http://apps.fcc.gov/ecfs/document/view?id=7521480407),
comments of Public Knowledge, Benton Foundation, Access Sonoma Broadband pp. 24-26 (http://apps.fcc.gov/ecfs/document/view?id=7521480282).

In its comments, T-Mobile claims that a "mobile no-blocking rule would hamstring provider flexibility and thus threaten evolving technological approaches to network challenges, including cybersecurity protections."[29] But they do not provide any detail explaining exactly how a no-blocking rule would actually inflict these harms, or why a no-blocking rule threatens these harms in the mobile broadband space but not in the fixed broadband space. To be clear, we are not arguing that the Commission should prevent mobile broadband providers from blocking content that would actually harm their network (e.g. DDOS attacks). We simply think that such blocking would obviously fall into the category of reasonable network management.

Another ISP argument against a no-blocking rule is that "there is no reliable threat to Internet openness in the mobile broadband ecosystem,"[30] despite multiple examples of mobile broadband providers abusing their power to discriminate against certain types of traffic — the most well known of which was AT&T's blocking of FaceTime. AT&T, however, claims in its comments that its blocking of FaceTime in fact shows why a non-blocking rule is *not* necessary.[31] When confronted with a novel service that would have used additional bandwidth on its network, AT&T chose to block that service rather than address the underlying problem of limited bandwidth in a content-neutral way.[32] Mobile broadband providers should no longer be able to stifle customer choice and edge provider

[29] Comments of T-Mobile USA, Inc. p. 11,
http://apps.fcc.gov/ecfs/document/view?id=7521706016
[30] Comments of AT&T Services, Inc. pp. 24-25,
http://apps.fcc.gov/ecfs/document/view?id=7521679206
[31] Comments of AT&T Services, Inc. pp. 24-25,
http://apps.fcc.gov/ecfs/document/view?id=7521679206
[32] "Wired.com's iPhone 3G Survey Reveals Network Weaknesses"
http://www.wired.com/2008/08/global-iphone-3/

innovation on mobile devices by claiming that "mobile is different" and that mobile providers must therefore be allowed to block content at whim.

Data is data. It is not the province of broadband providers, mobile or fixed, to decide what data their customers can access via their networks. If they are concerned with congestion, then they should adjust their network management techniques or increase investment in their infrastructure — but they should not play favorites when it comes to deciding what type of data their customers can use, or where their customers get that data from.

Mobile needs to play by the same rules: no blocking, and no unfair discrimination.

D. Guiding Principles for "Light Touch Regulation"

To avoid stifling competition and inappropriately burdening ISPs, especially smaller ISPs and potential new entrants, the Commission should regulate narrowly and with a light touch. As explained in EFF's initial comments, the Commission should minimize the practical costs of regulation by enacting clear and simple prescriptive rules and exercise restraint in enforcement where such enforcement might inhibit rather than promote competition. The Commission must not attempt to regulate "the Internet," (the content carried on the wires) but the wires themselves, i.e., the underlying transmission network. Thus, net neutrality rules should be narrowly focused on whether broadband carriers' "telecommunications" services — i.e., the "transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received" — are provided in a non-discriminatory way. Such rules should include prohibitions on blocking, application-specific discrimination, and paid prioritization, and should be focused on arenas where

the market is insufficiently competitive and unlikely to become so. As a baseline, Internet service providers should not be permitted to charge special fees for the right to reach that provider's Internet service customers.

This is not to say that all tiering of service must be banned; companies could still impose application-neutral bandwidth charges. Thus, for example, a company might offer different plans for business versus residential customers. But Internet access providers should never be able to take advantage of their subscribers' relationship to effectively direct those subscribers toward (or away from) particular applications, services, or content.

In addition, the Commission should proactively adopt a streamlined exemption process for smaller ISPs and new entrants, so that they have an easy way to call for restraint where appropriate. Section 257 directs the FCC to identify and eliminate, through regulatory action, "market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications and information services, or in the provision of parts or services to providers of telecommunications or information services." In its 2000 triennial report to Congress regarding its regulatory activity in these areas, the Commission stated that it has exercised forbearance authority to eliminate or reduce burdens imposed by its regulations. For example, in order to allow incumbent local exchange carriers (ILECs) to introduce new services for small businesses and consumers more quickly, and to enhance competition among providers of telecommunications services, the Commission granted forbearance to a mid-sized ILEC that served fewer than two percent of the nation's access lines in order to allow the carrier to introduce new services without first requesting a waiver.

E. Revisit the Open Access Rule

Finally, we again urge the Commission to solicit additional comment on matters such as: the effects of past access regulation on competition in the DSL markets; the

effects of access regulation on competition in markets outside the United States, such as in the European Union; the economic and technical feasibility of line sharing in the U.S. cable broadband access market and in the emerging U.S. FTTH market; and the likely effects of line sharing and similar access remedies on innovation, competition, consumer welfare, and privacy and First Amendment freedoms on the Internet. As Commissioner Wheeler recently stated, "The simple lesson of history is that competition drives deployment and network innovation. That was true yesterday and it will be true tomorrow. Our challenge is to keep that competition alive and growing." If a new open access rule may be a way to meet that challenge, fact-gathering on the topic should lead the Commission's broadband agenda.

III. Conclusion

The Commission has a choice. Will it be brave enough to recognize the errors of the past and correct its course? Will it respond to the pleas of more than a million Internet users and reclassify? Or will it continue down the current path toward a tiered Internet, with ISPs serving as gatekeepers to subscribers? The law, good public policy, and common sense provide a clear answer: reclassify to establish a strong legal footing, regulate with a light touch where a lack of competitive alternatives requires it, and in the meantime actively explore an open access rule for the 21st century.