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

In the Matter of	)	
	)	WC Docket No. 17-108
Restoring Internet Freedom	)	

AMENDED COMMENTS OF THE CENTER FOR DEMOCRACY & TECHNOLOGY

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These amended comments are intended to entirely replace the comment originally filed on July 17, 2017.

Executive Summary

The Center for Democracy & Technology (CDT) respectfully submits these comments in response to the Commission's Notice of Proposed Rulemaking (NPRM) regarding proposed changes in the legal classification of broadband internet access services (BIAS), other changes to the legal landscape for BIAS providers, and the scope of the Commission's own authority. CDT is a nonprofit public interest organization dedicated to promoting openness, innovation, and freedom online – a mission that aligns closely with the Commission's 2015 Open Internet Order.

CDT opposes reclassifying broadband internet access service (BIAS) as an information service and feels that it should retain its current classification as a telecommunications service. Classification of BIAS as a telecommunications service provides the best fit with the text of the statute and preserves Title II of the Communications Act as the Commission's strongest source of authority to regulate the practices of ISPs. Moreover, the NPRM fails to justify the abrupt policy reversal it proposes. Instead, the NPRM attempts to base its proposals upon arguments that mistake correlation for causation, conflate access with capability, and put the interests of ISPs ahead of consumers' interests. In this comment, we will document how the NPRM fails to show any meaningful link between classification of BIAS as a telecommunications service and declines in network improvements, how the NPRM misinterprets and misapplies the statutory definitions, and how the NPRM's policy approach benefits the industry at the expense of consumers. CDT strongly urges the Commission to reconsider its proposals and offers these comments in response to the NPRM.

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Introduction

For more than a decade, the Federal Communications Commission (FCC) has worked to implement a system of light-touch regulation to preserve and protect the openness of the internet and the consumers and businesses that rely on it.[1] The growth of the internet as a platform for free expression and as a marketplace stem from this openness.[2] A crucial aspect of the open nature of the internet is the principle that internet service providers (ISPs) should remain neutral as to the content, source, or destination of information passing through their networks.

The FCC's 2015 Open Internet Order created clear rules to provide legal force behind these principles, ensuring that access providers do not block or throttle internet traffic or charge for preferential treatment.[3] These rules provide strong protections for consumers by preventing ISPs from favoring their own traffic, and that of their affiliates, over traffic to and from competitors. They prevent ISPs from charging different prices depending on which parts of the internet a subscriber accesses. The rules preserve the internet as a level playing field for competition among online businesses and ensure that small start-ups can enjoy the same consumer access as multinational corporations. In so doing, the rules preserve the internet as an equal-opportunity platform for all who wish to offer or access services and information through a network connection.

The 2015 Open Internet Order, which continues to survive legal challenges, represents a positive development in U.S. telecom policy. It is disappointing that the Commission now proposes not only to do away with the rules, but also to strip away its own authority to regulate the industry that controls public access to the internet.[4] CDT disagrees with the proposals and the reasoning put forward in the FCC's Notice of Proposed Rulemaking (NPRM). Moving forward with the

[1] *See Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities et al.*, Policy Statement, 20 FCC Rcd 14986 (2005) (Internet Policy Statement); *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905, (2010) (2010 Open Internet Order); *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 (2015) (Open Internet Order).
[2] Open Internet Order, 30 FCC Rcd at 5625-27, ¶¶ 76-77,
[3] Open Internet Order, 30 FCC Rcd at 5607-08, ¶¶ 14-18.
[4] *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Notice of Proposed Rulemaking, 32 FCC Rcd 4434, (2017) (NPRM).

proposals erases the Commission's forward progress and risks long-term damage to the continued growth and vitality of the internet.

First and foremost, CDT opposes reclassifying broadband internet access service (BIAS) as an information service and feels that it should retain its current classification as a telecommunications service. Classification of BIAS as a telecommunications service provides the best fit with the text of the statute and preserves Title II of the Communications Act as the Commission's strongest source of authority to regulate the practices of ISPs. Moreover, the NPRM fails to justify the abrupt policy reversal it proposes. Instead, the NPRM attempts to base its proposals upon arguments that mistake correlation for causation, conflate access with capability, and put the interests of ISPs ahead of consumers' interests. In this comment, we will document how the NPRM fails to show any meaningful link between classification of BIAS as a telecommunications service and declines in network improvements, how the NPRM misinterprets and misapplies the statutory definitions, and how the NPRM's policy approach benefits the industry at the expense of consumers. CDT strongly urges the Commission to reconsider its proposals and offers these comments in response to the NPRM.

I. The NPRM fails to show any link between classification of BIAS as a telecommunications service and declines in network improvements.

The NPRM contends that public policy supports reclassification because unspecified "regulatory burdens" and "regulatory uncertainty" cause broadband providers to invest less in their networks. This argument is flawed for several reasons. First, neither the NPRM nor the studies it relies on show a causal relationship between Title II classification and investment. Second, assuming for the sake of argument the possibility of a correlative relationship between Title II classification and investment, the Open Internet Order has not been in place long enough to produce sufficient evidence of that correlation. Third, the nature of network improvements does not require consistently increased spending to achieve consistent improvements. Without evidence that Title II actually causes a decline in network expansion and improvement, this policy argument for reinstating Title I is unfounded.

A. The NPRM fails to demonstrate a causal relationship between Title II classification and broadband network investment.

To support the claim that capital expenditures in network infrastructure have fallen and that "these reduced expenditures are a direct and unavoidable result of Title II reclassification," the NPRM cites three studies.[5] However, the economic studies upon which the NPRM relies are inconsistent with each other and fail to show a need to reinstate Title I classification for broadband. One study claims that in 2015 and 2016 "capital expenditure from the nation's twelve largest Internet service providers has fallen by $3.6 billion, a 5.6% decline relative to 2014 levels."[6] Yet in the next sentence, the NPRM cites an article that explains the difficulty of showing a cause-and-effect relationship between any single factor and investment. In particular, the study notes that "[w]hether capital expenditures rise or fall says nothing about the investment effect of a regulatory intervention."[7]

The third source speculates that, because the European telecommunications regulatory model shares some common "philosophy" with Title II, per capita investment levels might decline towards European levels. This study acknowledges, but fails to consider, other factors like population density, that account for much of the difference between the cost of building networks in the US compared to Europe.[8] None of the sources upon which the NPRM relies show affirmatively that a Title II classification for broadband is responsible for any downward trends in investment. Any policy reversal based on such unsubstantiated evidence would be unfounded.

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[5] NPRM, 32 FCC Rcd at 4448-50, ¶¶ 45, 46.

[6] NPRM, 32 FCC Rcd at 4449, ¶ 45, citing Hal Singer, *2016 Broadband Capex Survey: Tracking Investment in the Title II Era* (Mar. 1, 2016) https://haljsinger.wordpress.com/2017/03/01/2016-broadband-capex-survey-tracking-investment-in-the-title-ii-era.

[7] NPRM, 32 FCC Rcd at 4449 ¶ 45; George S. Ford, *Net Neutrality, Reclassification and Investment: A Counterfactual Analysis*, Phoenix Center for Advanced Legal & Economic Public Policy Studies, Perspectives 17-02, at 2, http://www.phoenix-center.org/perspectives/Perspective17-02Final.pdf.
"Capital expenditures are determined by many factors, of which regulation is only one." http://www.phoenix-center.org/perspectives/Perspective17-02Final.pdf.

[8] Patrick Brogan, *USTelecom, Utility Regulation and Broadband Network Investment: The EU and US Divide*, Research Brief at 4 (Apr. 25, 2017), https://www.ustelecom.org/sites/default/files/documents/Utility%20Regulation%20and%20Broadband%20Investment.pdf.

B. The Open Internet Order has not been in place for a long enough to provide sufficient evidence for either a causal or correlative relationship between Title II classification and broadband infrastructure investment.

Even if it were possible to demonstrate a causal, or even a correlative relationship between either classification under the Communications Act and capital expenditures on broadband infrastructure, the timescale upon which such investment decisions are made precludes making this showing. As the NCTA points out, "two years is too short a time to fully evaluate the impact of a Title II regime because investment horizons are typically much longer than two years. Many of the investments made in 2015 and 2016 were set in motion several years before and may not have accounted for the prospect of Title II regulation."[9] In addition, broadband providers have themselves stated that classification under Title II would not affect their investment decisions.[10]

C. The nature of network improvements does not require consistently increased spending to achieve consistent improvements.

Moreover, the nature of network construction and improvement does not necessarily produce a consistent rate of capital expenditures. The initial investment costs of rolling out a new technology or physical installation may be significantly higher than the subsequent costs of improving that technology or extending the installation.[11] This uneven spending rate can

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[9] Rick Chessen, *Dear Harold Feld*, (June 13, 2017) https://www.ncta.com/platform/public-policy/dear-harold-feld/. *See* Gordon L. Clark et al., *The New Era of Infrastructure Investing*, 17 Pensions: An Int'l Journal 103 (May 2012) (arguing that institutional investors like insurance companies, pension funds, sovereign wealth funds, endowments, and foundations have a unique advantage in markets for long-term, illiquid assets like infrastructure because of the longer time horizon for such investments).

[10] Jon Brodkin, *Title II hasn't hurt network investment, according to the ISPs themselves*, Ars Technica, (May 16, 2017) https://arstechnica.com/information-technology/2017/05/title-ii-hasnt-hurt-network-investment-according-to-the-isps-themselves/.

[11] Harold Feld, *NCTA Proves Virtuous Cycle Works,* (June 8, 2017) https://www.publicknowledge.org/news-blog/blogs/ncta-proves-virtuous-cycle-works/; Carlo Cambini & Yanyan Jiang, *Broadband investment and regulation: A literature review*, 33 Telecomms. Pol'y 559, 562 (2009) ("It seems confusing that broadband penetration rates grow...while telecommunications operators slow down their investment at the same time…[I]f a traditional telephone operator wants to offer broadband internet connectivity, it usually involves a one-off investment to upgrade the existing telephone network at the first stage. As long as network capacity is sufficient to cover the existing broadband demand, there is no further major investment needed to serve new broadband subscribers."); Eli M. Noam, Robert Atkinson, & Ivy Schultz, *Has Telecom Investment Peaked?* 3 (August 15, 2010). TPRC 2010. Available at SSRN: https://ssrn.com/abstract=1986351 "Each new infrastructure industry goes through a cycle -- early experimentation, accelerating growth, a flattening out, and eventual decline." (also noting

nonetheless produce a consistent trend in network improvement overall.[12] Simply looking at capital expenditures will not reflect the relative efficiencies of investments at various stages of network construction and improvement. CDT supports both efficient investment strategies and evidence-based policy making, but suggests that basing this proposed policy change on short-term capital expenditure analyses reflects a failure to thoroughly consider the bigger picture of investments in network construction and improvement.

II. There is no legal basis for the reclassification of broadband internet as a Title I information service.

A. There is a distinction between providing capability and providing access to capability.

In the NPRM, the Commission proposes that BIAS should be classified as an "information service" rather than as a "telecommunications service" under the Communications Act of 1934. The proposal is primarily built upon the assumption that ISPs "offer the 'capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.'"[13] However, there is a clear distinction between providing capability and providing *access* to capability. The FCC asserts that because ISPs provide a network connection to third-party services that allow users to share, store, and access information online, then ISPs themselves must be commensurate in function to these third-party services.

But there is an unambiguous degree of separation between BIAS and these applications. The ISP may provide users with a connection to access these services, but they certainly do not provide the actual services. Users do not rely on their ISPs to provide the necessary application to post on social media, store contacts, or upload photos. By crediting ISPs with the functionality of these third-party services, the Commission is collapsing the two separate entities into one singular service.

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that broadband penetration is nearly at saturation point resulting in declines in capital expenditures as physical infrastructure build-out reaches its final stages).

[12] NCTA, *America's Internet Speeds Continue to Soar*, (June 2, 2017) https://www.ncta.com/platform/broadband-internet/americas-internet-speeds-continue-to-soar/; Noam et al. at 10, Figure 5.

[13] NPRM, 32 FCC Rcd at 4442, ¶ 27.

We can illustrate this distinction by explaining the mechanics behind how internet users post through a social media application. For instance, when a user navigates to the Facebook website, computer code is first downloaded (JavaScript, HTML, CSS, etc.) to the user's computer or phone through the internet access provided by the ISP. The internet browser on the device processes the downloaded code, and presents the user with the familiar Facebook homepage. Through the homepage interface, the user can subsequently generate a social media post by inputting text and/or uploading a photo.

If the user chooses a filter to apply to the photo, the user selects an option made available through the user interface, and a section of code is executed by the internet browser to transform the photograph data. After the user is satisfied, the user clicks "post," which cues the browser to execute another section of downloaded code. This code posts the user's data (known as a request) to Facebook's servers using HTTPS through the internet access provided by the ISP. The servers subsequently process the user request, and the post can now be downloaded and viewed by other users.

In this example, the involvement of the ISP is limited to the initial download of the client application and any HTTPS requests sent to Facebook's server. In fact, the ISP can only see that the user has visited the Facebook domain (https://www.facebook.com); it cannot see specific pages that the user visits or affect anything else unless it deliberately chooses to block or degrade the connection.[14] But more importantly, the ISP does not provide the capability to generate or transform data. The capability to do this is exclusively facilitated through the computer code written by Facebook and the web browser that the user chooses to visit the site with. Without Facebook's involvement and the use of its code, the capability to generate data would not exist. The ISP serves as a mere conduit--it only provides access to a capability, not the capability itself. To conflate the two would be akin to characterizing a postal service as a writing instrument because it ships pens to a writer--although the service may facilitate writing by delivering the

[14] For the purposes of this example, we assume that the user is viewing the Facebook website over the HTTPS protocol, which Facebook uses by default for all users, Scott Renfro, *Secure browsing by default*, Facebook Engineering Notes (July 31, 2013), https://www.facebook.com/notes/facebook-engineering/secure-browsing-by-default/10151590414803920/. Under HTTPS, the internet traffic of the user is encrypted, and ISPs will only be able to view the domain name, as the example illustrates.

instrument to the front door of an author, it certainly does not serve any role in putting ink onto paper.[15]

B. Services like DNS and email are separate and distinct from BIAS.

The NPRM attempts to address this critique by arguing that "many broadband internet users rely on services, such as Domain Name Services (DNS) and email, from their ISP."[16] In particular, the Commission "believe[s] that "consumers... have come to expect these additional services as part and parcel of broadband internet access service."[17] But while ISPs may choose to package core telecommunications services like BIAS with non-telecommunications services like email, the decision to do so does not change the way that these services are classified.[18] Beyond overlooking the clear structural distinction between separate services, allowing carriers to classify their services in this fashion would allow ISPs to evade Title II treatment simply by packaging Title II services with a minor service that falls outside the scope of Title II.[19] This counterintuitive result would strip Title II of any legal effect, and would conflict with the broader intent of the Communications Act itself.

Accordingly, in his dissent in *Brand X*, Justice Scalia argued that the package provided by ISPs should be viewed as two separate and distinct services: (1) high-speed access to the internet and (2) other applications and functions.[20] Even when other applications like email are provided by

[15] In his dissent in *NCTA v. Brand X*, Justice Scalia made a similar point, asserting that collapsing the functions of edge providers into the connectivity service provided by ISPs is "equivalent to saying that, if the pizzeria 'offers' delivery, all restaurants 'offer' delivery, because the ingredients of the food they serve their customers have come from other places; no matter how their customers get the food (whether by eating it at the restaurant, or by coming to pick it up themselves), they still consume a product for which delivery was a necessary 'input,'" 545 U.S. 967, 1011 (2005). In the very next line, Justice Scalia succinctly summarized this position, stating, "This is nonsense," *id*.
[16] NPRM, 32 FCC Rcd at 4443, ¶ 28.
[17] NPRM, 32 FCC Rcd at 4443, ¶ 29.
[18] In the Matter of Protecting and Promoting the Open Internet, GN Docket No. 14-28, Comments of the Center for Democracy & Technology, at 10 (July 17, 2014) (CDT Comments).
[19] CDT Comments at 10. See also Open Internet Order at 5768, ¶ 369.
[20] Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 1008 (2005) (Scalia, J., dissenting) (Brand X). *See also* Open Internet Order, 30 FCC Rcd at 5757, ¶ 356.

ISPs, the two services retain independent identities, particularly from the perspective of a consumer or end user.[21] As Justice Scalia explained:

> When...information enters the cable for delivery for the subscriber, the information service is already complete. The information has been (as the statute requires) generated, acquired, stored, transformed, processed, retrieved, utilized or made available. All that remains is for the information in its final, unaltered form, to be delivered (via communications) to the subscriber.[22]

The FCC echoed this interpretation in the 2015 Open Internet Order, finding that BIAS is "sufficiently independent" of information services like email and online storage as to constitute a separate offering.[23] This distinction is consistent with the baseline expectations of BIAS customers today, who rely upon ISPs to provide only one particular function: a reliable high-speed connection to the internet.[24]

In other words, the primary function provided by ISPs is the transport of packets to and from the user, not the processing of information. Services like DNS and local caching are ancillary to this connectivity service, and merely facilitate the functioning of BIAS.[25] However, in the NPRM, the Commission implicitly argues that DNS is an information service integrated as a part of BIAS provided by ISPs.[26] This assertion would conflict with recent agency precedent, which holds that DNS provides an "adjunct-to-basic" function that falls within the telecommunications system management exception to the definition of information service.[27]

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[21] Brand X, 545 U.S. at 1008 (2005) (Scalia, J., dissenting) ("[T]he telecommunications component of cable-modem service retains such amble independent identity that it must be regarded as being on offer--especially when seen from the perspective of the consumer or end user, which the Court purports to find determinative, *ante*, at 990, 993, 998, 1000. The Commission's ruling began by noting that cable-modem service provides both 'high-speed access to the internet' and other applications and functions,' *Declaratory Ruling* 4799, ¶ 1, because that is exactly how any reasonable consumer would perceive it: as consisting of two separate things.").
[22] *Id*. at 1010 (Scalia, J., dissenting).
[23] Open Internet Order, 30 FCC Rcd at 5757, ¶ 356.
[24] CDT comment at 11.
[25] CDT comment at 13.
[26] NPRM, 32 FCC Rcd at 4442-43, ¶ 28.
[27] Open Internet Order, 30 FCC Rcd at 5766, ¶ 367.

More specifically, the DNS lookup service falls within this exception because its entire purpose is to ensure the efficient operation of telecommunications.[28] The service simply translates textual domain names requested by users into numeric addresses, serving as a basic routing function that establishes connections between users and internet endpoints of their choosing.[29] Therefore, it meets the test established by the Commission for an adjunct-to-basic service, as it (1) facilitates the use of a connectivity service and (2) does not alter the fundamental character of that service.[30] Consequently, even if DNS is "part and parcel" of BIAS, it would still be considered a telecommunications service under the exception and would not merit a change in the classification of BIAS.

Furthermore, internet users commonly access services like DNS and email from separate third-party sources without any additional difficulty. For instance, Google Public DNS processes 400 billion responses per day[31] and OpenDNS processes more than 100 billion legitimate DNS requests per day.[32] To use these services, users only need to make a simple update in their internet preferences to direct their internet traffic towards another server.[33] And among third-party email providers, 1 billion active users subscribe to the Gmail service provided by Google[34] and 400 million active users subscribe to the Outlook service provided by Microsoft.[35] In comparison, Verizon has an estimated 4.5 million customer email accounts in total--a small fraction of customers when compared to the major third-party providers.[36] For email, internet

[28] CDT comment at 13.
[29] CDT comment at 14. *See also Brand X*, 545 U.S. at 1012-13 (Scalia, J. dissenting).
[30] *See In re Establishment of a Funding Mechanism for Interstate Operator Services for the Deaf*, 11 FCC 6808 ¶ 16 (1996).
[31] Google, *Google Public DNS and Location-Sensitive DNS Responses* (Dec. 15, 2014) https://webmasters.googleblog.com/2014/12/google-public-dns-and-location.html
[32] Owen Lystrup, *The Power of 100 Billion: What You Can Do With A Vast Global Network*, Continuum (May 25, 2017) https://continuum.cisco.com/2017/05/25/the-power-of-100-billion-what-you-can-do-with-a-vast-global-network/.
[33] Google Public DNS, *Getting Started*, (last updated June 3, 2016) https://developers.google.com/speed/public-dns/docs/using.
[34] Ross Miller, *Google now has 1 billion monthly active users*, The Verge (Feb. 1, 2016) https://www.theverge.com/2016/2/1/10889492/gmail-1-billion-google-alphabet.
[35] Microsoft, *Microsoft By The Numbers*, https://news.microsoft.com/bythenumbers/.
[36] Hayley Tsukayama, *Why AOL-yes, AOL- could get a new crop of customers*, Washington Post (Feb 23, 2017) https://www.washingtonpost.com/news/the-switch/wp/2017/02/23/why-aol-yes-aol-could-get-a-new-crop-of-customers/.

users frequently use the provider of their choice, and switching between services does not require altering any aspect of the internet access service itself.[37]

C. Users specify the endpoint of their communications online through the use of URLs.

The FCC also asserts that ISPs do not offer telecommunications based on the claim that "broadband internet users do not typically specify the 'points' between and among which information is sent online." Rather, the FCC contends that "routing decisions are based on the architecture of the network" and "consumers do not know where online content is stored."[38] But the definition of telecommunications has never required users to specify information about the routing or handling of transmissions along the pathway to its endpoint.[39] For instance, dialing a mobile telephone number does not require specific knowledge of where the recipient of the call is located or what path a communication needs to take to reach that recipient. While the caller may not know the geographic location of the receiving party, the caller can still specify the endpoint of the communication by entering the phone number.[40] That is, in fact, the whole point of phone numbers.

Similarly, accessing material online does not require the specific knowledge of where information is located. Even if users do not know the specific geographic location of where content is being stored, they can still state where they want their information to be sent in the form of a URL. When a consumer wants to access the Netflix website, they simply state where they want their information to be sent (https://www.netflix.com/).

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[37] CDT comment at 14. *See also* Omair Khan, *Major Email Provider Trends in 2015: Gmail's Lead Increases*, MailChimp Email Marketing Blog (July 15, 2015), https://blog.mailchimp.com/major-email-provider-trends-in-2015-gmail-takes-a-really-big-lead/ (showing that third-party email providers like Gmail, Hotmail (now Outlook), and Yahoo receive significantly more email from marketers than Comcast).

[38] NPRM, 32 FCC Rcd at 4443, ¶ 29.

[39] Open Internet Order, 30 FCC Rcd at 5762, ¶ 361.

[40] *Id.*

D. The services cited by the Commission do not change the form or content of the information sent over their networks.

The Commission also posits that BIAS should be considered as an information service because ISPs "routinely change the form or content of the information sent over their networks," citing to the use of firewalls to block harmful content or the use of protocol processing to interweave IPv4 networks with IPv6 networks.[41] Because telecommunications is defined under the Communications Act as a message that has not been "changed in form or content" while being transmitted, it is necessary to provide some context to understand what this entails in practice.

For example, when the internet is accessed over a phone line, signals must be converted from a digital to an analog format.[42] During the implementation of the Telecommunications Act of 1996, Congress decided that this conversion process did not constitute a change in the form or content of the message, because the changes are (1) only made to facilitate the process and (2) are transparent to the user.[43] This logic applies with equal force to the example of protocol processing provided by the Commission.

- **IPv4 and IPv6 protocol processing.** As the Commission described, ISPs use protocol processing to interweave IPv4 networks with IPv6 networks. Because IPv6 is not backwards compatible, this processing is necessary to facilitate communication between IPv4 and IPv6 networks. But the process is transparent to the user and is only applied to facilitate the transmission process. For these reasons, protocol processing should not be considered to affect a change in the form or content of the message being transmitted.

- **HTTPS.** This represents a relatively more secure protocol (compared to standard HTTP) for web browsers and servers use to communicate with one another. The message content sent between client and server, using HTTPS, is encrypted and thus cannot be read without the correct "key." Due to the nature of HTTPS, any change to the content or form

[41] NPRM, 32 FCC Rcd at 4444, ¶ 30.
[42] *See* Wikipedia, Modem, last edited June 27, 2017, https://en.wikipedia.org/wiki/Modem. "A common type of modem is one that turns the digital data of a computer into modulated electrical signal for transmission over telephone lines and demodulated by another modem at the receiver side to recover the digital data."
[43] Sharon K. Black, T*elecommunications Law in the Internet Age*, 62, Morgan Kaufmann, 1st. ed. (2001).

of the data that is being sent over the internet would destroy the integrity of the message and render the resulting message unreadable. Over 50 percent of desktop internet traffic is now encrypted using this method, and desktop users spend two-thirds of their time on websites using HTTPS.[44] Between the proliferation of this protocol and the lack of mass complaints regarding unreadable messages, it can be concluded that ISPs therefore do not change or modify at least 50 percent of desktop internet traffic, suggesting that BIAS is more appropriately categorized as a telecommunications service.

The Commission also argues that that firewalls represent a measure that changes the form or content of transmissions sent over a network.[45] But in practice, firewalls serve as an additional provision over and above internet access, filtering traffic and managing telecommunications services.[46] These measures do not change communication; instead, firewalls block communication to protect the user and the ISP network from malicious activity. Therefore, to the extent that these firewalls are offered by ISPs, they logically fall within the telecommunications system management exception.

Moreover, much like email or DNS, consumers are increasingly more likely to use third-party options rather than rely on the firewall provided by an ISP. For example, Mac OS comes equipped with a built-in firewall, and Windows has had such default measures in place since the advent of Windows XP Service Pack 2. And in the mobile context, Apple has stated that iOS devices do not need an additional firewall because of built-in security measures.[47] Similarly, Android does not have a recommendation for the use of a firewall if applications are downloaded exclusively from the official Google Play Store. These operating systems represent 94.32 percent of the market, which reinforces the fact that consumers do not necessarily need or desire the firewall provided by an ISP.[48] This is supported by FCC guidance, which recommends that small

[44] Google Transparency Report, *HTTPS Usage,* https://www.google.com/transparencyreport/https/metrics/?hl=en.
[45] NPRM, 32 FCC Rcd at 4444, ¶ 30.
[46] Open Internet Order, 30 FCC Rcd at 5771, ¶ 373.
[47] Apple, Inc., *iOS Security*, at 30 (March 2017), https://www.apple.com/business/docs/iOS_Security_Guide.pdf.
[48] Stat Counter, Operating System Market Share Worldwide, (June 2016 - June 2017), http://gs.statcounter.com/os-market-share.

businesses install their own firewall software or use the built-in firewall of the operating system, rather than rely upon the firewall provided by the ISP.[49]

III. Public policy considerations do not support the reclassification of BIAS as an information service.

A. Reclassification benefits ISPs economically at the expense of users, edge providers, and the general internet ecosystem.

The policies proposed by the Commission in the NPRM are seemingly built upon a series of assumptions about the fundamentals of the BIAS market. Broadly speaking, the NPRM is built on a theory of deregulation--the idea that economic growth in the sector is being constrained by excessive government intervention in the market.[50] Based on this theory, if the Commission lowers the regulatory barriers to entry, more private actors will enter the market, and the subsequent competition will provide consumers with more choices and lower costs.

However, the Commission does not offer any evidence to illustrate the causal link between Title II classification and any constraints on competition or economic growth.[51] Instead, it is far more likely that the most challenging barrier to entry in the market is the cost of labor in infrastructure development.[52] These barriers remain high enough that ISPs frequently enjoy monopoly conditions in local markets nationwide, as 78 percent of census blocks do not have access to more than one high-speed broadband provider.[53] But the proposal put forth by the Commission does not effectively address these barriers to entry.

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[49] FCC, Cybersecurity for Small Businesses, (last visited July 16, 2017) https://www.fcc.gov/general/cybersecurity-small-business.

[50] NPRM, 32 FCC Rcd at 4435, ¶ 5; Remarks of FCC Commissioner Ajit Pai at the American Enterprise Institute's Roundtable Discussion on Decline in Investment Following the FCC's Title II Order, (Sept. 9, 2015) available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-335190A1.pdf.

[51] *See infra* part I.

[52] Susan Crawford, *Google Fiber Was Doomed From the Start*, Wired, (March 14, 2017) https://www.wired.com/2017/03/google-fiber-was-doomed-from-the-start/ ("...80 percent of the cost of installing fiber is labor….The cost of that labor isn't going down right now.")

[53] FCC Wireline Competition Bureau, *Internet Access Services: Status as of June 30, 2015*, (August 2016) available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-340664A1.pdf (FCC Internet Access Services Report).

Rather, the NPRM will strip from users and edge providers necessary protections in monopoly conditions, allowing ISPs to leverage their dominant position to distort the market. Without these protections in place, ISPs may block or slow down access to third-party edge providers in order to help drive traffic to its own competing services, effectively suffocating access to internet users. And if an edge provider is able to develop a successful application, the ISP may levy taxes on the product through the use of paid prioritization. Ultimately, these practices will only discourage innovation and impede economic growth by making it more difficult for internet users and edge providers to develop, market, and access new ideas.[54]

As a result, economic growth and the development of the internet will become a top-down process, driven by the large ISPs who can extort users and businesses for tolls and those who will be able to afford them. This model would degrade the value of the internet, which can be found in the diverse contributions of those who access it. By stripping users and edge providers of regulatory protections in the current non-competitive market, the internet will lose economic and social value, and the general development of the medium will be stunted.[55]

B. Reclassification will provide consumers with fewer and weaker privacy protections.

In the NPRM, the Commission also proposes ceding oversight of the privacy practices of ISPs to the FTC. The FCC does not provide a specific rationale for this decision, only citing to the background of the FTC as an agency with experience as a privacy watchdog.[56] However, this decision would ultimately shortchange consumers, vesting exclusive responsibility for the oversight of ISP privacy practices in an agency with narrower authority and fewer resources than the FCC.[57]

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[54] Ferras Vinh, *Rules of the Road: Net Neutrality's Bright Line Protections*, Center for Democracy & Technology (May 11, 2017) https://cdt.org/blog/rules-of-the-road-net-neutralitys-bright-line-protections/.

[55] *See* Barbara Van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. on Telecomm. & High Tech. L. 329 (2007) (arguing that without net neutrality rules, ISPs will likely discriminate against or exclude edge providers, subsequently reducing innovation and threatening economic growth).

[56] NPRM, 32 FCC Rcd at 4456, ¶ 66.

[57] CDT has previously expressed concerns about the consequences of eliminating the FCC's ability to protect the privacy of consumers, including many of the ideas discussed in this section. Stan Adams and Ferras Vinh, *Why the FTC Shouldn't Be the Only "Cop On the Beat,"* Center for Democracy & Technology (May 18, 2017) https://cdt.org/blog/why-the-ftc-shouldnt-be-the-only-cop-on-the-beat/.

First, the FTC has more limited authority to protect consumer privacy when compared to the FCC. The statutory authority of the FTC primarily stems from Section 5 of the FTC Act, which provides the agency with the power to investigate "unfair and deceptive acts and practices in or affecting commerce."[58] And while the enforcement power of the FTC has notably expanded in recent decades through the expansion of federal privacy laws, no laws have been enacted that would provide the FTC with additional jurisdiction to pursue specific violations of privacy in the BIAS consumer context. Consequently, if the ISP does not make any promises or representations regarding consumer privacy, the FTC may not be able to adequately protect the sensitive personal data of consumers through enforcement.

While the provisions of Section 5 do provide some degree of consumer protection, they also reflect a more narrow conception of stakeholder responsibility and consumer privacy. For example, to prove that an action taken by an ISP is unfair under Section 5, the FTC must not only show that there was an injury, but also that the injury is not outweighed by a competitive or consumer benefit.[59] In this context, privacy is a commodity to be balanced against other considerations, rather than a fundamental right. In contrast, the FCC model of oversight more accurately reflects the value of sensitive consumer information. Under Section 222 of Title II, ISPs have a "duty to protect confidentiality of...customers" and can only disclose such information under carefully limited circumstances.[60]

This allows the government to protect sensitive consumer data based on violations of baseline privacy standards alone, whereas Section 5 of the FTC Act may require the ISP to take the extra step of making a promise or representation to its consumers before enforcement can take place.[61] Put another way, Section 222 provides an explicit statutory avenue for enforcement based solely on the actions of the ISP, independent of any promises that it makes to its customers. By

[58] 15 U.S.C. § 45.
[59] 15 U.S.C. § 45(n).
[60] 47 U.S.C. § 222(a).
[61] *See* Daniel J. Solove and Woodrow Hartzog, *The FTC and the New Common Law of Privacy*, Columbia Law Rev. Vol. 114:583, at 600 (2014). The FTC has also pursued companies based on a failure to provide notice of practices, *see* Federal Trade Commission, *Facebook Settles FTC Charges That It Deceived Customers by Failing to Keep Privacy Promises,* (Nov. 29, 2011) https://www.ftc.gov/news-events/press-releases/2011/11/facebook-settles-ftc-charges-it-deceived-consumers-failing-keep; *Sony BMG Settles FTC Charges*, (Jan. 30, 2007) https://www.ftc.gov/news-events/press-releases/2007/01/sony-bmg-settles-ftc-charges, (regarding failures to provide notice).

codifying an affirmative duty for ISPs to protect personal information, these provisions also help establish privacy as a fundamental right for internet users and allow for corresponding legal protections.

Moreover, it is still not clear that the FTC has any legal authority to oversee the privacy practices of ISPs. Under the common carrier exemption of Section 5, the FTC is barred from regulating common carriers.[62] And in the recent case of *AT&T Mobility v. FTC*, the 9th Circuit found that the common carrier exemption under Section 5 extends to include all services of a company with a common carrier component.[63] If the decision is upheld on appeal, reclassification of BIAS as a Title I information service would effectively leave consumers with no federal remedy for violations of privacy by ISPs with common carrier services.

Second, the FTC lacks the rulemaking authority of the FCC to pre-emptively protect consumers. The broadband rules adopted by the FCC were based on the authority provided to the agency under Section 222 of the Communications Act, and would have provided a strong prophylactic baseline of protection against the unwanted disclosure or sale of private consumer information collected by ISPs. The unique nature of these harms justifies preventative measures, as once sensitive private information is lost to the public, it is nearly impossible to regain exclusive control of it. Yet the FTC lacks similar prescriptive rulemaking authority, and can only address privacy harms that have already occurred.[64] And given the number of Americans who subscribe to internet service through one of the major ISPs, millions of consumers could suffer from privacy harms at before the FTC will have the authority to act.

And finally, the FTC is not as well-equipped to handle many of the responsibilities that will accompany its expanded oversight role. Although the FTC has the general authority to provide some form of consumer protection across many different agencies, FTC Commissioner Terrell McSweeny notes that the agency has limited staff and lacks the subject matter expertise of the

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[62] 15 U.S.C. § 45(a)(2).
[63] *AT&T Mobility, LLC v. Federal Trade Commission*, No. 15-16585, at 2,9 (9th. Cir. 2016).
[64] *Id. See also* Terrell McSweeney, *FCC should not leave broadband privacy rules to FTC*, (March 5, 2017) http://thehill.com/blogs/pundits-blog/technology/322312-fcc-should-not-leave-broadband-privacy-rules-to-ftc.

FCC.[65] Under reclassification, the responsibility to safeguard the privacy of ISP customers would shift from a specialized agency with deep expertise in telecommunications policy to an agency with greater constraints on staff resources and limited experience in the field.[66]

IV. The NPRM fails to specify the source of the burdens and uncertainty it claims arise from the application of Title II to BIAS.

Despite the NPRM's repeated references to the burdens and uncertainties imposed by Title II, nowhere does it specify what those burdens are or how Title II creates uncertainty.[67] From a regulatory policy perspective, it is incumbent upon the Commission to describe in detail the specific aspects of those portions of Title II from which the Open Internet Order did not forbear that create these burdens and explain why reclassification is the best option to alleviate them.[68] Since both the Chairman and most major ISPs pledge support for open internet principles, such as those protected by the bright-line rules of the Open Internet Order, perhaps it is to some unnamed subset of the remaining applicable portions of Title II that the NPRM refers.[69] That the NPRM fails to specify the source of the burdens to which it refers adds weight to the theory that the arguments set forth in the NPRM are merely pretext for the Commission's already-decided course of action.

Likewise, the NPRM's concerns for BIAS providers facing "regulatory uncertainty" would seem to be exacerbated, not alleviated, by the potential of further reclassification.[70] Some of the uncertainty cited in the NPRM seems to stem from unfamiliarity with Title II.[71] Where

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[65] McSweeney, *supra*, n. 64.
[66] *Id.*
[67] NPRM, 32 FCC Rcd at 4448-51, ¶¶ 44-49.
[68] The OIO did not forbear from sections 201,202, 206-209, 216, 217, 222, 224, 225/255/251(a)(2), 229, and 254. *See* Open Internet Order, 30 FCC Rcd at 5616-17, ¶¶ 51-58.
[69] *See, e.g.*, Alina Selyukh and David Greene, *FCC Chief Makes Case for Tackling Net Neutrality Violations After the Fact*, NPR, (May 5, 2017), http://www.npr.org/sections/alltechconsidered/2017/05/05/526916610/fcc-chief-net-neutrality-rules-treating-internet-as-utility-stifle-growth; Brian L. Roberts, *Comcast Statement Supporting a Free and Open Internet*, Comcast, (April 26, 2017) http://corporate.comcast.com/comcast-voices/comcast-statement-supporting-a-free-and-open-internet; AT&T Blog Team, *AT&T Supports Internet Openness*, AT&T, (April 26, 2017) https://www.attpublicpolicy.com/net-neutrality/att-supports-internet-openness/.
[70] NPRM, 32 FCC Rcd at 4448-51, ¶¶ 44-49.
[71] NPRM, 32 FCC Rcd at 4449, ¶ 45, n. 112 (citing to comments made prior to the adoption of the Open Internet Order and reclassification).

uncertainty grows out of unfamiliarity, then perhaps a period of adjustment and education could equally alleviate uncertainty. As with the unspecified burdens discussed above, a better understanding of which aspects of Title II create uncertainty would improve the public understanding of the issues and the ability to meaningfully engage in the notice and comment process.

Only one part of the Open Internet Order is mentioned specifically as a source of uncertainty: the Internet Conduct Standard. CDT understands the need for a flexible catch-all provision to allow the Commission to address unforeseen and undesirable practices, but the Commission could have considered clarifying the existing standard through guidance or adjudication, rather than simply proposing its elimination. This would have been a more narrowly tailored response to the perceived problem of uncertainty.

Conclusion

According to the Pew Research Center, 87 percent of American adults now use the internet.[72] It has become an integral and indispensable feature of American life; a service that we rely upon to help us communicate with our loved ones, develop new ideas, and access the world around us. The development of this medium has been implicitly guided by general adherence to principles of net neutrality, sustaining the internet as an open forum for free expression and technological innovation.

The 2015 Open Internet Order simply enshrined these protections into law. It provided the Commission with an explicit grant of authority to preserve the open nature of the internet, reinforcing the implicit promise of broad accessibility with legal force. Unfortunately, the proposal currently being considered by the Commission would repeal these rules, allowing ISPs to leverage their monopoly power to levy tolls on consumers and edge providers. If implemented, the NPRM would allow ISPs to build artificial barriers to entry for new ideas,

[72] Monica Anderson & Andrew Perrin, *13% of Americans don't use the internet. Who are they?*, Pew Research Center (Sept. 7, 2016), http://www.pewresearch.org/fact-tank/2016/09/07/some-americans-dont-use-the-internet-who-are-they/.

stifling innovation and transforming the internet from an open marketplace into a walled garden. It represents nothing less than an existential threat to the internet itself.

With this in mind, CDT respectfully asks the Commission to reject the NPRM.