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

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

REPLY COMMENTS OF THE CENTER FOR DEMOCRACY & TECHNOLOGY

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Introduction

The Center for Democracy & Technology (CDT) has advocated for strong open internet protections to encourage innovation and facilitate greater communication. In that spirit, we appreciated the opportunity to express our concerns regarding the Notice of Proposed Rulemaking (NPRM) put forth by the Federal Communications Commission (FCC) to roll back the net neutrality protections implemented under the Open Internet Order of 2015 (OIO).[1]

In these reply comments, we respond to some of the claims raised by other commenters to support the NPRM. More specifically, we seek to clarify three underlying legal and policy misconceptions, focusing on assertions regarding the nature of the services provided by internet service providers (ISPs) and the scope of the relevant laws and regulations. First, we explain that the OIO does not restrict the use or development of non-BIAS offerings. Second, we demonstrate that the fact that ISPs "offer" services bundled with internet access does not change the fact that they mostly provide pure transmission. And finally, we illustrate that the classification of Broadband Internet Access Service (BIAS) as a telecommunications service does not necessitate the similar reclassification of edge providers with physical infrastructure.

[1] *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Notice of Proposed Rulemaking, 32 FCC Rcd 4434, (2017) ("NPRM"); *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").

The OIO does not constrain the use or development of non-BIAS offerings, such as connectivity services for connected cars or telemedicine.

The OIO acknowledged that ISPs may offer other kinds of services that do not constitute BIAS.[2] By definition, these non-BIAS offerings, including certain VoIP services, automobile telematics, health monitors, and dedicated educational curriculum applications and services, are not subject to the rules set out in the OIO.[3] Although the definition of non-BIAS offerings is largely self-explanatory, the OIO pointed out three characteristics shared by non-BIAS offerings:

> *"First, these services are not used to reach large parts of the Internet. Second, these services are not a generic platform—but rather a specific "application level" service. And third, these services use some form of network management to isolate the capacity used by these services from that used by broadband Internet access services."*[4]

These services were expressly excluded from the scope of the OIO--the rules did not impose any restrictions on the general development or traffic management policies for non-BIAS offerings.[5] It is therefore inaccurate to frame the OIO's rule against "paid prioritization" as a barrier to developing or offering non-BIAS options.[6] For instance, one comment cites some of the same non-BIAS applications the OIO *explicitly lists* as exempt from the conduct-based rules as

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[2] Open Internet Order, 30 FCC Rcd at 5611, para 35; Id. at 5696-99, paras 207-213.
[3] Open Internet Order, 30 FCC Rcd at 5696-97, paras 207-08
[4] Open Internet Order, 30 FCC Rcd at 5697, para 209.
[5] However, the FCC does retain the ability to regulate non-BIAS offerings under the OIO if an ISP attempts to use such services to evade open internet protections for BIAS. Open Internet Order, 30 FCC Rcd at 5697, para 207.
[6] NPRM, 32 FCC Rcd 4434, 4462, para. 86; *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Initial Comments of Comcast Corporation at 56 ("Comcast Comments"); *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Initial Comments of Verizon at 21.

examples of applications that could be made possible or improved through the use of paid prioritization.[7] Even the tele-health monitoring example cited in the NPRM, if offered separately from general internet access, could match all of the characteristics the OIO uses to describe non-BIAS services.[8]

The OIO's exceptions provide ISPs with flexibility and serve as a prominent illustration of its "light touch" approach. In the OIO, the FCC excluded non-BIAS services from the conduct-based rules to "continue to drive additional investment in broadband networks and provide end users with valuable services without otherwise constraining innovation."[9] Although the OIO does preserve the Commission's ability to step in should non-BIAS offerings be used as substitutes for internet access or to otherwise evade the rules,[10] the cases cited above are listed explicitly in the OIO as examples of the kinds of non-BIAS offerings that would not be subject to the rule against paid prioritization. In the proceeding leading up to the OIO, many of these commenters asked the commission to preserve an exemption for these same services.[11] That exemption still exists. Therefore, non-BIAS services, which are not subject to the OIO's rule against paid prioritization, should not be used to support the modification or elimination of that rule.

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[7] "For example, a telepresence service tailored for the hearing impaired requires high-definition video that is of sufficiently reliable quality to permit users "to perceive subtle hand and finger motions" in real time. And paid prioritization may have other compelling applications in telemedicine. Likewise, for autonomous vehicles that may require instantaneous data transmission, black letter prohibitions on paid prioritization may actually stifle innovation instead of encouraging it." Comcast Comments at 56 (footnotes omitted). See also, *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Comments of AT&T Services, Inc. at 5 ("[A]ny flat ban on paid prioritization arrangements is simply irresponsible in the emerging broadband environment that will need to support autonomous cars....")

[8] "Could allowing paid prioritization enable certain critical information, such as consumers' health care vital signs that are being monitored remotely…?" NPRM, 31 FCC Rcd at 4462, para 86.

[9] Open Internet Order, 30 FCC Rcd at 5698, para 212.

[10] Open Internet Order, 30 FCC Rcd at 5696 para 207, 5698 para 212.

[11] Open Internet Order, 30 FCC Rcd at 5697 para 208 and n. 539 (citing Letter from William Johnson, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 14-28, at 3 (filed Oct. 17, 2014) ("As technology evolves, future specialized services could include things like telehealth, connected car, Smart Grid, and a wide range of machine-to-machine services that are distinct from mass market Internet access.").

The fact that ISPs "offer" services bundled with internet access does not change the fact that they primarily provide transmission services.

Many ISPs do include services other than internet access as part of an internet access subscription. Some of these bundled services, such as email, may be rightly considered "information services." However, those add-ons do not change the nature of the primary service offered: the transmission of information packaged in IP packets to and from a subscriber's IP address. Not only is this the primary service offered by ISPs, but the percentage of ISP traffic that does not involve directly communicating content is very small (volumetrically),[12] and the remaining fraction continues to shrink.[13]

For example, when a person accesses a video streaming site to watch a movie, even if their ISP performs the initial DNS look-up task, the ISP's role consists of moving a long stream of packets from one edge of its network to the subscriber's IP address. The payload of the thousands of packets into which the movie will be subdivided will be transmitted, without change in form, from router to router across the ISPs network: pure transmission. The first step of the DNS look-up task (sending queries), which is not necessarily performed by the ISP,[14] is such a small piece

[12] Sandvine reports that Skype and BitTorrent account for less than 2% of upstream and downstream traffic, respectively. The amount of traffic associated with DNS and other ISP-based services would be vanishingly small in comparison. Sandvine, *2016 Global Internet Phenomena, Latin America and North America*, at 4, (2016) available at https://www.sandvine.com/downloads/general/global-internet-phenomena/2016/global-internet-phenomena-report-latin-america-and-north-america.pdf.

[13] *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Joint Comments of Internet Engineers, Pioneers, and Technologists on the Technical Flaws in the FCC's Notice of Proposed Rule-making and the Need for the Light-Touch, Bright-Line Rules from the Open Internet Order, at 13-17 ("Engineers Comments").

[14] Engineers Comments at 10 ("DNS is itself a multi-step protocol requiring different players to function. The user first contacts the recursive resolver, which might be located within an ISP, or today is often a third-party provider. This resolver gets its information by contacting several authoritative DNS servers. At the top level are the "root servers", which are located around the world and run by different independent bodies such as the US Department of

of the overall interaction that it should not be used as a basis for classification as an information service.

As noted by a group of engineers and computer scientists in their initial comment, to say that a commercial airline is in the business of providing an entertainment service because some flights include in-seat movies is laughable.[15] So, too, is the argument that internet access is an "information service" because ISPs bundle email hosting and other often-unused services along with the provision of BIAS.

The classification of BIAS as a telecommunications service does not necessitate the similar reclassification of edge providers with physical infrastructure under Title II.

In its comment, the NCTA claims that if BIAS remains classified as a telecommunications service, the FCC must consider similarly reclassifying other internet-based services with substantial physical networks because of their ability to transmit information.[16] More specifically, they assert that the FCC adopted an "overly simplistic view of BIAS" that "focuses on the transmission functionality of the service" and "mistakes the use of transmission for the

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Defense, ICANN, and the University of Maryland. These servers respond to the recursive resolver with the location of the Top Level Domain (TLD) servers for the domain in question; for "eff.org", this would be one of the ".org" servers. Then a request is sent to one of these TLD servers, which will know the IP address of the server(s) to ask next. The last DNS server in the chain will know the IP address assigned to the domain itself. This cooperative process is designed such that no single player provides the entire service." (footnotes omitted))

[15] Engineers Comments at 18 ("Customers subscribe to an ISP's service not for information services the ISP might provide, but because the subscription enables customers to transmit and receive data to and from the wider Internet. The information services ISPs provide are no longer connected in any meaningful way to the data routing and transmission service they offer. Saying that ISPs provide an information service to their customers because they offer caching and webmail in addition to Internet connectivity is like saying that airlines are in the business of providing an entertainment service because they offer in-flight movies in addition to transportation. While these additional services might be selling points, they are not integral to the fundamental offering ISPs and airlines make: to transport things (either data or people) at the customer's request.")

[16] *In the Matter of Restoring Internet Freedom*, WC Docket No. 17-108, Comments of NCTA - The Internet and Television Association, at 21 ("NCTA Comments").

offering of transmission."[17] Under this theory, some edge providers "offer" telecommunications services because they use internal networks to send and receive information.

However, internet services are not exclusively defined by their physical infrastructure. From a statutory perspective, the use of wires is only one component of a common carrier telecommunications service under Title II of the Communications Act. More precisely, a common carrier engages in "interstate or foreign communication by wire or radio or interstate or foreign radio transmission of energy."[18] And to be characterized as a telecommunications service, the service must be additionally be designed to transmit information between points specified by a user, without any change in the form or content of the information as sent and received.[19] As the plain meaning of the statutory definitions illustrate, these services are defined by the act and the nature of the transmission itself, rather than by physical infrastructure alone.

Moreover, grouping all services with substantial physical infrastructure together would elide functional distinctions between the services provided by ISPs and edge providers. For instance, while cloud storage services may feature networks to facilitate delivery, consumers do not use these services in the traditional context of telecommunications. Rather, consumers typically use cloud-based services as a data storage system for their pictures, videos, and documents or to take advantage of its computing power.[20] Customers do not use cloud-based services to access the internet; they access cloud-based services *via* the internet.

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[17] *Id.*
[18] 47 U.S.C. §153(11).
[19] 47 U.S.C. §153(50), (51).
[20] In the context of data storage, cloud services are a quintessential information service. By definition, this service offers the capability to store available information, 47 U.S.C. §153(24).

To adopt the reasoning of the aforementioned comment and classify such services under the same terms as ISPs would be analogous to classifying a large house or building as a water utility solely because both feature extensive plumbing systems. Similarly, while both ISPs and certain edge providers may use wires to carry data, there are fundamental differences in the function, utility, and structure of each service that preclude categorization based on physical characteristics alone.