

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20544**

In the Matter of )  
 )  
Safeguarding and Securing the Open Internet ) WC Docket No. 23-320  
 )

**REPLY COMMENTS OF NETFLIX, INC.**

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## INTRODUCTION AND SUMMARY

Netflix is one of the world’s leading entertainment companies offering TV shows, films, and games across a variety of genres and languages. Our members have the choice to play, pause, and resume watching as much as they want, anytime, anywhere, and can change and cancel their plans at any time. Our business relies on a symbiotic relationship between a thriving creative industry and a thriving Internet ecosystem. Our 247 million Netflix members in more than 190 countries depend on us to deliver a wide range of excellent entertainment, and on a well-functioning Internet to access this content. At the same time, the demand for broadband connectivity is based on the availability of great online content and services, and many Internet Service Providers (“ISPs”) promote their Broadband Internet Access Services (“BIAS”) by using Netflix’s content. Regulatory policies that support an open Internet, with robust investment in infrastructure, competition, and continuous innovation best serve consumers.

Netflix supports open Internet rules. Americans should have the freedom to access the legal content, Internet services, and websites of their choice without interference. ISPs should not be permitted to block or throttle such access or engage in paid prioritization, and should be required to be transparent about their network management practices.<sup>1</sup> As part of these rules, the Federal Communications Commission (“FCC” or “Commission”) should prohibit ISPs from imposing access fees “to avoid having edge providers’ content, service, or application blocked,”

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<sup>1</sup> Netflix supports site blocking to combat blatant forms of unlawful content, such as piracy. *Hearing on “Digital Copyright Piracy: Protecting American Consumers, Workers, and Creators” Before U.S. H.R. Comm. on the Judiciary Subcomm. on Cts., Intell. Prop., and the Internet*, 118<sup>th</sup> Cong. (2023) (statement of Karyn A. Temple, Senior Exec. Vice President and Glob. Gen. Couns., Motion Picture Association, Inc.); *see also* Comments of the Motion Picture Association, Inc. at 1, WC Docket No. 23-320 (filed Dec. 14, 2023) (“[W]e applaud the Commission’s effort to safeguard anti-piracy activities under its proposed rules.”).

or “throttled,” as it did in 2015.<sup>2</sup> These protections, however, can easily be thwarted without oversight of traffic exchange. The FCC in 2015 rightly found that ISPs can exploit the points at which an ISP’s terminating access network interconnects with other networks, as well as the backbone and last mile that links its customers to the Internet, to engage in behavior that would be prohibited under the bright line rules had they occurred on the last-mile network. Netflix therefore supports the FCC’s oversight of traffic exchange. Netflix agrees with commenters that open Internet rules are necessary because ISPs have the means and motivation to deviate from neutral practices and that such rules will support, not undermine, investment and innovation.

We also agree with other commenters that the Commission should focus this proceeding on open Internet protections related to BIAS, as it is currently defined. The Commission should not impose new requirements or restrictions on content delivery networks (“CDNs”) and other non-mass-market BIAS offerings, such as web hosting and data storage services.<sup>3</sup> These services—offered by many providers in a highly competitive marketplace—are neither BIAS, as the *Notice of Proposed Rulemaking* (“NPRM”) proposes to define that term, nor “telecommunications services” within the meaning of the Communications Act. And the Commission has consistently declined to apply Title II regulation to these kinds of services. The record confirms that none of the changes to the Internet ecosystem since the FCC last addressed this issue warrant a departure from the Commission’s long-established treatment of CDNs.

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<sup>2</sup> See *Protecting and Promoting the Open Internet*, Report & Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601, 5684 ¶¶ 113, 120 (2015) (“*2015 Open Internet Order*”). In these reply comments, we use the term “access fees” to refer to fees imposed by ISPs on edge providers “to avoid having the edge providers’ content, service, or application blocked” or “throttled.” See *Safeguarding and Securing the Open Internet*, Notice of Proposed Rulemaking, FCC No. 23-83, WC Docket No. 23-320, ¶¶ 152, 155 (rel. Oct. 20, 2023) (“*NPRM*”).

<sup>3</sup> See *Id.* ¶ 67.

**I. AMERICANS SHOULD HAVE THE FREEDOM TO ACCESS THE CONTENT, INTERNET SERVICES, AND WEBSITES OF THEIR CHOICE.**

Netflix agrees with the Commission that “consumers perceive and use BIAS as an essential service, critical to accessing healthcare, education, work, commerce, and civic engagement” and that “it is paramount that consumers be able to use their BIAS connections without degradation due to blocking, throttling, paid prioritization, or other harmful conduct.”<sup>4</sup>

As the *NPRM* states, open Internet protections “will establish a baseline that the Commission can use to prevent and address conduct that harms consumers and competition when it occurs.”<sup>5</sup>

Netflix invests billions of dollars annually on content to serve our members, and we offer this content over the open Internet. We compete heavily, both with companies affiliated with ISPs and with independent online entertainment providers.<sup>6</sup> Our members therefore depend on an open Internet that ensures that they can access our content and the content of many other companies through their ISPs’ networks without interruption.

**A. The Importance of an Open Internet.**

Netflix members depend on a well-functioning, content-agnostic Internet for unfettered access to our TV shows, movies, and games. Content providers invest in content and consumers rely on their ISP to deliver that content to consumers. ISPs invest in providing connectivity for their customers to access a near infinite choice of content and services. Subscribers pay content providers for this content and ISPs for this connectivity. Investments in content and connectivity benefit each other in a “flywheel effect” acknowledged by the Commission. Netflix has invested

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<sup>4</sup> *Id.* ¶ 117.

<sup>5</sup> *Id.*

<sup>6</sup> The *NPRM* correctly states that “many major ISPs are affiliated with OTT services or continue to offer competitive vertically integrated OTT services, and frequently provide consumers with promotional offers that bundle OTT services with BIAS.” *Id.* ¶ 126.

over \$60 billion in content alone over the last five years. That’s equivalent to roughly 50% of our total revenue. It is the part we play in creating a virtuous flywheel: better, more varied content, leading to more people willing to pay for better broadband services. Open Internet protections establish a foundation for innovation and investment by content providers and ISPs alike, which provides consumers the connectivity and access to content they demand.

Today’s online entertainment marketplace is intensely competitive, which benefits consumers. Fostering that competition, however, depends on protecting the open Internet. Netflix competes with dozens of other content providers to attract viewers by offering them the best content, a compelling user interface, and a choice of subscription plans. Online entertainment is now available in many different forms, using many different business models. These include services that are affiliated with ISPs and services, like Netflix, that are independent. In an open Internet, where both affiliated and independent content providers compete on a level playing field that offers the same access to terminating access networks, these companies are spurred to compete vigorously and to continue to improve their offerings by investing in quality content and technology. However, if ISPs engage in non-neutral behavior, this will undermine competition, reduce innovation, and harm consumers.<sup>7</sup>

**B. ISPs Have the “Incentive and Ability to Harm Internet Openness.”<sup>8</sup>**

The *NPRM* “tentatively conclude[s] that ISPs continue to have the incentive and ability to engage in practices that pose a threat to Internet openness, and seek[s] comment on this tentative

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<sup>7</sup> See Comments of Public Knowledge at 17, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Public Knowledge Comments”) (citing a study of mobile providers that “showed that the mobile carriers applied their throttling in non-neutral ways, blocking some providers (such as YouTube) more frequently than others (such as Amazon). . . . Because such practices would not violate Commission rules, it was impossible to investigate the matter by filing a complaint”).

<sup>8</sup> *NPRM* ¶ 123.

conclusion.”<sup>9</sup> The record supports the Commission’s position.<sup>10</sup> Whenever an end user seeks content on the Internet from a content provider, that content must transit an ISP’s interconnection point, backbone, and last-mile network to be delivered. The ISP has sole control over these facilities and can financially benefit from exploiting this control because while Americans have access to a multitude of different online entertainment offerings, each household purchases Internet access from only one ISP.

Furthermore, consumers can easily and quickly change online content providers: switching costs are low and competition is intense. Most American households have access to multiple competing streaming services, offering content both through subscriptions, ad-supported offerings, and on a pay-per-view basis. Every day, and for every program, we compete to attract viewers with an exceptional diversity and number of choices. If a subscriber decides to exit its relationship with a content provider, it can do so easily and switch to a new provider with very few barriers. For example, members can cancel their Netflix subscription online, without the need to call Netflix, return equipment, or schedule a visit from a technician—with no penalties and no additional charges.

In contrast, it is very difficult for a person to change ISPs: switching costs are high and competition is insufficient to thwart non-neutral behavior.<sup>11</sup> If an ISP blocks or throttles content

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<sup>9</sup> *Id.* ¶ 126.

<sup>10</sup> *See, e.g.*, Comments of the American Civil Liberties Union at 4-6, WC Docket No. 23-320 (filed Dec. 14, 2023); Comments of Communications Workers of America at 12-13, WC Docket No. 23-320 (filed Dec. 14, 2023); Comments of David Choffnes at 3, WC Docket No. 23-320 (filed Dec. 14, 2023); Comments of Free Press at 134-35, WC Docket No. 23-320 (filed Dec. 14, 2023); Comments of INCOMPAS at 12-14, WC Docket No. 23-320 (filed Dec. 14, 2023) (“INCOMPAS Comments”); Comments of Lumen at 7-8, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Lumen Comments”); Public Knowledge Comments at 19-22.

<sup>11</sup> *See* INCOMPAS Comments at 11 (“[T]he lack of home internet options for customers and the high switching costs they experience where they do have options allow for large,

requested by a subscriber, that subscriber cannot immediately access the content from another ISP. The ISP's subscriber has only one path to the Internet. And if the ISP's behavior persists, its subscriber cannot exit the relationship easily to switch to a new ISP. Many ISPs require subscription period lock-ins and impose penalties for early termination.<sup>12</sup> Making switching costs higher, changing ISPs often requires multiple lengthy phone calls, scheduling technicians of both the old and new ISPs to visit the household, and the installation of new equipment. Most problematically, many Americans do not have an alternative broadband provider to switch to because they live in an area with limited or no choice of ISPs<sup>13</sup> or in a multi-tenant building with an arrangement with a single ISP that is, explicitly or practically, exclusive.<sup>14</sup> Even where there is some broadband competition, it is often insufficient to deter non-neutral behavior given that most Americans live in areas with only a broadband duopoly.<sup>15</sup>

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incumbent fixed BIAS providers to potentially abuse their gatekeeper power with respect to both their customers and edge providers.”).

- <sup>12</sup> See, e.g., *Communications Marketplace Report*, 2022 Communications Marketplace Report, 37 FCC Rcd. 15514, 15550 ¶ 45 (rel. Dec. 30, 2022) (stating that “[m]any factors impact customer churn in the fixed broadband market[,]” including “[c]ontract length and automatic payment options” that “are common features in the U.S. fixed broadband market”).
- <sup>13</sup> See Remarks of Chairwoman Jessica Rosenworcel, The National Press Club (Sept. 26, 2023), <https://www.fcc.gov/document/fcc-chairwoman-rosenworcels-net-neutrality-remarks> (“Chairwoman Rosenworcel Remarks”) (“[I]f your broadband provider mucks up your traffic, messing around with your ability to go where you want and do what you want online, you can’t just pick up and choose another provider. That provider may be the only game in town.”).
- <sup>14</sup> See INCOMPAS Comments at i (“Customers lack sufficient competitive options, which increases large, incumbent internet service providers’ (‘ISPs’) gatekeeping power.”), 9-11 (detailing the insufficiency of competition for fixed broadband services).
- <sup>15</sup> See Jon Sallet, *America’s Broadband Moment: Creating a Broadband Competition Policy Agenda*, BENTON INST. FOR BROADBAND & SOC’Y (June 9, 2020), [https://www.benton.org/blog/americas-broadband-moment-creating-broadband-competition-policy-agenda#\\_edn1](https://www.benton.org/blog/americas-broadband-moment-creating-broadband-competition-policy-agenda#_edn1) (“[A]t least 80% of Americans face either a monopoly (no choice) or a duopoly (only one choice) for fixed service.”); Karl Bode, *The Battle to Stop Broadband Discrimination Has Only Just Begun*, THE VERGE (Dec. 5, 2023), <https://www.theverge.com/23983055/fcc-broadband-access-digital-discrimination-redlining->



Furthermore, the U.S. Court of Appeals for the District of Columbia has found that the Commission has “convincingly detailed how broadband providers’ position in the market gives them the economic power to restrict edge-provider traffic and charge for the services they furnish edge providers.”<sup>16</sup> ISPs have this power because “all end users generally access the Internet through a single broadband provider” and “that provider functions as a ‘terminating monopol[y].’”<sup>17</sup> As the record shows, ISPs’ terminating access monopoly gives them power “regardless of the state of competition elsewhere in the network, and, to an extent, even if end users have other broadband options”<sup>18</sup> because of the difficulty of switching ISPs.

As a result of their terminating access monopolies and high switching costs, ISPs have the ability to engage in practices that threaten an open Internet.<sup>19</sup> They also have the incentive to exercise this market power to the detriment of consumers for at least two reasons. First, exercising market power allows ISPs to increase revenues by both charging their subscribers to access all Internet endpoints and also charging content providers to access their customers. This undermines consumer choice and competition and does not lead to additional investment in

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rules-enforcement (“US broadband has long suffered from a lack of regional competition. Most Americans live under either an internet monopoly or a duopoly, resulting in patchy coverage, slow speeds, terrible customer service, and some of the highest prices for broadband in the developed world.”) (citing Christopher Mitchell and Katie Kienbaum, *Report: Most Americans Have No Real Choice in Internet Providers*, INST. FOR LOCAL SELF-RELIANCE (Aug. 12, 2020), <https://ilsr.org/report-most-americans-have-no-real-choice-in-internet-providers/>).

<sup>16</sup> *Verizon v. FCC*, 740 F.3d 623, 646 (D.C. Cir 2014).

<sup>17</sup> *Id.*

<sup>18</sup> *See, e.g.*, Public Knowledge Comments at 83.

<sup>19</sup> *See NPRM* ¶ 123 (“ISPs ‘are in a position to act as a “gatekeeper” between end users’ access to edge providers’ applications, services, and devices and reciprocally for edge providers’ access to end users.”).

broadband networks.<sup>20</sup> Second, many ISPs have affiliated Pay TV and/or streaming content services that directly compete with independent, online content companies.<sup>21</sup> ISPs with affiliated services have a clear incentive to advantage their affiliated services by either (1) degrading the quality of their competitors' content or (2) increasing their competitors' costs.<sup>22</sup>

In addition to evidence already submitted to the record by other parties, the impact of open Internet rules in the Netherlands demonstrates these incentives in practice and shows that, if permitted, ISPs can and will adopt non-neutral practices that are contrary to the public interest. In 2016, a Dutch ISP launched an affiliated online content service. But it was unable to grant preferential treatment to its affiliated content under new Dutch open Internet protections. Because of these rules, upon launching the service, the ISP doubled the size of its data caps to accommodate its new video offering,<sup>23</sup> to the benefit of all online content providers. If that ISP

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<sup>20</sup> See *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership For Consent to Assign or Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 31 FCC Rcd. 6327, 6385 ¶ 120 n.390 (2016) (arguing that “the gain in market rents [ISP New Charter Communications] would obtain as a monopsonist from edge providers would inefficiently reduce edge provider output, and raise their prices, directly harming the customers of edge providers[,]” and that “the reduced choice of edge provider output is not a factor that New Charter would fully take into account in making its private profit-maximizing decisions,” so “the net effect of the increase in New Charter’s economic power would be to harm consumers and economic efficiency”).

<sup>21</sup> For example, Peacock, a Comcast-affiliated streaming service, showed the NFL’s first-ever exclusively live-streamed playoff game. Jake Gellerman, *Peacock Exclusive AFC Wild Card Game is Biggest Live-Streamed Event in U.S. History & Drives Internet Usage to Single Day U.S. Record*, NBC SPORTS PRESSBOX (Jan. 14, 2024), <https://nbcSPORTSGROUPPRESSBOX-com.cdn.ampproject.org/c/s/nbcSPORTSGROUPPRESSBOX-com/2024/01/14/peacock-exclusive-afc-wild-card-game-is-biggest-live-streamed-event-in-u-s-history-drives-internet-usage-to-single-day-u-s-record/amp/> (“From NBC Sports and Peacock to the Comcast team, our entire company worked seamlessly to plan for this game[.]”).

<sup>22</sup> See *NPRM* ¶ 123 (“The *2015 Open Internet Order* highlighted several economic incentives ISPs have to exploit this gatekeeper role, ‘such as preferring their own or affiliated content, demanding fees from edge providers, or placing technical barriers to reaching end users.’”).

<sup>23</sup> Antonios Drossos, *The Real Threat to the Open Internet Is Zero-Rated Content*, WORLD WIDE WEB FOUNDATION, 5 (2015),

had been allowed to favor its own offering instead of improving its service, it would have been able to use its market power to encourage its subscribers to favor its affiliated content company. The Dutch open Internet protections thus protected broadband customers and preserved competition in the video market.

ISPs claim, as evidence that they will not engage in future non-neutral practices, that there have not been widespread reports of such practices in the United States in the five years since the Commission overturned the 2015 *Open Internet Order*.<sup>24</sup> This argument is unconvincing. During this five-year period, ISPs understood that open Internet protections applied in many parts of the country. Almost immediately after the Commission rescinded its network neutrality rules, Hawaii, Montana, New Jersey, New York, Rhode Island, and Vermont issued executive orders requiring companies seeking to contract with those states to confirm that they would meet the FCC's pre-2018 network neutrality rules.<sup>25</sup> Additionally, in 2018, California and Washington adopted their own open Internet protections, which have remained in place throughout this period.<sup>26</sup> There has also been widespread understanding since 2020, with the change in FCC leadership, that the Commission would soon initiate a proceeding to reconsider its rules. Given this environment, it would have been against ISPs' interests to exercise market power and engage in easy-to-detect, non-neutral behavior because doing so

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[https://research.rewheel.fi/downloads/Webfoundation\\_guestblog\\_The\\_real\\_threat\\_open\\_internet\\_zerorating.pdf](https://research.rewheel.fi/downloads/Webfoundation_guestblog_The_real_threat_open_internet_zerorating.pdf) (discussing the Dutch ISP KPN).

<sup>24</sup> See, e.g., Comments of USTelecom at 45, WC Docket Nos. 23-320, 17-108, 17-287, 11-42 (filed Dec. 14, 2023) (“USTelecom Comments”); Comments of Verizon at 2, WC Docket Nos. 23-320, 17-108, 17-287, 11-42 (filed Dec. 14, 2023); Comments of AT&T at 23-24, WC Docket Nos. 23-320, 17-108, 17-287, 11-42 (filed Dec. 14, 2023).

<sup>25</sup> Sherry Lichtenberg and Kathryn Kline, *Net Neutrality Tracker: Net Neutrality State Actions Tracker*, NAT'L ASS'N OF STATE UTIL. COMM'RS, <https://www.naruc.org/nrri/nrri-activities/net-neutrality-tracker/> (last visited Jan. 17, 2024).

<sup>26</sup> CAL. CIV. CODE §§ 3100-3104 (2018); WASH. REV. CODE §§ 19.385.010-030 (2018).

would have dramatically increased the likelihood that they would face enforcement in California and Washington, and that, in response, the Commission and additional states would adopt strong new rules. But while the combination of individual state laws and a pending regulatory proceeding disincentivized ISPs from undermining the open Internet, only federal rules can protect consumers nationwide into the future and provide businesses with regulatory certainty.

**C. ISPs Should Not Be Permitted to Engage in Interconnection Practices that Circumvent Open Internet Rules.**

All Internet content requested by a broadband subscriber must pass through an ISP's interconnection point before reaching that end user. ISPs have sole control of these interconnection points onto their terminating access networks and how content traverses across their networks. Customers subscribe to broadband service from an ISP to be able to connect to all Internet endpoints. To meet this obligation to their customers, ISPs permit other ISPs and content providers to interconnect with their network through both "peering" and "transit" arrangements.

- Peering allows an ISP and a content provider to directly connect with each other through a bilateral relationship. These peering arrangements overwhelmingly follow the "bill-and-keep" principle, where neither party pays the other for interconnection because both benefit from interconnection. The ISPs' paying customers benefit from access to content, and the content providers benefit from access to end users.
- Transit is a service in which "transit ISPs" provide IP connectivity services to ISPs or edge providers for a fee. This service enables those independent parties to connect with each other when direct interconnection is not possible because they are distant from one another, one party is too small to get the attention of a larger party, or the parties refuse to enter into an acceptable peering arrangement.

The ability to interconnect with ISPs through both peering and transit is fundamental to an open Internet that provides consumers with access to Internet content of their choosing and continued

innovation.<sup>27</sup>

The vast majority of ISPs around the world interconnect cooperatively and efficiently through purchasing transit and engaging in peering arrangements that follow the bill-and-keep principle. The exceptions are the large ISPs (with large retail market share and/or vertical integration with Tier 1 global transit networks). Some large ISPs exploit the size of their networks to impose “selective” interconnection policies, demanding fees for the ability to interconnect directly with their networks and deliver content to their subscribers. Their ability to charge access fees creates perverse incentives. The only way to force a content provider to pay an access fee is to ensure that all alternative routes through transit ISPs into the ISP’s network are congested (or managed in such a way that there is no meaningful available capacity)—as a consequence, a content provider facing a demand for a large access fee cannot simply pay a transit ISP a smaller, competitive transit fee to achieve interconnection.<sup>28</sup>

Such discriminatory conduct by large ISPs can produce two distinct negative consequences. First, ISP-created congestion causes broadband subscribers to receive poor streaming-video performance on any content or service not directly connected to the ISP. Consumers may not understand that the ISP, rather than the content provider, is responsible for such poor performance and, as a result, may switch to an alternative content provider that is not

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<sup>27</sup> See INCOMPAS Comments at 39-44.

<sup>28</sup> See, e.g., Lumen Comments at 5 (explaining that “from the perspective of a web site, streaming service, or other application (and any CDN or ISP they use), although there may be many paths across the Internet to reach the BIAS provider’s network, all paths to the end user must eventually go through that BIAS provider’s network”), 6 (describing that “the method by which large BIAS providers generally leverage [their gatekeeper] role is by demanding access tolls from targeted entities (whether CDNs, ISPs, or edge providers) with whom they interconnect”) (citation omitted), 12 (“Lumen has first-hand experience with a small number of large BIAS providers, both in the United States and abroad, attempting to exploit these dynamics to impose unjustifiable access tolls.”).

experiencing ISP-created poor streaming performance. Additionally, as discussed, it is far more complicated for a consumer to select a different ISP than to switch content providers. Second, the threat of ISP traffic manipulation undermines competition between ISP-affiliated and non-affiliated content providers by forcing independent companies, such as Netflix, either to pay an access fee to the ISP or to suffer congestion and quality degradation compared to their competitors that are affiliated with that ISP and do not have to pay this fee. The impact of this kind of non-neutral ISP conduct is particularly damaging for smaller content providers, non-profits, and educational organizations—all of which are less likely to be able to find an alternative to an ISP’s congested transit ISP routes through direct peering.

The *NPRM* proposes to “prohibit ISPs from charging edge providers a fee to avoid having the edge providers’ content, service, or application blocked”<sup>29</sup> or “throttled”<sup>30</sup> under the no-blocking and no-throttling rules. Netflix agrees. The 2015 *Open Internet Order* stated that its “no-blocking rule prohibits broadband providers from charging edge providers a fee to avoid having the edge providers’ content, service, or application blocked from reaching the broadband provider’s end-user customer”<sup>31</sup> and that “broadband providers may not impose a fee on edge providers to avoid having the edge providers’ content, service, or application throttled.”<sup>32</sup> Consistent with its approach in 2015, the Commission should adopt the *NPRM*’s proposal, in the context of its no-blocking and no-throttling rules, to prohibit ISPs from charging edge providers and other third parties fees to ensure their content is not blocked or throttled.

These protections, however, are not sufficient without oversight of traffic exchange

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<sup>29</sup> *NPRM* ¶ 152.

<sup>30</sup> *Id.* ¶ 155.

<sup>31</sup> *2015 Open Internet Order* ¶ 113.

<sup>32</sup> *Id.* ¶ 120.

where blocking or throttling could have the same deleterious impact on consumers ability to reach content of their choosing. We therefore agree with the *NPRM*'s proposal<sup>33</sup> to reaffirm its 2015 decision to review any disputes that arise concerning interconnection arrangements “under sections 201 and 202 on a case-by-case basis.”<sup>34</sup> As the Commission has recognized, this is “an appropriate vehicle for enforcement where disputes are primarily over commercial terms[.]”<sup>35</sup> However, importantly, the Commission should explicitly state—as it did in 2015<sup>36</sup>—that ISPs are not permitted to take advantage of this case-by-case approach and engage in interconnection practices that circumvent the prohibitions contained in the open Internet rules.

Some commenters assert that ISP interconnection practices that impose access charges are warranted because content creators “push” traffic onto ISP networks.<sup>37</sup> This is incorrect. Broadband subscribers engage ISPs in order to access a variety of services: education,

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<sup>33</sup> *NPRM* ¶ 187.

<sup>34</sup> *2015 Open Internet Order* ¶ 193.

<sup>35</sup> *Id.*; see also Comments of Akamai Technologies, Inc. at 13, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Akamai Comments”).

<sup>36</sup> See *2015 Open Internet Order* ¶ 206 (explaining that the Commission’s assertion of authority over interconnection practices provided it “with the necessary case-by-case enforcement tools to identify practices that may constitute [an] evasion [of the scope of the rules]”).

<sup>37</sup> See, e.g., Comments of The Free State Foundation at 58, WC Docket No. 23-320 (filed Dec. 14, 2023) (“The Free State Foundation Comments”) (“[T]he Commission wrongly proposes to constrain broadband ISPs’ freedom to charge edge providers based on their relative usage of ISP network facilities.”); Comments of International Center for Law & Economics at 31, WC Docket No. 23-320 (filed Dec. 14, 2023) (“ICLE Comments”) (“Without the ability to charge heavier users more through caps or usage-based pricing, ISPs lose flexibility in designing business models that align costs and willingness-to-pay.”); Comments of the European Telecommunications Network Operators’ Association at 6, WC Docket No. 23-320 (filed Dec. 14, 2023) (“European Telecom Operators Comments”) (“European telecom operators share a common view on expanding to content and service providers, as largest users and beneficiaries of broadband networks, the obligation to fairly and proportionately contribute to broadband cost recovery, with the possibility of different solutions applicable across different jurisdictions.”).

telemedicine, as well as entertainment.<sup>38</sup> An ISP’s subscribers’ demand for this content, not content providers, create traffic flows,<sup>39</sup> and this is something to encourage, not restrict. Netflix does not “push” traffic to an ISP’s subscribers unless they request Netflix content. ISPs also charge their subscribers for the traffic created by their demand to access content.

Further, any suggestion that ISPs should be allowed to charge access fees because they alone must make investments to account for broadband subscribers’ growing demand for online content<sup>40</sup> is also incorrect. Netflix invests continuously to make streaming more efficient. For example, Netflix has invested to create Open Connect, composed of a global backbone and thousands of content cache servers located within public Internet exchanges and embedded in

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<sup>38</sup> See, e.g., *Safeguarding and Securing the Open Internet*, Statement of Chairwoman Jessica Rosenworcel, FCC No. 23-83, WC Docket No. 23-320 (rel. Oct. 20, 2023) (“[During the pandemic,] too many of us were left out and left behind, without the broadband connections required for day-to-day life. We all saw it: kids with laptops perched on their knees, lingering outside of fast food restaurants just to catch a wireless signal to go to online class, adults sitting in parked cars wherever they could find Wi-Fi so they could keep up with family, friends, and work, and seniors who had to turn down telemedicine appointments because they didn’t have the bandwidth they needed to keep up with their healthcare.”); *Connecting America: Oversight of the FCC: Hearing Before the Subcomm. on Comm’n and Tech. of the H. Comm. on Energy and Com.*, 117th Cong. (2022) (testimony of Brendan Carr, Comm’r, FCC) (“Over the last two years in particular, Americans experienced in an unprecedented way the power and opportunity provided by an affordable, high-speed connection as they turned to the Internet for everything from educating their kids and working remotely to accessing high-quality telehealth services.”).

<sup>39</sup> See Public Knowledge Comments at 84 (“When a broadband subscriber watches YouTube, streams music from Spotify, or joins a meeting on Zoom, that traffic is caused by the user, not the edge service.”).

<sup>40</sup> See, e.g., ICLE Comments at 31 (suggesting that if ISPs cannot charge for heavy use of their networks, “[t]his could hamper their incentives and financial ability to continue investing in next-generation network upgrades”); European Telecom Operators Comments at 6 (arguing that a reason for edge providers to contribute to ISPs’ networks is that “telecom operators underinvest in internet infrastructure because the positive externalities of these investments benefit hyperscalers [including major edge providers], not telecom operators themselves”).



ISP networks, which are provided to ISPs free of charge.<sup>41</sup> We've spent over \$1 billion on Open Connect, which we offer free to ISPs. Open Connect has over 700 caching locations in the United States, distributed in all 50 states. So, when our members press play, instead of the film or TV show being streamed from halfway around the world, it's streamed from around the corner—increasing efficiency for operators while also ensuring a high-quality experience for consumers. An ISP that hosts embedded Open Connect appliances will serve, on average, more than 95% of Netflix content locally without the need to carry it over the long-distance links that interconnect different parts of its network. This localization limits the impact of an ISP consumers' Netflix content by decreasing the distance that content must travel, which in turn reduces congestion and network costs. Netflix has also invested in innovative new compression/decompression (“codec”) technology to optimize bandwidth use, and our codec formats are open standards, allowing other content providers to use them in an interoperable manner.<sup>42</sup> In the past 5 years, we have invested to make our streaming twice as efficient, halving the amount of data needed to produce the same quality viewing experience. Netflix's<sup>43</sup> (and generally edge providers')<sup>44</sup> investments in such technology help ISPs optimize their networks

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<sup>41</sup> See Netflix, *A Cooperative Approach to Content Delivery* (2021), <https://openconnect.netflix.com/Open-Connect-Briefing-Paper.pdf>.

<sup>42</sup> See, e.g., Andrey Norikin and Liwei Guo, *AVI at Netflix*, NETFLIX RSCH. (Oct. 23, 2019), <https://research.netflix.com/publication/AVI%20at%20Netflix>. Open standards are non-proprietary, are developed and approved through a collaborative process among many different parties, and allow for interoperability and data exchange among different content providers and networks.

<sup>43</sup> See David Abecassis, *Netflix's Open Connect Program and Codec Optimization Helped ISPs Save Over USD1 Billion Globally in 2021*, ANALYSYS MASON (July 14, 2022), <https://www.analysysmason.com/consulting/reports/netflix-open-connect/> (“Global savings resulting from Netflix's investment in Open Connect and codec improvements amounted to an estimated USD1 billion to USD1.25 billion for ISPs around the world in 2021.”).

<sup>44</sup> See, e.g., INCOMPAS Comments at 46 n.110 (citing David Abecassis et al., *The Impact of Tech Companies' Network Investment on the Economics of Broadband ISPs*, ANALYSYS MASON, 4 (2022), <https://www.analysysmason.com/consulting/reports/internet-content->

and deliver the best experience to consumers.

Finally, developments in South Korea demonstrate that permitting ISPs to charge interconnection fees for third-party edge providers to access Internet endpoints would have serious negative consequences for U.S. consumers.<sup>45</sup> In 2016, South Korea began to mandate a “sending party pays” model for interconnection between the country’s three Tier 1 ISPs.<sup>46</sup> This model entrenched ISPs’ terminating access monopolies and contravened the “bill and keep” peering arrangements that built the Internet into the success that it is today. The result of South Korea’s decision is that IP transit prices in that country are now significantly higher than in comparable markets like Singapore or Japan, and *ten times higher* than the leading U.S. Internet hubs.<sup>47</sup> Permitting ISPs to engage in this behavior drove investment away from South Korea and negatively affected the country’s broadband users. For instance, recent subsea cable projects in East Asia initiated after South Korea’s decision, such as Google’s Apricot and Meta’s Echo and

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application-providers-infrastructure-investment-2022/ (describing that between 2018 and 2021, edge providers “invest[ed] over \$120 billion in digital infrastructure, including hosting, transport, and delivery networks”).

<sup>45</sup> See Comments of Engine at 4, WC Docket No. 23-320 (filed Dec. 14, 2023); INCOMPAS Comments at 45; Comments of Philo, Inc. at 8, GN Docket No. 23-320 (filed Dec. 12, 2023); Public Knowledge Comments at 20; Comments of Steven Renderos, MediaJustice at 9, GN Docket No. 23-320 (filed Dec. 12, 2023).

<sup>46</sup> See Carl Gahnburg and David Frautschy, *Sender Pays: What Lesson European Policy Makers Should Take from the Case of South Korea* 4, INTERNET SOC’Y (Sept. 30, 2022), <https://www.internetsociety.org/blog/2022/09/sender-pays-what-lessons-european-policy-makers-should-take-from-south-korea/>.

<sup>47</sup> See Trevor Wagener, *Myths Surrounding Network Usage Fees: South Korea*, at 4 (2023), [https://research.cciinet.org/wp-content/uploads/2023/11/CCIA\\_Myths-Surrounding-Network-Usage-Fees-South-Korea.pdf](https://research.cciinet.org/wp-content/uploads/2023/11/CCIA_Myths-Surrounding-Network-Usage-Fees-South-Korea.pdf); *Broadband Networks of the Future*, OECD DIGI. ECON. PAPERS No. 327, at 50 (July 2022) (“*Broadband Networks of the Future*”), [https://www.oecd-ilibrary.org/science-and-technology/broadband-networks-of-the-future\\_755e2d0c-en](https://www.oecd-ilibrary.org/science-and-technology/broadband-networks-of-the-future_755e2d0c-en).

Bitfrost, do not land in South Korea.<sup>48</sup> And, beginning in February 2024, Twitch, a major content provider, announced that it will “shut down the Twitch business in [South] Korea” because its “network fees in Korea are still 10 times more expensive than in most other countries”<sup>49</sup> even after attempting to establish peering arrangements and despite taking the extraordinary step of lowering source quality to reduce its traffic flow to ISPs.<sup>50</sup> The U.S. should not make this same mistake.

**D. Open Internet Protections Promote High-Quality Internet Services and Will Not Deter Investment.**

ISPs do not need to engage in non-neutral practices to build networks capable of supporting innovative, high-quality online content services. In the past, ISPs made arguments about the need for non-neutral practices to enable high-definition or 4K video services.<sup>51</sup> But today, those services are being delivered over mass-market Internet, and innovation and diversity of choice are thriving in online entertainment. If regulators and industry had taken a different approach toward specialized services under the mistaken theory that this was necessary to

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<sup>48</sup> See Dr. Karl-Heinz Neumann et al., *Competitive Conditions on Transit and Peering Markets: Implications for European Digital Sovereignty, Final Report*, WIK CONSULT, 37 (2022), [https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?\\_\\_blob=publicationFile&v=1](https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?__blob=publicationFile&v=1) (“As a result of this change, Park and Nelson expect a decline in investment in network infrastructure and a slowdown in digital transformation in Korea. There is a conjecture that new submarine cable projects such as Google’s Apricot, Facebook’s Echo as well as Bitfrost will no longer land in Korea for these reasons.”).

<sup>49</sup> See Kim Tong-Hyung, *Twitch Says It’s Withdrawing From the South Korean Market Over Expensive Network Fees*, AP NEWS (Dec. 7, 2023), <https://apnews.com/article/south-korea-twitch-network-fees-fcbd14738fc911069f82f76cb62afa>.

<sup>50</sup> Dan Clancy, *An Update on Twitch in Korea*, TWITCH (Dec. 5, 2023), <https://blog.twitch.tv/en/2023/12/05/an-update-on-twitch-in-korea/>.

<sup>51</sup> *RD329 - ETNO Response to the Commission Consultation on the Open Internet and Net Neutrality*, EUR. TELECOMMS. NETWORK OPERATORS’ ASS’N., <https://etno.eu/library/positionpapers/55-rd329-etno-response-to-the-commission-consultation-on-the-open-internet-and-net-neutrality.html> (last visited Jan. 16, 2024).

support video quality advances, it is unlikely that the same cycle of innovation would have occurred. Not only does an open Internet promote demand and investment in today's vibrant online entertainment marketplace, it also has shown remarkable adaptability in handling the exceptional spike in online traffic levels necessary to accommodate remote work, school, telehealth appointments, and more during the height of the COVID pandemic.

Additionally, claims that open Internet protections have undermined investment in other countries, or that European networks are inferior to those of the United States because of such protections, are incorrect. Specifically, ISPs' claims about the performance of European networks during the COVID pandemic are not accurate. During lockdowns, many essential services, businesses, education, and entertainment shifted online in Europe, as they did in the United States. Although there was no precedent for such a spike in online demand, official analysis of networks in the United Kingdom and Europe demonstrates that these networks accommodated increased traffic admirably,<sup>52</sup> despite some commenters' assertions that they did not.<sup>53</sup> While some governments did request that content providers reduce traffic in the early weeks of COVID lockdowns in Europe, this is not evidence that European networks were less

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<sup>52</sup> See, e.g., *Broadband Networks Stand Firm During Pandemic*, OFCOM (May 13, 2020), <https://www.ofcom.org.uk/about-ofcom/latest/media/media-releases/2020/broadband-networks-during-pandemic>; *BEREC Summary Report on the Status of Internet Capacity, Regulatory and Other Measures in Light of the Covid-19 Crisis*, BEREC (Nov. 29, 2021), <https://www.berec.europa.eu/en/document-categories/berec/reports/berec-summary-report-on-the-status-of-internet-capacity-regulatory-and-other-measures-in-light-of-the-covid-19-crisis-14>; *Commission Reports on the Implementation of the EU Rules Safeguarding Open Internet Access*, EUR. COMM'N (April 28, 2023), <https://digital-strategy.ec.europa.eu/en/news/commission-reports-implementation-eu-rules-safeguarding-open-internet-access>.

<sup>53</sup> See, e.g., Comments of CTIA at 4, WC Docket No. 23-320 (filed Dec. 14, 2023); USTelecom Comments at 44; Comments of the Competitive Enterprise Institute at 10, WC Docket No. 23-320 (filed Dec. 14, 2023); Comments of the U.S. Chamber of Commerce at 12-13, WC Docket No. 23-320 (filed Dec. 14, 2023); The Free State Foundation Comments at 36.

capable of handling increased demand compared to U.S. networks. Rather, it reflects only that some European governments initially took a more conservative approach than the United States did to address the spike in online traffic because the impact of the increased demand was still unknown. This reflects a difference in regulatory response to risk, not a difference in networks' response to traffic.

More broadly, Netflix has a unique perspective on the actual performance of networks in the United States, United Kingdom, and Europe because of its presence throughout those countries and regions. Open Internet rules in the United Kingdom and Europe have not undermined broadband service. Rather, they have allowed it to thrive. Furthermore, India, one of the largest and fastest-growing digital economies, approved regulations between 2016 and 2018 that promote an open Internet by prohibiting discriminatory pricing and zero-rating of services.<sup>54</sup> India's telecommunications sector has continued to flourish since those rules were adopted. Indeed, between 2015 and 2020, the average Internet data consumption in India grew 16 times (an average of 76% per year), and foreign direct investment in telecommunications equities in India increased threefold during the period of 2017 to 2020 compared to the period before the rules were enacted from 2013 to 2016.<sup>55</sup>

The experiences of the United Kingdom, Europe, and India, all of which adopted open Internet protections, stand in contrast to that of South Korea, which undermined the open Internet by promoting non-neutral ISP behavior. As described above, as a result of South Korea's

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<sup>54</sup> See Adi Robertson, *India Just Approved Net Neutrality Rules that Ban 'Any Form' of Data Discrimination*, THE VERGE (July 11, 2018), <https://www.theverge.com/2018/7/11/17562108/india-department-of-telecommunications-trai-net-neutrality-proposal-approval>.

<sup>55</sup> See, e.g., Telecom Regul. Auth. of India, *Consultation Paper on Regulatory Mechanism for Over-the-Top (OTT) Communication Services, and Selective Banning of OTT Services* (2023), [https://www.trai.gov.in/sites/default/files/CP\\_07072023.pdf](https://www.trai.gov.in/sites/default/files/CP_07072023.pdf).

“sending party pays” mandate, IP transit prices in the country have become significantly higher than in comparable markets like Singapore and Japan, and 10 times higher than those in the United States and Europe.<sup>56</sup> And the Organization for Economic Co-operation and Development (“OECD”) reports that Internet latency in South Korea is now the slowest of all OECD countries.<sup>57</sup> South Korea’s ill-advised mandate has also decreased competition to provide interconnection in the country, decreased video quality, and decreased the number of key content providers that choose to interconnect in South Korea.

## **II. THE COMMISSION SHOULD NOT EXPAND THE DEFINITION OF BIAS TO INCLUDE CDNS OR OTHER SERVICES THAT ARE NOT PART OF A MASS-MARKET OFFERING OF BROADBAND.**

Netflix agrees with commenters that the Commission should focus this proceeding on core open Internet rules and mass-market offerings of broadband.<sup>58</sup> The Commission should not expand the definition of BIAS to include CDNs and other services, such as web hosting and data storage services, that are not part of a mass-market offering of broadband.<sup>59</sup> These services are

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<sup>56</sup> See *supra* Section I.c.

<sup>57</sup> *Broadband Networks of the Future* at 50; see also Maria Teresa Stecher, *South Korea’s Internet Traffic Tax: An Example for Europe To Follow? (Spoiler Alert: It Isn’t, Here’s Why)*, DISRUPTIVE COMPETITION PROJECT (Sept. 14, 2022), <https://www.project-disco.org/european-union/091422-south-koreas-internet-traffic-tax/> (“South Korea now has the worst latency rates of all OECD countries.”).

<sup>58</sup> See, e.g., Comments of Microsoft Corporation at 5, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Microsoft Comments”); Comments of the Internet Infrastructure Coalition at 3-5, WC Docket No. 23-320 (filed Dec. 14, 2023) (“i2Coalition Comments”); Cloudflare Comments at 1-2, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Cloudflare Comments”); INCOMPAS Comments at 46-48; Akamai Comments at 4; Comments of the Computer & Communications Industry Association at 8, WC Docket No. 23-320 (filed Dec. 14, 2023) (“CCIA Comments”); Comments of The Information Technology Industry Council at 4, WC Docket No. 23-320 (filed Dec. 14, 2023) (“ITI Comments”); Comments of Interisle Consulting Group at 8-9, WC Docket No. 23-320 (filed Dec. 14, 2023) (“Interisle Comments”).

<sup>59</sup> See *NPRM* ¶ 67 (seeking comment on whether CDNs and other services, such as web hosting and data storage services, should be classified as BIAS).

neither BIAS, as the Commission proposes to define that term, nor “telecommunications services” within the meaning of the Communications Act. Subjecting these services to Title II regulation would be technically unfounded, inconsistent with the law and the record, and harmful to the security and overall functioning of the Internet.

#### **A. CDNs Are Not BIAS or “Telecommunications Services.”**

The record demonstrates that the Commission should not depart from over a decade of precedent<sup>60</sup> and global regulatory consensus<sup>61</sup> by treating CDNs as BIAS.<sup>62</sup> CDNs are not covered by the Commission’s proposed definition of BIAS<sup>63</sup> and do not fit within the statutory definition of a “telecommunications service.” Further, content companies that operate CDNs to store content close to end users to expedite end-user access to content are not engaging in “paid prioritization.”

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<sup>60</sup> See *Preserving the Open Internet; Broadband Industry Practices*, Report & Order, 25 FCC Rcd. 17905, 17933 ¶ 47 (2010) (“*2010 Open Internet Order*”) (“Nor does broadband Internet access service include . . . content delivery network services . . . .”); *2015 Open Internet Order* ¶ 190 (“[B]roadband Internet access service does not include . . . content delivery networks (CDNs) . . . .”); *Restoring Internet Freedom*, Declaratory Ruling, Report & Order, and Order, 33 FCC Rcd. 311, 320 ¶ 24 (2018) (“*2018 Restoring Internet Freedom Order*”) (subsequent history omitted) (“Broadband Internet access service also does not include . . . content delivery networks (CDNs) . . . .”).

<sup>61</sup> See Akamai Comments at 15; INCOMPAS Comments at 47 (both citing Body of Eur. Reguls. for Elec. Commc’ns., *About BEREC’s Net Neutrality Guidelines* (2016), [https://www.berec.europa.eu/sites/default/files/document\\_register\\_store/2016/8/NN%20Factsheet.pdf](https://www.berec.europa.eu/sites/default/files/document_register_store/2016/8/NN%20Factsheet.pdf)).

<sup>62</sup> See, e.g., Akamai Comments at 4-7; Microsoft Comments at 5, 13-14; INCOMPAS Comments at 47; Cloudflare Comments at 10; CCIA Comments at 8; i2Coalition Comments at 5, 11; ITI Comments at 4, 8; Interisle Comments at 9.

<sup>63</sup> *NPRM* ¶ 59 (defining BIAS as “a mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up internet access service”).

**1. CDN services are not covered by the Commission’s proposed definition of BIAS.**

A broad array of commenters, including both content providers and ISPs, agree that CDNs are not BIAS.<sup>64</sup> Commenters agree that “the Commission would be wise to avoid”<sup>65</sup> such a classification, and if the Commission were to treat CDNs as BIAS, subject to open Internet regulation, “it would not only be aberrational but would create significant confusion causing a ripple effect felt across the world.”<sup>66</sup> No commenter supports classifying CDNs as BIAS.

Netflix agrees for three reasons. First, as the Commission has previously found,<sup>67</sup> CDNs are not “mass-market” services.<sup>68</sup> Open Connect, for example, is not “marketed and sold on a standardized basis to residential customers, small businesses, and other end-user customers such as schools and libraries.”<sup>69</sup> Instead, Netflix uses Open Connect only within its own corporate

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<sup>64</sup> See, e.g., Akamai Comments at 4-7; Microsoft Comments at 2; INCOMPAS Comments at 6, 47-48; Cloudflare Comments at 10-13; CCIA Comments at 8; i2Coalition Comments at 3-5; ITI Comments at 4; Interisle Comments at 9. Cf. USTelecom Comments at 21 (explaining that the caching offered by third parties . . . is not an “information service”); Comments of NCTA — The Internet and Television Association at 59, WC Docket Nos. 23-320, 17-108, 17-287, 11-42 (filed Dec. 14, 2023) (“NCTA Comments”) (“NCTA’s point is not that the Commission *should* impose net neutrality-type regulations on dominant tech platforms or [] other entities [such as CDNs.]”); Comments of T-Mobile USA, Inc. at 30, WC Docket No. 23-320 (filed Dec. 14, 2023) (contending that certain services are distinguishable from general-purpose broadband as they “may not be intended for mass-market consumers” and “may not provide access to all or substantially all internet endpoints or may not offer a functional equivalent to general-purpose broadband service”).

<sup>65</sup> Interisle Comments at 9.

<sup>66</sup> i2Coalition Comments at 5.

<sup>67</sup> See, e.g., *2015 Open Internet Order* ¶ 190 (stating that “[t]he Commission has historically distinguished [CDNs] from ‘mass market’ services”); *2010 Open Internet Order* ¶ 47 (“These services typically are not mass market services and/or do not provide the capability to transmit data to and receive data from all or substantially all Internet endpoints.”).

<sup>68</sup> See, e.g., Akamai Comments at 4-5; Microsoft Comments at 14; i2Coalition Comments at 10; Cloudflare Comments at 10.

<sup>69</sup> *NPRM* ¶ 60 (defining a “mass market” service as one “marketed and sold on a standardized basis to residential customers, small businesses, and other end-user customers such as schools and libraries”).



network, to enhance end users’ viewing experience by reducing latency and service interruptions, and does not charge any entity for use of or access to Open Connect.

Second, consistent with Commission precedent,<sup>70</sup> CDNs neither enable end users’ communications with “all or substantially all internet endpoints” nor provide them access to “internet endpoints.”<sup>71</sup> CDNs do not provide the capability to access endpoints at all; “[e]nd users rely on their BIAS providers for that capability.”<sup>72</sup> Rather, CDNs store and localize content and data at Internet endpoints.<sup>73</sup> For example, Open Connect allows us to efficiently store content distributed by Netflix at the network edge, closer to end users. When an end user requests particular content, Open Connect serves a copy of the content that is geographically closest to the end user.

Third, independent, third-party CDNs are not “incidental to” and do not “enable the operation”<sup>74</sup> of BIAS. As the Commission has previously recognized,<sup>75</sup> CDNs do not in any way enable BIAS and “are not ‘inextricably integrated’ (and generally not even integrated) with [BIAS].”<sup>76</sup> Akamai confirms: “While CDNs offer a highly valuable service that increases the internet’s efficiency, third-party CDNs are not ‘integral’ to BIAS” and “a vast amount of internet traffic does not use CDNs at all.”<sup>77</sup> Open Connect, for example, is not affiliated with any mass-market retail broadband service—it is managed independently by Netflix. Open Connect helps

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<sup>70</sup> *2015 Open Internet Order* ¶ 190 n.469; *accord 2010 Open Internet Order* ¶ 47.

<sup>71</sup> *See* Akamai Comments at 5; Cloudflare Comments at 11; i2Coalition Comments at 10-11.

<sup>72</sup> Cloudflare Comments at 11.

<sup>73</sup> *See* i2Coalition Comments at 10-11; Cloudflare Comments at 11; INCOMPAS Comments at 47.

<sup>74</sup> *NPRM* ¶ 59.

<sup>75</sup> *See, e.g., 2015 Open Internet Order* ¶ 190.

<sup>76</sup> Microsoft Comments at 14.

<sup>77</sup> Akamai Comments at 6.

relieve pressure on BIAS by reducing the need for ISPs to transport content over long distances, thereby reducing congestion, latency, and interruptions in service. It also improves network resilience and security and helps ISPs reduce the cost of building networks to accommodate their customers' demand. While Open Connect does include a transport function, it is not offered to the public or used to enable ISPs' networks. This function is essentially a closed corporate network that is only used by Netflix itself and a small number of content creators working directly with Netflix.

## 2. CDNs are not “telecommunications services.”

Consistent with Commission precedent,<sup>78</sup> CDNs are not “telecommunications services,” and, therefore, the Commission cannot regulate them under Title II.<sup>79</sup> The Communications Act defines a “telecommunications service” as “the offering of telecommunications” made available to the public “for a fee.”<sup>80</sup> CDNs do not meet this definition.

First, CDNs do not offer “telecommunications.” They do not facilitate “the transmission, between or among points specified by the user, of information of the user’s choosing, without

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<sup>78</sup> See *2015 Open Internet Order* ¶ 372 (explaining that “third party caching services . . . including content delivery networks . . . are separate information services”); *2018 Restoring Internet Freedom Order* ¶ 372 (observing that “third party caching services . . . including content delivery networks . . . are separate information services”).

<sup>79</sup> See, e.g., INCOMPAS Comments at 47 (explaining that the services offered by CDNs are not “telecommunications services,” as defined by the Communications Act”); Akamai Comments at 7 (“CDNs are plainly not a ‘telecommunications service’ and, therefore, the Commission cannot regulate them under Title II.”); Cloudflare Comments at 13 (stating that CDNs “do not fall within the Communication[s] Act’s definition of ‘telecommunications service’”); Microsoft Comments at 14 (stating that the “fundamental purpose [of CDNs] is to provide a capability for storing, retrieving, or making available information upon request”); USTelecom Comments at 21 (explaining that “caching [is] undeniably [an] information service[] when offered by third parties”).

<sup>80</sup> 47 U.S.C. § 153(53).

change in the form or content of the information as sent and received.”<sup>81</sup> Instead, CDNs offer the capability for storing, processing, retrieving, and making available information and content via telecommunications, and do not manage or control a telecommunications system.<sup>82</sup> As Cloudflare confirms, “the service being offered [by CDNs] is not the transmission itself but rather the storage, retrieval, and routing of customers’ data.”<sup>83</sup>

Open Connect, for example, caches content on its servers at the edge of an ISP’s network, closer to the end user, to make content delivery more efficient and to improve performance for the end user. However, Open Connect is not responsible for the transport and transmission of the cached content to or from the end user. The actual transmission of this content requires facilities operated by ISPs, not Open Connect. As the Commission preliminarily confirms in the *NPRM*, and the record supports,<sup>84</sup> the type of caching performed by Open Connect and other independent, third-party CDNs for the purpose of “keep[ing] copies of content (such as videos and images, but possibly also web pages) closer to users” is not a “telecommunications service” and is entirely distinct from BIAS.<sup>85</sup>

Second, “unlike BIAS, a CDN’s services are typically not marketed or sold to the general public”<sup>86</sup> or made available for a fee. Instead, as discussed above, Open Connect is used as a part of Netflix’s corporate network.

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<sup>81</sup> *Id.* § 153(50).

<sup>82</sup> *Id.* § 153(24).

<sup>83</sup> Cloudflare Comments at 13.

<sup>84</sup> *See, e.g.*, USTelecom Comments at 21 (describing that caching, when offered by independent, third-party CDNs, is “undeniably [an] information service[.]”).

<sup>85</sup> *NPRM* ¶ 79.

<sup>86</sup> Akamai Comments at 8 (citing *NPRM* ¶ 73 (“ISPs would necessarily offer BIAS ‘for a fee directly to the public, or to such classes of users as to be effectively available directly to the public . . . .’”)).

Third, CDN marketing practices clearly distinguish CDNs from “telecommunications services.” As the *NPRM* notes, current ISP marketing is an important indicator of broadband offerings’ classification as “telecommunications” because this marketing focuses on “the capability of BIAS to transmit information of users’ choosing between Internet endpoints, rather than its capability to generate, acquire, store, transform, process, retrieve, utilize, or make available that information.”<sup>87</sup> In contrast, Netflix advertises the quality and diversity of its content, and does not base its marketing on the capability to transmit information of its members’ choosing.<sup>88</sup>

**B. Content Companies’ Operation of CDNs to Store Content at the Edge of ISP Networks Is Not “Paid Prioritization.”**

The Commission should reaffirm its prior determination that content providers and third-party CDN providers that use CDNs to localize content near end users are not engaging in paid prioritization.<sup>89</sup> The *NPRM* proposes to define “paid prioritization” as:

[T]he management of a broadband provider’s network to directly or indirectly favor some traffic over other traffic, including through use of techniques such as traffic shaping, prioritization, resource reservation, or other forms of preferential traffic management, either (a) in exchange for consideration (monetary or otherwise) from a third party, or (b) to benefit an affiliated entity.<sup>90</sup>

CDN services, such as Open Connect, do not fit within this definition.

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<sup>87</sup> *NPRM* ¶ 19 (citation omitted).

<sup>88</sup> See NETFLIX, <https://www.netflix.com/> (last visited Jan. 12, 2023) (“Stream unlimited movies and TV shows on your phone, tablet, laptop, and TV.”).

<sup>89</sup> See *2015 Open Internet Order* ¶ 128 (“We . . . clarify that the ban on paid prioritization does not restrict the ability of a broadband provider and CDN to interconnect.”); *2018 Restoring Internet Freedom Order* ¶ 255 n.926 (“[W]e do not mean to suggest that CDN services themselves constitute paid prioritization.”).

<sup>90</sup> *NPRM* ¶ 159 (emphasis omitted).

CDNs “that are unaffiliated with an ISP localize traffic by storing data near end users” and “identify optimal locations for users to access content.”<sup>91</sup> They do not prioritize such data over any other traffic.<sup>92</sup> This localization of content reduces Internet congestion for all Internet users, regardless of whether they are using the particular CDN’s service. The record reflects a clear difference between “paid prioritization” and the “localization” service provided by CDNs.<sup>93</sup> For example, INCOMPAS explains that “CDNs do not prioritize or otherwise impact the treatment of traffic within an internet pathway; all traffic continues to be treated equally and routed with the same priority to its destination.”<sup>94</sup> Rather than prioritizing traffic, Open Connect stores copies of its content on its servers, located in an ISP’s network, and selects the copy with the clearest path to the end user as the copy to be transmitted over the ISP’s network. Content served to end users by Open Connect thus does not involve the management of a network to “directly or indirectly favor some traffic over other traffic.”<sup>95</sup> Open Connect does not result in Netflix traffic being prioritized or treated specially by routing it ahead of or faster than any other content or content sources.

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<sup>91</sup> Akamai Comments at 11.

<sup>92</sup> *But see* ICLE Comments at 7 (mistakenly suggesting that “Netflix’s collocation of data centers within different networks to expedite service and reduce overall network load” could “be labeled as paid prioritization”).

<sup>93</sup> *See, e.g.*, Akamai Comments at 10 (“[T]he Commission must, as it has in the past, recognize the fundamental difference between ‘localization’ and ‘prioritization.’”); Cloudflare Comments at 12 (“[T]he Commission should also reaffirm its conclusion that CDNs and other load-balancing services by edge providers do not constitute ‘paid prioritization’ under the proposed open Internet rules.”); i2Coalition Comments at 11 (asserting that CDN’s “content localization is neutral” and “does not involve discrimination that the bright-line . . . no paid prioritization[] rule[] [is] intended to prevent”); INCOMPAS Comments at 47 (“The Commission should also confirm that ISPs that permit CDN providers to store content near end users are not engaging in ‘paid prioritization.’”).

<sup>94</sup> INCOMPAS Comments at 47.

<sup>95</sup> *NPRM* ¶ 159 (emphasis omitted).

**C. Non-Mass-Market Services Like Web Hosting and Data Storage Are Not BIAS or Telecommunications Services.**

In 2015, the Commission determined that non-mass-market services such as web hosting and data storage offerings are not BIAS.<sup>96</sup> The record supports adhering to this decision.<sup>97</sup> The Commission has historically determined that these services are not BIAS because they are not “mass market” services, do not “provide the capability to receive data from all or substantially all Internet endpoints,”<sup>98</sup> and are not “incidental to” or “enable the operation of” a “communications service.”<sup>99</sup> As Microsoft explains, “[c]onsumers and businesses subscribe to these services separate and apart from any mass-market internet access service, and thus they are not ‘inextricably integrated’ . . . with [BIAS].”<sup>100</sup> Instead, these services are “black-letter examples of information services,”<sup>101</sup> as “their fundamental purpose is to provide a capability for storing, retrieving, or making available information upon request.”<sup>102</sup> Finally, as commenters note, there have been no developments since 2015 that would support expanding the definition of BIAS to include these services.<sup>103</sup>

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<sup>96</sup> *2015 Open Internet Order* ¶ 26 (“As in 2010, BIAS does not include . . . hosting[] or data storage services.”), ¶ 190 (“[B]roadband Internet access service does not include . . . data storage services, or Internet backbone services (to the extent those services are separate from broadband Internet access service).”).

<sup>97</sup> *See, e.g.*, i2Coalition Comments at 4-5; Microsoft Comments at 13-14; INCOMPAS Comments at 46; Interisle Comments at 9; ITI Comments at 4, 8.

<sup>98</sup> *2015 Open Internet Order* ¶ 190; *see also* i2Coalition Comments at 6, 12-13; INCOMPAS Comments at 46.

<sup>99</sup> *See 2015 Open Internet Order* ¶ 187.

<sup>100</sup> Microsoft Comments at 14.

<sup>101</sup> Interisle Comments at 9.

<sup>102</sup> Microsoft Comments at 14.

<sup>103</sup> *See, e.g.*, Comments of The Quilt at 2-3, WC Docket No. 23-320 (filed Dec. 14, 2023); i2Coalition Comments at 5, 12-13; Microsoft Comments at 13-14. Some commenters also argue that the Commission should not classify wholesale transit services as BIAS because they are not “mass-market” services. *See, e.g.*, ITI Comments at 8; Comments of The Ad Hoc Broadband, Carrier and Investor Coalition at i-ii, WC Docket No. 23-320 (filed Dec. 14,

## CONCLUSION

Americans depend on an open Internet that ensures that they can access the content, services, and websites of their choice. To support this right, Commission rules should promote a content-agnostic Internet, robust investment, competition, and constant innovation. It should also recognize that ISPs have the means and motivation to impose a different outcome—one that damages competition and harms consumers. Netflix, therefore, supports open Internet rules and agrees with other commenters that these protections will not undermine investment and innovation. We also agree with a broad array of commenters that the Commission should focus on open Internet protections related to mass-market BIAS and should not impose new requirements or restrictions on CDNs or other non-mass-market services.

Respectfully submitted,

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2023) (recommending that the Commission should clarify that is not seeking to regulate “IP transport and related services”). The Internet Technology Industry Council explains that “[t]he wholesale market today is characterized by business-to-business arrangements critical to improving the performance of the public, best-efforts Internet” and “do[es] not require government intervention.” ITI Comments at 8.