



November 5, 2014

By ECFS

Ms. Marlene Dortch
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: Notice of Ex Parte Submission, *Protecting and Promoting the Open Internet, GN Docket No. 14-28; Applications of Comcast Corporation and Time Warner Cable Inc. for Consent to Assign or Transfer Control of Licenses and Applications, MB Docket No. 14-57; Applications of AT&T, Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations, MB Docket No. 14-90*

Dear Ms. Dortch:

On November 3, 2014, Netflix, Inc. (“Netflix”) represented by the undersigned, and Henry Goldberg and Dave Kumar of Goldberg, Godles, Wiener & Wright LLP met with Ambassador Philip Verveer and Commission General Counsel Jonathan Sallet to discuss interconnection issues in the Open Internet and related dockets. We discussed Netflix’s continued support for strong Open Internet rules that prohibit discrimination at all points on the network owned or controlled by broadband Internet Service Providers (“ISPs”). Netflix takes this opportunity to expand on the positions we discussed with Mr. Sallet and Ambassador Verveer.

Netflix has not observed ISPs constraining capacity on their last-mile networks, but in Netflix’s experience, ISPs can and do use interconnection entry points to create bottlenecks.¹ This congestion degrades consumers’ access to the Internet and harms competitive online services. These artificial constraints have resulted in consumers obtaining substantially less connectivity than they have paid for. For example, consumers paying for a 20 Mbps connection or greater to the Internet received Netflix

¹ As Netflix has previously explained, ISPs control whether and how the content their customers request (1) enters and (2) travels over their network. *Protecting and Promoting the Open Internet*, Comments of Netflix, Inc., GN Docket Nos. 14-28, 10-127 (filed Jul. 15, 2014); *Protecting and Promoting the Open Internet*, Reply Comments of Netflix, Inc., GN Docket Nos. 14-28, 10-127 (Sep. 15, 2014); *Applications of Comcast Corporation and Time Warner Cable Inc. for Consent to Assign or Transfer Control of Licenses and Applications*, MB Docket No. 14-57, Petition to Deny of Netflix, Inc. (filed Aug. 27, 2014) (“Netflix Petition to Deny”); *Applications of AT&T, Inc. and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, Comments of Netflix, Inc. (filed Sep. 16, 2014).

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content at 2 Mbps or less—a tenth of the speed purchased from the ISP. The Open Internet rules adopted by the Commission should address all the points in the network controlled by a terminating access ISP, including entry points (i.e., interconnection) to their last-mile networks. The Commission could do a lot of good work to protect consumers from discriminatory conduct in the last mile only to have those protections undermined if the Commission were to fail to provide protections at the interconnection entry point to the last mile.

The access fees that ISPs charge at interconnection are divorced entirely from the costs of “physical interconnection,” and are instead designed to charge edge providers for transporting data over their terminating broadband access network. ISPs have tried to justify such access fees by arguing that access fees are necessary to cover the edge provider’s “share of network costs”² and that those fees are disciplined by the transit market.³ Neither of these arguments is correct. In fact, access fees are on top of, not instead of, the transit costs incurred by edge providers. Rather than providing access to ISPs across the country or the globe, as large transit providers do, ISPs like Comcast, AT&T, and Verizon merely accept data onto the networks serving their respective subscribers’ broadband access services. Because those ISPs have terminating access monopolies, those fees are not (and indeed cannot be) disciplined by competition in the transit market.

ISPs Charge for Access—Not the Cost of “Physical” Interconnection

During this meeting, Netflix explained the straightforward network configuration required for Netflix’s own content-delivery network (“CDN”), OpenConnect, to interconnect directly with a last mile ISP network. When these two networks interconnect, they agree on a place to meet, each puts a network router at that location, and a cable is run between the two entities.

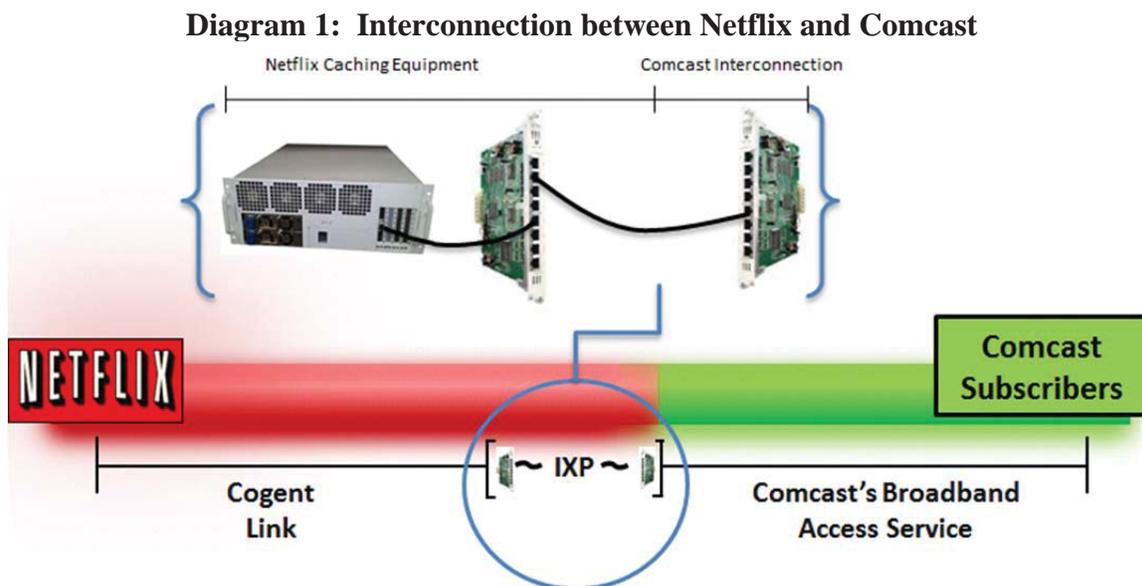
When Netflix is able to interconnect directly with an ISP using OpenConnect, Netflix is incurring all of the costs to provide the transit and storage functions it previously

² See, e.g., Comments of CenturyLink, *filed in* GN Docket Nos. 14-28, 10-127, at 16 (Jul. 17, 2014) (“CenturyLink Comments”) (claiming that “edge providers have never fully covered their share of network costs” and “[u]nless broadband providers have adequate ability to charge edge providers, those costs will be imposed on consumers”); Reply Comments of Verizon and Verizon Wireless, *filed in* GN Docket Nos. 14-28, 10-127, at 22 (Sep. 15, 2014) (“Verizon Comments”) (claiming that absent access fees, broadband providers and their customers “shoulder all the costs of ever-increasing usage instead of the heavy users (or edge providers) driving those costs”).

³ See Opposition to Petitions to Deny and Response to Comments of Comcast Corp. and Time Warner Cable Inc., *filed in* MB Docket No. 14-57, at 18, 216-23 (Sep. 23, 2014) (arguing that “[t]here clearly is no absence of competition in the ‘first mile’ transit marketplace” and “there is simply no ability to ‘leverage’ . . . last mile ‘control’ into a so-called bottleneck for interconnection in the first mile”).

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outsourced. Data flows from the Open Connect server to one of Netflix’s interconnection ports, over a cross-connect cable, into the ISP’s interconnection port, onto the ISP subscriber’s broadband access service, and ultimately terminates at the subscriber. This is illustrated in Diagram 1, using Comcast as an example.



Large ISPs generally agree with CDNs to physically interconnect with them either at one of the 35 nationally recognized Internet exchange points (“IXPs”) or at one or more of the ISP’s own facilities.⁴ The total cost of “physical” interconnection is generally a non-recurring few thousand dollars or less for each 10 Gbps port and cross-connect cable. Symmetrical costs are borne by the content provider’s CDN, which also must purchase a 10 Gbps port and cable. Netflix’s CDN purchases largely the same gear used by large ISPs and therefore has good visibility into its costs; large ISPs, however, mark up the costs of collocation into the millions of dollars a year for direct interconnection.

Access Fees Are Not Disciplined by the Transit Market

ISP access charges are simply a charge to Netflix for access to a large ISP’s subscribers. This interconnection charge is not for transit, servers, or storage. It is, in other words, a pure terminating access charge to deliver content requested by the ISP’s own consumer. Nevertheless, the large ISPs justify these access fees by implying that they are providing edge providers like Netflix with transit services.⁵

⁴ *Internet Exchange Points*, Data Center Map, <http://www.datacentermap.com/ixps.html> (last visited Nov. 2, 2014).

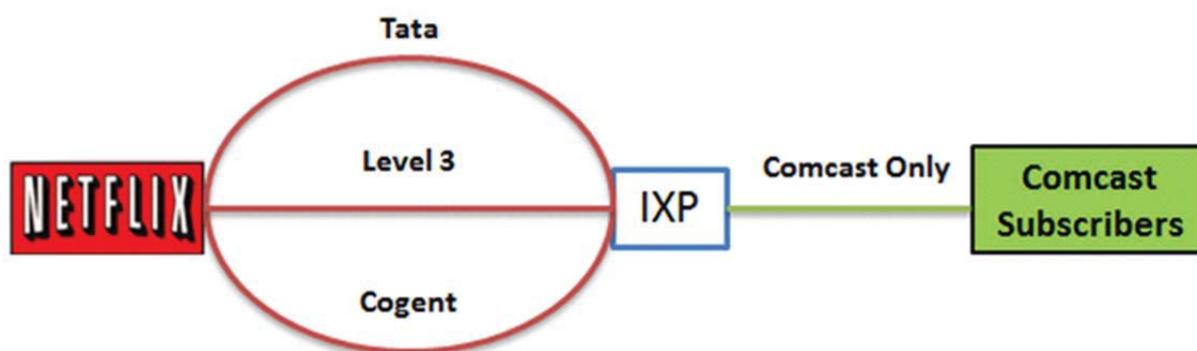
⁵ See Verizon Comments at 57-58 (asserting that transit agreements have always involved payments and “Verizon has agreements in place that provide for paid, direct connections with CDNs and content companies that account for a majority of peak period Internet

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The Commission should not be fooled by overbroad ISP characterizations of competition in the transit or backbone market. Netflix might even agree with the ISPs that the market for some backbone services is competitive—but that entirely misses the point: it is the ISP’s last mile, terminating access monopoly that supplies them with leverage to impair a consumer’s experience.

Moreover, contrary to what ISPs have argued,⁶ the “transit” services provided by a number of other companies do not discipline access fees charged by ISPs because such transit services do not provide competitive links into the last mile of an ISP’s network. This is illustrated in Diagram 2, again using Comcast as an example.

Diagram 2: Transit is No Competition for a Last Mile Bottleneck



While Netflix may choose among competitive transit providers to bring its data *to Comcast’s last mile network*, only Comcast can send content *across its last mile* to its subscribers. Third-party providers of transit cannot restrain what Comcast charges for taking traffic from Comcast’s doorstep to the subscriber’s doorstep, because they do not provide those services. Only Comcast can send content from its doorstep to its subscribers. For that reason, not only are large ISPs not constrained by competition in the transit market, they have the power to demand interconnection fees from transit providers and to set a price floor in the adjacent (and otherwise competitive) transit market.

At the end of the day, the access fee charged by the ISP to transport the data across its subscribers’ broadband access service can be more than the entire cost to Netflix of getting the data to the ISP’s doorstep. For example, with its direct connection with Comcast, Netflix pays (1) a transit provider to transport data across the country to reach the interconnection point with Comcast, (2) engineers to develop and maintain its CDN, (3) equipment manufacturers for the hardware, and (4) the interconnection-facility owner

traffic”); CenturyLink Comments at 16 (“There are a broad variety of paths by which a given edge provider’s traffic can reach the public Internet. But, regardless of the path, it does so through a commercial relationship.”).

⁶ See *supra* note 3.

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for rent, electricity, and air conditioning. The additional access fee Comcast charges Netflix to transport data over the consumer’s broadband access service is more than 150% more than all of those other costs combined—comprising over 60% of Netflix’s total cost of delivering traffic to Comcast’s customer. This last fee would be unlawful under the 2010 open Internet rules if applied for transport over the last mile. Yet, Comcast’s access fee is functionally the same. It merely is imposed at the point of entry into Comcast’s network.

The Commission Has Authority to Eliminate Access Fees

Access fees have no place in the broadband ecosphere. As the *Open Internet Order* recognized, “if permitted to deny access, or charge edge providers for prioritized access to end users, broadband providers may have incentives to allow congestion rather than invest in expanding network capacity.”⁷ Today, that feared ISP behavior is occurring at the point of interconnection and not at the last mile. The Commission has sufficient authority to prohibit ISPs from simply shifting discriminatory fees upstream to the point of interconnection, and the prohibition of those access fees outright is compelled by the Commission’s mandate under Section 706 to use any regulatory mechanism at its disposal to protect the virtuous circle of innovation on which further broadband deployment and enhanced edge-provider services depend.⁸

Prohibiting access fees under Title II is straightforward, given that the Commission’s authority over common carriers must be interpreted in light of the Commission’s mandate under Section 706. Sections 201 and 202 of the Communications Act prohibit unjust or unreasonable “charges, practices, classifications, and regulations for and in connection with [a] communication service” or to take any action that creates an “undue or unreasonable prejudice or disadvantage” in the provision of a communications service.⁹ It is entirely reasonable for the FCC to interpret the “offering” at issue as an interconnection service to “the public”, defined by the class of CDN/transit providers seeking to respond to an ISP’s consumer’s request for content. Furthermore, given the significant cost internalization that Netflix has experienced in building its own CDN, including transporting traffic to the edge of ISPs’ terminating access networks, it is entirely reasonable for the Commission to establish a presumption of settlement free interconnection under Section 208 for the kind of interconnection described above in Diagram 1. Interpreted together with Sections 201, 202 and 706, the Commission could read these provisions as prohibiting broadband providers from taking any action that interrupts, degrades, or otherwise harms a consumers’ use of their broadband access services—including an ISP’s failing to provision sufficient capacity at all points in its

⁷ Preserving the Open Internet, *Report and Order*, 25 FCC Rcd. 17905, 17929 ¶ 40 (2010), *aff’d in part, vacated and remanded in part sub nom. Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

⁸ 47 U.S.C. § 1302(a).

⁹ *Id.* §§ 201(b), 202(a).

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terminating access network—including interconnection with CDNs—to allow a consumer full enjoyment of his or her broadband access service.

Broadband ISPs have not provided the Commission with any justification for access charges imposed at the point of interconnection. And, the Commission has observed the direct, consumer harm that occurs when an edge provider does not provide the access fees demanded by a terminating access monopoly.¹⁰ The Commission should ensure that access fees imposed at the point of interconnection are prohibited, in the same way identical access fees would be prohibited if imposed for delivery of traffic over the last mile.

Netflix is struck by the historic nature of the decision before this Commission. In the 1970s, long distance providers waged regulatory war against access charges assessed by the terminating access monopolies of their day—the LECs. The Commission then struggled for *decades* to wring implicit subsidies out of the phone network, before finally doing so and wisely adopting a “bill-and-keep” rule whose logic applies with equal force with respect to broadband networks.¹¹ And yet today, the ISPs are back at the Commission asking for permission to behave like the LECs of the 1970s. The FCC should prohibit broadband ISPs from assessing unreasonable access charges for all of the same reasons it regulated—and ultimately tried to eliminate—access charges on the phone network. The Commission has an opportunity to preserve the competition and innovation created by the Internet and to declare—once and for all—that broadband ISP access charges to Internet content firms such as Netflix upset the virtuous cycle of innovation that has characterized the Internet throughout its history, harm the public interest, and violate the Communications Act.

Respectfully submitted,

/s/ _____

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¹⁰ See, e.g., Netflix Petition to Deny at 52-60.

¹¹ Connect America Fund; Establishing Just and Reasonable Rates for Local Exchange Carriers; Developing a Unified Intercarrier Compensation Regime, *Report and Order and Further Notice of Proposed Rulemaking*, 26 FCC Rcd. 17663, 17904-13 ¶¶ 736-759 (2011).