



**REDACTED – FOR PUBLIC INSPECTION**

November 6, 2015

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**VIA ECFS**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th St., S.W. - The Portals  
Washington, D.C. 20554

Re: *Verizon's Response to FCC's Information and Data Request dated October 9, 2015, MB Docket No. 15-149*

Dear Ms. Dortch:

Pursuant to the instructions set forth in the Commission's Information and Data Request dated October 9, 2015 ("Request")<sup>1</sup> and the Protective Order adopted in this proceeding, enclosed please find the response of Verizon to the Request ("Verizon's Response"). Verizon's Response contains highly confidential information subject to the Protective Order in this proceeding.<sup>2</sup>

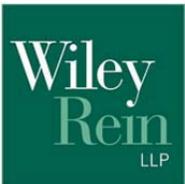
At the direction of the Request and the Protective Order, one copy of the redacted version of Verizon's response is being filed electronically through the Commission's Electronic Filing Comment System ("ECFS"). In addition, one unredacted, highly confidential copy of Verizon's Response is being filed with the Secretary's Office. Finally, two unredacted, highly confidential copies of Verizon's Response are being hand delivered to Ms. Vanessa Lemmé of the Media Bureau's Industry Analysis Division.

Please direct any questions concerning this letter to Nancy J. Victory (at 202.719.7344 or nvictory@wileyrein.com) or to the undersigned.

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<sup>1</sup> *In the Matter of Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Transfer Control of Licenses and Authorizations*, MB Dkt. 15-149, Letter from William T. Lake, Chief, Media Bureau to William H. Johnson, Esq. (Oct. 9, 2015).

<sup>2</sup> *In the Matter of Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Transfer Control of Licenses and Authorizations*, MB Dkt. 15-149, Order, FCC 15-110 (rel. Sept. 11, 2015).



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Best regards,

*/s/ Meredith Singer*

Meredith Singer

Attachments

cc: Vanessa Lemmé  
Ty Bream  
Elizabeth McIntyre  
Adam Copeland  
Jim Bird

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**Verizon's Responses to the Media Bureau's October 9, 2015 Information Request**

**Request No. 1:** *Explain or identify and provide documents sufficient to show:*

*a. whether and to what extent the Company's ability to compete for Internet access service subscribers has been or would be increased by offering Internet access service using fiber to the premises (FTTP);*

Verizon's FTTP network enables Verizon to compete aggressively for Internet Access Service subscribers where it has been deployed. Verizon currently offers its Fios Internet access services over its FTTP network at speeds of up to 500 Mbps in both directions, and it will be able to continue to increase speeds over this network to meet consumer and competitive demands. Verizon's all-fiber network also is capable of supporting additional services, such as Fios TV, that are attractive to consumers, and the network has improved reliability and efficiency as compared to legacy copper facilities. It is for these reasons, among others, that Verizon has invested heavily over the last decade in deploying its FTTP network. Verizon has invested more than \$23 billion to deploy this network past approximately 20 million premises across our wireline footprint.

*b. the Company's plans for capital investments that would increase the speed of the DSL-based Internet access service it offers, and the Company's reasons to make those investments;*

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[END HIGHLY CONFIDENTIAL]

*c. the plans of the Company to replace Internet access service that it currently provides over DSL with Internet access service over FTTP and the Company's rationales in favor of or against such replacements;*

In the areas where our all-fiber network is available, for new customers or customers newly ordering Internet access, Verizon offers Fios Internet, rather than DSL. Where fiber is available, it is the most reliable, capable, and efficient medium for serving customers.

Fiber brings tremendous benefits to consumers and their communities. Indeed, communities throughout the United States are clamoring for the benefits of all-fiber networks. Customers seek the faster Internet access speeds, video content, and greater reliability available over fiber. Fiber is a safe, proven, and known technology with a track record of serving communities well.

For the past decade, Verizon has invested heavily in deploying our all-fiber network. We currently pass about 20 million premises with this all-fiber network.

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In some areas (including some areas where copper was destroyed by Superstorm Sandy and in wire centers or parts of wire centers where Verizon is transitioning completely away from copper), Verizon has retired copper facilities in areas where it has deployed fiber. In such places, we work with existing DSL customers to transition them smoothly to Fios Internet services. These transitions will continue over time, as fewer-and-fewer customers remain on the redundant legacy copper facilities and the retirement of those facilities makes sense for us and our customers.

*d. what download and upload speeds the Company believes are required to support Internet usage for different types (e.g., standard definition, high definition, 3D, ultra HD/4K) of video consumption by the average individual and by the average household, both at present and in the future; and*

Because consumers vary widely in their video consumption, different individuals and households may have significant variation in what download and upload speeds are most appropriate.

*e. the reasons subscribers disconnect Internet access service or switch providers thereof, including but not limited to, pricing, quality of service and disputes between the Company and edge providers, CDNs or transit service providers.*

As in other competitive markets, there are multiple reasons that subscribers may disconnect Internet Access Service or switch broadband providers. Those reasons may include pricing, quality of service, and/or other issues that could affect a subscriber's service or service experience. Additionally, customers' needs may change over time or customers may move out of a particular provider's footprint. Price cuts or other benefits may entice customers to switch providers as well.

**Request No. 2:** *Explain, or identify and provide documents sufficient to show, the Company's policies or procedures with respect to decisions to establish or augment interconnection capacity with any CDNs, Internet backbone services, edge providers, Internet access service providers, and all other persons with whom the Company may engage in Internet traffic exchange.*

Interconnection among Internet networks has always been driven by voluntary, commercial arrangements premised on a mutual exchange of value. While one well-established model of interconnection involves settlement-free peering arrangements with no money exchanged, that model generally has been confined to those situations where the parties recognize that there is an exchange of roughly equal value between them in other forms. For example, where two networks exchange roughly equal amounts of traffic and are otherwise similarly situated, they have been more likely to interconnect without bothering to exchange money. In other contexts, such as transit and paid peering, money has long been part of the equation.

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Verizon's policy for settlement-free interconnection has been publicly posted for several years and is available at <http://www.verizonenterprise.com/terms/peering/>. This long-standing policy is similar to the peering policies used throughout the industry and reflects the factors that Verizon generally considers in measuring the value provided by a potential settlement-free interconnection partner. The Background and Introduction section of the policy emphasizes that the policy is only intended to set out guidelines for settlement-free peering and is not a replacement for a negotiated arrangement. The factors Verizon generally considers include such things as the geographic scope of each party's facilities, the aggregate amount of traffic exchanged in each direction by the parties (the traffic volume), the ratio of the aggregate amount of traffic exchanged between a party and Verizon (the traffic exchange ratio), a party's backbone capacity, and the number of unique transit networks that a party's network connects to. Verizon also considers operational factors such as maintaining sufficiently robust traffic exchange links and providing a 24x7 Network Operations Center.

In addition to traditional, settlement-free arrangements with our Internet peering partners, Verizon also enters a wide range of negotiated interconnection arrangements, including paid peering and transit, with other Internet network operators, content delivery networks, and content providers. Verizon has hundreds of agreements involving the exchange of U.S. Internet traffic with our backbone and last-mile networks. These include agreements for Internet access, transit, peering, colocation, hosting, and content distribution. The parties on the other side of these agreements include Internet backbone providers, transit providers, ISPs, CDNs, and edge providers. And this marketplace continues to work well, with new arrangements emerging on a regular basis to provide for efficient network planning and traffic delivery, as well as improved service for customers as their demands for Internet services continue to grow. In fact, today the majority of traffic destined for our end-user subscribers is delivered to Verizon over paid, direct connections with CDNs and large content providers, not over connections with our traditional, settlement-free peering partners. These voluntarily negotiated arrangements ensure high quality service for consumers and predictability and efficiency for Verizon and its interconnection partners.

Verizon's various Internet interconnection agreements often address key terms such as payments, regular monitoring and coordination between the parties on topics such as forecasted traffic, location of the traffic exchange, traffic monitoring, augmenting capacity, and other issues that are critical to ensuring high quality service for traffic delivered to end users on Verizon's network. Although Verizon has historically addressed congestion and other issues with our settlement-free peers on an informal basis, our more recent arrangements with peering partners include specific mechanisms to address these issues.

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**Request No. 3:** *Explain the Company's use of data caps or usage allowances and describe your data cap or usage allowance plan in each of your service areas, including a description of how the company selected the service area for implementing or trialing data caps or usage allowances. In your answer, describe the factors you used to determine whether to implement data caps or usage.*

Other than offering different prices for different speed tiers, Verizon has not implemented any form of usage-based pricing for its wireline broadband services. [BEGIN HIGHLY CONFIDENTIAL]

[END HIGHLY CONFIDENTIAL]

**Request No. 4:** *Produce one copy of each agreement between the Company and any other persons that contain provisions relating to peering, paid peering or settlement free interconnection.*

Verizon's Internet interconnection agreements typically include confidentiality provisions. Verizon requested permission from the relevant parties to file copies of its Internet interconnection agreements relating to peering, paid peering, or settlement-free interconnection for the time period June 2012 through October 9, 2015. Subject to a request that these agreements be treated as Highly Confidential Information under the September 11, 2015 Protective Order, Verizon is filing copies of all responsive agreements in its possession except for agreements with two parties who have withheld their permission. These responsive documents are produced at Bates numbers VZ00001–VZ001581 and have been designated as Highly Confidential Information. Verizon will produce the withheld agreements if and when the respective parties provide their consent.

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**Request No. 5:** *Describe, and provide and identify documents sufficient to show, how the Company responds to competitors' pricing behavior and product offerings for each relevant service.*

Verizon designs, builds, and operates global networks and technology solutions to help our customers connect, collaborate and innovate. Verizon faces competition in these services from a variety of providers.

### **Internet Access Service**

Verizon is a leader in providing wireline Internet access service to its customers via its world-class fiber optic network. Verizon began rolling out its all-fiber Fios network in 2004 and continues to invest in and deploy this network. Verizon's current Fios Internet offerings range from 25 Mbps to 500 Mbps symmetrical (upload and download) speeds, and two-thirds of Fios Internet customers subscribe to service plans with speeds of 50 Mbps or higher. And Verizon continues to invest and innovate, recently testing next-generation 10 Gbps speeds over its all-fiber network. To compete with fiber-based services like Fios, cable firms have rolled out advanced high-speed "DOCSIS 3.0" broadband technology over the past several years. These cable services are now the most widely available next-generation, wireline broadband networks, available to over 85 percent of homes in the United States. This upgraded infrastructure will also facilitate increasing broadband speeds in the near future with next generation technology (so-called DOCSIS 3.1), with speeds close to 1 Gbps.

### **Cable Service**

Verizon's Fios TV service is offered over Verizon's all-fiber Fios network. Fios TV faces near-ubiquitous competition from incumbent cable providers and from satellite. Verizon continues to innovate and provide its customers with the latest technology. For example, Verizon's Fios Quantum gives customers customized entertainment by providing more access to favorite shows, multi-show recording and more HD storage. Verizon also enables its customers to obtain significant content through its Fios Mobile application, allowing them to stream popular content to a variety of devices. Verizon also provides a variety of video offerings, that allow customers to better identify the content and channels they want to receive as part of their subscription.

### **Content Delivery**

Verizon Digital Media Services (VDMS) relies on the Verizon Content Delivery Network (CDN) to enable content providers to offload the serving of website and other online content to geographically distributed servers (located worldwide in CDN "SuperPOPs" established near major Internet interconnection points), rather than relying on the traditional method of distributing content from origin servers. This improves the end-user experience by enabling loading of content — dynamic and static (including video) — more quickly and efficiently. Content that is delivered in real-time in response to user behavior is delivered

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dynamically (non-static). VDMS provides routing optimization technologies to select the most optimal path back to the content provider's origin servers to improve response times and reduce round trips from end users back to the content origin. The VDMS platform maintains a 100% uptime service level and provides real-time analytics and in-depth reporting, giving customers a better understanding of end user traffic, trends and potential issues.

### Internet Traffic Exchange

Verizon offers network partners multiple ways to interconnect with our network. For more information about Verizon's Internet interconnection policies and practices, see Verizon's response to Request 2.

**Request No. 6:** *Produce, in both (a) PDF and (b) ESRI Shapefile format, a map showing the location of each system owned by, operated by, managed by, or attributed to the Company for the states of California, Nevada, Hawaii and New York.*

Verizon will respond at a later date to this request.

**Request No. 7:** *Identify, as of June 30, 2012, December 31, 2012, June 30, 2013, December 31, 2013, June 30, 2014, December 31, 2014 and June 30, 2015, each system owned by, operated by, managed by, or attributed to the Company in the states of California, Nevada, Hawaii and New York, and for each system in these states identify the nature of the Company's interests, and state and identify the following in CSV format files:*

- a. the Company's data as specified in Attachment A, which seeks data relating to geographic identifiers associated with each system;*
- b. the facilities-based competing providers of Internet access service and MVPD service (excluding private cable and wireless cable operators), separately identified by service and provider, and the distribution technology used by the competing provider (e.g., wireless, fiber optic cable, hybrid fiber optic cable, or satellite) for each zip code served;*
- c. the central offices serving each system, their physical locations, and the number of telecommunications services subscribers served by each central office; and*
- d. the channel lineups associated with each channel lineup identifier provided in Request 7(a).*

Verizon will respond at a later date to this request.

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**Request No. 8:** *For each zip code identified in Request 7(a) and for the Company as a whole, separately for residential subscribers, bulk residential, and non-residential subscribers, and for each month for the period beginning June 2012, through August 2015 in the states of California, Nevada, Hawaii and New York provide the following:*

- a. the Company’s data as specified in Attachment B, which seeks subscriber data relating to each of the Company’s service plans;*
- b. a complete description of all services that were included in the Company’s response to the “Marginal Recurring Revenue”, “Recurring Core Service Plan Revenue”, and “Recurring and Non-Recurring Revenue Per Subscriber” fields in the “Service Plan” table mentioned in subpart (a);*
- c. the Company’s data as specified in Attachment C, which seeks data relating to disconnects; and*
- d. a description of the main types of disconnects that are included in each of the four categories of disconnects - mover, voluntary, non-payment, and all other - reported in Attachment C, an explanation of the methodology the Company uses to estimate the number of disconnects in each category including a discussion of the extent to which the Company is unable to obtain information on the reason for the disconnect and how the disconnect is classified in such cases.*

Verizon will respond at a later date to this request.

**Request No. 9:** *Provide the Company’s internet traffic exchange data as specified in Attachment D.*

Attachment D requests “data on interconnection and traffic by peers who sold transit services to” Verizon during the time period June 2012 through August 2015. Verizon has not purchased transit service during the specified time period.<sup>1</sup>

**Request No. 10:** *In a separate CSV format file, calculate the Company’s:*

- a. monthly residential per subscriber profit margins for Internet access service, MVPD service and telephone service;*

Responsive information is attached in Highly Confidential Exhibit 10.a.1. This exhibit provides Verizon’s total Fios profitability per unit calculation for: (1) California and (2) New

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<sup>1</sup> For purposes of this response we are not providing data concerning purchases of transit service by Verizon Digital Media Services’ content delivery network, Verizon Wireless, or AOL.

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York and Connecticut combined. In the ordinary course of business, Verizon does not maintain this data separately for New York and Connecticut.

Exhibit 10.a.1 shows four monthly figures for the specified locations. First, the exhibit shows Verizon's average revenue per user ("ARPU") for all Fios services. Second, the exhibit shows Verizon's recurring expense per unit ("Recurring Exp per Unit"). Third, the exhibit shows Verizon's acquisition expense per unit ("Acquisition Exp per Unit"), which includes variables such as marketing costs, sales channel costs, installation and provision, and Customer Premise Equipment ("CPE"). The acquisition expense does not include capitalized expenses. Fourth, the exhibit shows Verizon's earnings before interest, taxes, depreciation and amortization ("EBITDA") per unit. The formula for EBITDA per unit is:

$$\text{EBITDA per Unit} = \text{ARPU} - (\text{Recurring Exp per Unit} + \text{Acquisition Exp per Unit})$$

Fios is not managed as a distinct business unit, nor does it represent a reportable segment, and therefore the data provided represents Verizon's internal, allocated view of Fios profitability. All of the data provided includes consumers with bundles or standalone service. In the ordinary course of business, Verizon does not track this data separately for each customer segment. Therefore, the data is provided for all consumer and business Fios customers.

*b. monthly profit per new MVPD service subscriber that incorporates these subscribers' purchases of other services; and*

In the ordinary course of business, Verizon does not maintain this information separately for Fios TV subscribers.

*c. provide a complete and detailed description of the methodology used to calculate subparts (a) and (b)*

See response to Request 10.a.

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Bates Numbers VZ000001 through VZ001581 and Exhibit 10.a.1 have been redacted as Highly Confidential information