TIME WARNER CABLE INC.
Form 425
September 18, 2014

Filed by Comcast Corporation
(Commission File No.: 001-32871)
Pursuant to Rule 425 of the Securities Act of 1933
and deemed filed pursuant to Rule 14a-6(b)
of the Securities Exchange Act of 1934

Subject Company: Time Warner Cable Inc.

Commission File No. for Registration Statement
on Form S-4 filed by Comcast Corporation: 333-194698

The following Response to the Federal Communication Commission's Information & Data Request was posted by Comcast on its website:

SEPTEMBER 11, 2014 RESPONSES OF COMCAST CORPORATION TO THE COMMISSION'S INFORMATION AND DATA REQUEST

1. Produce, in both (i) PDF and (ii) ESRI Shapefile format, a map showing the location of each cable system owned by, operated by, managed by, or attributed to the Company.

RESPONSE:

Maps responsive to this request have been provided to the FCC as Exhibits 1.1-1.41. Exhibit 1.1 consists of one ESRI Shapefile (.SHP) file and related files containing a national map showing Comcast's cable systems for use with electronic mapping software. Exhibits 1.2-1.40 consists of maps in PDF format of the various states in the United States, with county and Designated Market Area ("DMA") boundaries indicated, that display the cable systems owned by, operated by, managed by, or attributed to Comcast.

REDACTED – FOR PUBLIC INSPECTION

2. Identify, as of December 31, 2009, December 31, 2010, December 31, 2011, December 31, 2012, December 31, 2013, and June 30, 2014, each cable system owned by, operated by, managed by, or attributed to the Company, and for each cable system identify the nature of the Company's interests, and state and identify the following:

a. the Community Unit Identifiers (CUID);

b. the Physical System Identifiers (PSID);

c. the name and number of the DMA served by the cable system;

d. the census blocks served by the cable system;

e. the zip codes served by the cable system;

f. the internal Company names and codes that apply to the cable system;

g. 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;

h. any internal estimates of the percentage of homes passed that are overbuilt by any facilities-based competing provider of MVPD service and Internet access service separately for each such competing provider;

i. the total capacity and the total unused capacity of each of the Company's cable systems by (i) MHz and the spectrum allocated to each cable service and any other service, and (ii) the number of non-broadcast programming networks; and

j. the headends serving each cable system and the number of cable services subscribers served by each headend.

RESPONSE:

Comcast is providing data for each cable system owned by, operated by, managed by, or attributed to the Company.

2(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.1.

REDACTED – FOR PUBLIC INSPECTION

Exhibits 2.1(a)-(f) provide the Community Unit Identifier (CUID) and CUID name for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014. In addition, for each cable system and each of the aforementioned dates, Exhibits 2.1(a)-(f) provide the division, region, and sub-region, as well as the cable system name, and cable system code.

2(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.2.

Exhibits 2.2(a)-(f) provide the Physical System Identifiers (PSID) for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014. In addition, for each cable system and each of the aforementioned dates, Exhibits 2.1(a)-(f) provide the division, region, and sub-region, as well as the cable system name, headend name, and cable system code.

2(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.3.

Exhibits 2.3(a)-(e) provide the DMA name and DMA number for each cable system owned or operated by Comcast, for December 21, 2010; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st rather than as of the 30th or 31st of each requested month. DMA data are not available for 2009 and 2010. In lieu of December 2010 data, DMA data are provided for January 2011.

2(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.4.

Exhibit 2.4(a)-(f) provide the census block numbers for each cable system owned or operated by Comcast, for December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014.

2(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.5. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st

rather than as of the 30th or 31st of each requested month. Zip code data are not available for 2009 and 2010. In lieu of December 2010 data, zip code data are provided for January 2011.

Exhibit 2.5(a)-(e) provide the zip codes owned or operated by Comcast, for January 21, 2011; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014.

2(f):

In response to this subpart, Comcast refers to Exhibits 2.1(a)-(f).

Exhibit 2.1(a)-(f) provide the name ("Cable System") and code ("Cable System GL") for each cable system owned or operated by Comcast, for December 31, 2009; December 31, 2010; December 31, 2011; December 31, 2012; December 31, 2013; and June 30, 2014.

2(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 2.6 through 2.10.

All data reflected in Exhibits 2.6 and 2.7 have been provided by Centris, a third-party analytics firm. The data includes lists of MVPDs and Internet service providers for each zip code in which Comcast operates. By submitting these data, Comcast does not represent that all providers, or any particular provider, offers services that compete with Comcast. It also does not represent that there are not other competitors in particular zip codes. Each year provided in Exhibit 2.6 and 2.7 contains a zero or a one denoting whether a provider is present (as indicated by a one) or absent (as indicated by a zero) for that month in a particular zip code.1

Exhibit 2.6 provides a list of MVPDs for each zip code in which Comcast operates from January 2010 to the present using data from TV Guide/Rovi. The data could not be provided prior to January 2010 and so January 2010 data is provided in lieu of the year-end 2009 figure. The list of MVPDs is illustrative and may be over- or under-inclusive with respect to any particular zip code and any particular provider, and is not broken out between residential and commercial video providers. Moreover, the fact that a provider is listed in the same zip code as Comcast does not necessarily mean that it overlaps with Comcast's footprint in that zip code or that it competes with Comcast.

Providers are identified by a unique ID and name and provider technology where possible, which either originated in the TV Guide data or was provided based on National

1 There are zip codes identified in each exhibit for which Comcast and Centris were not able to list other providers either because of a lack of information from the data sources or difficulties in translating census blocks to zip codes. These zip codes represented fewer than 1% of Comcast subscribers.

Telecommunications & Information Administration ("NTIA") data for those providers also offering Internet services.2

Exhibit 2.7 provides a list of wired Internet service providers for each zip code in which Comcast operates from 2009 to the present. The data are derived from voluntary, semi-annual reporting to the NTIA on serviceable census blocks. The NTIA asks providers to identify the census blocks in which they have serviceable households, but the fact that a provider services some households within a census block does not mean that providers can provide services to all households in a census block, or all households in the zip code(s) in which each census block falls.3 Moreover, the fact that a provider is listed in the same zip code as Comcast does not necessarily mean that it overlaps with Comcast's footprint in that zip code or that it competes with Comcast. Finally, the data made available by NTIA do not distinguish between types of customers served, and thus the providers listed in Exhibit 2.7 include, and do not distinguish between, residential and commercial Internet service providers.

In addition to the providers listed in Exhibit 2.7, Comcast also notes that mobile wireless telecommunications providers, including Verizon Wireless, AT&T Wireless, Sprint, and T-Mobile, provide high-speed Internet access services to residential and commercial customers that are available throughout the United States (and certainly within all, or nearly all, of Comcast's footprint) and are capable of achieving downstream and upstream speeds that qualify as broadband speeds according to the Commission.

2(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 2.8, 2.9, and 2.10. These exhibits represent internal estimates of the percentage or share of homes passed overbuilt by fiber Internet and video providers.

Exhibit 2.8 provides estimates of Comcast homes passed overbuilt by AT&T U-verse or Verizon FiOS data services as of the second quarter of 2014. These figures do not include estimates for the number or percentage of homes that are TV serviceable. Exhibits 2.9 and 2.10 provide the Company's internal historical estimates of overbuild from providers offering a package of voice, video, and Internet services in Comcast's footprint and estimates of fiber overbuild from various providers. 4

---

2 In the list of video providers, there are additional fields provided to indicate those Comcast zip codes in which it is believed that AT&T U-verse Internet or Verizon FiOS Internet is available, which represents the maximum potential availability for AT&T U-verse TV service and Verizon FiOS TV service.

3 In the relatively few instances in which a census block overlaps two separate zip codes, the census block and providers were attributed to the zip code in which the majority of the census block falls.

4 The Comcast homes passed figures are sourced from COMET, a marketing database that provides a current snapshot of serviceable addresses from the billing systems.

2(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.11 and in narrative Word format as Exhibit 2.12. While Comcast is able to provide the details of the current spectrum allocation for its cable systems, historical spectrum allocation data is not available. In lieu of historical spectrum allocation data, Comcast is providing a narrative description of the history of spectrum allocations.

Exhibit 2.11 provides the current total capacity of each of Comcast's cable systems (as of June 30, 2014), expressed in MHz and in EIA Channel Count. It also provides the allocation of the spectrum over broadcast services, non-broadcast services, and other services (DOCSIS, VOD, and non-programming services).

Exhibit 2.12 provides a narrative description of the changes in capacity and spectrum allocation of Comcast's cable systems over time.

2(j):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 2.13. Since monthly reporting at Comcast takes place on the 21st of each month, data responsive to this request are provided as of the 21st rather than as of the 30th or 31st of each requested month.

Exhibit 2.13(a) provides the headends serving each cable system, as well as the number of video, HSD, and voice subscribers for each headend, for December 21, 2010; December 21, 2011; December 21, 2012; December 21, 2013; and June 21, 2014. Exhibit 2.13(b) provides the same categories of data for December 21, 2009.

REDACTED – FOR PUBLIC INSPECTION

3. For each zip code identified in response to Request 2(e), and from January 1, 2009, to the present, describe each of the Company's bundled services plans and standalone services plans offered through any sales channel, and for each plan, describe the (i) MVPD service, including each service tier or programming package offered and the channels (both standard definition and high definition) on each tier or package; (ii) Internet access service, including each tier or package offered and the upload and download speed associated with each such tier or programming package, explaining how the upload speed is calculated if no advertised speed is available; and (iii) telephone services.

RESPONSE:

Comcast will produce predominant rate cards that list each available Comcast service for Comcast's sub-regions to the FCC in response to this request. {{ }} rate cards will be provided for each year from 2009 through 2014.

[[ ]]. Comcast will also produce a table listing the document identification numbers for the rate cards corresponding to each sub-region.

4. For each zip code identified in Request 2(e) and for the Company as a whole, separately for residential subscribers and other subscribers, and for each month for the period beginning January, 2009, to the present, state and produce in CSV or Excel format:

a. the number of customer locations to which cable services are available, separately for residential customer locations and other customer locations, and the penetration rate;

b. the number of standalone services and bundled services subscribers as of the last day of the month;

c. the average revenue per subscriber in the month for standalone services and bundled services;

d. the number of subscribers who first began subscribing to any of the Company's standalone services and bundled services in the specified month who were not subscribers to any of the Company's cable services in the prior month;

e. the average revenue per new subscriber described in subpart (d) to standalone services and bundled services, and that churned from a competing provider, separately for each competing provider;

f. the number of subscribers discontinuing all subscriptions to the Company's cable services;

g. the average revenue per departing subscriber described in subpart (f) for standalone services and bundled services, and the number of subscribers that churned to competing provider, separately for each competing provider;

h. the number of the Company's current subscribers who first began subscribing to any of the Company's other standalone services or bundled services in the specified month;

i. the number of subscribers discontinuing their subscription to one or more of the Company's standalone services or bundled services, but who remain a subscriber to one or more of the Company's cable services at the end of the specified month;

j. the churn rate for standalone services and bundled services;

k. the per-subscriber acquisition cost or cost per gross addition for standalone services and bundled services and an explanation of how these values were calculated;

l. the cost per subscriber to the Company's MVPD service of acquiring video programming distribution rights and an explanation of how these values were calculated;

m. the cost per subscriber to the Company's MVPD service of acquiring VOD and PPV distribution rights and an explanation of how these values were calculated;

n. the average gross and net advertising revenue per subscriber to the Company's MVPD service and an explanation of how these values were calculated;

o. other variable costs per subscriber for standalone services and bundled services and an explanation of how these values were calculated; and

p. the value of each additional subscriber to the Company for standalone services and bundled services and an explanation of how these values were calculated.

RESPONSE:

Information and data responsive to Request 4 have been provided for residential and commercial subscribers. Comcast does not have customers within a third category of "other customers."

As discussed with the FCC, Comcast is providing data for subparts (a) through (j) at a zip code5 level from January 2011 to the present. [[ ]]6 The data for each subpart are provided in separate exhibits for primary subscribers and bulk subscribers. A subset of Comcast's subscribers are bulk billed accounts, that is, customers who reside in properties that are billed under bulk contracts, rather than individually.7 The zip code

5 Data is provided by five-digit U.S.P.S. zip codes.

6 [[ ]]. Therefore, the first month for which data is provided for connecting and disconnecting subscribers and churn is February 2011, as these metrics require the prior month's figures to provide such data.

7 Beginning in 2014, Comcast revised its methodology for counting and reporting on bulk billed customers. For bulk billed properties whose residents have the ability to receive additional cable services, such as additional programming choices or high-definition ("HD") or DVR services, Comcast now counts and reports customers in these types of properties based on the number of contracted units. For bulk billed properties whose residents are not able to receive additional cable services, the property is now counted as a single customer. Previously, Comcast had counted and reported these customers on an equivalent billing unit basis by dividing monthly revenue received under a bulk contract by the standard monthly residential rate where the property was located (the equivalent bulk unit or "EBU method"). The billable customers method is consistent with the methodology used by other companies in the cable industry, including Time Warner Cable, to count and report customers.

data from 2011 to the present exclude customers that have any courtesy products.8 Bulk accounts that are the master account holders may have substantial monthly recurring charges (in the thousands of dollars per month) while bulk subservient accounts will have a low monthly recurring charge because the master account pays some or all of the service charges. Therefore, the bulk accounts were broken out separately so as not to affect the monthly recurring charge calculations. Nevertheless, primary and bulk accounts represent total subscriber accounts, less courtesy accounts.

For 2009 to the present, Comcast has provided the data it maintained on standalone and bundled service subscribers at a sub-region level in response to subpart (b) of this Request, which is the number of ending subscribers by product mix. The data were not maintained or provided separately for residential and commercial subscribers for this period. Further, Comcast does not maintain historical data on activity (connects, disconnects, and churn) for standalone and bundled service subscribers at any level prior to 2011.

4(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.1(a) and Exhibit 4.1(b). The number of homes passed by product and by customer type is provided in Exhibit 4.1(a) for each of Comcast's sub-regions, which is the manner in which Comcast maintains homes passed data historically. As discussed with the FCC, Comcast does not maintain the number of homes passed at a zip code level historically. However, Comcast has prepared an estimate of homes passed by zip code as of June 2014, which has been provided in machine-readable Excel spreadsheet format as Exhibit 4.1(b). [[ ]]

Finally, "percent penetration" in Exhibit 4.1(a) has been calculated by dividing the number of continuing Comcast subscribers of each requested service or bundle in each sub-region by the number of households to which that service is available in that sub-region.

4(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet or CSV format as Exhibit 4.2(a) through Exhibit 4.2(d), which provide the number of continuing Comcast subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present. In addition, in Exhibit 4.2(e), Comcast provides the number of standalone and bundled subscribers at a sub-region level from 2009 to the present. These data, which are the only historical data the Company maintains for customers by product mix (i.e., standalone and bundled services), are not available separately for residential and commercial subscribers.

8 [[ ]].

4(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.3(a) through Exhibit 4.3(d), which provide the average monthly recurring charge for continuing subscribers for each standalone and bundled service by zip code from 2011 to the present.
As discussed with the FCC, [[ ]]

In addition, Exhibits 4.3(e)-(f) provide the average revenue per user ("ARPU") by product for residential and commercial subscribers for each of Comcast's sub-regions from January 2009 to the present. This is the most granular level at which Comcast maintains ARPU figures, and it maintains these figures by product and not by product mix (i.e., standalone and bundled services).

4(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.4(a) and Exhibit 4.4(b), which provide the number of new connecting subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present.

4(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.5(a) and Exhibit 4.5(b), which provide the average MRC for new connecting subscribers – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the present. As discussed with the FCC, Comcast does not maintain data in the ordinary course as to which provider a new customer churned from.

4(f):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.6(a) and Exhibit 4.6(b), which provide the number of subscribers discontinuing all subscriptions to the Company's cable services separately for primary and bulk subscribers. The data are provided for each standalone or bundled service from which the customer disconnected by zip code from 2011 to the present.

4(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.7(a) and Exhibit 4.7(b), which provide the average MRC for subscribers that discontinued services altogether – separately for primary and bulk subscribers – for each standalone and bundled service by zip code from 2011 to the

present. The data are provided for each standalone or bundled service from which the customer disconnected. As discussed with the FCC, [[ ]].9

4(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.8(a) and Exhibit 4.8(b), which provide the number of existing subscribers that upgraded by adding one or more new services – separately for primary and bulk subscribers – by zip code from 2011 to the present. The data are provided for the bundle of services to which the subscriber upgraded in that month.

4(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.9(a) and Exhibit 4.9(b), which provide the number of existing subscribers that downgraded by removing one or more services but remaining a customer of the Company – separately for primary and bulk subscribers – by zip code from 2011 to the present. The data are provided for the bundle of services from which the subscriber downgraded – i.e., if a customer subscribed to a video and voice bundle the previous month and disconnected either service, they will appear in the data as a downgrade from the video and voice bundle.

4(j):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.10(a) and Exhibit 4.10(b), which provide the churn rate – separately for primary and bulk subscribers – for each standalone and bundled service from which the customer disconnected altogether by zip code from 2011 to the present. The rate of "churn" has been calculated by dividing the number of subscribers that disconnected all services in a given month by the total number of subscribers of that standalone service or bundle of services at the beginning of the same month.

4(k):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.11(a) (residential) and Exhibit 4.11(b) (commercial). The data provided are the cost per new connect ("CPC"), which is the amount Comcast spends in advertising, marketing, and related sales efforts for each new connect. The data are tracked and provided per connected unit (e.g., video, Internet, or voice service). Thus, a new customer that signs up for two services (e.g., video and Internet services) would have approximately twice the cost per connect provided in Exhibits 4.11(a) and (b). Sales, marketing, and advertising expenditures are not tracked or allocated by product or service. Cost per connect is calculated by dividing the total

9 {{ }} Presentations reflecting those surveys will be provided to the Commission as part of Comcast's reply to the petitions to deny.

amount that Comcast spends in advertising, marketing, and related sales efforts to acquire a new connect by total connects, which is the sum of services added for each new subscriber (i.e., new "connect") and each subscriber who upgrades to a new or different service (i.e., "upgrade"). [[ ]]

The data are provided for each of Comcast's regions, which is the most granular level at which Comcast maintains the data. The data are provided for residential cost per connect from January 2011 to the present and for commercial cost per connect from January 2010 to the present. Comcast does not maintain data on cost per connect prior to those periods.

4(l):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.12. These data contain total video programming cost per subscriber for each of Comcast's sub-regions, which is the most granular level at which Comcast maintains the data. In addition to the total video programming costs per subscriber, the data are provided for the following video tiers: B1 (Basic), B2 (Digital Starter or Expanded Basic), D1 (Digital Preferred), and Economy (Digital Economy). The total video cost per subscriber is the total cost of video programming divided by the average number of video subscribers during that month. The data are provided for residential and commercial subscribers combined; programming packages and rates generally do not vary for residential and commercial subscribers.

[[ ]] These costs are generally additive as one moves up to a broader tier of service, i.e., the total cost for subscribers to Comcast's B2 service is the sum of the costs of the B1 tier and the B2 tier. [[ ]]

4(m):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.13. These data provide the expenses Comcast incurred monthly from January 2009 to the present at a sub-region level for transactional video on demand ("TVOD"), subscription video on demand ("SVOD"), and pay-per-view ("PPV"), which is the most granular level at which Comcast maintains the data. The expenses incurred for SVOD reflect payments Comcast makes for standalone SVOD offerings; they do not include any allocation of licensing fees Comcast pays to distribute the linear feed of a programming network that also contains a VOD component. Those fees, which typically cover VOD rights, are reflected in the video programming expenses set forth in response to subpart (l) of this Request and provided in Exhibit 4.12.

4(n):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 4.14. These data provide the net and gross advertising revenue for each DMA in which Comcast offers cable services, [[ ]].

REDACTED – FOR PUBLIC INSPECTION

4(o):

See Appendix.

4(p):

As discussed with the FCC, [[ ]] {{ }}

[[ ]] Comcast designates these materials as its response to subpart (p) of this request.

REDACTED – FOR PUBLIC INSPECTION

5. Separately for (i) every zip code identified in 2(e), and (ii) every DMA for where the Company provides MVPD service, and separately for every subscription VOD service offered by the Company, for every month from January, 2009, to the present, state:

a. the number of subscribers to the service at the end of the month;

b. the number of subscribers that added the service;

c. the number of subscribers that added the service at the same time that they added MVPD service from the Company;

d. the number of subscribers that cancelled the service;

e. the number of subscribers that cancelled the service at the same time that they cancelled MVPD service from the Company;

f. the total subscription revenues;

g. the total cost of video programming distribution rights;

h. the total number of hours viewed; and

i. the price of the service and a description of all discounts or promotions that were in effect.

RESPONSE:

As discussed with the FCC, Comcast is providing information and data responsive to this Request for its Streampix service, which it launched in February 2012. Streampix is available to Comcast customers for a la carte purchase, as well as being an included feature in connection with Comcast's MVPD and/or Internet service.

Comcast licenses programming networks in which such licenses include the right to distribute on demand content for that network. Comcast does not regard this on demand content as a distinct SVOD service. Comcast does offer SVOD services such as Disney Family Movies, Bollywood, and the Jewish Channel. Such services have a relatively small number of subscribers and the revenue and expenses attributed to those services are set forth as a portion of the SVOD expenses reflected in Exhibit 4.13 (SVOD expenses) and as a portion of the SVOD revenue reflected in Exhibit 6.6 (VOD/PPV revenue).

Where Comcast is able to provide data for each DMA in which it operates in response to this Request, it has done so.

REDACTED – FOR PUBLIC INSPECTION

5(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.1, which provide the ending number of Streampix subscribers by zip code from December 2011 to the present.10

5(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.2, which provide the number of new Streampix subscribers by zip code from December 2011 to the present.

5(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.3, which provide the number of new Streampix subscribers that also added MVPD service at the same time by zip code from December 2011 to the present.

5(d):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.4, which provide the number of Streampix subscribers that cancelled the service by zip code from December 2011 to the present.

5(e):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.5, which provide the number of Streampix subscribers that canceled the service at the same time they cancelled their MVPD service by zip code from December 2011 to the present.

5(f):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.6, which provide the revenue attributed to Streampix for each of Comcast's sub-regions from January 2012 to the present. [[ ]]

5(g):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.7, which provide the programming expenses for the Streampix service by month from January 2012 to present.

---

10 While Comcast launched the Streampix service in February 2012, it had a small number of trial accounts beginning in December 2011.

5(h):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibits 5.8(a) and 5.8(b), which provide the total number of video starts and the total number of hours viewed on the Streampix service by zip code and by DMA from September 2013 to the present, which is as far back as Comcast maintains data at the level requested.

5(i):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 5.9. Comcast offered three different promotions over the life of Streampix, but discontinued all such promotions in the fourth quarter of 2013: (1) a 3-month promotion ($0 for 3 months rolling to $4.99); (2) a 1-month promotion ($0 for 1 month rolling to $4.99) limited to online sales channels; and (3) a 24-month promotion ($0 for 24 months rolling to $4.99) offered with new subscriptions to certain double play service bundles (video and Internet). Currently, Comcast offers the Streampix service on an a la carte basis at $4.99/month. Subscribers to certain video and Internet tiers also receive the Streampix service as part of their package of services. Exhibit 5.9 provides the number of subscribers who receive the Streampix service on any of the above bases (promotional, a la carte, or as part of a service plan) for each of Comcast's regions.

6. Separately for (i) every zip code identified in 2(e), and (ii) every DMA for where the Company provides MVPD service, for every month from January, 2009, to the present, state:

a. separately for the Company's paid VOD service and PPV service, (1) the number of subscribers that used the service at least once; (2) the total revenues from subscribers; (3) the total cost of video programming distribution rights; and (4) the total number of hours viewed;

b. for free VOD service, (1) the number of subscribers that used the service at least once; (2) the total number of hours viewed; and (3) the total cost of video programming distribution rights; and

c. for the Company's over-the-top video services (e.g., "TV everywhere), (1) the percentage of the Company's MVPD subscribers that view video programming via the service, (2) the total number of hours viewed, and (3) the total cost of video programming distribution rights.

RESPONSE:

6(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 6.1 through Exhibit 6.6. Exhibit 6.1 provides the total number of PPV users, the number of PPV transactions, and PPV revenue by zip code from October 2012 to the present, which is as far back as Comcast maintains these data. Data is provided for those zip codes in which there was at least one PPV transaction recorded in that month. With respect to subpart (a)(3), Comcast incorporates by reference Exhibit 4.12, which provides PPV and transactional (i.e., paid) VOD expenses by sub-region, [[ ]]. In addition, Exhibit 6.2 provides the per user cost to Comcast for PPV and VOD programming categories. The information and data contained in Exhibit 6.2 are provided on a national basis [[ ]]. In addition, the information and data contained in Exhibit 6.2 are provided on the basis of a programming category. [[ ]]

With respect to transactional (i.e., paid) VOD, Exhibit 6.3 provides the number of paid users, paid views, and paid revenue by zip code from May 2013 to the present, which is as far back as Comcast maintain these data.11 In addition, Exhibit 6.4 reflects data on VOD usage [[ ]].

11 TVOD data include programming provided on an electronic sell-through ("EST") basis. With an EST purchase, a customer owns a programming asset (i.e., the ability to view a program) and Comcast stores it for them.

Exhibit 6.5 provides (a) the TV Markets associated with each of Comcast's regions, and (b) the zip codes associated with each TV Market. Comcast cannot confirm that the mapping from zip code to TV Market is entirely precise but believes it is generally accurate. Finally, Exhibit 6.6 provides combined revenue data for VOD and PPV for each of Comcast's sub-regions. [[ ]]

6(b):

Information and data responsive to this subpart are provided in Exhibit 6.3 and Exhibit 6.4 discussed above in response to subpart (a). Exhibit 6.3 provides the total number of free VOD users and free VOD views by zip code from May 2013 to the present, which is as far back as Comcast maintains these data. Exhibit 6.3 also provides the total number of VOD hours, which reflects hours for all types of VOD, including free and transactional VOD. Exhibit 6.4, described herein, also provides free VOD usage from January 2010 to the present [[ ]]. As set forth in its response to subpart (m) of Request 4, [[ ]]; such programming is typically part of the license fee Comcast pays video programming networks for their linear and on demand programming and those expenses are reflected in the figures provided in Exhibit 4.12.

6(c):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 6.7, which provides the percentage of Comcast's video customers that used Comcast's over-the-top (i.e., TV Everywhere) video service – broken out separately for use through Xfinitytv.com or related Comcast websites and for use through Comcast's mobile device applications ("apps") – by zip code back to January 2013. Comcast is unable to provide the average number of hours viewed per subscriber, and it did not maintain data in a way that would allow it to provide usage statistics prior to 2013.

The percentage of the company's subscribers that view programming via the company's over-the-top video service variously known as XfinityTV.com, Xfinity TV Go, and TV Everywhere was calculated by dividing the number of video starts initiated by an account within the period by the number of video subscribers within each zip code, as a video subscription is generally required to use the company's over-the-top video service through the website or through the apps. A video start is triggered upon the successful initiation of linear streaming or VOD content playback within the web or app player without regard to the duration of the playback.

While these data provide a reasonable estimate of usage, there are a number of limitations to these data. Usage activity is collected throughout the month while the subscriber totals are captured at month end. For example, a subscriber who started a video during the month may have disconnected video services prior to the end of the month; their usage would be captured in the numerator, but they would not be reflected as a subscriber in the

denominator. Therefore, the numerator may contain activity from accounts that are not active subscriber accounts included in the denominator. [[ ]]

Comcast does not maintain data on the cost of video programming distribution rights for its over-the-top (i.e., TV Everywhere) video offerings. [[ ]] and those expenses are reflected in the figures provided in Exhibit 4.12.

REDACTED – FOR PUBLIC INSPECTION

7. For each month, from January, 2014, to the present, separately for subscribers to the Company's standalone services and bundled services, and by month of tenure on the subscriber's current plan, state and produce in CSV or Excel format:

a. the number of subscribers as of the first day of the month;

b. the average revenue per subscriber;

c. the total number of disconnects from the service plan initiated either by the subscriber or the Company in the month;

d. the number disconnects from the service plan initiated by the Company for non-payment or other reasons in the month;

e. the number of mover disconnects from the service plan initiated by the subscriber in the month; and

f. the number of other disconnects from the service plan initiated by the subscriber in the month.

RESPONSE:

Information and data responsive to this Request have been provided in machine-readable CSV format as Exhibit 7.1 and Exhibit 7.2, which provide the requested data separately for primary subscribers and bulk subscribers. The figures are provided as of Comcast's fiscal month-end, which is the 21st day of the month.12 As in Request 4, Comcast provides monthly recurring charge ("MRC") in response to subpart (b) for average revenue per subscriber. All of the same qualifications regarding MRC detailed above apply equally here. As discussed with the FCC, [[ ]]. As such, Comcast has provided the data requested on beginning subscribers and disconnects by the tenure of the customer with Comcast (i.e., account history). Disconnects are broken out into four categories: (1) total disconnects, (2) non-payment disconnects, (3) voluntary disconnects, and (4) moving disconnects.

12 Comcast has provided data for service plans, which are defined as a product or set of products broken out by service tier, and is consistent with how it has responded to a request involving service plans in Request 89.

REDACTED – FOR PUBLIC INSPECTION

8. As of December 31, 2013, and June 30, 2014, and for each DMA, state and produce in CSV or Excel format:

a. the number of subscribers to the Company's MVPD service;

b. the number of the Company's subscribers who will become subscribers of Comcast's, SpinCo's, and Charter's MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of June 30, 2014;

c. the number of TV households, citing the source of this information and explaining how this number was calculated;

d. the number of Hispanic TV households, citing the source of this information and explaining how this number was calculated;

e. the number of Hispanic households that subscribe to MVPD service, citing the source of this information and explaining how this number was calculated;

f. the number of Hispanic households that subscribe to the Company's MVPD service; and

g. the number of the Company's Hispanic households who will become subscribers of Comcast's, Charter's and SpinCo's MVPD service, stated as if the proposed TWC transaction and the proposed divestiture transactions had been consummated as of June 30, 2014.

In the event that as a result of the proposed divestiture transactions, the assets, Hispanic households and the Hispanic subscribers in a single DMA will be divided between Comcast, Charter and SpinCo, for subparts (b) and (g), allocate the subscribers and Hispanic households to the receiving applicant, and provide an explanation of the methodology used to make the allocation.

RESPONSE:

8(a):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 8.1. The data are provided on a units cabled basis.

8(b):

Information and data responsive to this subpart have been provided in machine-readable Excel spreadsheet format as Exhibit 8.2. The data are provided on a units cabled basis

and are provided separately for the Comcast and SpinCo systems following consummation of the proposed transactions. As discussed with the FCC, the subscriber numbers provided for post-transaction Comcast are for Comcast's systems only, and do not include subscribers from Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

8(c)-(g):

Information and data responsive to subparts (c) through (g) of this Request have been provided in machine-readable Excel spreadsheet format as Exhibit 8.3. Figures provided for the number of TV households, Hispanic TV households, and Hispanic MVPD subscribers are based on data provided by Nielsen. [[ ]] Comcast has also provided an estimate of its Hispanic MVPD subscribers as of December 2013 and June 2014. As discussed with the FCC, the subscriber numbers provided for post-transaction Comcast do not include subscribers from Charter and Time Warner Cable systems that Comcast will acquire in connection with the proposed transactions.

9. Produce all documents relating to the effects of geographic rationalization or clustering with respect to the operation of cable systems and the provision of programming or other services on such cable systems, including documents relating to geographic rationalization or clustering as a result of the proposed TWC transaction and the proposed divestiture transactions.

RESPONSE:

Documents responsive to this request will be produced to the FCC.

REDACTED – FOR PUBLIC INSPECTION

10. Produce all documents relating to competition in the provision of each relevant service in each relevant area, including, but not limited to, consumer surveys or studies, market studies, forecasts and surveys, and all other documents relating to:

a. sales, market share or competitive position of the Company or any of its competitors;

b. the relative strength or weakness of persons selling each relevant service, selling either standalone services or bundled services, and the extent to which providers of each relevant service compete with each other;

c. supply and demand conditions;

d. how consumers, MVPDs, and OVDs view or perceive video programming offered by the Company (including the impact of placing programming in a particular neighborhood or tier), the impact of not offering certain programming, the ability to substitute other programming, the impact of bundling more than one programming channel, or the impact of pricing on decisions to purchase video programming or MVPD service, including ratings and consumer surveys relating to video programming offered by the Company;

e. allegations that any person that provides any relevant service is not behaving in a competitive manner, including, but not limited to, customer and competitor complaints, threatened, pending, or completed lawsuits; and federal and state investigations, including any carriage or program access complaints filed against the Company with the Federal Communications Commission pursuant to 47 C.F.R. § 76.1301 et seq. or 47 C.F.R. § 76.1000 et seq., or to the Comcast-NBCU Order at App. A, § IV.G.1.a since January 1, 2009;

f. any actual or potential effect on the supply, demand, cost, or price of any relevant service as a result of competition from any other possible substitute service or provider, and the role of reputation and reliability in competition with other persons who supply any relevant service;

g. churn, subscriber acquisition costs, costs per gross addition, and subscriber retention costs, including consumer costs incurred in switching to another person's relevant service, and data and studies analyzing the source of the Company's new subscribers, why subscribers disconnect service with the Company and the reasons for disconnections, and factors affecting consumers' decisions to switch to or from a relevant service offered by the Company, including but not limited to pricing, quality of service and disputes between the Company and edge providers, CDNs or transit service providers;

h. (1) consumer satisfaction with the Company's relevant services (including all documents relating to plans, policies and procedures for addressing concerns raised by rankings and surveys), and (2) consumer substitution between the Company's Internet access service and DSL service, service using fiber to the node technology, service using fiber to the premises technology, and mobile wireless broadband services;

i. the Company's experience or success in obtaining or retaining customers through marketing or promotions targeted at providers of relevant services, geographic areas, types of customers, and ethnic groups such as Hispanics or Asians, including the offers made and the amount spent on the marketing effort, the number of new subscribers gained, churn rates for such subscribers, and revenue realized by the Company;

j. the characteristics of consumers who want to purchase standalone services or bundled services, and the sales, market share or competitive position of the Company or any of its competitors in the sale of standalone services or bundled services;

k. the provision of video programming over the Internet, including, the sales, market share, or competitive position of the Company or its competitors, the relative strength or weakness of companies, including the Company and its competitors, that are currently providing or are planning to engage in online video distribution;

l. any advantage or disadvantage to any person arising from the size of its footprint or its subscribership on its ability: (1) to negotiate terms with persons selling or licensing video programming, including but not limited to terms that grant the Company exclusive rights to programming; (2) to negotiate terms of interconnection agreements with edge providers, persons who provide Internet backbone services, persons who provide Internet access service, and transit service providers; and (3) competition with other providers of MVPD service and persons that provide Internet access service;

m. the Company's decisions whether to block, stop, throttle, slow, favor, congest or otherwise hinder the transmission of any OVD service or other content, including the CDN, transit service provider or peer that supports the OVD service or to favor, prioritize or otherwise advantage the Company's relevant service over such competing service;

n. the role of innovations in competition or potential competition relating to improvements and innovations in features, functionality, platforms, performance, cost or other advantages to users of the service;

o. the impact of cord shavers, cord cutters and cord nevers on the Company's marketing, revenues and profits of each relevant service; and

p. the Company's experience and success with video programming, broadcast television stations, broadcast programming networks, and non-broadcast programming networks targeted at specific ethnic groups, including but not limited to, competition with the video programming broadcast television stations, broadcast programming networks, and non-broadcast programming networks owned by, operated by managed by, attributed to or produced by Univision Communications Inc.

RESPONSE:

Documents responsive to this request will be produced to the FCC.

11. Produce all documents created or received by the Company that relate to the Company's or any other person's (i) pricing plans; (ii) pricing policies; (iii) pricing lists; (iv) rate cards; (v) pricing forecasts; (vi) pricing strategies; (vii) pricing analysis; (viii) introduction of new pricing plans or promotions; (ix) bundled pricing, including analysis of the profitability of bundles and their impact on customer retention; and (x) pricing decisions relating to each relevant service.

RESPONSE:

Documents responsive to this request will be produced to the FCC.

12. State the name and address of each person that has entered or attempted to enter into, or exited from, the provision of each relevant service, from January 1, 2009, to the present. For each such person, identify the services it provides or provided; the area in which it provided the services, including whether the person has sold or distributed the relevant service in the United States; and the date of its entry into or exit from the market. For each entrant, state whether the entrant built a new facility, converted assets previously used for another purpose (identifying that purpose), or began using facilities that were already being used for the same purpose.

RESPONSE:

Information and data responsive to this request have been provided in machine-readable Excel spreadsheet format as Exhibit 12.

Comcast's response to this request is based on information obtained through reasonable inquiry of knowledgeable employees of the company and from publicly available sources, but does not provide a comprehensive list of all entrants since 2009 in each relevant service. Although Comcast believes the sources on which its response is based to be generally reliable, it cannot fully verify the reliability of information obtained from third-party sources, many of which are self-reported.13

With respect to the geographic areas in which the entrants listed in Exhibit 12 provide service, MVPD services provided by DBS providers are available on a nationwide basis, and the availability of other providers varies depending on the geographic reach of the cable systems deployed by cable operators and telephone companies that provide MVPD services. Information with respect to this geographic reach has been provided in Comcast's response to Request 2 above. OVD services and other Internet Edge services are generally available on a nationwide basis to households that have access to the Internet. Video programming services are generally available on a nationwide basis; the availability of certain specific video programming services may be regional or local (e.g., regional sports or local news networks). Internet access service provided by mobile wireless or satellite providers are generally available on a nationwide basis, and the availability of other providers varies depending on the geographic reach of the cable and telephone company systems that provide these services. Internet backbone services are generally available on a nationwide basis.

Comcast generally does not maintain information concerning the facilities used by the entities listed in Exhibit 12.

13 Exhibit 12 does not include information that is already provided regarding Comcast-owned programming networks to the extent such information is already provided in response to Request 18.

13. Provide a list of possible new entrants into the provision of, or a substitute for, each relevant service, stating why the Company believes each person is a possible entrant or could provide a substitute service, including but not limited to, mobile wireless broadband service, and what steps it has taken toward entry. Submit a list of all requirements for entry into the provision of, or a substitute for, a relevant service and an estimate of the time required to meet each requirement, and provide all documents relating to research and development, planning and design, production requirements, distribution systems, service requirements, patents, licenses, sales and marketing activities, and any necessary governmental and customer approvals for entry in to the provision of each relevant service.

RESPONSE:

Documents responsive to this request will be produced to the FCC. Comcast's response to this request is based on information obtained through reasonable inquiry of knowledgeable employees of the company and from publicly available sources, but does not provide a comprehensive list of all possible new entrants or possible substitute services, nor of all requirements and timing variations of meeting them, which vary greatly depending on scope of entry (as discussed in greater detail in response to Request 15). Although Comcast believes the sources on which its response is based to be generally reliable, it cannot fully verify the reliability of information obtained from third-party sources, many of which are self-reported.

A. Video Programming Distribution

1. MVPD

MVPD services are currently provided by cable companies (also known as multiple system operators or "MSOs"), telephone companies, Satellite Master Antenna TV companies, and direct broadcast satellite ("DBS") companies. Entry into the MVPD market generally requires significant fixed-cost investment to build out the physical infrastructure (e.g., fiber-optic cables, satellites) needed to deliver multiple channels of content. Nevertheless, companies continue to make these investments and to launch new MVPD options for consumers. For example, CenturyLink, Inc. recently began offering its own MVPD service ("Prism TV") in select markets and has indicated its intention to expand these offerings. Google, Inc. also has begun offering MVPD service in select markets through its Google Fiber service, and has announced its intention to expand to up to 34 communities in nine metropolitan areas. AT&T has also announced plans to accelerate expansion of its U-verse MVPD service across its footprint,14 although the status of those plans is now uncertain given the pending DirecTV transaction. As discussed below with regard to Internet Access, municipal providers may also continue to enter the video programming distribution market.

14 Remarks of Randall Stephenson, Chairman & CEO, AT&T Inc., Morgan Stanley Technology, Media & Telecom Conference (Mar. 6, 2014) available at http://seekingalpha.com/article/2072813-at-and-ts-ceo-presents-at-morgan-stanley-technology-media-and-telecom-conference-

Based on the success of AT&T U-verse, Verizon FiOS, and CenturyLink Prism, other telephone companies appear to be particularly well positioned to enter the MVPD market. Following Google's example, other technology companies may decide to enter the MVPD market as well, taking advantage of complementary products, brand recognition, customer relationships, and large cash positions.

2. OVD

The OVD industry continues to grow and evolve, and video content available on the Internet has proliferated from numerous sources.15 As the FCC noted in a recent report, the OVD industry continues to innovate, and "no single business strategy has emerged as the dominant model."16 OVDs use various business strategies for offering access to content, including free access supported by advertising, subscription services (both with and without advertising), or on-demand purchases or rentals, with some OVDs offering more than one option.17 OVDs are also increasingly popular among consumers. One OVD, Netflix, reportedly now has over 39 million U.S. subscribers (over 50 million worldwide), representing half of all Internet customers in the United States and almost twice as many subscribers as the largest MVPD, Comcast. As a result, Netflix accounted for approximately 34 percent of all peak-period Internet download traffic in North America as of May 2014.18 Hulu, according to the FCC, is "the major player among advertiser-supported OVDs" and makes available over 1,500 TV shows, 21,000 TV episodes, and 1,700 movies.19 Additionally, Amazon, Google, and Apple each offer their own robust OVD services.

Several companies, inside and outside traditional media, are continuing to experiment with new business models and technology platforms, including business models that reportedly will be offered as a potential substitute for MVPD services. A partial list of possible future entrants in the provision of OVD services includes the following:

---

15 See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Fifteenth Report, 28 FCC Rcd 10496 ¶ 223 & n.787 (2013) ("Fifteenth Video Competition Report") (noting that Sandvine, an Internet network equipment and software company, measured over 28,000 unique websites streaming multiple videos online in the U.S. in a single month during Fall 2011).

16 See id. ¶ 269.

17 See id. ¶ 270.

18 Sandvine, Global Internet Phenomena Report 1H 2014, at 6 (2014), available at https://www.sandvine.com/downloads/general/global-internet-phenomena/2014/1h-2014-global-internet-phenomena-report.pdf; see also Drew Fitzgerald, Netflix's Share of Internet Traffic Grows, Wall St. J., May 14, 2014, http://online.wsj.com/news/articles/SB10001424052702304908304579561802483718502. Four other OVD services (YouTube, iTunes, Amazon Video, and Hulu) were listed among the top ten applications driving peak period download traffic in North America as of May 2014. See Fitzgerald, supra.

19 See Fifteenth Video Competition Report ¶ 271.

a. Start-up OVDs

The most popular OVD today, Netflix, launched as a DVD-by-mail company that evolved its business into an Internet start-up and is now the world's leading Internet television network offering more than a billion hours of TV shows and movies each month. Similarly, Machinima.com was founded in 2000 and now bills itself as "the dominant video entertainment network for young males around the world."20 In addition to making its videos available through its own website, Machinima serves more than 2 billion monthly video views reaching over 175 million unique viewers each month, and features, among other things, scripted series, original content, and weekly and daily shows, all available through an app on a variety of Internet-connected devices. Other OVDs have had even more modest beginnings. Vimeo, for example, was founded by a group of filmmakers who wanted to share their creative work and personal moments of their lives; it enables consumers to produce their own content and share it with others on the Internet, including by developing "Channels" around common themes such as Documentary Films, Animation, Sports, etc. Given the low barriers of entry to distribution of video on the Internet, start-up OVDs are likely to continue to emerge on an ongoing basis.

b. Consumer Electronics Manufacturers

Consumer electronics manufacturers are potential entrants into the provision of OVD services. These manufacturers can use OVD services to stimulate sales of their consumer electronics or diversify their businesses. Manufacturers may also have strong brand recognition and existing marketing and advertising channels that could provide an advantage in starting a new OVD service. Indeed, multiple consumer electronics manufacturers have launched OVDs in recent years. Apple, Inc., for example, primarily sells computers and other devices but also sells video content through its iTunes service. That service, in turn, drives demand for Apple products, including the Apple TV set-top device. Sony Corp. has launched its own OVD service and is developing original exclusive video programming content for Sony PlayStation consoles.21 Sony also has announced plans to launch a full MVPD replacement service over the Internet and is actively negotiating carriage contracts with programmers.22 Similarly, Microsoft offers an OVD service, Xbox Video, available on Xbox devices, mobile devices, and web browsers. Microsoft Xbox also supports multiple third-party OVD applications, including HBO GO, Netflix, Amazon Instant Video, and several others. Given the advantages that consumer electronics manufacturers can capitalize on and the success of OVDs launched by similar companies, these consumer electronics manufacturers may decide to expand or evolve their OVD services, and other consumer electronics manufacturers may decide to launch their own OVD services.

---

20 About Machinima, Machinima, Inc., https://www.machinima.com/overview/ (last visited Sept. 10, 2014).

21 See Chris O'Brien, E3: Sony VP talks 'Powers,' its first TV series for PlayStation, L.A. Times, June 13, 2014, http://www.latimes.com/business/technology/la-fi-tn-sony-vp-talks-powers-its-first-tv-series-for-playstation--20140613-story.h

22 Andrew Wallenstein, Sony in Talks for Virtual MSO Service, Variety, Jan. 3, 2013, http://variety.com/2013/digital/news/sony-in-talks-for-virtual-mso-service-1118064150.

c. Video Programming Providers

A video content provider that decides it is in its business interest to do so can create an OVD service by allowing online access to its content, either through its own website or in partnership with an existing online video service. A substantial number of studios, broadcast networks, sports leagues, and programming networks offer content on the Internet or on mobile applications, including Sony, Warner Brothers, Paramount, ABC, CBS, FOX, NBC, ESPN, NBC Sports Network, Fox Sports, the NFL, NHL, NBA, and MLB, among others.23 Video content providers that currently do not provide such access, and possess the rights to do so, may enter the provision of OVD services by providing such access.

d. Internet Search Engines, Portals, and Social Networking Sites

Potential entrants into the OVD market may include other Internet-based companies such as Internet search engines, portals, and social networking sites. Online video distribution is complementary to these sites' existing users: online video can be used to attract, retain, and more effectively monetize website users. Moreover, Internet-based companies may be able to use existing servers, network infrastructure, and commercial relationships to facilitate storage and distribution of bandwidth-intensive high-definition online video.

Some existing search engines and social networking sites already distribute video content online. Facebook, for example, entered the OVD market in 2011, offering online movie rentals for Warner Brothers, Miramax, and Universal Studios movies through applications on Facebook.24 Google, which already owns the largest provider of online video in the world, YouTube,25 launched an Internet-based entertainment store, Google Play, in March 2012, which includes thousands of episodes of television programs, including content from NBCUniversal, ABC Studios, and Sony Pictures.26 Yahoo! likewise has an OVD service that includes original content and content from multiple video programming networks.27 New search engines, Internet portals, and social networking sites are likely to emerge that will also launch OVDs to take advantage of the popularity of online video programming.

---

23 See Fifteenth Video Competition Report ¶ 224.

24 See id. ¶ 230.

25 See comScore Releases June 2014 U.S. Online Video Rankings, comScore, Inc. (July 21, 2014), http://www.comscore.com/Insights/Market-Rankings/comScore-Releases-June-2014-US-Online-Video-Rankings.

26 See Fifteenth Video Competition Report ¶ 235; Google play, Google, https://play.google.com/store (last visited Sept. 10, 2014).

27 See Fifteenth Video Competition Report ¶ 229.

e. Retail Companies

Online and brick-and-mortar retailers also are current and potential entrants into the OVD market. Retail companies can use competitive advantages such as an established Internet presence, customer bases, and existing retail relationships with content providers and electronics manufacturers to successfully launch a new OVD service. Large retail companies may also have easy access to capital to finance such a venture.

Amazon, for example, is the leading online retail company, but also has a growing online video business. Amazon currently offers streaming and downloadable television programs and movies on a transactional basis through its Amazon Instant Video service and on a subscription basis through its Prime Instant Video Service. Amazon also has signed a series of agreements with HBO and other programmers for prior seasons of popular TV shows. Amazon recently launched the Amazon Fire TV set-top box, which includes multiple OVD applications in addition to Amazon Instant Video, and also sells a tablet device (the Kindle Fire) that allows for mobile viewing of HD video (either streamed in real time or downloaded to the device).

Similarly, Wal-Mart, primarily a brick-and-mortar consumer goods retailer, owns the OVD Vudu and makes Vudu available to electronics manufacturers to integrate into their products. Best Buy, with its nearly 2,000 retail locations, also has an OVD service, CinemaNow, which allows customers to rent or purchase TV or movie programming.

f. MVPDs

Cable operators and direct broadcast satellite companies can each offer their own over-the-top services.28 MVPDs already maintain a presence on the Internet, and many already provide interactive online portals that allow their subscribers to view programming over-the-top or to schedule programs for recording on a digital video recorder ("DVR"), among other functions.

Indeed, several MVPDs, including Verizon and DirecTV, already have begun to offer, or announced plans to offer, such services. For example, in February 2012, Verizon formed a joint venture with the parent company of Redbox to provide over-the-top services.29 And, earlier this year, Verizon purchased an online video streaming service from Intel that purportedly will enable it to provide a competitive MVPD substitute service over the Internet, including over wireless broadband networks.30 Similarly, in 2012, DISH Network launched DISHWorld, which offers international movie content that customers

28 See id. ¶ 239 (noting that "[s]everal MVPDs offer services to non-subscribers").

29 Id. ¶ 240.

30 Hayley Tsukayama, Verizon buys Intel's cloud TV service, Wash. Post, Jan. 21, 2014, http://www.washingtonpost.com/business/technology/verizon-buys-intels-cloud-tv-service/2014/01/21/67e94336-82a5-11e3-9
Janko Roettgers, Why Verizon is Buying Intel Media: It's All About Taking on Comcast, Gigaom, Jan. 21, 2014, http://gigaom.com/2014/01/21/why-verizon-is-buying-intel-media-its-all-about-taking-on-comcast.

can stream on various devices,31 and more recently, announced that it would offer a new service allowing subscribers to stream live and on-demand content from A&E and Walt Disney networks such as ABC and ESPN over the Internet.32 DISH is also reported to be considering acquiring T-Mobile, which could give DISH "a national wireless network over which it could deliver mobile video" and "challenge conventional cable television."33 These recent trends suggest that MVPDs that do not already offer an over-the-top service, but possess online programming distribution rights, are potential candidates for entry into the provision of OVD service. Indeed, IPTV services such as Sky Angel now offer over-the-top access to various cable networks, similar to MVPDs.

In this manner, OVDs and MVPDs can, in some regards, be viewed as providing either complementary or substitute services.

B. Video Programming

The number of video programming networks and the diversity of programming available have changed significantly over the last two decades. Looking only at cable television networks, the U.S. Court of Appeals for the D.C. Circuit observed in 2009 that "the number of cable networks has increased by almost 500 percent since 1992 and has grown at an ever faster rate since 2000."34 Firms that have begun to provide video programming through new cable networks have included not only existing cable network providers and MVPDs, but also movie studios, television production companies, sports teams and associations, venture capital firms, and independent content producers. Moreover, new video programming distributed online or by video-on-demand ("VOD") services continues to emerge.

Based on recent trends and on the number of entities that have announced their interest in creating new video programming, and the increasing number of available outlets for video programming, it is reasonable to conclude that new video programmers will continue to emerge.

---

31 See Fifteenth Video Competition Report ¶ 239.

32 Press Release, Dish Network Corp., ESPN and Disney/ABC Television Group Launch WATCH Authenticated Products to DISH Customers (Apr. 1, 2014), http://about.dish.com/press-release/programming/espn-and-disneyabc-television-group-launch-watch-authenticated-products-d Daniel Frankel, Dish trademarks new name and logo, possible for online video service: 'Nutv', FierceCable, Sept. 2, 2014, http://www.fiercecable.com/story/dish-trademarks-new-name-and-logo-possibly-online-video-service-nutv/2014-09-02.

33 Alex Sherman et al., Dish Said to Discuss T-Mobile Deal with Deutsche Telekom, Bloomberg, Sept. 5, 2014, http://www.bloomberg.com/news/2014-09-05/dish-said-to-discuss-t-mobile-deal-with-deutsche-telekom.html.

34 Comcast Corp. v. FCC, 579 F.3d 1, 8 (D.C. Cir. 2009).

1. Demand for New Video Programming Networks

New video programming likely will be launched to address the changing needs of diverse audiences, evolving interests of the viewing public, and new technologies:

a. Affinity Groups

As the demographic composition of the United States shifts, new video programming will likely emerge to meet the needs of diverse audiences. Over the past 10 years, for example, a number of Spanish-language cable television networks have emerged to satisfy the needs and interests of the United States' growing Hispanic population. As various ethnic populations of the United States continue to grow, video programming options, including new video programming networks, will likely continue to emerge to meet demands for language- and culture-specific content.

b. Evolving Interests

New video programming also will likely emerge in response to viewers' evolving interests. A number of new cable television networks – including Wine TV, Crime & Investigation Network, and Retirement Living TV – have emerged in the past ten years to serve the special interests of niche audiences.35 Based on these trends, it is likely that new networks will be introduced to address consumers' changing interests.

c. New Technology

New and existing video programming providers also are likely to harness emerging technologies to provide cutting-edge content to consumers. For example, advanced TV set-top boxes with interactive features could allow programmers to develop customizable channels. Viacom recently announced plans to launch a children's programming network that allows viewers to indicate preferences and personalize the content aired on the channel.36 Other companies also likely will enter the video programming market to take advantage of new opportunities made available by improved technology.

2. Possible Future Entrants

A partial list of possible future entrants to the provision of video programming includes the following:

---

35 OVDs such as YouTube have also begun developing video programming to cater to specific interest. See Lauren Indvik, YouTube CEO: The Future of Content Is Niche Channels, Mashable (Jan. 31, 2012), http://mashable.com/2012/01/31/youtube-niche-content-passive-viewing.

36 See Amol Sharma, Viacom to Launch Customized Kids' TV Channel, Wall St. J., Jan. 14, 2014, http://online.wsj.com/news/articles/SB10001424052702303754404579312904182126302.

a. Existing Video Programming Providers

Existing owners of cable television networks are likely in the future to launch new video programming networks and develop new video programming for distribution in other formats. Existing cable network providers enjoy the benefits of (a) carriage relationships with MVPDs, (b) relationships with advertisers, and (c) experiential knowledge derived from launching other programming networks. News Corp., for example, launched two new networks in 2013 (Fox Sports and FXX).37 Other large, established cable television networks are likely to continue developing and launching new channels to cater to changing preferences of cable television audiences. Existing owners of cable television networks are also likely to develop new video programming specifically for online distribution. By launching an Internet-based video programming network, an existing video programmer can use existing production assets to develop content to reach specific audiences and broaden their reach. For example, Discovery Communications Inc., which owns a number of cable television networks, recently launched TestTube, a free, online video network targeted at the young male demographic.38 Other existing video programming providers are likely pursue a similar strategy.

In addition, video programming providers that currently offer only online content may migrate their programming to cable television networks or television VOD services. Some video programming networks that began as VOD-only networks, such as Anime, Fearnet, and Sprout, have used that programming to launch a linear television network. Similarly, funnyordie.com, which began as an online-only viewing service, now distributes content on HBO.

b. Media Figures, Owners of Established Entertainment Brands, and Individual Entrepreneurs

The uncertainties of launching a new cable television network are diminished when the new network is able to leverage a recognized entertainment brand. Media personalities that enjoy such brand recognition are therefore potential entrants into the provision of cable television networks. For example, political commentator Glenn Beck recently launched The Blaze; musician Sean “Diddy” Combs recently launched Revolt, a music-oriented network showing music videos, live performances, and news and interviews; and filmmaker Robert Rodriguez recently launched El Rey.39 Other high-profile media figures may also decide to develop their own video programming networks.

---

37 Cynthia Littleton, Congloms Firing up New Cable Channels as Climate Improves, Variety, Sept. 13, 2013, http://variety.com/2013/tv/news/congloms-firing-up-new-cable-channels-as-climate-improves-1200609613.

38 Keach Hagey, Discovery to Launch ‘TestTube’ Online Video Network, Wall St. J., May 23, 2013, http://online.wsj.com/news/articles/SB10001424127887323336104578499540671665824.

39 See Jeanine Poggi, New TV Networks Scorecard: Eight Cable Channels to Watch in 2014, Advertising Age, Dec. 26, 2013, http://adage.com/article/media/tv-networks-scorecard-channels-watch-2014/245770.

Existing media recognition also provides an advantage in developing new online or VOD content. Media figures with a presence on cable television may be particularly likely to develop new programming for distribution online to reach niche audiences. For example, Jeffrey Hayzlett of the Bloomberg TV show C-Suite is launching an over-the-top on-demand video service called C-Suite TV that provides new content that caters to existing C-Suite viewers.40 Other media figures, including former Vice Presidential candidate and Alaska Governor Sarah Palin and comedian Louis CK, have also recently launched online-only video programming networks.41 It is likely that other media figures, entrepreneurs, and owners of entertainment brands will pursue a similar strategy by launching video programming networks on the Internet to reach new audiences.

c. Sports Organizations

Much like established entertainment brands, sports teams and leagues may be able to leverage their current fan base to create new video programming networks. In recent years, several sports teams and leagues, including a number of collegiate sports conferences, have launched cable television networks. In the future, other sports organizations may likewise take advantage of their existing audiences to introduce new video programming networks.

d. Venture Capital Firms

Venture capital firms currently own interests in various video programming networks, including the Gospel Music Channel, Ovation TV, and Tennis Channel. Given their access to capital and existing carriage relationships, these and other venture capital firms could launch new video programming networks in the future.

To the extent that video programming is viewed primarily as a source of entertainment or information, any current or prospective provider of entertainment or information, including many of the potential new entrants in video programming, could potentially be viewed as offering a substitute service.

C. Internet Access Services

1. Subscribers

Internet access services are currently provided by a variety of companies, including cable system operators, telephone companies, satellite companies, and mobile wireless providers. The availability of high-speed Internet access from multiple providers across

---

40 See Jim O'Neill, C-Suite's Jeffrey Hayzlett launches an online, on-demand business TV network, Ooyala, July 15, 2014, http://www.ooyala.com/es/videomind/blog/c-suite-s-jeffrey-hayzlett-launches-online-demand-business-tv-network.

41 See Andrew Kirell, Sarah Palin Launches Subscription-Based Online Video Channel, Mediaite, July 27, 2014, http://www.mediaite.com/tv/sarah-palin-launches-subscription-based-online-video-channel/; Louis CK, http://www.louisck.net (last visited Sept. 10, 2014).

the United States has increased significantly in recent years, and numerous companies are providing broadband Internet access services across a range of technological platforms.42

Telephone companies provide fiber-to-the-premises services to a growing number of American households and are upgrading their DSL-based services, in many cases by building fiber-to-the-node, to offer faster speeds across the country. Today, CenturyLink offers DSL speeds up to 40 Mbps, AT&T offers speeds up to 45Mbps, Verizon offers speeds up to 15 Mbps, and Frontier offers speeds up to 25 Mbps.43

CenturyLink has introduced 1 Gbps fiber-to-the-premises service to business and residential customers in 16 cities, including Denver, Seattle, and Minneapolis-St. Paul.44 CenturyLink also continues to invest in DSL upgrades including VDSL2 and pair bonding to improve broadband speeds across its footprint.45 Overall, telephone companies appear well-positioned to offer highly competitive broadband speeds well into the future.46

Cable overbuilders, new entrants like Google fiber, municipal providers, fixed wireless providers, and satellite broadband providers also are competing vigorously. And well-capitalized and aggressive nationwide mobile broadband providers now offer services that provide speeds comparable to many of the fixed broadband services that consumers purchase.47

---

42 See Comcast Corp. and Time Warner Cable Inc., Applications and Public Interest Statement, MB Docket No. 14-57, at 42-56 (Apr. 8, 2014) ("Public Interest Statement").

43 See Letter from Lynn R. Charytan, SVP, Legal Regulatory Affairs and Senior Deputy General Counsel, Comcast Corp., to Marlene H. Dortch, Secretary, FCC, MB Docket No. 10-56, Ex. A, Pt. 3, at 10 (Feb. 21, 2014) (detailing competitive standalone broadband options in Comcast's top 30 markets).

44 Press Release, CenturyLink, Inc., CenturyLink expands its gigabit service to 16 cities, delivering broadband speeds up to 1 gigabit per second (Aug. 5, 2014), http://news.centurylink.com/news/centurylink-expands-its-gigabit-service-to-16-cities-delivering-broadband-speeds-up-to-1-gi

45 See, e.g., Glen F. Post, President and CEO, CenturyLink, Inc., Q4 2013 Earnings Call, Tr. at 5 (Feb. 12, 2014) ("We have utilized and continued to utilize a balanced capital investment approach, including gigabit fiber, VDSL2, and pair bonding deployments to efficiently enable higher speeds, enhanced services to consumers and businesses in our markets").

46 Robert W. Starr, Treasurer & SVP, Frontier Commc'ns Corp., Goldman Sachs TMT Leveraged Finance Conference, Tr. at 5 (Mar. 19, 2014) (noting Frontier is "compet[ing] against [cable] today on the residential and on the small business side and we're taking share away from them on the residential side . . . . [W]e think that our opportunit[y] against the cable companies continue to be a very good one").

47 See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, Eighth Broadband Progress Report, 27 FCC Rcd 10342 ¶ 6 (2012) (noting that mobile providers are "deploying new, faster, and more spectrally efficient mobile network technologies, most notably Long Term Evolution (LTE), which offers advertised download speeds as high as 5-12 Mbps").

Broadband providers are racing to give consumers access to the Internet content and applications that they demand. For example, in 2010, AT&T offered only traditional ADSL service to the significant majority of the 76 million households in its wireline footprint48 and had announced no plans to upgrade its network in these areas. Today, AT&T is well into the process of deploying a mix of fiber-to-the-premises, fiber-to-the-node, IP-DSLAM, and fixed wireless broadband technologies to as many as 70 million customer locations.49 Google, CenturyLink, Cox, and others have also announced ambitious plans to roll out fiber-to-the-premises networks and have begun to set these plans into motion.50

Notably, in 2010, none of the four nationwide mobile broadband providers had even begun to deploy LTE networks until Verizon began its deployment in December of that year.51 Now, all four major wireless providers operate LTE networks that collectively blanket the nation.52 And, the fastest mobile LTE network in the United States can achieve average download speeds close to 20 Mbps and peak speeds over 70 Mbps.53

---

48 Press Release, AT&T Inc., AT&T Reports Record 2.8 Million Wireless Net Adds, Strong U-verse Sales, Continued Revenue Gains in the Fourth Quarter (Jan. 27, 2011), http://www.att.com/gen/press-room?pid=18952&cdvn=news&newsarticleid=31519&mapcode=financial (indicating that U-Verse passed 27 million of the living units in AT&T's footprint in Q4 2010).

49 See Press Release, AT&T Inc., AT&T to Acquire DIRECTV (May 18, 2014), http://about.att.com/story/att_to_acquire_directv.html ("AT&T/DirecTV Press Release").

50 See Milo Medin, VP, Google Access Services, Exploring New Cities for Google Fiber, Google Fiber Blog (Feb. 19, 2014), http://googlefiberblog.blogspot.com/2014/02/exploring-new-cities-for-google-fiber.html; Press Release, CenturyLink, Inc., CenturyLink Brings 1 Gigabit Fiber Service to Las Vegas (Oct. 9, 2013), http://news.centurylink.com/news/centurylink-brings-1-gigabit-fiber-service-to-las-vegas-2598362; Press Release, Cox Commc'ns, Cox Communications Kicks Off Plan to Offer Residential Gigabit Speeds (May 22, 2014), http://cox.mediaroom.com/index.php?s=43&item=753.

51 Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, Fifteenth Report, 26 FCC Rcd 9664 ¶¶ 108-14 (2011) (describing the four nationwide mobile broadband providers' initial efforts to test and deploy LTE services); see also Press Release, Verizon Wireless, Blazingly Fast: Verizon Wireless Launches the World's Largest 4G LTE Wireless Network on Sunday, Dec. 5 (Dec. 3, 2010), http://www.verizonwireless.com/news/2010/12/pr2010-12-03.html (touting Verizon's LTE network, which launched in 38 cities in December 2010, as "the world's largest").

52 See The Verizon Wireless 4G LTE Network, Verizon Wireless, http://www.verizonwireless.com/news/LTE/Overview.html (last visited Sept. 10, 2014); About Our Network, AT&T, http://about.att.com/news/wireless-network.html (last visited Sept. 10, 2014); Press Release, Sprint Corp., 4G LTE Launched Markets (Sept. 9, 2014), http://newsroom.sprint.com/news-releases/4glte-launchedmarkets.htm; T-Mobile 4G LTE, T-Mobile, http://t-mobile-coverage.t-mobile.com/4gcitylist.aspx (last visited Sept. 10, 2014). According to NTIA data, 97.3 percent of households in the United States have access to a mobile wireless provider offering downstream speed of at least 10 Mbps. See Mark A. Israel, Implications of the Comcast/Time Warner Cable Transaction for Broadband Competition ¶ 62 (Apr. 8, 2014), Exhibit 6, Applications and Public Interest Statement, MB Docket No. 14-57 ("Israel Decl."). The FCC recently noted in its Open Internet NPRM that LTE subscriptions grew by a factor of nearly 500 during this period, see Protecting and Promoting the Open Internet, Notice of Proposed Rulemaking, 29 FCC Rcd 5561, ¶ 48 n.110 (May 15, 2014), and SNL Kagan predicts that there will be 224 million unique 4G subscriptions in the United States by 2018, see SNL Kagan, Covered Pops & Subscribers by Technology in U.S. Wireless (July 2013). Mobile broadband's share of the Internet ecosystem is rapidly growing; mobile data traffic is projected to grow three times faster than fixed IP data traffic between 2013 and 2018. See Visual Networking Index: Forecast and Methodology, 2013-2018, Cisco (June 10, 2014),

http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white_paper_c11-48136

53 See Israel Decl. ¶ 61.

REDACTED – FOR PUBLIC INSPECTION

These competitive developments are reflected in the FCC's Form 477 data. The tables below illustrate broadband competition at the 10 Mbps threshold. The most recently released round of this data is from June 2013 and thus does not account for significant additional progress that has been made in the past year, but even the June 2013 data reveal a significant increase in competition since the FCC's previous review:

Number of Fixed Broadband Providers54	% of Households as of December 31, 2009	% of Households in June 2013
At Least 3	2%	54%
At Least 2	22%	92%
At Least 1	80%	99%

Furthermore, when accounting for mobile broadband providers the data show that competition is even more vibrant:

Number of Fixed or Mobile Broadband Providers55	% of Households in December 2009	% of Households in June 2013
At Least 3	2%	91%
At Least 2	22%	98%
At Least 1	80%	99%

Chairman Wheeler recently stressed the importance of targeting ever-higher broadband

54 This chart displays the number of households located in census tracts where fixed broadband providers reported offering broadband Internet access service speeds of at least 10 Mbps downstream and 1.5 Mbps upstream. See FCC, Internet Access Services: Status as of December 31, 2009 (WCB Dec. 2010), 7 & fig. 3(a), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-303405A1.pdf; Internet Access Services: Status as of June 30, 2013, Ind. Analysis & Tech. Division, Wireline Competition Bureau, FCC, (June 2014), at 9 & fig. 5(a), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0625/DOC-327829A1.pdf ("June 2013 IAS Report").

55 This chart displays the number of households located in census tracts where fixed broadband providers reported offering broadband Internet access service speeds of at least 10 Mbps downstream and 1.5 Mbps upstream or mobile broadband providers reported operating a network capable of such speeds. See Internet Access Services: Status as of December 31, 2009, Ind. Analysis & Tech. Division, Wireline Competition Bureau, FCC, (Dec. 2010), at 8 & fig. 3(b), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-303405A1.pdf; June 2013 IAS Report at 10 & fig. 5(b).

speeds in order to meet increasing consumer demand.56 Although many online activities do not require higher speeds, the demand from consumers noted by Chairman Wheeler illustrates the strong incentives that broadband providers have to upgrade and deploy increasingly better technology, and improve and expand their offerings. Thus it is not surprising that various mobile and fixed broadband providers have undertaken significant investments in recent years and are likely to continue to do so.

Moreover, municipal governments also have begun offering Internet access service to local residents.57 For example, Santa Cruz County recently announced a plan to build out Internet infrastructure to extend broadband service.58 Indeed, as of May 2013, there were approximately 135 municipal fiber-optic networks in the United States.59

Potential new entrants into the provision of Internet access services may include telephone companies, technology companies, cable overbuilders, wireless companies, or more government municipalities. DISH Network also has begun trials partnering with wireless providers such as Sprint to provide fixed wireless services.60 In recent trials, DISH and Sprint achieved download speeds of 200 Mbps.61 And, as innovations in wireless technology lead to faster speeds and greater capacity,62 other wireless options are likely to emerge and begin offering high speed fixed and mobile broadband products. Indeed, the price per gigabyte of transmitting data over mobile wireless networks is likely to continue decreasing as available spectrum and spectral efficiency both increase.63 These reductions in cost will likely cause reductions in prices for consumers and greater usage of mobile wireless broadband.64

---

56 Remarks of Chairman Tom Wheeler, FCC, "The Facts and Future of Broadband Competition," 1776 Headquarters, Washington, D.C. (Sept. 4, 2014), http://www.fcc.gov/document/chairman-remarks-facts-and-future-broadband-competition.

57 See Edward Wyatt, Fast Internet is Chattanooga's New Locomotive, N.Y. Times, Feb. 3, 2014, http://www.nytimes.com/2014/02/04/technology/fast-internet-service-speeds-business-development-in-chattanooga.html?_r=0 (describing Chattanooga, Tennessee's taxpayer-owned fiber optic network).

58 Jason Hoppin, Santa Cruz County to get new Internet backbone, Santa Cruz Sentinel, Apr. 11, 2014, http://www.santacruzsentinel.com/news/ci_25549462/santa-cruz-county-get-new-internet-backbone.

59 Masha Zager, Number of Municipal FTTP Networks Climbs to 135, Broadband Communities, May/June 2013, http://www.bbpmag.com/Features/0513feature-MuniCensus.php.

60 Press Release, Sprint Corp., Sprint and DISH to Trial Fixed Wireless Broadband Service (Dec. 17, 2013), http://newsroom.sprint.com/news-releases/sprint-and-dish-to-trial-fixed-wireless-broadband-service.htm.

61 Sarah Reedy, Son: Dish Could be Sprint's Great Ally, LightReading, Mar. 27, 2014, http://www.lightreading.com/mobile/4g-lte/son-dish-could-be-sprints-greatally/d/d-id/708408.

62 See Sacha Segan, Fastest Mobile Networks 2014, PC Magazine, June 11, 2014, http://www.pcmag.com/article2/0,2817,2459185,00.asp.

63 See Israel Decl. ¶ 67.

64 Id.

2. Edge Providers65

Entities that provide content, applications, or services over the Internet frequently can be providers of similar services in offline settings. For example, Sony has a series of PlayStation video game platforms that can work with the internet or offline. Depending on the service, providers of offline versions of the service are likely to be well-positioned as new entrants as an edge provider service. To the extent that substitute products are available, these are likely to be provided by existing providers of offline versions of the services, depending on the type of service described.

Voice over Internet Protocol ("VoIP") services are currently offered by many companies, and several new service providers have launched in the past few years. Existing VoIP providers includes companies like Cisco that offer an array of communication and networking services for businesses. Other companies offering communication services and equipment to business are likely to develop and launch new VoIP offerings.

Existing VoIP providers also include mobile app-based services such as Viber. Given the ongoing improvements in mobile wireless networks and ubiquitous use of mobile devices like tablets, new app developers are particularly likely to enter the provision of VoIP service. For example, the popular instant messaging service WhatsApp? is reported to be developing a VoIP product.66

D. Internet Backbone Services

The Internet backbone service industries are dynamic and continue to evolve in response to changes in technology and consumer preferences. In the order approving the Level 3/Global Crossing merger, the FCC noted that "the number of Tier 1 ISPs appears to have grown since 2005" and that "[t]he emergence of several new Tier 1 peers . . . undercuts the argument that there are overwhelming barriers to entry into the Tier 1 market."67 Several other companies in addition to traditional Tier 1 ISPs offer combinations of direct peering, transit, and Content Delivery Network ("CDN") services, and that number is likely to continue to grow. Indeed, evidence suggests that the traditional view of a "hierarchy" of Internet backbone services, in which Tier 1 ISPs typically peer with one another on a settlement-free basis and other ISPs purchase transit from the Tier 1 providers, no longer describes the range of relationships in Internet backbone services.68 Instead, Internet companies in need of Internet backbone services have multiple alternatives, including CDNs, as well as direct peering or partial transit.69

---

65 OVDs are discussed above under Video Programming Services.

66 Lance Whitney, WhatsApp could add voice calling very soon, CNET.com, Apr. 9, 2014, http://www.cnet.com/news/whatsapp-could-add-voice-calling-very-soon/.

67 Fifteenth Video Competition Report ¶ 28.

68 See Israel Decl. ¶ 74.

69 Id.

REDACTED – FOR PUBLIC INSPECTION