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REQUEST FOR INFORMATION FROM LIMELIGHT NETWORKS

1. Identify, for the month of June, 2014, the 20 U.S. ISPs to whom the Company delivered the most traffic, measured by the total volume of traffic terminated on the ISP in Gigabytes.

Limelight provides the below chart identifying the 20 U.S. ISPs, in descending order of volume of traffic, to which Limelight delivered the most traffic in June 2014.

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2. For each of the 20 ISPs identified in response to Request 1, and for all other ISPs in the United States combined, by Method(s) of Interconnection and for the Relevant Period, state:

- a. the amount of the Company's traffic delivered to the ISP(s) in Gigabytes;**
- b. the 95th percentile measurement of the Company's traffic delivered to the ISP(s) in Mbps; and**
- c. the Company's total cost of delivering traffic to the ISP(s) and a description of how this amount was calculated including all data needed to calculate this amount.**

The attached **Appendix A – Request 2** states the amount of Limelight’s traffic delivered to each ISP in Gigabytes, the 95th percentile measurement of Limelight’s traffic delivered to each ISP in Mbps, and Limelight’s total cost of delivering traffic to each ISP.

Limelight interconnects with IP networks either directly (through peering, whether paid, settlement free, or exchange) or indirectly (through transit). ISP-bound traffic is generated by requests from the respective ISP’s end user customers for content. {{

}} The responses provided herein include the cost of the interconnections with the ISPs and transit providers expressed on a megabit-per-second (“Mbps”) basis. These costs reflect the price paid by Limelight to those networks for paid peering or transit arrangements; however, they do not reflect Limelight’s hardware costs or other business costs associated with peering with any of the networks listed.

Paid peering is billed and paid for on one of two bases – a fixed price per month per 10 GbE port or on a variable pricing model based on traffic actually sent to the receiving network. The variable model is based on the Mbps delivered to the receiving IP network measured using the traditional 95th percentile, or 95/5, measurement method. Responses to Request 2 herein include ISPs and transit providers with whom Limelight has a paid peering relationship, and whether the billing basis is a fixed rate per port or 95/5. For the ISPs listed in responses to Request 2 that bill Limelight on a per port basis, Limelight also states its costs of delivering traffic to each ISP on a Mbps basis. This is calculated using the Mbps rate using the 95/5 or 95th percentile methodology for each month and dividing that by the monthly cost to Limelight for sending traffic into each ISP’s network. Limelight’s monthly cost per megabit second for those

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ISPs that Limelight pays on a fixed cost per 10 GbE basis varies significantly because (i) the amount of traffic sent to a particular ISP may vary significantly month to month, and (ii) the 95th percentile rate for that traffic on a Mbps basis may vary significantly month to month; however, the fixed cost to Limelight for the fixed number of ports remains largely static.

3. For each Person contained on the list attached as Attachment A, state:

- a. whether the Person could provide transit services, in whole or in part, to deliver traffic terminating in the United States during the Relevant Period. Briefly describe the benefits, restrictions, detriments and risks associated with each service, and any reasons that the service could not be obtained from each Person on commercially reasonable terms, including but not limited to price and limited capacity. Identify any other Person that the Company believes could provide transit service to the Company for traffic to be terminated in the United States, during the Relevant Period who is not listed on Attachment A.**
- b. Identify all firms that have bid, negotiated, or otherwise sought to provide transit service to the Company for traffic terminating in the United States during the relevant period, and whether the option would be available to the Company on commercially reasonable terms. Describe the benefits, restrictions, detriments and risks associated with each option, and any reasons that the service could not be obtained from each provider on commercially reasonable terms, and identify the provider(s) selected and the reasons that the Company selected these provider(s).**
- c. For any non-ministerial changes to the Company's transit arrangements with any ISP since January 1, 2012, describe the change and the reasons for the change and identify the Person who initiated the change.**

In response, Limelight submits **Appendix B – Request 3**. Limelight is not aware of any other person or company that could provide transit service to Limelight for traffic to be terminated in the United States, during the Relevant Period, which is not listed in Attachment A. **Appendix B – Request 3** also includes a chart reflecting non-ministerial changes to its transit arrangements with ISPs since January 1, 2012. Limelight provides the ISP name, a brief description of the change, the reasons for the change, and identification of the entity that initiated the change.

4. Separately, for each ISP in the United States with whom the Company has a Paid Peering Interconnection Agreement, for the Relevant Period state:

- a. the total interconnection capacity made available to the Company at the end of the month in Mbps;
- b. a description of the method used to determine monthly recurring charges, sufficient to allow calculation of monthly recurring charges for any level of usage;
- c. the Company's total interconnection payments to the ISP (excluding payments related to facilities and utilities in cases where the Company locates equipment within the ISP's facilities);
- d. the Company's interconnection payments to the ISP for port installation and other non-recurring charges (excluding payments related to facilities and utilities in cases where the Company locates equipment within the ISP's facilities);
- e. the Company's recurring interconnection payments to the ISP (excluding payments related to facilities and utilities in cases where the Company locates equipment within the ISP's facilities). If a recurring payment is determined on an annual basis, divide the annual recurring payment by twelve;
- f. the Company's payments related to facilities and utilities to the ISP in cases where the Company locates equipment within the ISP's facilities. (If the Company locates equipment within the ISP's facilities but is not charged for this, report a payment of 0. If the Company does not locate equipment within the ISP's facilities report "NA."); and
- g. the basis for determining Capacity that is required to be made available to the Company under the Agreement, if such a requirement exists.

The sum of the amounts stated in response to Requests 4(d) and 4(e) should be equal to the amount stated in response to Request 4(c).

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Limelight submits **Appendix C – Request 4** in response to Request 4(a) through 4(f).

Regarding Request 4(b), Limelight notes that in addition to the information provided in **Appendix C – Request 4**, paid peering is billed and paid for on one or two bases – a fixed price per month per 10 GbE port, or on a variable pricing model based on traffic actually sent to the receiving network. The variable model is based on the Mbps delivered to the receiving IP network measured using the traditional 95th percentile, or 95/5, measurement method. Responses to Request 2 herein include ISPs and transit providers with which Limelight has a paid peering relationship, and whether the billing basis is a fixed rate per port or 95/5. For the ISPs listed in responses to Request 2 that bill Limelight on a per port basis, Limelight also states its cost of delivering traffic to each ISP on a per megabit second basis. This is calculated using the Mbps rate using the 95/5 or 95th percentile methodology for each month and dividing that by the monthly cost to Limelight for sending traffic into each ISP's network. Limelight's monthly cost per megabit second for those ISPs that Limelight pays on a fixed cost per 10 GbE basis varies significantly because (i) the amount of traffic sent to a particular ISP may vary significantly month to month, and (ii) the 95th percentile rate for that traffic on a Mbps basis may vary significantly month to month; however, the fixed cost to Limelight for the fixed number of ports remains largely static.

Regarding Request 4(f), Limelight notes that in addition to the information provided in **Appendix C – Request 4**, Limelight maintains a number of 10 GbE port cross connections with each of the ISPs and transit providers identified in the responses to Request 1. The number of ports and the location of the ports (location of the neutral, co-location facilities at which the interconnections exist) are also shown in each response to Request 2. The cost of the interconnections with the ISPs and transit providers are included in each response to Request 2. As mentioned above, these cost figures only include the fees charged—if any—by the network with which Limelight interconnects. {{

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Regarding Request 4(g), {{

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The factors evaluated by the engineers include, for each ISP or transit provider, the percentage of port capacity utilization, the location of affected ports and the source and characteristics of the traffic causing potential port congestion. If the traffic giving rise to potential or actual congestion was a spike that is not likely to recur frequently (e.g. a one-time, popular live event at a particular location) then additional capacity will not be sought. If the source and characteristics of the traffic giving rise to potential or actual congestion is episodic or sustaining then a human judgment may be made to seek additional port capacity at the affected locations or a new inter-connection at another location where Limelight has a point of presence.

5. Separately for each ISP in the United States with whom the Company has a Settlement-Free Peering Interconnection Agreement, state, for the Relevant Period, the total Interconnection Capacity available to the Company at the end of the month in Mbps.

Limelight submits **Appendix D – Request 5**, to state for the Relevant Period, the total Interconnection Capacity available to Limelight at the end of the month in Mbps for each ISP in the United States with which Limelight has a Settlement-Free Peering Interconnection Agreement.

7. Describe or provide documents sufficient to show the effects that an ISP's network management practices have on the delivery of the Company's CDN service, including but not limited to Comcast's network practices reflected in Comment (RFC) 6057 <http://tools.ietf.org/html/rfc6057>(describing how heavy users' packets are deprioritized during times of CMTS congestion), <http://xfinity.comcast.net/temn/network/update/> and TWC's network management practices described on its website (http://help.twcable.com/description_of_network_management_practices.html).

Limelight has reviewed Comcast's Comment (RFC) 6057 and Time Warner Cable's network management practice as indicated. Limelight understands these network management practice statements to apply only to network management practices as relate to Comcast's and TWC's last mile networks. Limelight expresses no opinion here on the effect of Comcast's or TWC's practices as relates to interconnection and the effect that such practices may have on Limelight's CDN business.

Regarding Comcast: Comcast has described a congestion control system that it has designed that is protocol agnostic. It relies on data that is specific to end user behavior (rather than specific protocols) that will trigger certain congestion control methods based on the amount of traffic a single end user might transmit or receive during a specific period. Because this is protocol agnostic and not targeted at specific services, the effect on CDN services is not apparent unless related to a single end user. Theoretically, if the end user is downloading a large file being delivered by a CDN service and the speed and time thresholds are exceeded, then that user's traffic could be re-categorized into Comcast's best efforts quality of service priority; if there were congestion points within the Comcast network then that user's traffic would be marked for discard first over other users' traffic. Comcast's technology does not appear to be designed to target traffic that is delivered via CDN or non-CDN methods.

Regarding TWC: TWC states that it does not impose any form of congestion controls on its networks and instead relies on capacity planning methods to avoid congestion in the network. For example, it has policies in place that state that when network links reach a certain percentage of utilization over a specific time period, capacity expansion is triggered. As published, the policy is vague; TWC could be waiting for 99% utilization over a month before adding capacity. Limelight has no way of knowing what the threshold might be. But as the policy relates to services delivered by CDN's, it is not apparent that anything in the policy is designed to have a direct impact on CDN services. Indirect impacts can be equally harmful depending on what threshold of utilization triggers capacity expansion or if the policy is simply not followed, meaning that bits can be dropped rather than delivered and overall performance may degrade.

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8. Describe or provide documents sufficient to show whether the terms of the Company's Interconnection Agreements with ISPs that have an Internet Backbone or offer Transit Service are different from the terms of the Company's Interconnection Agreements with ISPs who do not have an Internet Backbone or offer Transit Service.

The terms of Limelight's Interconnection Agreements with ISPs do not differ based on whether an end network operates an Internet Backbone or offers Transit Service.

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Appendix A – Request 2

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Appendix B – Request 3

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Appendix C – Request 4(a) to 4(f)

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Appendix D – Request 5

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