



November 18, 2019

Via ECFS

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

Subject: *Scoring for Hybrid Network Proposals*
 Rural Digital Opportunity Fund (WC Docket Nos. 19-126, 10-90)

Dear Ms. Dortch:

As Hughes Network Systems, LLC (Hughes) discussed in its reply comments in this proceeding, the record shows a strong interest in ensuring that the Rural Digital Opportunity Fund ("RDOF") auction rules properly account for participation in the RDOF auction by entities proposing to use "hybrid" networks that make efficient use of two or more possible network paths to reach customer locations. By doing this, rural broadband providers including Hughes will be able to provide higher speeds or lower latency to the user, depending upon the application being used by the customer.¹ As Big River Communications describes, these hybrid networks rely on "advanced algorithms that intelligently use the multiple-paths to deliver the required performance, capacity and coverage to users for the type of data that is being delivered."²

Although the Notice in this proceeding proposes "allowing an applicant to use different technologies with a state and [to] use hybrid networks to meet its public interest obligations,"³ it would require each bid to be placed within a specific service tier which would have an impact on the weighting attached to the bid.⁴ With regard to latency, the Notice specifically proposes to

¹ See Reply Comments of Hughes Network Systems, LLC, WC Docket Nos. 19-126, 10-90, at 7-9 (filed Oct. 21, 2019) ("Hughes Reply Comments"), citing Comments of Big River Communications, WC Docket Nos. 19-126, 10-90, at 1-2 (filed Sept. 20, 2019) ("Big River Comments"); Comments of the Muscogee (Creek) Nation, WC Docket Nos. 19-126, 10-90, at 10 (filed Sept. 20, 2019); Comments of SES/Americom, WC Docket Nos. 19-126, 10-90, at 3-4 (filed Sept. 20, 2019) ("SES Comments"); Comments of the Utilities Technology Council, WC Docket Nos. 19-126, 10-90, at 17 (filed Sept. 20, 2019); Comments of Viasat, WC Docket Nos. 19-126, 10-90, at 23-26 (filed Sept. 20, 2019) ("Viasat Comments"). See also Reply Comments of the Satellite Industry Association, WC Docket Nos. 19-126 and 10-90, at 3-5 (filed Oct. 21, 2019).

² Big River Comments at 3.

³ *Rural Digital Opportunity Fund, et al.*, Notice of Proposed Rulemaking, 4 FCC Rcd 6778, 6801 ¶ 72 (2019) ("Notice").

⁴ *Id.* at 6785-86 ¶ 23.

require applicants in the low-latency tier to demonstrate latency below 100 ms over 95% of all measurements.⁵

As a result, the Notice does not address the kinds of hybrid networks discussed in the record – networks that dynamically deliver different performance levels based on the needs of the traffic being delivered. To permit the RDOF to realize the benefits of these hybrid networks, rules need to be adopted that address performance measurement with the same flexibility as the networks themselves: requiring networks to perform within the required parameters of a particular performance tier with regard to the traffic that demands that performance level. As to latency, this means that the proposed rules should be modified to require that a hybrid network deliver latency-sensitive traffic at latency levels at or below 100 ms at least 95% of the time.⁶

To do so, however, the Commission will need to define “latency-sensitive traffic.” Given the importance of this issue to the success of the RDOF, Hughes reiterates its request that the Commission release a public notice without delay seeking comment on the definition of “latency-sensitive traffic” and other issues necessary to operationalize the inclusion of hybrid networks in the RDOF.⁷

As part of the RDOF performance testing regime, USAC would contract with a reputable Internet testing laboratory to compile a list of relevant and popular Internet applications into latency sensitive and non-latency sensitive categories (“Application List”), reflecting the actual usage patterns in the U.S., USAC would then publish the list, and bidders in the low-latency category would be required to demonstrate that their RDOF-supported networks deliver traffic to the latency sensitive applications with latency at or below 100 ms.

To ensure that the Application List reflects actual usage, Hughes proposes that the list be based on metrics such as application traffic volumes and number of connections, with both measured in percentiles across the aggregate U.S. Internet. These are already measured and reported in industry publications.⁸ To facilitate implementation, the Commission should seek comment on the inclusion criteria for the Application List. The inclusion criteria should be based on a combination of traffic volume and application connections. The USAC contractor would update the list periodically (such as every 18 months, i.e., every three testing cycles).

Please direct any questions regarding this filing to the undersigned.

Sincerely,

/s/

Jennifer A. Manner
Senior Vice President, Regulatory Affairs

⁵ *Id.*

⁶ See, e.g., Viasat Comments at 25-26.

⁷ See Hughes Reply Comments at 1-2, 8-9.

⁸ See, e.g., Sandvine, *The Global Internet Phenomena Report* (Sept. 2019), https://www.sandvine.com/hubfs/Sandvine_Redesign_2019/Downloads/Internet%20Phenomena/Internet%20Phenomena%20Report%20Q32019%2020190910.pdf.

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