

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 16-245
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)	

To: The Commission

**REPLY COMMENTS OF THE
UTILITIES TECHNOLOGY COUNCIL**

The Utilities Technology Council (UTC) hereby submits its Reply Comments in response to the Twelfth Broadband Progress Notice of Inquiry.¹ The comments on the record support the need to adopt new speed and non-speed benchmarks for assessing whether broadband is being deployed to all Americans on a reasonable and timely basis.² These comments echo the comments of UTC, which asked that the Commission update its current speed benchmark for broadband to at least 50/20 mbps; take into account non-speed benchmarks such as latency and jitter, and eliminate data caps on fixed broadband service offerings. These comments underscore that the existing 25/3 mpbs benchmark is quickly becoming overtaken by increasing consumer

¹ *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*, GN Docket No. 16-245, Twelfth Broadband Progress Notice of Inquiry, FCC 16-100, rel. August 4, 2016 (the NOI or Notice of Inquiry).

² 47 U.S.C §706 (b) (directing the Commission to conduct regular inquiries to determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion; and directing the Commission to take immediate action to accelerate deployment of such capability if it finds that broadband is not being deployed in a reasonable and timely basis).

expectations, which in turn is also driving increased data usage as customers increasingly cut the cord and transition to over-the-top video. At the same time, these comments also underscore that latency and jitter are important factors, because latency and jitter can significantly degrade the quality of interactive applications, such as voice and telemedicine. As such, UTC reiterates that the Commission should adopt a new speed benchmark of 50/20 mbps and eliminate data caps; and it should establish benchmark of 100 ms or less roundtrip latency in order to determine whether broadband is truly available to all Americans on a reasonable and timely basis.

I. The Commission Should Increase Its Benchmark for Speed

The comments on the record support increasing the current 25/3 mbps benchmark. NATOA “propose[s] that a higher speed benchmark, based upon the data provided in this proceeding, would be ‘better-suited . . . for current household usage of advanced broadband-based services.’”³ As NATOA explains, studies show that fixed broadband customers in the United States have seen average download speeds of over 50 mbps and average upload speeds of nearly 19 Mbps.⁴ Similarly, the New America Foundation’s Open Technology Institute supports increasing the speed benchmark to 50/20 mbps, and it also supports symmetrical speed benchmarks in the future.⁵ These benchmarks are consistent with the goals set by the Commission in its National Broadband Plan.⁶ UTC agrees with New America and the

³ Comments of NATOA at 3 (filed Sept. 6, 2016).

⁴ *Id.*, citing United States Speedtest Market Report, August 3, 2016, available at <http://www.speedtest.net/reports/united-states/>.

⁵ Comments of New America’s Open Technology Institute at 2-11 (filed Sept. 6, 2016)(hereinafter “Comments of New America”).

⁶ *Id.*, citing National Broadband Plan at 9, visited at <https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf> (Goal No. 1: At least 100 million U.S. homes should have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second by 2020, and as a milestone, by 2015, 100 million U.S. homes should have affordable access to actual download speeds of 50 Mbps and actual upload speeds of 20 Mbps.)

Commission’s observations that there are more connected devices and more applications today than ever before. UTC also agrees that increasing bandwidth is being driven by the advent of the Internet of Things, including smart grid and smart cities.⁷ Finally, UTC agrees with New America that symmetrical speeds are becoming prevalent and that many of the utilities that are offering broadband services are providing symmetrical speeds, which reflects increasing customer expectations for faster upload speeds.⁸

II. The Commission Should Adopt Benchmarks for Latency and Eliminate Data Caps

The comments on the record support the need for benchmarks for latency, and they oppose usage allowances (i.e. data caps) for fixed broadband services. As New America explained in its comments, “[a] consumer’s Internet experience will depend on more than simple data throughput.”⁹ Consistent with UTC’s comments calling for a latency benchmark of 100 ms or less, New America supports setting the benchmark at 50 ms. It explains that applications like virtual reality require no more than 15 ms or even 7 ms of delay, and it demonstrates that setting a 50 ms latency benchmark is reasonable.¹⁰ Likewise, utility applications for protective relaying and distribution automation require roundtrip latency of 40 ms or less, and moreover, UTC

⁷ *Id.* at 7-8, *citing* “Spectrum for the Internet of Things Needs to be Carefully Considered,” GSMA (Apr. 20, 2016) at <http://www.gsma.com/newsroom/blog/spectrum-internet-things-needs-carefully-considered/>; and Chris Neiger, “Could Bandwidth Problems Derail the Internet of Things?” Motley Fool (June 21, 2014) at <http://www.aol.com/article/2014/06/21/could-bandwidth-problems-derail-the-internet-of-th/20917243/>.

⁸ *See e.g.* Karl Bode “Chattanooga ISP Takes Aim at Ten Gigabit Broadband Speeds” DSL Reports (Aug. 3, 2015), visited at <http://www.dslreports.com/shownews/Chattanoogas-EPB-Could-Offer-10-Gigabit-Speeds-Within-a-Year-134655>. “Co-Mo Connect”, Broadband Now, visited at <http://broadbandnow.com/Co-Mo-Connect> (reporting that Co-Mo is offering 1 Gbps, and 250 mbps symmetrical service packages for less than \$100/month). “Symmetrical HIGH SPEED Internet Plans,” Midwest Connections, visited at <https://www.teamfiber.com/high-speed-internet/> (reporting that Midwest is offering symmetrical service packages ranging from 25 mbps up to 1 Gbps); “Next: Powered by NAEC (North Arkansas Electric Cooperative)” visited at <http://www.naeci.com/next> (reporting symmetrical service residential packages ranging from 10 mbps to 1 Gbps for less than \$80/month).

⁹ Comments of New America at 12.

¹⁰ Comments of New America at 14, *citing* Cisco Cloud Readiness Tool (stating that average latency in the U.S. is 42 ms and the median is 23 ms, and adding that satellite providers may be pushing the average up as high as it is.)

agrees with the Commission that consumer applications such as voice require latency of 100 ms or less.¹¹ Comments that oppose latency benchmarks for fixed broadband services or suggest that they should be higher are self-serving, unsupported and should be disregarded.¹² On that note, UTC agrees with the Commission’s decision in the 2016 Broadband Progress Report that fixed satellite service is not interchangeable, nor is it a substitute for fixed terrestrial broadband services, due to technical limitations, including latency.¹³

The comments on the record by New America and Netflix also support UTC’s call for the elimination of data caps on fixed broadband services. As New America explained, “for wired connections, any connection with a data cap should not be considered ‘advanced’. There is little evidence that data caps have any technical justifications over wired connections, and the most

¹¹ See Comments of UTC at 7-8, *citing* RAD Communications, *visited at* http://www.rad.com/Media/33329_Teleprotection-over-Carrier-IP-App-Brief.pdf (stating that “[t]eleprotection systems are critical for electric power utilities because they control their transmission grids. In this case, the electric company [...] requires low jitter and latency (less than 10 ms one way, end-to-end).”) *And see* TC Communications, *visited at* <http://www.tccomm.com/Content/pdf/IndustrialEthernetSolutions/Teleprotection-Success-Stories.pdf> (stating that “Tucson Electric Power utilizes a teleprotection solution that has typical readings of less than 3 msec.”). *See also* Notice of Inquiry at ¶38 (“To compensate for these non-network sources of delay, the ITU’s performance objectives indicate that highly-interactive applications may require an average network latency of 100 ms or less to function properly.”)

¹² *See e.g.* Comments of the National Cable and Telecommunications Association at 6-7 (claiming that “no ISP currently offers broadband Internet service with . . . latency that render[s] the service effectively unusable,” which is completely at odds with the fact that satellite broadband latencies of 750 ms would render the service unusable for voice services.); Comments of the United States Telecom Association at 8-9 (arguing that the FCC shouldn’t consider latency because it is beyond the scope of its authority under Section 706, but not disputing that latency affects the quality of service.); Comments of Hughes Networks Services at 4-5 (claiming that the impact of latency on the consumer broadband experience is insufficiently clear to adopt a latency standard, and suggesting that any standards that the FCC does adopt should be flexible.); and Comments of ViaSat at 2 (stating that “ViaSat opposes the adoption of the latency threshold proposed in the NOI—particularly given that: (i) a very small, and ever-decreasing, percentage of Internet traffic is at all latency-sensitive and (ii) the impact of latency, if any, can be offset through appropriate network design.”).

¹³ *See* 2016 Broadband Progress Report at ¶¶47-48, *visited at* https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.docx (“Although we find that fixed satellite broadband service must be subject to the same speed benchmark as fixed terrestrial broadband as part of our statutory determination under section 706(b) and in light of the substantial investments made by satellite providers to improve service and extend broadband access to new markets, we continue to observe significant differences involving technical capabilities and adoption patterns between fixed terrestrial and fixed satellite services. Most satellite broadband service providers face technological challenges separate and apart from those faced by fixed terrestrial providers.”)

popular argument (congestion management) has been debunked.”¹⁴ As Netflix explained, “[d]ata caps can impede the use and availability of advanced telecommunications capabilities... and are inconsistent with Section 706.”¹⁵ For example, “[a] data cap or allotment of 300 GB of data per month or higher is required just to meet the Internet television needs of an average American.”¹⁶ Furthermore, “[d]ata caps and UBP raise the cost of using the connections that consumers have paid for, making it more expensive to watch Internet television.”¹⁷ As the Commission itself observed, “it would cost an average Netflix subscriber using [Charter’s] cable BIAS many hundreds of dollars each month to view that same Netflix programming over a wireless provider.”¹⁸ Finally, “consumers are generally uncertain and confused about what uses of the network will cause them to exceed their data cap or data allotment,”¹⁹ and even the GAO has recognized that consumers “face challenges in tracking the data usage of the multiple people and multiple devices in their household.”²⁰ For all of these reasons, UTC reiterates that the Commission should eliminate data caps for fixed broadband services.

¹⁴ Comments of New America at 16, citing *Artificial Scarcity*, at 7 visited at <https://www.newamerica.org/oti/policy-papers/artificial-scarcity/>; Chris Morran, Another Broadband CEO Admits: Data Caps Have Nothing to Do with Capacity, *Consumerist* (June 3, 2016), visited at <https://consumerist.com/2016/06/03/another-broadband-ceo-admits-data-caps-have-nothing-to-do-with-capacity/>.

¹⁵ Comments of Netflix at 4-7 (filed Sept. 6, 2016).

¹⁶ *Id.* at 4 (noting that “[w]atching 3.4 hours of Netflix in HD can use 10GB of data. Ultra HD quality can use nearly 24 GB.”)

¹⁷ *Id.* at 5.

¹⁸ *Charter-TWC Order* ¶ 56, visited at https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-59A1.pdf.

¹⁹ Comments of Netflix at 6.

²⁰ See Government Accountability Office, *Broadband Internet: FCC Should Track the Application of Fixed Internet Usage Based Pricing and Help Improve Customer Education*, at 16 (Nov. 2014), <http://www.gao.gov/assets/670/667164.pdf> (“2014 GAO Report”).

III. Conclusion

The Commission should not find that broadband is being deployed on a reasonable and timely basis, because there is clear evidence that rural areas continue to lack access to broadband services that are reasonably comparable to the level of broadband services in urban areas. As the Commission has reported, 39 percent of Americans in rural areas (23 million people) lack access to 25 Mbps/3 Mbps.²¹ Many comments on the record also recognize that the digital divide persists in these rural areas. The Commission should disregard comments that argue for the status quo or that claim that substandard broadband services are good enough for rural America. The Commission is tasked with removing barriers to broadband in these areas, and by increasing the benchmarks for broadband, including both speed and non-speed factors is critical to the goal of the Commission to ensure that broadband is being deployed to all Americans on a reasonable and timely basis.

As UTC described in its initial comments, utilities are helping to close the digital divide by deploying future-proof broadband networks and offering broadband services that are robust, affordable and reliable. The Commission should adopt policies that enable utilities to continue to promote broadband access to all Americans. As such, increasing broadband speed benchmarks, adopting latency standards and eliminating data caps will challenge the status quo and raise the bar for broadband, so that rural America receives access to broadband services that are reasonably comparable in cost and quality to the level of services that are available in urban areas.

For all the foregoing reasons, the Commission should hold that advanced telecommunications capability is not being deployed to all Americans on a reasonable and timely basis. Moreover, it should adopt the recommendations for faster broadband speeds, lower

²¹ See 2016 Broadband Progress Report.

latency and the elimination of data caps that stand as barriers to broadband availability, particularly in rural America where the digital divide persists.

Respectfully submitted,

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