

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

In the Matter of	)	
	)	
Misuse of Internet Protocol (IP) Captioned Telephone Service	)	CG Docket No. 13-24
	)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket No. 03-123
	)	
Structure and Practices of the Video Relay Service Program	)	CG Docket No. 10-51
	)	

**COMMENTS OF THE CLEAR2CONNECT COALITION**

The Clear2Connect Coalition (the “Coalition”) is comprised of a range of disability advocacy and veterans service organizations committed to protecting the rights of Americans with hearing loss to have access to quality, accurate communication technology.<sup>1</sup> Our members represent the 48 million Americans who experience hearing loss, including members of the Baby Boom Generation aging into hearing loss, along with a wide range of American veterans of all ages whose hearing has been impaired as a result of their military service. Our goal is to serve as a strong, unified voice dedicated to preserving and advancing the right of individuals with

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<sup>1</sup> See clear2connect.org. Coalition members include the Air Force Sergeants Association, American Association of People with Disabilities, American Network of Community Options and Resources, American Speech-Language-Hearing Association, America’s Warrior Partnership, American Veterans (AMVETS), Association of University Centers on Disabilities, Blinded Veterans Association, Code of Support Foundation, Council of State Administrators of Vocational Rehabilitation, Dixon Center, Global Alliance of Speech-to-Text Captioning, Home Care Association of America, National Association of Councils on Developmental Disabilities, National Coalition for Homeless Veterans, National Council on Independent Living, National Disability Rights Network, National Military Family Association, National Minority Quality Forum, Paralyzed Veterans of America, RespectAbility, SemperK9 Assistance Dogs ,The Retired Enlisted Association, United Spinal Association, VetsFirst, Vietnam Veterans of America, The Viscardi Center, World Institute on Disability, and Wounded Warrior Project.

hearing and speech disabilities to access functionally equivalent communications services—as required by the Americans with Disabilities Act (“ADA”).<sup>2</sup>

The Coalition is pleased to submit these comments in response to the Federal Communications Commission’s (“FCC” or “the Commission”) September 30, 2020 Further Notice of Proposed Rulemaking (“FNPRM”) regarding “robust, efficient, objective, and quantifiable measurement of the quality of service” for providers of Internet Protocol Captioned Telephone Service (“IP CTS”).<sup>3</sup> We were delighted to learn that Acting Chairwoman Rosenworcel recently told the Commission staff, “We have work to do to ensure that our functional equivalency policies live up to our responsibilities under the Americans with Disabilities Act.”<sup>4</sup> The Coalition agrees and appreciates this opportunity to engage with the Commission on the important issues in this proceeding.

**Background.** IP CTS has been life-changing for many Americans who experience hearing loss. IP CTS allows users to speak in their own voices and to use residual hearing during telephone conversations. The positive effect of IP CTS is best illustrated through the hundreds of thousands of everyday Americans, including veterans, who rely on the service to stay connected and communicate with family, friends, healthcare professionals and emergency first responders. Users are able to: stay connected and feel secure in an emergency; make medical appointments

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<sup>2</sup> Specifically, Title IV of the ADA added section 225 of the Communications Act of 1934, as amended (“the Communications Act”), the Commission must ensure that Telecommunications Relay Services—telephone service for individuals who are deaf, hard of hearing, or deafblind, or who have speech disabilities that is “functionally equivalent” to voice service is made available to eligible users “to the extent possible and in the most efficient manner.” 47 USC § 225(b)(1).

<sup>3</sup> See *Misuse of Internet Protocol (IP) Captioned Telephone Service, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Disabilities, Structure and Practices of the Video Relay Service*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 35 FCC Rcd 10866 (2020) (“FNPRM”).

<sup>4</sup> Acting Chairwoman Rosenworcel Remarks to FCC Staff (Jan. 25, 2021).

and receive updates from their doctors and pharmacies; conduct business by reaching and talking with customers, prospective customers, and suppliers; and regularly talk with family and friends.

Given the critical importance of the service to Coalition members, especially during the COVID-19 pandemic, we support the Commission's proposal to adopt new service quality standards for communications services for deaf and hearing-impaired consumers. As set forth below, the Coalition urges the Commission to adopt service quality standards that promote functional equivalence regardless of technology and consider and address the potential for bias in captioning. Specifically, the Coalition asks that the Commission establish benchmarks for word error rate and caption delay, so that captions will be accurate and timely.

**I. THE COMMISSION MUST ADOPT NEW SERVICE QUALITY METRICS THAT PROMOTE FUNCTIONAL EQUIVALENCE REGARDLESS OF TECHNOLOGY**

The FNPRM seeks input on whether and how to add service quality standards to assess whether providers of IP CTS are delivering functional equivalency. In particular, the Commission has asked for comment on quantifiable, measurable standards for assessing caption delay and accuracy. The Commission also seeks input on how to conduct testing and measuring in order to accurately and fairly gauge provider performance in relation to these standards. In addition to these specific inquiries, the Commission requests input on how to measure whether telephone captioning services as a whole are satisfying the functional equivalency standard—or making progress toward achieving functional equivalence.

As noted earlier, for many Americans with hearing loss, IP CTS is critical to making communication by telephone functionally equivalent to communications between individuals without hearing loss—a standard set forth in and protected under both the ADA and the Communications Act. The service allows such individuals to stay in touch with family and

friends; employers and colleagues; and doctors and other emergency responders. IP CTS also allows consumers who experience hearing loss to immediately receive critical information, which is particularly important during the COVID-19 pandemic.

The pandemic has reinforced the importance of the telephone for staying personally and professionally engaged during stay-at-home and shelter-in-place directives. Indeed, the Coalition acknowledges and is grateful for the Commission's recognition of the widespread public concern about the spread of the coronavirus and related precautions—school closings, stay-at-home orders—put in place by state and local authorities.<sup>5</sup> The pandemic-related changes to daily life have left our members increasingly reliant on the telephone for everyday activities and timely information. Providers have reported substantially increased demand for IP CTS, with significant increases in both the volume and the average length of calls.<sup>6</sup>

By adopting quality standards, measurement and testing procedures based on record evidence and grounded in consensus efforts among advocacy groups, the Commission and industry will help to determine whether IP CTS providers, including those that rely fully on automated speech recognition (“ASR”), are in fact providing functionally equivalent service.<sup>7</sup> The service-quality standards adopted in response to the FNPRM must be technology neutral and apply to a diverse range of call subjects, issues, and voices. Only then can these standards

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<sup>5</sup> See *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Structure and Practices of the Video Relay Service Program*, 35 FCC Rcd. 2715, ¶2 (2020) (temporarily waiving multiple TRS rules to ensure continued services at increased demand levels during COVID-19 emergency) (“*March 16 TRS Waiver Order*”).

<sup>6</sup> See *id.* (“The Bureau has been advised that, due to widespread public concern about the spread of the coronavirus, as well as school closings and other measures recently taken by various state and local authorities, TRS providers are experiencing a sharp increase in traffic levels[.]”).

<sup>7</sup> See, e.g., Letter from Clear2Connect Coalition to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 13-24 and 03-124 (May 14, 2019).

support the Commission’s requirement that IP CTS be capable of handling “any types of calls” to satisfy the element of functional equivalence.<sup>8</sup>

Just as important, we urge that the Commission undertake the process of setting standards only after completing research to understand and determine how to design the metrics, what they should reflect, and how they will benefit consumers. Standards must meaningfully assess whether service providers are delivering functional equivalency and avoid unintentionally establishing the wrong types of provider incentives.

## **II. NEW SERVICE QUALITY RULES MUST CONSIDER AND ADDRESS THE POTENTIAL FOR BIAS IN CAPTIONING**

Likewise, the Commission must acknowledge and take steps to measure and address bias. Anyone that has used Alexa or Siri is familiar with ASR technology, which can make mistakes when processing human voices—especially ones of higher or lower pitches, or with accents or speech disabilities. We refer to this issue collectively as “bias.”

On the bright side, the Coalition recognizes that ASR technology has advanced—and is poised to continue to advance. Given that the Commission has conditionally certified providers of IP CTS that will solely utilize ASR technology, this proceeding provides the opportunity to devise and implement the quality standards and metrics necessary to address bias and ensure ASR accuracy. We therefore urge the FCC to enact rules, policies and rigorous quality metrics that require specific testing processes that measure the accuracy of ASR-only captioned telephone service.

On a day-to-day basis, Coalition members with hearing loss talk with doctors and pharmacists, grandchildren, and people that have accented voices. In setting service quality

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<sup>8</sup> See 47 CFR § 64.604(a)(3)(ii).

standards, the Commission must take into account the potential for bias in ASR-based services to affect the quality of the IP CTS provided to many of our members.

Given the wide variability among individual speech and voice characteristics, as well as the differences in background environments in which calls are made, IP CTS must be designed to reliably recognize the speech patterns of a variety of speakers and the different contexts within which conversation takes place.

If the data sets used to train ASR algorithms are skewed by oversampling the speech patterns of certain voices, for example, the resulting engines could be biased to perform reliably for some speakers but struggle to recognize and transcribe the speech of others. Testing must address a variety of call types, such as emergency calls, varied background environments and noise levels, and calls from people of different ages, genders and ethnicities.

The Coalition’s concerns are borne out by a recent study conducted by researchers at Stanford University, which showed that five of the largest ASR platforms—Amazon, Apple, Google, IBM, and Microsoft —”exhibited substantial racial disparities, with an average word error rate . . . of 0.35 for black speakers compared with 0.19 for white speakers.”<sup>9</sup>

For all of these reasons, we urge the Commission to address the potential for bias disparities, and to design and establish IP CTS testing to account for them.

### **III. THE COMMISSION MUST DEVELOP AND ADOPT SERVICE QUALITY STANDARDS THAT ENSURE CAPTIONS ARE ACCURATE AND ON-TIME.**

**A. Accuracy.** To ensure captions are accurate, the Coalition urges the Commission to establish service quality metrics to measure word error rates. Word errors can create life or death

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<sup>9</sup> See, e.g., Letter from Loretta Herrington, World Institute on Disability, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos. 13-24, 05-231, 03-123 (Feb. 6, 2020) at 1-2 (“C2C 2020 Ex Parte”); Comments of the Clear2Connect Coalition, CG Docket Nos. 03-123, 05-231 (Sept. 25, 2019) at 4-5 (“C2C Comments”).

risks for our members. For example, there is a world of difference between “You *do not* need to take your medication” and “You *do* need to take your medication.” In addition, the Coalition supports the Commission’s proposal to combine metrics for accuracy and completeness into a new metric for “word error rate.” The metrics for word error rates must ensure that all forms of IP CTS afford our members reliable, high-quality, and accurate service.

**B. On-Time Captions.** Captions need to arrive on-time to be useful in facilitating conversation. The Coalition supports the Commission’s efforts to establish standards for caption delay. We agree that one key feature of captioned service is its ability to operate more like conventional voice telephone service, with nearly simultaneous delivery of voice and written text.<sup>10</sup> To this end, minimizing caption delay is essential.

Delivering captions in a timely fashion is a critical component of functional equivalence.<sup>11</sup> The Coalition supports rules whereby performance metrics for caption delay account for the different ways in which delay affects functional equivalence at different times throughout a call. For example, tolerance for caption delay may be especially small at the beginning of a call, when participants convey important information that gives the context for the conversation, such as the name of the person calling and the purpose of the call. By contrast, users may be more tolerant of delay at other points in a call after critical information has already been conveyed. This approach would best ensure that service providers do not improve upon caption delay at the expense of accuracy. If delay increases throughout the duration of the call, however, communication may become more and more difficult as the call progresses.

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<sup>10</sup> See FNPRM at ¶ 67.

<sup>11</sup> *Industry Proposal* at 6.

The Commission's goal should be to ensure that service providers do not improve upon caption delay at the expense of accuracy. Quality performance of both factors is necessary to deliver functional equivalence. Also, the Coalition encourages the Commission to adopt quality standards for caption delay that would assess how providers perform when captioning different call types, in different circumstances, and with different callers.

**Conclusion.** The Coalition supports the Commission's effort to devise and implement service quality metrics applicable to all IP CTS providers regardless of technology. Specifically, we urge the Commission to consider and address the potential for bias in captioning and to develop and adopt service quality metrics for word error rates and caption delay. Establishing quantifiable metrics in a technology neutral manner would enhance transparency and ensure service providers' compliance with the ADA and the Commission's rules. Any Commission action must ensure that the introduction of new technologies does not diminish the quality of service available to our members, who rely on IP CTS to maintain relationships, connect with medical professionals, and communicate effectively in situations that affect their safety and security.

As discussed above, we also urge that the Commission undertake the process of setting standards only after completing research to understand and determine how to design the metrics, what they should reflect, and how they will benefit consumers. The Coalition thanks the Commission for considering new quality metrics rules and looks forward to providing additional input on these important issues.



Respectfully submitted,

/s/

**Clear2Connect Coalition**

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Air Force Sergeants Association  
American Association of People with Disabilities  
American Network of Community Options and Resources  
America's Warrior Partnership  
Association of University Centers on Disabilities  
Blinded Veterans Association  
Code of Support Foundation  
Council of State Administrators of Vocational Rehabilitation  
Dixon Center  
Home Care Association of America  
National Council on Independent Living  
National Military Family Association  
Paralyzed Veterans of America  
The Retired Enlisted Association  
United Spinal Association  
VetsFirst  
The Viscardi Center  
World Institute on Disability  
Wounded Warrior Project