

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

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

**REPLY COMMENTS OF SPRINT CORPORATION**

Sprint Corporation (“Sprint”) hereby submits reply comments on the Federal Communications Commission’s (“Commission’s” or “FCC’s”) Notice of Inquiry in the above-captioned proceeding.<sup>1</sup>

**I. INTRODUCTION AND SUMMARY**

The initial comments filed in response to the Notice of Inquiry underscore the importance of Internet Protocol Captioned Telephone Service (“IP CTS”), which “has increasingly become an important part of the fabric of communication for people who are deaf, hard of hearing, or deaf-blind, including those who have other disabilities.”<sup>2</sup> The Commission, therefore, must

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<sup>1</sup> *Misuse of Internet Protocol (IP) Captioned Telephone Service, Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Declaratory Ruling, Further Notice of Proposed Rulemaking, and Notice of Inquiry, CG Docket Nos. 13-24 and 03-123 (rel. June 8, 2018) (“Notice of Inquiry”).

<sup>2</sup> Hearing Loss Association of America; Telecommunications for the Deaf and Hard of Hearing, Inc.; National Association of the Deaf; Association of Late-Deafened Adults; Cerebral Palsy and Deaf Organization; American Association of the Deaf-Blind; Deaf Seniors of America; California Coalition of Agencies Serving the Deaf and Hard of Hearing, Inc.; Deaf and Hard of Hearing Consumer Advocacy Network; Deaf/Hard of Hearing Technology Rehabilitation Engineering Research Center; and Rehabilitation Engineering Research Center on Inclusive ICT Comments at iv (“Consumer Group Comments”); *see also* CaptionCall Comments at 1-2 (“For individuals who have some residual hearing and can speak, [IP CTS] comes closest

focus efforts to reform the regulatory regime that governs IP CTS on ensuring the continued provision of high-quality service to the vulnerable IP CTS user population.

Consistent with that public interest objective, the record makes clear that functional equivalence should be the Commission's primary goal. While promoting technological advances and ensuring efficiency also are suitable objectives, they must not take precedence over achieving functional equivalence. As Hamilton Relay notes, advancing technology and efficiency above all else would result in a "'good enough' performance goal . . . [that] is simply unworkable and contrary to the Commission's obligations under the ADA."<sup>3</sup>

The Commission also should establish performance measures that will ensure the availability of high-quality service. In keeping with the Joint Provider Recommendations,<sup>4</sup> the Commission should begin by defining accuracy and delay as the key metrics for evaluating IP CTS offerings. The Commission then should adopt a regime for testing accuracy and delay that approximates the IP CTS user experience. Finally, after evaluating these test results, the Commission should prescribe appropriate performance standards to govern existing and proposed IP CTS offerings going forward.

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among TRS to achieving . . . functional equivalence. IP CTS allows individuals to communicate in their own voices and to hear what they can, facilitating communication with family and friends, with financial advisors, with doctors, and with emergency services, among others.""). (Unless otherwise noted, all comments cited herein were filed in CG Docket No. 13-24 in October 2018.)

<sup>3</sup> Hamilton Relay Comments at 9.

<sup>4</sup> Letter from Dixie Ziegler, Hamilton Relay; Bruce Peterson, CaptionCall, LLC; Cristina Duarte, InnoCaption; Michael Strecker, ClearCaptions, LLC; and Scott Freiermuth, Sprint Corporation to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 13-24 and 03-123 (filed Aug. 21, 2018) ("Joint Provider Recommendations").

## II. THE COMMISSION'S PRIMARY PERFORMANCE GOAL FOR IP CTS SHOULD BE FUNCTIONAL EQUIVALENCE

The Commission seeks comment on the “appropriate performance goals for the IP CTS program,” specifically proposing that:

The primary goals for the IP CTS program should be (1) to make communications services available to individuals with communications disabilities that are functionally equivalent to communications services used by individuals without such disabilities; (2) to keep up with technological changes and advances in the telecommunications industry; and (3) consistent with the concepts of good government and proper stewardship of the Fund, to improve the efficiency of IP CTS, and reduce the incidence of waste, fraud, and abuse.<sup>5</sup>

The record reflects broad support for these goals, but also makes clear that the Commission should establish functional equivalence as the primary goal for the IP CTS program.<sup>6</sup>

***Functional Equivalence.*** The D.C. Circuit recently observed that Section 225 “chiefly” requires the Commission to ensure functional equivalence and that such equivalence should be the FCC’s “primary objective.”<sup>7</sup> In keeping with this finding, the Commission’s first and highest priority in implementing IP CTS reform must be ensuring functional equivalence.<sup>8</sup> As the Consumer Groups indicate, “functional equivalency must be the standard filter through which

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<sup>5</sup> Notice of Inquiry ¶ 157.

<sup>6</sup> *Id.* at ¶ 158.

<sup>7</sup> *Sorenson Commc’ns, LLC v. FCC*, 897 F.3d 214, 227-28 (D.C. Cir. 2018).

<sup>8</sup> *See, e.g.*, Consumer Group Comments at 3 (“Functional equivalence must be the Commission’s first priority when promulgating IP CTS performance goals.”); Hamilton Relay Comments at 8 (“The statutory requirement to ensure ‘functionally equivalent’ voice service ‘to the extent possible and in the most efficient manner’ must be the Commission’s lodestar.”); Ultratec Comments at i (“Consistent with its statutory mandate, the Commission’s primary objective when advancing its regulatory framework applicable to [IP CTS] providers should be to ensure functional equivalence.”).

every TRS program action proposed or taken by the Commission, consumer groups, and TRS providers is assessed.”<sup>9</sup>

Moreover, the Commission should adopt the Consumer Groups’ definition of “functional equivalence”:

Persons receiving or making relay calls are able to participate equally in the entire conversation with the other party or parties and they experience the same activity, emotional context, purpose, operation, work, service, or role (function) within the call as if the call is between individuals who are not using relay services on any end of the call.<sup>10</sup>

The record reflects support for this definition, which appropriately effectuates the Commission’s statutory obligation under the Americans with Disabilities Act (“ADA”).<sup>11</sup>

***Technological Advances.*** Section 225 directs the Commission to adopt regulations that encourage “the use of existing technology and do not discourage or impair the development of improved technology.”<sup>12</sup> In keeping with this statutory directive, the Commission proposes to “ensure that [the IP CTS] program utilizes technological changes and advances in the telecommunications industry to the greatest extent possible, as needed to achieve functionally equivalent communication for this

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<sup>9</sup> Letter from Tamar Finn, Counsel to Telecommunications for the Deaf and Hard of Hearing, Inc., to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 03-123 and 10-51, Attach. at 1 (filed Apr. 12, 2011) (“Consumer Groups’ TRS Policy Statement”); *see, e.g.*, CaptionCall Comments at 20 (“Under the ADA, the pursuit of functional equivalence must be the Commission’s primary objective, and its pursuit of that goal must be technology neutral.”).

<sup>10</sup> Consumer Groups’ TRS Policy Statement at 1; *see also, e.g.*, Consumer Group Comments at 3-4.

<sup>11</sup> *See, e.g.*, Hamilton Relay Comments at 9; Ultratec Comments at 2 (“Ultratec also generally shares the Commission’s support for the consumer groups’ April 2011 definition of functional equivalence.”); Deaf and Hard of Hearing Services of the Treasure Coast, Inc. Comments, CG Docket Nos. 13-24 and 03-123, at 3 (Sept. 12, 2018).

<sup>12</sup> 47 U.S.C. § 225(d)(2).

population.”<sup>13</sup> As this language implies, the Commission should “continue to encourage technological advances within IP CTS, but only if there are metrics in place to evaluate these technological advances for functional equivalency.”<sup>14</sup> As the Consumer Groups observe, permitting new or updated technologies to be used for IP CTS without assessing the service quality of the technologies “will undoubtedly work against the primary goal of functional equivalence.”<sup>15</sup>

***Efficiency.*** Efficiency irrefutably is a worthy goal for the IP CTS program, but the Commission should not allow pursuit of that objective to undermine functional equivalence.<sup>16</sup> The Commission therefore should reject the assertion by MachineGenius that functional equivalence should be the “first goal of IP CTS” *only* if “achieving functional equivalence does not do undue disservice to [the] goal of efficiency.”<sup>17</sup> To the contrary, the Consumer Groups correctly indicate that “if a particular technology is the highest quality way to provide functional equivalency for IP CTS users but is more

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<sup>13</sup> Notice of Inquiry ¶ 159.

<sup>14</sup> Consumer Group Comments at 7; *see also, e.g.*, Ultratec Comments at 5-6 (“It would be especially inappropriate for the Commission to mandate the use of particular technologies with the primary objective of reducing IP CTS costs if such mandated technologies also have the potential to reduce any aspect of the quality or functional equivalence of IP CTS.”).

<sup>15</sup> Consumer Group Comments at 6.

<sup>16</sup> *See, e.g.*, Hamilton Relay Comments at 9 (“Under no circumstances should the Commission attempt to settle for a lesser standard than functional equivalence by prioritizing other goals.”); Ultratec Comments at 6 (“Improving efficiency and reducing fraud, waste, and abuse are appropriate Commission objectives, but these factors should drive regulatory decision-making *only* when they do not undermine functional equivalence.”). *Cf.* Notice of Inquiry ¶ 160 (seeking comment on how the efficiency “goal should be balanced against the performance goal of ensuring the provision of a functionally equivalent conversational experience through IP CTS”).

<sup>17</sup> MachineGenius Comments at 4; *see also id.* at 6 (“There may be a tradeoff between efficiency and level of functionally equivalent performance, because it may be that it costs more per minute to deliver better performance.”).

expensive than another technology, the Commission must not give more weight to efficiency by tailoring its metrics to the less expensive” offering.<sup>18</sup> Indeed, if the Commission had prioritized efficiency above all other factors in the past, services such as Video Relay Service (“VRS”), which were more costly than the available alternatives when they were implemented, would not be an integral part of the TRS program. Given how fundamentally important services such as VRS are to users today, it is hard to fathom a TRS world today in which such services had been rejected in order to further “efficiency” at the expense of functional equivalence.

### **III. THE COMMISSION SHOULD ESTABLISH ACCURACY AND DELAY PERFORMANCE METRICS FOR IP CTS**

The record amply supports the Commission’s proposal to establish performance measures to govern IP CTS service.<sup>19</sup> As the FCC’s Disability Advisory Committee (“DAC”) recommends, the Commission’s goal should be “to set performance metrics to ensure high quality IP CTS for all users of the service so that the Commission continues to fulfill its requirement to ensure functionally equivalent TRS for all relay users.”<sup>20</sup> As explained below, to best fulfill that goal, the Commission should adopt the proposal set forth in the Joint Provider

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<sup>18</sup> Consumer Group Comments at 7.

<sup>19</sup> See, e.g., Joint Provider Recommendations at 3 (noting that, among other purposes, establishing a “common set of metrics . . . will allow IP CTS users, regulators and other stakeholders to set meaningful minimum standards by which new approaches to providing IP CTS captions can be measured”).

<sup>20</sup> *Internet Protocol Captioned Telephone Relay Service Metrics*, Recommendation of the FCC Disability Advisory Committee: Relay and Equipment Distribution Subcommittee, at 1-2 (Oct. 3, 2018).

Recommendations, which was based on years of collaboration with the DAC and consumer groups.<sup>21</sup>

***Accuracy and Delay.*** The Joint Providers specifically suggest that the Commission begin by introducing two new metrics for assessing IP CTS – accuracy and delay. For this purpose, “accuracy” should be defined as follows:

Accuracy for IP CTS is defined as 100% minus the Major Word Error Rate on the final displayed captions, where the Major Word Error Rate is the number of word substitutions, deletions, and insertions that significantly alter, obscure or reverse the meaning of the original speech divided by the total number of words in the original speech.<sup>22</sup>

As various commenters indicate, this approach is consistent with the DAC’s recommendation and appropriately reflects that minor mistakes “that do not significantly alter the meaning of the original text should not be calculated as errors.”<sup>23</sup>

The term “delay” should be defined as “the time that elapses between the utterance of a word by the person on the far-end of an IP CTS user’s phone call and the final displayed appearance of that word in the stream of captions on the IP CTS user’s primary display.”<sup>24</sup> Of course, as CaptionCall notes, “any mandate to [minimize delay] must account for how minimizing delay will affect other aspects of performance and should not require reducing delay beyond the point at which it affects user comprehension.”<sup>25</sup> To the extent that there is an

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<sup>21</sup> See generally Joint Provider Recommendations; see also Hamilton Relay Comments at i (The “Commission should adopt the IP CTS quality metrics proposal set forth in the Joint Provider Recommendations, which will best ensure functional equivalency.”); Ultratec Comments at 7 (urging the Commission to “rely on the IP CTS providers to develop performance measures,” as they are the “sole entities with substantial, real-world experience providing IP CTS”).

<sup>22</sup> Joint Provider Recommendations at 3.

<sup>23</sup> Hamilton Relay Comments at 5; see, e.g., CaptionCall Comments at 8.

<sup>24</sup> Joint Provider Recommendations at 6.

<sup>25</sup> CaptionCall Comments at 10.

inherent tradeoff between accuracy and delay, the primary emphasis always should be on accuracy.<sup>26</sup>

Accuracy is paramount to a user's comprehension of their conversation. Quick but inaccurate captions simply are not useful to customers. Sprint agrees with Ultratec's assertions that:

[U]sers depend on accurate captions in order to understand what has been said, even if such accuracy requires some delay. Thus, enhanced synchronicity, while important, can only be considered to be beneficial to the user if sufficient transcription accuracy is maintained to support an IP CTS user with a high degree of hearing loss.<sup>27</sup>

As a result, there is no consumer benefit to emphasizing speed over accuracy because

“[i]naccurate captions, even if delivered instantaneously, are of little value to IP CTS user[s] and potentially could inflict harm when the exact meaning of speech is critical.”<sup>28</sup>

The Commission should implement the accuracy and delay metrics using the process outlined in the Joint Provider Recommendations. In particular, accuracy and delay should be tested using procedures that approximate actual customer experiences.<sup>29</sup> After testing is complete, the Commission then should establish performance standards “based on measurements

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<sup>26</sup> Ultratec Comments at 8 (“Transcription accuracy is the most important component of the functional equivalence of IP CTS and thus should be the focus of the primary performance measure.”).

<sup>27</sup> *Id.* at 9.

<sup>28</sup> *Id.*

<sup>29</sup> Joint Provider Recommendations at 6-10; *see also, e.g.*, CaptionCall Comments at 13-15 (supporting the testing regime from Joint Provider Recommendations); Ultratec Comments at 3 (“[T]esting conditions should mimic the challenges of providing IP CTS in the real world, including background noise, poor line connections, fast speakers, and regional dialects, accents, and grammar, among other circumstances.”). The DAC similarly recommended that accuracy be measured with test scripts that “follow a natural telephone conversation,” including an “appropriate standard speed of delivery.” *See IP CTS Quality Standards*, Recommendation of the FCC Disability Advisory Committee, at 2 (Sept. 22, 2016).



following these procedures.”<sup>30</sup> As CaptionCall correctly notes, this testing process was “carefully constructed to address a number of issues that could bias, skew, or otherwise undermine the integrity of any service-quality regime,” thereby helping to “ensure consistent application of performance metrics across providers.”<sup>31</sup> In turn, establishing fair and consistent “performance metrics and standards applicable to all providers could promote competition, enhance transparency, and help ensure that the introduction of new technologies does not diminish the quality of service available to consumers.”<sup>32</sup>

***Additional Metrics.*** At this point, the Commission should not adopt the additional quality metrics raised in the Notice of Inquiry. As the Consumer Groups note, the Notice of Inquiry “is replete with proposed metrics that lack definitional specificity,” and the “insufficiency of the proposed standards and lack of data about the practical outcomes of these standards” makes it difficult to provide informed comments.<sup>33</sup>

Instead of moving forward with vague metrics that are unlikely to do more than introduce confusion and regulatory uncertainty, the Commission should continue to enforce the existing rules related to service quality. For example, the Commission’s rules already require IP CTS providers to notify the Commission if there is a significant service outage.<sup>34</sup> In addition, the Commission should maintain the current rule requiring that 85 percent of all IP CTS calls be

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<sup>30</sup> Joint Provider Recommendations at 10.

<sup>31</sup> CaptionCall Comments at 2; *see also, e.g.*, Hamilton Relay Comments at 6 (performing baseline testing before adopting final performance standards will “help create a level playing field regarding quality of service”).

<sup>32</sup> CaptionCall Comments at 5.

<sup>33</sup> Consumer Group Comments at 4-5.

<sup>34</sup> 47 C.F.R. § 64.606(h)(3); *see also* CaptionCall Comments at 13 (arguing that “these rules are sufficient to ensure that providers deliver resilient and reliable service” and that the “Commission points to no evidence that the existing rules are insufficient for policing this important aspect of service quality.”).

answered within 10 seconds.<sup>35</sup> As Hamilton Relay notes, the Commission’s speed of answer rule successfully “has served as a guarantee that relay services will be available every time a user reaches for a phone – much like the familiar dial tone.”<sup>36</sup> Accordingly, the Commission readily can “leverage the work IP CTS providers do to measure and guarantee availability of their service.”<sup>37</sup>

#### IV. CONCLUSION

For the foregoing reasons, the Commission should ensure that its reforms of the IP CTS program, including any performance measures that may be adopted, advance functional equivalence.

Respectfully submitted,

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November 15, 2018

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<sup>35</sup> See 47 C.F.R. § 64.604(b)(2)(ii).

<sup>36</sup> Hamilton Relay Comments at 9.

<sup>37</sup> *Id.* at 10.