

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

*In the Matter of:*

Telecommunications Relay Services and  
Speech-to-Speech Services for  
Individuals with Hearing and Speech  
Disabilities

CG Docket No. 03-123

Misuse of Internet Protocol Captioned  
Telephone Service (IP CTS)

CG Docket No. 13-24

Request for Comment on Petition for  
Rulemaking to Require a Communication  
Assistant Option for IP CTS

RM-11987

**REPLY COMMENTS OF ACCESSIBILITY ORGANIZATIONS**

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## INTRODUCTION

We welcome this opportunity to reply to the comments recently filed with the Commission regarding our petition for rulemaking which, *inter alia*, seeks to empower IP CTS users by providing them with the ability to access communications assistants (CA) whenever they require one to ensure functionally equivalent communications.<sup>1</sup> As the Commission recognized in its recent IP CTS rate order, “the continued availability of CA-assisted captioning ... may be essential to provide functionally equivalent service for a substantial portion of IP CTS calls.”<sup>2</sup>

We are delighted by the strong support among the commenters on our petition for the Commission to promptly adopt technology-neutral performance metrics for all IP CTS providers.<sup>3</sup> We are also heartened that three of the leading companies in the IP CTS space support providing users with the ability to “switch seamlessly from [automated speech recognition (ASR)] to CA-based captioning.”<sup>4</sup> The objections to our petition raised by the remaining comments are addressed below.

### **I. IP CTS USERS MUST BE ABLE TO SWITCH TO CAS WHEN ASR FAILS.**

To ensure functionally equivalent communications, IP CTS users must have the option to switch from ASR to a CA whenever they need one. Choices in the marketplace between different providers do not address situations where IP CTS users encounter ASR failures or malfunctions in the middle of a call. The only effective remedy in such

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<sup>1</sup> Petition for Rulemaking to Require Option for Communications Assistants by Stand-Alone Automatic Captioning Providers, Docket Nos. 13-24; 03-123 (filed May 31, 2024) (“Petition”).

<sup>2</sup> *Internet Protocol Captioned Telephone Service Compensation*, Report and Order, CG Docket Nos. 22-408, 03-123, 13-24, FCC 24-81, ¶ 2 (rel. July 31, 2024) (“IP CTS Compensation Order”).

<sup>3</sup> Comments of Ultratec, Inc. and Captel, Inc. at 10 (filed Sept. 3, 2024) (“Ultratec & Captel Comment”); Comments of Hamilton Relay, Inc., at 2, 4 (filed Sept. 3, 2024) (“Hamilton Relay Comment”); Comments of CaptionCall, LLC at 1-2, 4 (filed Sept. 3, 2024) (“CaptionCall Comment”); Comments of Nagish, Inc. at 10 (filed Sept. 3, 2024) (“Nagish Comment”).

<sup>4</sup> CaptionCall Comment at 3; Hamilton Relay Comment at 1, 2; Ultratec & Captel Comment at 1-2.

situations is to empower IP CTS users with a right to access a CA when ASR fails to accurately render a speaker’s utterances.

### **A. ASR Remains a Technological Work in Progress.**

Despite recent improvements, ASR continues to produce errors in certain calling situations. As ClearCaptions notes, its experience “captioning a broad range of real-world IP CTS calls using ASR for multiple years has shown that ASR alone is not ready for the complexity of all IP CTS calls.”<sup>5</sup>

ClearCaptions reports that “89% of ASR calls that it evaluated in June 2021 had an accuracy of 95%”<sup>6</sup>, while Nagish notes that its ASR system reached an average accuracy rate of 95% in laboratory tests.<sup>7</sup> These averages are impressive, but as with a ship that runs aground in a sea that is an average of a mile deep, averages can obscure the full facts of a situation. What matters is not just the average error rate, but the *distribution* of errors—who experiences what errors, and under what circumstances.

Due to systemic biases in the data used to train the artificial intelligence systems that power ASR,<sup>8</sup> such systems perform poorly in recognizing the speech of persons who diverge from the norms of standard American English.<sup>9</sup> Non-standard speech patterns are most common along the margins of American society, such as among members of

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<sup>5</sup> Comments of ClearCaptions, LLC, at 6 (filed Sept. 3, 2024) (“ClearCaptions Comment”).

<sup>6</sup> ClearCaptions Comment at 8.

<sup>7</sup> Nagish Comment, *supra* note 3, at 5.

<sup>8</sup> Petition, *supra* note 1, at 13 (citing, *inter alia*, Siyuan Feng, Bence Mark Halpern, Olya Kudinga & Odette Scharenborg, *Towards inclusive automatic speech recognition*, (last visited May 29, 2024), <https://www.sciencedirect.com/science/article/pii/S0885230823000864> (noting that “ASR systems are typically trained on speech from native speakers of a ‘standard’ variant of that language, inadvertently discriminating not only the speech of non-native speakers but also that of speakers of regional or sociolinguistic variants of the language.”(citations omitted)).

<sup>9</sup> *Id.* at 14-19 (citing, *inter alia*, Joshua L Martin & Kelly Elizabeth Wright, *Bias in Automatic Speech Recognition: The Case of African American Language*, 44 APPLIED LINGUISTICS 613, 614 (Aug. 2023), <http://dx.doi.org/10.1093/applin/amac066>; Mikel K. Nguējio & Gloria Washington, *Hey ASR System! Why Aren’t You More Inclusive?*, in *HCI International 2022—Late Breaking Papers: Interacting with eXtended Reality and Artificial Intelligence* 421, 423 (Jessie Y.C. Chen et al. eds., 2022), [https://doi.org/10.1007/978-3-031-21707-4\\_30](https://doi.org/10.1007/978-3-031-21707-4_30); and Rachel Dorn, *Dialect-Specific Models for Automatic Speech Recognition of African American Vernacular English* 1 (2019), <https://doi.org/10.26615/issn.2603-2821.2019.003>).

ethnic and racial minorities and persons with a variety of medical conditions.<sup>10</sup> Those on the margins of our society are also the most likely to live and work in noisy environments,<sup>11</sup> and such noise further diminishes the accuracy and performance of ASR.<sup>12</sup>

For these very reasons, the Commission recognized just six weeks ago that the “participation of CAs may improve the accuracy of captioning for a substantial portion of calls.”<sup>13</sup> Indeed, as ClearCaptions concedes in its comment, “calls with dialects, accents, noise, and non-standard speech can be problematic for an ASR system and *should be transferred to CAs.*”<sup>14</sup> Hence the question facing the Commission is to what extent rules are needed to ensure consumers can exercise their right to make such transfers.

#### **B. Functional Equivalence Requires CA Access.**

Some commenters argue that it is enough for IP CTS users to have choices in the marketplace between providers who use ASR exclusively, and those who continue to make CAs available in circumstances of their choosing.<sup>15</sup> Such views overlook the reality that IP CTS users cannot switch providers mid-call, and that they have no choice of providers when using enterprise-registered devices.

As consumer advocates we are all in favor of choice, but ASR-only providers deprive IP CTS users of meaningful choice when they deny them the ability to access a CA when automated transcription fails in the middle of a call. After all, users can’t very well switch between IP CTS providers in the middle of a call. Furthermore, IP CTS users

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

<sup>11</sup> *Id.* at 17-18.

<sup>12</sup> *Id.*

<sup>13</sup> IP CTS Compensation Order, *supra* note 2, at ¶21.

<sup>14</sup> ClearCaptions Comment, *supra* note 5, at 9 (emphasis added).

<sup>15</sup> *Id.* at 8 (noting that ClearCaptions’ proprietary ODIN AI switches between ASR and CA captions when the AI believes ASR will not perform well); Nagish Comment, *supra* note 3, at 8.

who live or work in facilities where enterprise registration is already or soon to be permitted (e.g., carceral facilities<sup>16</sup> and temporary emergency shelters<sup>17</sup>) or may be permitted in the future (e.g., nursing homes and hospitals) will be forced to use the provider that has been chosen for them. This is why it is essential that the Commission mandate that every IP CTS user have access to a CA when they need one—regardless of the provider they choose or the provider that has been chosen for them.

Some commenters suggest that IP CTS users—especially those of a certain age—might find having a choice between transcription modalities confusing.<sup>18</sup> They suggest that IP CTS users might make suboptimal choices between transcription modalities because they lack the information to know when ASR will perform more poorly than a CA (or vice versa).<sup>19</sup>

Such perspectives ignore how IP CTS users are in the best position to tell when ASR is malfunctioning, as they are the ones confronting in real time an automated transcript that is either difficult or even impossible to follow. Furthermore, users should have the autonomy to switch to CAs when necessary. Yet under the current regulatory framework, users confronting the limitations of an ASR-only system in the middle of a call have no access to any remedies to ensure the fulfillment of their right to functionally equivalent communications.

Indeed, it is offensive to suggest that all IP CTS users—regardless of age or mental acuity—lack the capacity to seek the help of a CA when they need one. Just as IP CTS users can make wise choices in the marketplace among a range of providers, so too can

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<sup>16</sup> *In the Matter of Incarcerated People’s Communications Services; Implementation of the Martha Wright-Reed Act, Rates for Interstate Inmate Calling Services*, Report and Order, Order on Reconsideration, Clarification and Waiver, and Further Notice of Proposed Rulemaking, WC Docket Nos. 23-62, I2-375 (July 22, 2024) at ¶¶ 482-498 (“2024 Carceral Communications Order”).

<sup>17</sup> See 47 CFR § 64.611(j)(2)(iii) (authorizing enterprise registration of a “temporary, public IP CTS device set up in an emergency shelter”).

<sup>18</sup> ClearCaptions Comment, *supra* note 5, at 11.

<sup>19</sup> *Id.* at 8-9.

they make wise choices between transcription modalities during calls to ensure their ability to communicate. We fully expect that most of the members of our communities will continue to use ASR in the many situations where the technology performs well. But when ASR fails in the middle of a call, we believe that IP CTS users deserve access to a CA in the moment.

## **II. MANDATING USER CHOICE WILL SPUR COMPETITION, INNOVATION, AND QUALITY IMPROVEMENTS IN THE IP CTS PROGRAM.**

Providing IP CTS users with the ability to access a CA when they need one is likely to catalyze rapid improvements in the quality of ASR and unleash more vigorous competition in the IP CTS marketplace.

Under the current regulatory structure, IP CTS providers face relatively weak economic incentives to improve the quality of their ASR, because competitive pressures are attenuated in markets with high switching costs.<sup>20</sup> A consumer who doesn't like one kind of soda can easily switch to another the next time they are thirsty, but switching IP CTS providers is a far more involved and time-consuming process. For this reason, the regulatory structure for IP CTS should give every provider strong financial incentives to improve the quality of their service.

While ASR-only minutes may present operational efficiencies, our proposal is fundamentally about enhancing consumer welfare with high-quality services. By adopting our approach, providers will have a strong incentive to improve ASR performance, thereby reducing the need for consumers to seek CA assistance and empowering them to choose the most reliable service based on quality.

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<sup>20</sup> See Joseph Farrell & Paul Klemperer, *Coordination and Lock-In: Competition with Switching Costs and Network Effects*, in *HANDBOOK OF INDUSTRIAL ORGANIZATION 1967* (M. Armstrong & R. Porter, eds., 2007).



Furthermore, providing IP CTS users with the ability to “switch seamlessly from ASR to CA-based captioning”<sup>21</sup> will generate reams of real-world data on the accuracy of ASR that is valuable to providers, consumers, and to the Commission as well. Providers can examine the conditions that lead their customers to seek the help of a CA to identify circumstances where their ASR systems are performing poorly and thus target their research and development efforts to addressing these situations. The Commission can benefit from this data in developing and revising performance metrics for IP CTS providers that, in the view of our organizations, should progressively raise the performance standards for providers over time. And consumers will be armed with data about the accuracy of various providers under various circumstances that will let them choose the best provider for their needs and create additional competitive pressures in the marketplace.

Providing users with seamless switching ability between ASR and CAs will also spur innovation by IP CTS providers. One commenter decries the high fixed costs that the adoption of our proposal will impose on every certified provider, who (in their view) will have to stand up their own call centers and hire and train their own CAs to meet the switching mandate.<sup>22</sup> This view discounts how new business models are likely to emerge to help current ASR-only providers meet the “seamless switching” mandate that we propose. We take no view on the mechanics of how ASR-only providers will give their customers on-demand access to CAs, but we note with interest how one commenter has stated its willingness to “determine the necessary technology investments and commercial arrangements required to provide wholesale CA-based captioning services to certified IP CTS providers that lack CAs.”<sup>23</sup>

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<sup>21</sup> CaptionCall Comment, *supra* note 3, at 3.

<sup>22</sup> Nagish Comment, *supra* note 3, at 8-9.

<sup>23</sup> CaptionCall Comment, *supra* note 3, at 4.

The improvements to ASR and the new business models that our proposal are likely to spur ensures its compatibility with the long-term financial sustainability of the TRS Fund. We applaud the Commission for its recent adoption of a bifurcated rate structure to “ensure the continued availability of CA-assisted captioning, which research indicates may be essential to provide functionally equivalent service for a substantial portion of IP CTS calls.”<sup>24</sup> Yet as ASR rapidly improves thanks to the incentives to innovation that the adoption of our proposal would unleash, we would expect that the percentage of IP CTS calls handled exclusively by ASR will only increase over time.

### **III. AN NPRM IS THE APPROPRIATE NEXT STEP.**

The only remaining question is what the appropriate next step is for the Commission to take with respect to our petition.

One commenter suggests that our petition is an untimely request for reconsideration of the Commission’s 2018 declaratory rulemaking that permitted ASR-only IP CTS services,<sup>25</sup> and that the appropriate next step is for the Commission to issue a notice of inquiry.<sup>26</sup>

What in reality was untimely was the Commission’s decision in 2018 to permit the deployment of an immature technology in the marketplace without adequate safeguards, and without so much as consulting with impacted communities by following the standard administrative law procedure of notice-and-comment rulemaking. Simply put, the Commission erred in 2018 in short-circuiting the standard rulemaking procedure and in relying on a single, flawed MITRE study to declare that ASR-only IP CTS was ready for prime time.<sup>27</sup>

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<sup>24</sup> IP CTS Compensation Order, *supra* note 2, at ¶ 5.

<sup>25</sup> ClearCaptions Comment, *supra* note 5, at 3, 5.

<sup>26</sup> *Id.* at 5-6.

<sup>27</sup> The flaws with and limitations of the MITRE study are detailed in our Petition, *supra* note 1, at 6-9.

Now is the time to forge a new path. We now have six additional years of data in the record demonstrating that ASR continues to suffer from significant error rates<sup>28</sup> and systemic biases that impact its effectiveness.<sup>29</sup> This evidence underscores the need for the Commission to take decisive action to address these issues through a new rulemaking, rather than relying solely on the limited scope of past inquiries.

In seeking public comment on our petition, the Commission has gained valuable insights and evidence from industry leaders and stakeholders that highlight ongoing challenges with ASR performance. This body of evidence is more than sufficient to inform the development of new regulations that ensure IP CTS users have access to the most effective communication tools available.

Our petition is ripe for action and the time for decision by the Commission is now. For all the reasons presented in our petition and in this reply comment, we urge the commission to:

1. initiate a new notice-and-comment rulemaking that will require IP CTS providers using ASR for the generation of captions to give users the option to select a CA at the start of a call and to switch to a CA during when ASR fails;
2. refrain from certifying additional ASR-only IP CTS providers until the above rulemaking is completed; and
3. act expeditiously to complete its work on developing technology-neutral performance goals and metrics for IP CTS.

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<sup>28</sup> IP CTS Compensation Order, *supra* note 2, at ¶ 2; Petition, *supra* note 1, at 9-19; Ultratec & Captel Comments, *supra* note 3, at 3-5; Hamilton Relay Comments, *supra* note 3, at 3-4; CaptionCall Comments, *supra* note 3, at 2; ClearCaptions Comments, *supra* note 5, at 6.

<sup>29</sup> IP CTS Compensation Order, *supra* note 2, at ¶ 21; Petition, *supra* note 1, at 9-19; Ultratec & Captel Comments, *supra* note 3, at 6-7; Hamilton Relay Comments, *supra* note 3, at 3; CaptionCall Comments, *supra* note 3, at 2; ClearCaptions Comments, *supra* note 5, at 6.

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