Recommendation of the FCC Disability Advisory Committee
IP CTS Quality Standards
Adopted September 22, 2016

WHEREAS, the Disability Advisory Committee ("DAC") recognizes that as the number of consumers using IP CTS continues to grow, the need for additional minimum quality standards or at least best practices continues to grow;

WHEREAS, members of the Relay and Equipment Distribution Subcommittee have identified the following key areas in which additional research and study are needed to determine if potential minimum standards should be established for IP CTS;

NOW, THEREFORE, IT IS --

RECOMMENDED that the Federal Communications Commission ("FCC") establish rules and standards for IP CTS quality of service through a proposed rulemaking proceeding;

RECOMMENDED further, that the FCC propose amendments to its current rules as needed to specifically address IP CTS quality of service. In doing so, the Relay and Equipment Distribution Subcommittee suggests the FCC consider the following:

The current competitive marketplace allows customers to choose the IP CTS provider they wish to use. Service providers differentiate themselves in many ways. If a customer is dissatisfied with one IP CTS service, they can choose another. Marketplace pressures, in addition to rules, will continue to incent providers to deliver high quality services. Therefore, the Relay and Equipment Distribution Subcommittee believes the FCC must strive to maintain a healthy marketplace that allows for multiple IP CTS competitors;

RECOMMENDED further, that the FCC consider adding a metric and measurement for Verbatim/Accuracy for IP CTS. In doing so, the FCC should consider the following:

Verbatim/Accuracy – To score verbatim and accuracy the Error Rate may be expressed as a percentage and could be calculated by counting the number of "major errors," divided by the number of words and multiplied by 100%. The Accuracy Percentage could be calculated as 100% minus the Error Rate percentage. Missing words are counted as either major or minor errors. The FCC should consider categorizing errors as major errors (i.e., those errors that substantively change the meaning of the transcription, such as, "I am not allergic to nuts" being changed to "I am allergic to nuts") vs. minor errors (i.e., those errors that, while technically incorrect, do not substantively change the meaning of the transcription, such as, "I won the game last week" being changed to "I one the game last week."). Major errors that are corrected by the CA in a timely manner and all minor errors would not be included in the Error Rate and thus would not be factored into the Accuracy Percentage. Additional definitions may be needed to categorize minor and major errors to ensure consistency in measurements. Some of the factors to consider in these definitions include:

- The amount of time that passes before a correction is displayed.
- The accurate display of personal names. For example, if Jamie is said and Jimmy is displayed, this would count as an error if not corrected. However, if Jamie is displayed as Jaymee, this would be acceptable if the person talking does not state how to spell the name.
- Incorrect homophones are minor errors.

Verbatim/Accuracy cannot be measured in live calls without potentially violating the FCC's confidentiality rules. Therefore, a known script is needed to test for this metric. Also, due to a wide range of quality issues such as telephone audio (including static, distortion, inaudible or unintelligible conversation, and background noises), various accents and regional dialects, a controlled environment works best to measure this standard and replicate the tests with proper sampling, as captions cannot be created by a CA from an unintelligible or missing source. Consideration as to the type or level of vocabulary to be used for this testing may be needed. Use of industry standards, including but not limited to text developed to match a certain reading level, could be developed in consultation with Commission staff and applied to ensure that appropriate test scripts are used. Test scripts should follow a natural telephone conversation. Increased complexity results in increased delay and lower accuracy. Likewise, simple scripts result in high accuracy and low delay. Additionally, speed of delivery during any testing of accuracy will have a similar impact on quality. An appropriate standard speed of delivery should be used in accuracy testing. Finally, just like the current rule, summarization should not be allowed under this standard;

RECOMMENDED further, that the FCC consider adding a metric and measurement for Speed for IP CTS. In doing so, the FCC should consider the following:

Speed – A measure of the number of words delivered in minute increments. One possible measurement may be the speed of transcription calculated as the number of words transcribed divided by the time needed to transcribe those words (measured in seconds), and multiplied by 60. Speed cannot be measured in live calls as it is not known how quickly the non-captioned telephone user will be speaking or how much time the non-captioned telephone user will be silent. Therefore, test scripts will be required to measure compliance with speed requirements;

RECOMMENDED further, that the FCC consider adding a metric and measurement for Delay for IP CTS. In doing so, the FCC should consider the following:

Delay – The time elapsed between hearing a voice on the caption phone and the display of captions on the phone's screen. Significant delay can cause the captioned text to be less useful to the consumer. There are several factors that cause delay and additional information may be needed to set an appropriate measure. Delay can be measured, but it will be very difficult to set a standard or an average. In addition, because of the many uncontrolled variables as stated above, using a known script and establishing controlled conditions will be required for this measurement.

Because verbatim is required, there is a natural tension between providing a fully verbatim conversation while at the same time minimizing delay. A CA works to produce accurate captions as quickly as possible. Delay is part of IP CTS because of the processing required to generate and deliver captions.

Minimizing delay is important to users, alongside accuracy, and is part of delivering a service that is functionally equivalent. Using controlled conditions, the Relay and Equipment Distribution Subcommittee recommends that the FCC conduct a study to determine the amount of delay that is generally acceptable to the average IP CTS user but which still provides a functionally equivalent experience for the consumer. Different standards may need to be established depending on the consumer needs, for example, individuals with hearing loss and low vision. Standards for testing providers under strictly controlled conditions may then be able to be set based on data from such a study;

RECOMMENDED further, that the FCC consider the frequency of testing used to determine compliance with the above. Provider self-testing as well as independent third-party testing may play a role in ensuring that high-quality captions are delivered to customers. It is also recommended that any scripts used by a third-party performing testing would not be given or identified to relay providers. The Relay and Equipment Distribution Subcommittee recommends that at least monthly testing should be performed to determine compliance;

RECOMMENDED further, that the FCC clarify Section 64.604(a)(1)(v) of its rules. The 10 minutes that a CA is required to stay on a captioning call do not begin until the CA fully understands the person they will be captioning;

RECOMMENDED further, that the FCC solicit information from consumers and providers regarding how IP CTS may benefit from the introduction of high definition/wide band audio, real-time text, and other technological improvements over time.