

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

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

**Reply-to Comments of the Rehabilitation Engineering
Research Center on Telecommunications Access**

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I. Introduction

The Telecom RERC (RERC-TA) is a joint project of the Technology Access Program at Gallaudet University and the Trace Center at the University of Wisconsin-Madison. The RERC is funded by the U.S. Department of Education, National Institute on Disability and Rehabilitation Research, to carry out a program of research and development focused on technological solutions for universal access to telecommunications systems and products for people with disabilities.

The RERC-TA would like to respectfully offer brief reply-to comments on the FCC Order and Notice of Proposed Rulemaking on the Misuse of Internet Protocol Captioned Telephone Service (IP CTS), which cover an update on the survey mentioned in our original comments¹, a follow-up on the implications of a default-off captioning settings on average speeds of answer, and a discussion of future standards and interoperability, including NG9-1-1 interoperability.

II. Survey to Collect Information on IP CTS Use

As we stated in our comments, an online survey was designed by the RERC-TA to document current usage of Internet Captioned Telephone Services (IP-CTS) by adults who are deaf or hard of hearing. The goal of the survey was to understand 1) the demographics, including severity of hearing loss, of people who use IP-CTS, 2) how

¹ Comments by the Telecommunication RERC. CG Dockets 13-24 and 03-123. February 26, 2013.

important the availability of captions is to them to make and receive telephone calls, 3) whether they use captions for all telephone calls, 4) whether they share their equipment for using IP-CTS with other members of the household who do not have a hearing loss, 5) how they found out about IP-CTS and how they obtained their equipment, and 6) what call quality problems may exist that prevent people from using IP-CTS or result in an unsatisfactory call experience.

The data collection period ran from February 21, 2013 through March 8, 2013. During those two weeks, approximately 3000 deaf and hard of hearing consumers completed the survey. Analysis of the data has commenced, and the RERC-TA plans to file an initial ex parte on this topic by the end of March.

III. Average Speed of Answer Standards

We previously mentioned in our comments that “[b]efore adopting the traditional ASA standards of ten seconds for IP CTS with a default-off setting for the captions, it is necessary to assess the impact on the remote party who may not be familiar with relay services. Unlike with every other type of relay service, where the relay operator is on-line by the time the call connects to the remote party, with IP CTS and a default-off setting, the remote party may get connected before the relay operator comes online. If the remote party is unfamiliar with relay services, the wait at the beginning of the call due to long ASA standards could cause confusion.”²

² Id., at p. 15

To illustrate these concerns, the RERC-TA would like to offer two contrasting call flow scenarios: one that is typical of VRS and other types of relay services, and one that is typical of IP CTS with captions off by default.

Call flow 1 (VRS and other types of relay services)

1. The user initiates a connection to the relay service (either by dialing the relay service's number explicitly, or by using the default provider under which the user's calling terminal is registered).
2. The user holds for the next available relay operator.
3. The relay operator dials the remote party.
4. The remote party answers the call
5. The relayed conversation commences

Call flow 2 (IP CTS with default-off captions)

1. The user dials the remote party
2. The remote party answers the call
3. The user turns on captions
4. The user and the remote party wait for captions to commence
5. The relay operator come on-line
6. The captioned conversation commences

A possible variation of call flow 2 is that the user turns on the captions immediately after dialing or prior to dialing – in this case, the wait in step 4 above may be shortened, but would not be eliminated entirely.

The key difference between the two call flows is that in scenario 1, only the deaf/hard of hearing/speech-impaired user is exposed to the wait for the next available relay operator, as described in step 2. In contrast, in scenario 2, both the deaf/heard of hearing user **and** the hearing remote party are exposed to the wait for the next available operator, as described in step 4. Whereas the deaf/hard of hearing user is familiar with relay services, and the associated wait, the hearing remote party typically is not. If there is a long pause between the time at which captioning is requested and the time when the captions become available, a hearing party unfamiliar with relay services is likely to get confused or lose patience. In the worst case, the remote party could even mistake a CTS call for a prank and hang up.

The RERC-TA is concerned that an ASA standard of ten seconds is too long under this scenario – ten seconds is, after all, only an average, and actually occurring wait times, depending on the time of day could be longer. Even ten seconds seem to be a long time for hearing parties who are unfamiliar with the concept of captioned telephones, and there are no assurances that any explanations for the wait that are provided by the CTS user will be satisfactory to the hearing party. It follows that under a default-off rule, rather than adopting the ASA standards in effect for other relay services, the specific functional characteristics of IP-CTS must be taken into account, and a different set of ASA standards should apply. The RERC-TA also would like to reiterate that before a default-off rule is made permanent, an independent party must carry out a usability study³.

³ Id., at p. 15.

IV. IP CTS Technical Standards

As part of a more comprehensive rulemaking of IP CTS in the future, it also will be essential to establish interoperability standards for IP CTS, and ensure that those standards harmonize with NG9-1-1 services, future VRS standards, and future TTY replacements. If steps in this direction are not taken, deaf and hard of hearing consumers will continue to live in silos of mutually incompatible telecommunications services, and access to NG9-1-1 – both direct, and in conjunction with Media Communication Line Services (MCLS)⁴ – will be jeopardized.

There is no reason for the continued existence of proprietary IP CTS communication solutions; for instance, the specification of SIP in the NENA i3 Solution⁵, as well as the associated specification of narrowband and wideband audio codecs (e.g. G.711 and AMR-WB)⁶, and the real-time text codec RFC4103 over SIP via RFC5194⁷, are sufficient to meet the core functional requirements of IP CTS. The Emergency Access Advisory Committee TTY Transition report also specifically mentions captioned telephony as a use case⁸. Similarly, the MCLS Report includes captioned phones in the

⁴ EAAC Report on Working Group 3 Recommendations on Current 9-1-1 and NG 9-1-1 Media Communication Line Services Used to Ensure Effective Communication with Callers with Disabilities (MCLS Report). Online:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-319394A1.pdf

⁵ NENA i3 Solution 008-03 v1, at p. 45

⁶ Id., at p. 55

⁷ Id., at p. 55

⁸ EAAC Report on TTY Transition, Section 9.2 item 7 (c), p. 22. Online: http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0311/DOC-319386A1.pdf

proposal for supported services⁹. All of these considerations imply that IP CTS must be compatible with the NENA i3 Solution for NG9-1-1, either by adopting the standard in its entirety, or by providing transcoding gateways to interface with ESINet. In addition, consistent with the philosophy of Total Conversation in NG9-1-1, as well as the efforts to move future VRS standards toward support for Total Conversation¹⁰, IP CTS standards must harmonize with any future standards created for VRS interoperability with respect to audio and real-time text.

V. Conclusion

The RERC-TA respectfully requests that the FCC consider our additional comments on average speed of answer standards and future technical standards for IP CTS. As mentioned above, an initial analysis of the IP CTS survey results will be filed by the end of March.

⁹ See e.g. MCLS Report, Section XIII, at p. 12

¹⁰ See e.g. Appendix B in the FNPRM in the Matter of Structure and Practices of the Video Relay Service, CG Docket 10-51, December 15, 2011.

Respectfully submitted,

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