

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Transition from TTY to Real-Time Text Technology)	CG Docket No. 16-145
)	
Petition for Rulemaking to Update The Commission’s Rules For Access To Support The Transition From TTY To Real-Time Text Technology, And Petition For Waiver Of Rules Requiring Support Of TTY Technology)	GN Docket No. 15-178
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To: Secretary, FCC
For: The Commission

REPLY COMMENTS OF HAMILTON RELAY, INC.

Hamilton Relay, Inc. (“Hamilton”)¹ hereby submits these reply comments in response to the above-captioned *Notice of Proposed Rulemaking* (“NPRM”) which proposes rule changes to facilitate a transition from text telephone (“TTY”) technology to real-time text (“RTT”) technology over Internet Protocol (“IP”) enabled networks and services.²

As Hamilton explained in its initial comments, RTT is an important development, one that may improve technology access to individuals who rely on TRS and augment existing TRS technologies. Further, TRS providers can serve a critical role smoothing the transition from TTY to RTT by leveraging their experience with TTY technology, gateways, and individuals who rely

¹ Hamilton is a provider of Telecommunications Relay Services (“TRS”) to individuals who are deaf, deaf-blind, hard of hearing and speech disabled.

² *Transition from TTY to Real-Time Text Technology; Petition For Rulemaking To Update The Commission’s Rules For Access To Support The Transition From TTY To Real-Time Text Technology, And Petition For Waiver Of Rules Requiring Support Of TTY Technology*, Notice of Proposed Rulemaking, FCC 16-53 (rel. Apr. 29, 2016) (“NPRM”). Hamilton submitted initial comments in the above-captioned dockets on July 11, 2016.

on relay services. Specifically, the Commission should ensure that any rules adopted in this proceeding reflect the following:

- Backward compatibility requirements should sunset no earlier than the sunset of the Public Switched Telephone Network (“PSTN”), and RTT’s impact on state jurisdiction over intrastate relay traffic should be considered;
- TRS providers should be permitted to serve as RTT-TTY gateways; and
- RTT-to-voice and RTT-to-TTY should be recognized as two of several permitted forms of TRS, and an appropriate rate structure for RTT relay reimbursements must be established, including an examination of the intrastate aspects of RTT relay calls.

These considerations reflect that although RTT may be a great leap for text-based accessibility solutions, RTT is not a realistic option for everyone and that other relay solutions remain necessary for distinct user types.

I. Backward Compatibility Requirements Should Continue Until the PSTN Sunsets, and RTT’s Impact on State Jurisdiction Over Intrastate Relay Traffic Should Be Considered

The Commission should sunset RTT-TTY backward compatibility no earlier than 2025, the date the Commission recently determined to sunset certain other device compatibility requirements on the traditional PSTN, including analog-only captioned telephones.³ To the extent not all carriers have retired their copper networks by 2025, the RTT-TTY backward compatibility sunset should coincide with the sunset of all aspects of the PSTN.⁴ Additionally,

³ *Technology Transitions et al.*, Declaratory Ruling, Second Report and Order, and Order On Reconsideration, GN Docket No. 13-5 *et al.*, FCC 16-90 ¶¶ 158-59 (rel. July 15, 2016).

⁴ Hamilton Comments, at 11-12; Comments of the Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, the Rehabilitation Engineering Research Center on Universal Interface and IT Access, and Omnitor, CG Docket No. 16-145 and GN Docket No. 15-178, at 43 (“If the FCC is looking [for a] sunset trigger for TTY support, it would (continued)...”).

as Hamilton noted in its comments, the Commission should address in this proceeding the role of state TRS programs in transitioning from TTY to RTT,⁵ and following any sunset of the PSTN. The Commission should consider the long-term impact of this proceeding on the continued existence of state oversight of intrastate relay services, and therefore should examine the impact it may have on state TRS programs and the potential long-term impact on consumers.

As Hamilton explained in its initial comments, many individuals who rely on TTY are seniors who may not be comfortable with accessing the Internet, are individuals who live in areas that lack the broadband access that is necessary to make IP-based technologies a possibility, or for whom the price of broadband access is prohibitive.⁶ Hamilton agrees with other comments that it is important that no one be left behind as the FCC transitions to RTT and other IP-based technologies.⁷ AT&T aptly observed that “[i]nteroperability with TTY is essential for RTT users to communicate with landline TTY users” as well as others.⁸ By determining a sunset for TTY

be the day that no-one is dependent only on the PSTN for telecom.”) (filed July 11, 2016) (“RERC Comments”).

⁵ Hamilton Comments, at 13.

⁶ In addition, some voice users who do not have RTT capability or do not want to use RTT but who nonetheless want to communicate with a deaf or hard of hearing user who has RTT capabilities may also be similarly situated.

⁷ See Comments of National Association of State 911 Administrators, CG Docket No. 16-145 and GN Docket No. 15-178, at 2, 4 (urging the FCC to be guided by a “no user left behind” principle) (filed July 11, 2016); Comments of Telecommunications for the Deaf and Hard of Hearing, Inc.; Association of Late-Deafened Adults, Inc.; Cerebral Palsy and Deaf Organization; Hearing Loss Association of America; and National Association of the Deaf, CG Docket No. 16-145 and GN Docket No. 15-178, at 12 (noting that “TTYs continue to be a critical communications technology for some users”) (filed July 11, 2016).

⁸ Comments of AT&T Services, Inc., CG Docket No. 16-145 and GN Docket No. 15-178, at 10 (filed July 11, 2016) (“AT&T Comments”); see also Comments of Sorenson Communications, Inc. and CaptionCall, LLC, CG Docket No. 16-145 and GN Docket No. 15-178, at 4 (noting that the Commission must ensure that disabled consumers who prefer text-based forms of (continued)...

compatibility no earlier than the PSTN sunset, the Commission will ensure that users who rely on TTY are not left stranded by a premature sunset of TTY backward compatibility requirements.

II. The Commission Should Allow TRS Providers to Serve as Gateways

A. Relay Providers Should Become RTT-Capable as Part of this Proceeding

Hamilton agrees with RERC that TRS providers should enable their technology to allow for direct RTT calling.⁹ To this end, the Commission should amend its TRS rules by deeming RTT-to-TTY and RTT-to-voice as relay calls. Wireless carriers or wireline carriers should not convert RTT to TTY to send to relay providers.¹⁰ Rather, any rules adopted in this proceeding should require that TRS providers support RTT and convert the calls as necessary for their TTY users. This approach will remove the burden of having each wireless and wireline carrier develop and maintain their own gateways for non-emergency RTT calling.¹¹

communication can utilize today's advanced voice services" that utilize IP-based networks that are incompatible with TTY) (filed July 11, 2016) ("Sorenson Comments")

⁹ RERC Comments, at 58 ("to meet the requirement of supporting RTT wherever voice is supported, the logical consequence is that 711-based state TRS services will need to support RTT during relay calls").

¹⁰ See *NPRM* ¶ 62 (noting that, with an RTT-to-TTY interoperability requirement, "we believe it will remain possible for consumers to use their TTYs to communicate with a TRS call center that is set up to receive RTT calls and for consumers who use RTT technology to communicate with a TRS call center that is set up to provide traditional TTY-based TRS."). Hamilton interprets this statement as supportive of the concept that the RTT-TTY backward compatibility should occur at the TRS call center. Other commenters (see footnote 15, *infra*) appear to interpret the Commission's statement as a mandate to implement the RTT-TTY backward compatibility prior to delivery to the TRS call center, which in Hamilton's view would lead to unnecessary complications.

¹¹ As further explained below in Section II.D, wireless carriers would not need a gateway at all to the extent that RTT Control Centers could handle the gateway functions for emergency calls.

Individuals who rely on relay but have RTT-capable devices should be able to take advantage of RTT in their interaction with a TRS Communications Assistant (“CA”). In addition to RTT, as wireless carriers introduce innovative communication technologies, such as high definition audio, these technologies should, if reasonably achievable, be delivered to a TRS call center without requiring any additional mandate.¹² Calling 711 from a mobile device should allow the user to have the same experience and access to the same communication technologies as they would with any other direct mobile-to-mobile call.

B. There is Industry Support for an RTT-Capable Relay Provider to Implement Backward Capability for All Consumers Using TTY by Dialing 711

Hamilton agrees with the *NPRM*’s conclusion that “it will remain possible for consumers to use their TTYs to communicate with a TRS call center that is set up to receive RTT calls and for consumers who use RTT technology to communicate with a TRS call center that is set up to provide traditional TTY-based TRS.”¹³ Further, Hamilton appreciates the comment from ATIS that it “agrees with the ability to provide backward compatibility for consumers using TTY provided that it is solely through the use of gateways at TRS call centers.”¹⁴ Hamilton believes that TRS call centers must be set up to receive both RTT and TTY calls, and that backward

¹² For example, if a Voice Carry Over user has a mobile device that is both RTT-capable and supports high definition audio for voice calling, and chooses to call via an RTT-capable relay provider to a standard telephone user that also supports high-definition audio for voice calling but does not have an RTT-capable device, the voice communication pathway between the two parties via the relay provider should preserve the high-definition audio between the parties for that call.

¹³ *NRPM*, ¶ 62.

¹⁴ Comments of Alliance for Telecommunications Industry Solutions, CG Docket No. 16-145 and GN Docket No. 15-178, at n.6 (filed July 11, 2016) (“ATIS Comments”); *see also* RERC Comments, at 20 (noting that “full interoperability of RTT with all relay services[] is a prerequisite for [the] full benefit [of RTT] to be achieved.”).

compatibility for consumers using TTY can be achieved through the use of gateways at TRS call centers.

T-Mobile acknowledges that it “understands the need for backwards compatibility with TTY for 911 and 711 calls during the transition from TTY to RTT,” but it does not identify a separate mechanism for providing backward compatibility for consumers using TTY.¹⁵

Hamilton has identified such a mechanism that can be used – namely TRS call centers that are RTT-capable. Using TRS providers in this way expands the ability of backward compatibility requirements to reach any consumer or business with a TTY or TTY phone number, on a nationwide basis, simply by dialing 711.

Dialing 711 is a simple and effective solution for engaging RTT-TTY interoperability. It does not preclude the ability for direct dialing solutions to be implemented at a future date. Nor does it preclude the ability for an over-the-top (“OTT”) application to implement direct dialing in some other way on top of 711.¹⁶

¹⁵ Comments of T-Mobile USA, Inc., CG Docket No. 16-145 and GN Docket No. 15-178, at 11 (filed July 11, 2016) (“T-Mobile Comments”). Other industry supporters have voiced similar concepts. For example, the Competitive Carriers Association (“CCA”) preliminary report in response to the *CCA Waiver Order*, notes that “CCA and its non-nationwide members are actively investigating the necessary steps they must take to ensure functionality, accessibility, interoperability between networks, and interoperability with legacy TTY 911 and 711 services, in the shortest possible timeframe,” but does not identify any mechanism for providing backwards compatibility for consumers using TTY). CCA, Report, GN Docket No. 15-178, at 3-4 (filed July 19, 2016).

¹⁶ For example, an OTT app could include notifications to the called and calling parties in the event that an RTT-TTY negotiation was unsuccessful, and instead redirect the parties to 711. Or the app could transfer the call to 711 automatically, thus providing a potential solution for direct dialing without delaying the date by which RTT could be deployed.

C. Using a TRS “Attended” Gateway for RTT-TTY Compatibility Eliminates the Risk to Consumers of an “Unattended” Gateway

Using TRS call centers for RTT-TTY backward compatibility would allow the gateway to be optimally managed by a CA, where the CA could participate at the start of a call between participants, help resolve any issues and determine whether further relay services are needed for the call. In this way, a CA would be involved when needed. For example, a CA would drop off an RTT-TTY call where both participants are comfortable with TTY conversation etiquette and can understand each other without the need of a CA.

An unattended gateway solution, where there is no CA involved, may not provide the same type of functionally equivalent experience. The suggestion by RERC that unattended gateways can provide a functionally equivalent experience does not take into account the use of different technologies.¹⁷ Specifically, Sweden uses V.21, which is a text protocol that allows for a faster, full duplex communication with a larger character set than Baudot, the technology used in the United States for TTY. At present, Hamilton is unaware of practical implementations of an unattended gateway between RTT to Baudot-based TTY that can provide sufficient consumer experience data to conclude that an unattended RTT-TTY gateway is a suitable solution for backward compatibility. In contrast, a TRS attended gateway is a feasible approach to ensure full interoperability. A CA-attended gateway would resolve any issues with conversation speed, character usage, etiquette and transliteration.¹⁸

¹⁷ RERC Comments, at 41 (“The approach is required in procurement requirements from RTT providers in Sweden, where gateways between RTT and V.21 textphones are deployed and work well.”).

¹⁸ See Hamilton Comments, at 5-7 (describing how a TRS gateway with CA involvement can solve these issues).

D. For RTT 911 Calling, Wireless IP Providers Should Follow the Interim SMS-to-911 Approach

As Hamilton noted in its initial comments, an RTT-TTY gateway for 911 calls could be implemented by TRS providers with some additional steps. Specifically, if TRS providers are to serve as gateways for RTT 911 calls, wireless and wireline IP network providers would need to provide relevant geographic coordinates for the location of the RTT 911 caller in order to ensure that an appropriate PSAP is reached. Although the foregoing is still true, the record presents certain options for handling 911 calling that merit consideration. In particular, the Texas 9-1-1 Entities present an idea for RTT-TTY backward compatibility that may include a “potential for integration with Text Control Center [(“TCC”)] solutions that may be a bridge to enable 9-1-1 telecommunicators to benefit from the RTT transition sooner.”¹⁹ In addition, West Safety cautions, “Deploying end-to-end RTT will require PSAPs to either upgrade *their existing SMS infrastructure* or to invest in an ESInet and RTT compatible equipment.”²⁰

TCCs for interim SMS-to-911 have proven to be a successful solution to allow SMS messages to be delivered to PSAPs via multiple methods, including converting an SMS method to TTY if there is no better alternative available. Following this model to handle RTT 911 calls, an interim “RTT Control Center,” potentially operated by the TCCs or other organizations on behalf of providers, could provide an innovative way to deliver RTT 911 calls to appropriate PSAPs, similar to the multiple ways by which SMS messages can be delivered to PSAPs today. For example, a PSAP may be capable of supporting RTT but may not operate within an ESInet.

¹⁹ Comments of Texas 9-1-1 Alliance, Texas Commission on State Emergency Communications, and Municipal Emergency Communication Districts Association, CG Docket No. 16-145 and GN Docket No. 15-178, at 3 (filed July 11, 2016).

²⁰ Comments of West Safety Services, Inc., CG Docket No. 16-145 and GN Docket No. 15-178, at 5 (filed July 11, 2016) (emphasis added).

Such a PSAP could establish a direct network relationship with an “RTT Control Center” to receive RTT 911 calls in the same way that a PSAP can establish a direct network relationship with a TCC for to receive SMS-to-911 messages. This type of solution could accelerate the availability of RTT 911 for consumers.

III. RTT Is Not a Replacement for Other Forms of TRS That Are Relied Upon By Many Users

Hamilton agrees with other commenters that the Commission should not consider RTT a potential replacement for IP CTS.²¹ RTT is a distinct form of TRS whose closest analogue is TTY, whereas RTT’s requirement that users *type* means that RTT is fundamentally different from other forms of TRS such as IP CTS, Speech to Speech (“STS”), and Video Relay Service (“VRS”) that require at least one party to speak or sign.²² As Hamilton explained, there will continue to be a significant number of users, particularly older users, who are unable or unwilling to type their chosen words.²³ Individuals with dexterity or motor coordination issues, and individuals with cognitive disabilities, may be unable to type or may find difficulty in doing so. Importantly, “IP CTS allow[s] hearing-impaired consumers, and the people they call, to speak freely in their primary languages ... offer[ing] disabled consumers greater functional

²¹ Comments of Sorenson Communications, Inc., CG Docket No. 16-145 and GN Docket No. 15-178, at 4 (filed July 11, 2016) (“Sorenson Comments”).

²² In addition, the captioning used by TRS providers to generate and deliver captions to IP CTS users is incompatible with the proposed RFC 4103 safe harbor interoperability standard for RTT. *See* Hamilton Comments, at 14-15; *see also* Comments of CTIA, CG Docket No. 16-145 and GN Docket No. 15-178, at 12-14 (“Although CTIA agrees with the Commission’s proposal to recognize RFC 4103 as a safe harbor for RTT interoperability, a network interoperability specification alone does not ensure that a service can be supported end-to-end across the array of available network and handset technologies.”) (filed July 11, 2016).

²³ Hamilton Comments, at 13.

equivalence to ordinary telephone service than does RTT.”²⁴ Sorenson correctly notes that “if VRS and IP CTS were to vanish in favor of RTT, it would mark a tremendous step backward in the steady progress the industry has made toward functional equivalence in the 25 years since Congress passed the ADA.”²⁵ While RTT will serve as an important augmentation to other forms of TRS, it should not be viewed as a wholesale substitution for other forms of TRS.

IV. Consistent with the TTY Reimbursement Rate, TRS Providers Should be Compensated for RTT Relay Calls Using the MARS Rate

As discussed above, TRS providers should provide the link – through CA-attended gateways – that can greatly speed and smooth the transition to RTT. The vast majority of RTT calls will not be relay calls, but RTT-to-RTT calls that will not need a gateway at all. However, RTT-to-voice relay calls will necessarily involve a CA, and RTT-to-TTY calls may require a CA for some or all of the call, depending on the comfort level of the individual users on such calls. Hamilton believes that the appropriate reimbursement rate for RTT relay calls should be the Multistate Average Rate Structure (“MARS”) traditional TRS rate, because RTT is essentially a direct replacement for TTY and would use the same CAs.²⁶ Intrastate RTT relay minutes of use could be included with intrastate TTY minutes of use for purposes of calculating the MARS rate.

Hamilton believes that only minimal rule changes would be necessary to incorporate RTT as another form of permitted TRS. Specifically, the Commission could revise Section 64.601(a)(32) as follows, with new text in bold:

²⁴ Sorenson Comments, at 2.

²⁵ *Id.* at 5-6.

²⁶ *Telecommunications Relay Services and Speech-to-Speech for Individuals with Hearing and Speech Disabilities*, Report and Order and Declaratory Ruling, 22 FCC Rcd 20140 (2007). See Hamilton Comments, at n.22.

Telecommunications relay services (TRS). Telephone transmission services that provide the ability for an individual who has a hearing or speech disability to engage in communication by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual who does not have a hearing or speech disability to communicate using voice communication services by wire or radio. Such term includes services that enable two-way communication between an individual who uses a text telephone or other nonvoice terminal device, **including a Real-Time Text device authorized pursuant to 47 CFR Part 67**, and an individual who does not use such a device, speech-to-speech services, video relay services and non-English relay services. TRS supersedes the terms “dual party relay system,” “message relay services,” and “TDD Relay.”

V. Conclusion

For the above reasons, the Commission should (1) sunset backward compatibility requirements no earlier than the sunset of the PSTN; (2) permit TRS providers to serve as RTT-TTY gateways; (3) recognize RTT-to-voice and RTT-to-TTY as two of several permitted forms of TRS; and (4) establish an appropriate rate structure for RTT relay reimbursements using the MARS rate.

Respectfully submitted,

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