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
	)	
	)	
Request for Comment on 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

COMMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

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I. INTRODUCTION AND SUMMARY

The Telecommunications Industry Association ("TIA")[1] hereby submits comments in the Federal Communications Commission's ("Commission") above-captioned Notice of Proposed Rulemaking ("*NPRM*")[2], which seeks comment on the proposal to replace the "rules governing the obligations of wireless service providers and equipment manufacturers to support TTY technology" with rules outlining new requirements to support real-time text ("RTT") communication over Internet protocol ("IP)-based wireless voice services.[3]

TIA's members, the manufacturers of telecommunications and advanced communications service ("ACS") equipment, will be impacted by the Commission's proposed replacement of obligations to support TTY with new requirements to incorporate RTT technology. TIA and its members supported the Commission initiating this proceeding and we appreciate the opportunity to provide input regarding the appropriate parameters for requirements to support RTT instead of TTY on IP-based networks. As communications networks transition to more advanced, IP-based technologies, equipment manufacturers recognize the importance of ensuring people who are deaf, hard of hearing and speech impaired continue to have access to communications services comparable to other consumers.

[1] TIA is the leading trade association for the information and communications technology ("ICT") industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms. TIA represents its members on the full range of policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy a wide variety of devices with the goal of making technology accessible to all Americans. TIA's standards committees, which operate under an American National Standards Institute-accredited process, create consensus-based voluntary standards for numerous facets of the ICT industry.

[2] *Transition from TTY to Real-Time Text Technology*, CG Docket No. 16-145, GN Docket No. 15-178, Notice of Proposed Rulemaking, FCC 16-53 (rel. Apr. 29, 2016) ("*NPRM*").

[3] *See id.* ¶ 2.

Currently, telecommunications networks are undergoing a transformation wherein more reliable networks with more advanced features using digital, IP technologies are increasingly being deployed. TIA and its members agree with the Commission's statement that this technological evolution, while presenting new opportunities, also presents the need for new conversations about how to maintain core statutory principles like access for all Americans.[4]

In its comments, TIA urges the Commission to ensure that any final rules requiring equipment manufacturers to support RTT technology strongly consider principles of economic and technical feasibility as well flexibility. In particular, we discuss the need to reassess the timeline for wireless manufacturer implementation; provide clarity on what constitutes RTT; urge caution regarding possible RTT requirements for wireline manufacturers; and recommend the Commission focus the scope of its rules to devices already required to support TTY.

II. THE COMMISSION SHOULD EMPLOY A REASONED APPROACH BASED ON PRINCIPLES OF FEASIBILITY AND FLEXIBILITY FOR ANY NEW WIRELESS DEVICE MANUFACTURER RTT REQUIREMENTS.

TIA recognizes that as more modern, IP-based wireless networks are deployed TTY technology is becoming increasingly obsolete and thus, we are supportive of initiating this discussion about the right framework to implement the use of RTT as an alternative to TTY. As with previous discussions about updating rules to respond to changing communications technologies, we believe it is imperative that the Commission ensure that its rules consider the interests of all stakeholders by having principles of technology neutrality, flexibility, and feasibility— economic and technical— as the foundation of its rules.

[4] *See NPRM* ¶ 6.

TIA appreciates the Commission's recognition of the importance of balancing all interests in the *NPRM* by not mandating the use of RFC 4103.[5] The Commission acknowledges "the need for [its] rules to incorporate 'key principles of flexibility and technology neutrality'" and adopt a middle ground that considers the factors at play for both consumers and industry.[6] TIA's comments to the Public Notice seeking comment on AT&T's petition for rulemaking ("RTT Petition PN") recommended a technology neutral approach that is outcome-based rather than mandating a specific implementation solution.[7] Therefore, we believe the safe harbor approach is preferable to the agency choosing which technical solution each company must adopt.

Nonetheless, despite this element of flexibility, we are concerned about other elements of the Commission's proposal and thus, lay out other factors the Commission should account for to ensure any rules are not overly burdensome on wireless manufacturers.

A. Proposed Implementation Timeline For Wireless Device Manufacturers.

Timeline to Support RTT Solution

In the *NPRM*, the Commission proposes to have "the timeline established for RTT support over IP-based wireless services apply as well to handsets and other text-capable end user devices for use in such services and thus proposes that any such handsets or devices sold after December 31, 2017, have RTT capability."[8] TIA has some concerns about the reasonableness of

[5] RFC 4103, as currently cited, has not yet been finalized as an official standard and there are outstanding errata that have yet to be incorporated into the version that is available. TIA believes it is important for the Commission to take that into consideration for any future rules citing RFC 4103. We recommend that the proper processes be pursued to ensure that the version that is cited as a safe harbor is something the wireless industry can safely rely on without concern about possible changes as a later date.

[6] *See NPRM* ¶ 51.

[7] *See* TIA Comments, GN 15-178, at 4 (filed Aug. 24, 2015).

[8] *NPRM* ¶ 28.

this proposal as it is based on the assumption that manufacturers will be able to have devices ready to support RTT at the same time that carriers are **aiming** to have their wireless networks ready to support this new capability. Indeed, the Commission itself acknowledges that AT&T reported its "hope" to have mobile devices with RTT by 2018.[9]

It is important for the Commission to realize that manufacturers' ability to provide compliant devices is heavily dependent on the readiness of the carrier network to support RTT service. If we look to the situation of wireless hearing aid compatibility ("HAC"), carriers' ability to meet their regulatory obligation is dependent on manufacturers ensuring they produce devices that are compliant. The Commission's rules have always reflected that understanding by affording carriers a longer implementation timeline.[10] The RTT situation represents the opposite of the wireless HAC scenario in that manufacturers' ability to offer RTT compliant devices is dependent on the network being ready to support the technology. Thus, TIA and its members believe similar staggered regulatory timelines are needed to accommodate and allow wireless voice communications networks and then, the devices authorized for use with those wireless voice communications networks to be ready to support this technology.

In its *April 2016 Status Report*, AT&T states that it plans to develop its own over-the-top ("OTT") application in recognition of manufacturers' need for additional time once the network is ready.[11] AT&T also says that the mobile device behavior specification standards that will define the technical parameters a mobile device needs to meet in order to support RTT are

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[9] *See id.* ¶ 30.

[10] *See e.g.*, 47 C.F.R. § 20.19(a).

[11] *See* IP-Voice Accessibility Status Report of AT&T (filed Apr. 6, 2016) at 1 ("To accommodate manufacturer timelines for the development and deployment of an RTT solution embedded in wireless devices, AT&T will initially deploy an application-based over-the-top ("OTT") RTT solution.").

still being developed.[12] Once that happens, the company intends to reach agreements with manufacturers about providing RTT supported devices on its network.[13] These factors indicate that much of what is needed either from an OTT or embedded/native functionality perspective is still being worked out by AT&T and would then need to be coordinated with other wireless carriers[14] as well as the device part of the equation.

Further, it is worth noting that the Commission's *NPRM* relies heavily on AT&T's reporting for determining the appropriate timelines for when the technology will be ready for deployment and thereby what the implementation windows will be for various covered entities. TIA's comments to the RTT Petition PN highlighted the need to ensure interoperability among all parts of the RTT ecosystem. Interoperability will require wireless carriers to ensure they have consistent specifications that manufacturers must comply with to support RTT on a particular network. Currently, the record does not have details on the status of other carriers' efforts, which will ultimately impact TIA members' ability to meet proposed obligations in an efficient and timely manner.

TIA, therefore, encourages the Commission to adopt a reasonable implementation timeframe that accounts for what is feasible on the part of wireless device manufacturers given the planned deployment timeline laid out by the carriers. We recommend, at a minimum, an additional twelve months beyond what is required for Tier I wireless carriers.

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[12] *See id.* at 2.

[13] *See id.*

[14] *See id.* AT&T's *Status Report* acknowledges that interoperability across various networks will require coordination with other carriers but no details on any challenges or if it can occur within the initial network readiness timeline are provided.

Moreover, the Commission's proposal addresses wireless handsets or devices sold after the specified date.[15] TIA and its members express concerns with this language as manufacturers generally have control over the point of manufacture not the point of sale or distribution channels. Therefore, it would be unreasonable for the product distribution chain to be identified in the manufacturer requirements. In addition, it would be overly burdensome for the Commission to require manufacturers to try to retrofit devices already being used in the marketplace to meet this requirement as raised by the *NPRM*.[16] The changes that will need to be employed to make devices ready to support RTT are not superficial and would require more than a basic software update. We recommend that the Commission focus any requirements on the date the device is manufactured rather than the date sold and avoid any additional requirements to retrofit devices already in use.

Timeline to Sunset Support for TTY

The Commission seeks comment on "what events or measures should trigger a sunset of the residual obligation for wireless networks to be backward compatible with TTY technology."[17] Currently, the data indicate that there is already minimal use of wireless TTY[18] and it clearly is not expected to be utilized at all once an RTT application is available on the device. TIA and its members therefore recommend the Commission adopt a provision that would sunset the requirement for wireless devices to have capability to support TTY and backward compatibility once RTT functionality is implemented. This recommendation is consistent with that of the FCC's Disability Advisory Committee which recommended that

[15] *NPRM* ¶ 28.

[16] *See id.* ¶ 29 (asking about a possible requirement to add RTT capability to end user devices already in service at the compliance deadline, "at natural opportunities").

[17] *Id.* ¶ 65.

[18] *See id.* n. 50 (citing a number of sources referencing the almost non-existent TTY use with wireless services).

"newly manufactured and offered wireless equipment and services that support interoperable RTT consistent with [RTT-TTY interoperability recommendations] need not support TTY services and equipment."[19] We recognize the potential improved experience RTT will provide for those who have had difficulty due to TTY reliability issues in the wireless IP environment. It is worth noting, however, that the changes that will be necessary to incorporate RTT will result in significant costs and efforts on the part of device manufacturers. Therefore, as the process moves forward and RTT functionality is implemented the burden should be offset by removing the obligation to support TTY.

B. Proposal for What Constitutes RTT.

The Commission's proposed rules define what would constitute RTT by outlining specifications and functionalities that must be available for a covered entity to say they support RTT and are in compliance with the rules. Initially, the *NPRM* states that an OTT solution[20] "will be sufficient to constitute compliance with the RTT requirement by December 31, 2017."[21] As discussed above, this is the timeline by which a particular carrier expects to have its network and downloadable application it proposes to use for RTT ready. It would be unreasonable for the Commission to expect that all manufacturers will be able to deploy this capability to all their devices on all carrier networks at this same time.

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[19] FCC Disability Advisory Committee Comments, GN 15-178, at 3 (filed Feb. 25, 2016).

[20] The term OTT is used to describe services operating over the open, unmanaged internet for which the service provider does not have control over the type of underlying network and connection a user chooses. Providing RTT over such "best effort" services and networks raises complicated questions regarding latency, packet loss, and other issues, that may make it infeasible for many over the top services to meet the performance criteria set out in the *NPRM*. We interpret the *NPRM* to mean the Commission would allow for OTT RTT applications on wireless devices that enable voice communications and are currently required to support TTY. But we assume the Commission does not intend to extend requirements to all OTT VoIP services.

[21] *Id.* ¶ 31.

The *NPRM* proposes that to be compliant "RTT must be capable of transmitting text instantly, so that each text character appears on the receiving device at roughly the same time it is created on the sending device."[22] TIA and its members are worried that the Commission's proposal essentially limits RTT specifically to character-by-character functionality despite the definition of RTT proposed in §67.1(f) which implies more flexibility in implementation.[23] It is not clear if a character-by-character requirement would potentially hinder or preclude extremely popular features like swype or word completion whose operation is word-based. These features are very useful for consumers with mobility or cognitive impairments. Furthermore, there are a number of feature phones, which tend to be used by older consumers that would have difficulty meeting a character-by-character requirement as those devices require a key to be pushed multiple times to enable the proper character or letter to appear on the screen.

The Commission also asks about requiring an alternate capability that would allow RTT functionality to work like existing instant and text messaging systems.[24] We note that the initially proposed required character error rate and latency are tied to character-by-character operation and thus, these specifications should be revised accordingly to facilitate alternate modes of operation. Further, we caution the Commission against a requirement to have character-by-character functionality serve as the default mode of operation because it may be incongruent with the needs and expectations of most consumers, especially in stressful emergency situations.

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[22] *Id.* ¶ 70.

[23] *See NPRM,* Appendix A, §67.1(f) "Real-time text (RTT)" or "RTT communications" means text communications that are transmitted over Internet Protocol (IP) networks immediately as they are typed, *e.g., on a character-by-character basis.* (emphasis added).

[24] *See id.* ¶ 71.

We ask the Commission to allow manufacturers sufficient flexibility to deploy the form of RTT that is most appropriate for their line of products and does not cause them to eliminate existing functionalities that consumers find important.

III. TIA URGES THE COMMISSION TO PROCEED WITH CAUTION REGARDING APPLYING WIRELESS SOLUTIONS INCLUDING RTT TO THE WIRELINE CONTEXT.

The *NPRM* raises the issue of whether the Commission should amend its rules to have similar requirements for RTT implementation in IP-based wireline networks for wireline voice over IP providers ("VoIP") and equipment manufacturers.[25] TIA and its members urge the Commission to proceed carefully in this area. As we have noted in previous proceedings, what may be appropriate in the wireless communications context may not work for wireline networks and devices (and vice versa).

TIA acknowledges that the increased deployment of IP-based networks is also occurring in the wireline space. Nonetheless, the dynamics at play in wireline, particularly as it relates to the equipment used, does not allow for the same solution to be used. Many wireline devices, especially low-end systems, would have problems supporting a RTT requirement. Many wireline VoIP phones do not have a QWERTY or virtual keyboard with all the letters to generate text nor full screens to view messages or other extensive textual/graphic content. The *NPRM* provides exemptions from the obligations for wireless phones that do not support a way to "generate, present, receive or display text." This situation is very common for wireline phones particularly customer premises equipment or other devices for regular consumer use.

Additionally, the Commission does not cite to any indications or plans by wireline VoIP providers to make their networks ready to support this capability. Other proceedings at the

[25] *See id.* ¶¶ 95-99 (addressing RTT implementation in IP-Based wireline networks and equipment).

Commission indicate the increased consumer and marketplace focus on wireless rather than wireline services and devices. All these factors combined means that an RTT requirement would be overly burdensome and likely technically infeasible in some cases for wireline manufacturers.

IV. THE COMMISSION SHOULD LIMIT THE SCOPE OF ANY RTT REQUIREMENTS AND SET APPROPRIATE EXPECTATIONS REGARDING THE FUTURE USE OF THE TECHNOLOGY.

TIA believes the Commission should confine the scope of its rules to addressing the specific problems identified as the reason for this proceeding. Specifically, any new requirements to have RTT capability should only apply to entities, devices and services that are currently required to provide support for TTY. Throughout the *NPRM*, the Commission asserts that the proposed rules are intended to facilitate a transition from TTY to RTT in order to address the growing use of IP-based networks that do not reliably enable TTY operations.[26]

TTY is a technology that was designed to enable people who are deaf, hard of hearing, or speech disabled to use the public switched telephone network and have access to voice communications equivalent to other consumers.[27] Yet, the *NPRM* seems to focus its device proposals not on devices that enable voice communications but to those that are text-capable.[28] The Commission should not tie its rules to whether a device can show text but rather focus on the devices that enable voice communications that currently are required to offer TTY solutions. The reference to the end user requirement covering "handsets and other text-capable end user devices" should be defined as other text-capable end user devices authorized for use with the carrier's services, consistent with the definition proposed in §67.1(a).

[26] *See e.g., NPRM* ¶ 1 (discussing the purpose of the NPRM); ¶¶11-14 (addressing the limitations of TTY and its declining use).

[27] *See id.* ¶ 5.

[28] *Id.* ¶¶ 18, 28.

Moreover, TIA believes the Commission should take care to set appropriate expectations for consumers about the future of RTT and how it will be available. As discussed above, there are a number of elements that will need to come together to facilitate RTT use and the wireless industry is still working on the various standards beyond RFC 4103 that will be needed to facilitate effective implementation. Thus, seamless RTT use will not happen instantaneously and it is important that the Commission keep that perspective in mind when discussing possible future rules to facilitate RTT availability.

Finally, TIA is concerned about the Commission discussing RTT in a way that gives the broader perception that RTT technology may be achievable and available to replace all forms of voice communications in the future. TIA encourages the Commission, in any final rules adopting RTT obligations, to clarify that the intent is to address issues specific to IP-based wireless communications that are replacements for wireless services that were previously required to enable TTY. We think it is important to set appropriate public expectations and not discuss RTT as the cure-all solution that can be achieved and implemented in any device.

V. CONCLUSION

TIA and its members urge the Commission to closely consider the factors discussed above and we look forward to continued discussion on the proposed transition from TTY to RTT technology.

Respectfully submitted,
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