

**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
	)	
	)	

To: The Commission

**REPLY COMMENTS OF CTIA**

Thomas C. Power  
Senior Vice President and General Counsel

Scott K. Bergmann  
Vice President, Regulatory Affairs

Matthew B. Gerst  
Director, Regulatory Affairs

Kara D. Romagnino  
Director, Regulatory Affairs

**CTIA**  
1400 Sixteenth Street, NW  
Suite 600  
Washington, DC 20036  
(202) 785-0081

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CTIA<sup>1</sup> respectfully submits these reply comments in the above-captioned proceedings<sup>2</sup> to urge the Commission to adhere to the record established by the initial comments to transition from wireless text telephone technology (TTY) rules to modern accessibility requirements such as Real-Time Text (RTT) that match the dynamism of the wireless industry.<sup>3</sup>

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<sup>1</sup> CTIA<sup>®</sup> ([www.ctia.org](http://www.ctia.org)) represents the U.S. wireless communications industry. With members from wireless carriers and their suppliers to providers and manufacturers of wireless data services and products, the association brings together a dynamic group of companies that enable consumers to lead a 21st century connected life. CTIA members benefit from its vigorous advocacy at all levels of government for policies that foster the continued innovation, investment, and economic impact of America's competitive and world-leading mobile ecosystem. The association also coordinates the industry's voluntary best practices and initiatives and convenes the industry's leading wireless tradeshow. CTIA was founded in 1984 and is based in Washington, DC.

<sup>2</sup> See *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, CG Docket No. 16-145, GN Docket No. 15-178, FCC 16-53 (Apr. 29, 2016) ("*Notice*").

All references to "Comments" in this reply are to comments filed in CG Docket No. 16-145 and GN Docket No. 15-178 on or about July 11, 2016.

<sup>3</sup> Although the record contains some discussion of wireline issues, CTIA believes the Commission should maintain a focus on addressing the outdated and unnecessary existing TTY obligations for wireless services and equipment and a transition to more advanced services, such as RTT.

## I. INTRODUCTION AND SUMMARY.

The initial comments underscore the unique opportunity that this proceeding presents to begin the transition away from outdated wireless TTY obligations and toward solutions like RTT, which hold significant promise for serving wireless consumers, including those who are deaf, hard of hearing, or speech impaired. The record demonstrates that TTY is unnecessary for today's wireless consumers. For this reason alone, the Commission should expressly relieve wireless providers and manufacturers, whether offering or supporting Commercial Mobile Radio Service (CMRS) or Voice over Internet Protocol (VoIP) services, from any obligations to support TTY in new wireless services and equipment.

To adopt rules that usher in new RTT services, the record demonstrates that the Commission's final rules should focus on the core RTT functions that are well-understood and supported in the record at this time. A wide range of stakeholders representing consumers, public safety, relay providers, wireless providers, and manufacturers have raised important questions about the feasibility of specific RTT capabilities or functions proposed in the *Notice*. In order to ensure the timely deployment of RTT, the Commission should avoid mandating overly prescriptive capabilities or functions for RTT, such as video, simultaneous voice and text, and other functions (*e.g.*, emojis), at this time. These capabilities do not have sufficient record support and warrant further evaluation by the appropriate industry and consumer technical experts.

Instead, the Commission's final rules should ensure that RTT meets technology-neutral, performance-based objectives that support the goal of replacing TTY. Further, the record is clear that the Commission's final rules should provide a phased-in implementation and deployment framework that recognizes the inherent complexities with deploying a wholly new service, such as RTT.

## **II. THE RECORD SUPPORTS REMOVING TTY OBLIGATIONS FOR NEW WIRELESS SERVICES AND EQUIPMENT WHILE RECOGNIZING RTT AS SUFFICIENT TO MEET THE COMMISSION'S ACCESSIBILITY OBLIGATIONS.**

### **A. The Record Supports Removing TTY Obligations for New Wireless Services and Equipment.**

The record lacks support for maintaining today's wireless TTY obligations. Specifically, the initial comments demonstrate that wireless consumers, including deaf, hard of hearing, and speech impaired consumers, have effectively abandoned TTY on wireless services and equipment in favor of more widely utilized services such as SMS, e-mail, and other text messaging services.<sup>4</sup> For this reason alone, the Commission should modify its proposed rules to expressly relieve wireless providers and manufacturers, whether offering or supporting CMRS or VoIP, from any obligations to support TTY in new wireless services and equipment.<sup>5</sup> CTIA therefore agrees with RERC that the Commission should "let carriers start providing RTT solutions instead of TTY connectability as soon as regulations are in place and the requirements defined."<sup>6</sup>

If the Commission does not make TTY relief for new wireless services and equipment explicitly clear in the final rules, there would be an unnecessary burden without benefit to require wireless service providers and manufacturers to support both TTY and RTT capabilities in new

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<sup>4</sup> Comments of AT&T Services, Inc. at 7 (noting that TTY has been "surpassed by emerging solutions") (AT&T Comments); Comments of the National Cable & Telecommunications Association at 3; Comments of the Telecommunications Industry Association at 8 (TIA Comments); *see also Notice* ¶ 12.

<sup>5</sup> AT&T Comments at 6; Comments of the Consumer Technology Association f/k/a the Consumer Electronics Association at 2 (CTA Comments).

<sup>6</sup> 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 at 11 (RERC Comments).

wireless services and handsets. As the record shows,<sup>7</sup> relief from the TTY obligations for new wireless services and equipment is justified by the lack of TTY use by wireless consumers and the proposed introduction of RTT that would be backward compatible for some period of time with existing wireless and wireline TTY users, specifically with public safety answering points (PSAPs) for 9-1-1 emergency communications and 7-1-1 relay services.<sup>8</sup> Thus, the Commission’s final rules in this proceeding should explicitly relieve wireless providers and manufacturers from any requirement to support both RTT and TTY on new wireless services and equipment.

**B. The Commission Has a Unique Opportunity to Usher In a New Service that Holds Significant Promise for All Consumers, Especially People with Disabilities.**

The record supports adoption of RTT and its potential for increasing accessibility, including further encouraging the transition to NG9-1-1.<sup>9</sup> As explained by the Bureaus, existing wireless consumers rarely, if ever, use TTY, but consumers may choose to use RTT if given the opportunity.<sup>10</sup> As mentioned above, backward compatibility between RTT and TTY for a limited period of time should be sufficient to ensure that any existing wireless TTY user can

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<sup>7</sup> AT&T Comments at 6; RERC Comments at 5; TIA Comments at 8-9.

<sup>8</sup> *See, e.g.*, Comments of Alliance for Telecommunications Industry Solutions at 5 (ATIS Comments) (noting that despite network load and security issues related to backward compatibility of TTY, “compatibility between RTT and TTY for E9-1-1 and TRS 711 services would be beneficial”).

<sup>9</sup> Comments of West Safety Services, Inc. at 3 (West Safety Comments) (predicting that “end-to-end RTT adoption will advance the migration to NG911”); RERC Comments at 9 (observing that “the largest group that will benefit from RTT on emergency calls will not be people who are deaf, or who primarily communicate in text, but rather people who normally communicate via speech but not reliably – and who cannot understand spoken instructions from 9-1-1 due to their hearing loss and/or due to problems with background noise”).

<sup>10</sup> *Petition for Waiver of Rules Requiring Support of TTY Technology*, Order, 30 FCC Rcd 10855, 10859 ¶ 11 (2015) (determining that the impact of waiving the Commission’s TTY obligations would be “insignificant”); *see also* 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 at 5 (TDI *et al.* Comments) (“RTT can be an effective alternative to TTY on IP-based networks if RTT is readily available to consumers.”).

reach 9-1-1 and 7-1-1 relay services until the FCC expressly sunsets TTY services.<sup>11</sup> The record also supports the Commission establishing a date certain to sunset any RTT-TTY backward compatibility requirement in order to properly incent and hasten the transition to RTT for consumers, industry, and public safety.<sup>12</sup>

### **III. THE COMMISSION SHOULD AVOID OVERLY SPECIFIC REQUIREMENTS THAT LACK RECORD SUPPORT AND ADOPT TARGETED, FLEXIBLE, AND PERFORMANCE-BASED RULES TO SPUR INNOVATION IN RTT AND OTHER ACCESSIBILITY SOLUTIONS.**

#### **A. The Record Supports Flexible, Technology-Neutral Rules Based on Performance Objectives.**

Adopting flexible rules, rather than mandating a particular means of RTT implementation, would enable the wireless industry to use new and updated technologies to

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<sup>11</sup> As described in our initial comments, the Commission must also recognize that the Text-to-911 rules were mandated on the premise that wireless TTY was not sufficient to meet wireless consumers' expectations for 9-1-1 emergency communications, especially for people with disabilities. Thus, regardless of backwards compatibility between RTT and TTY, the Commission's rules already require a text-based service that enables direct 9-1-1 emergency communications with PSAPs. *See* CTIA Comments at 4-6, 19; *see also Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, Report and Order, 28 FCC Rcd 7556 (2013) (requiring covered text providers to provide consumers attempting to send a text to 911 with an automatic bounce-back message when the service is unavailable); *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, Second Report and Order and Third Further Notice of Proposed Rulemaking, 29 FCC Rcd 9846, 9855 n.54 (2014) (“[W]e believe that the adoption of a text-to-911 requirement provides an important interim step in responding to the emergency access needs of people who are deaf, hard of hearing, or speech disabled.”).

<sup>12</sup> Comments of National Emergency Number Association at 8 (NENA Comments) (supporting a “short phase-out period starting soon”); Comments of Texas 9-1-1 Alliance, Texas Commission on State Emergency Communications, and Municipal Emergency Communication Districts Association at 3-5 (Texas 9-1-1 Entities Comments) (cautioning that RTT-TTY compatibility not delay progress with respect to full RTT or RTT NG9-1-1 approaches); Comments of T-Mobile USA, Inc. at 11 (T-Mobile Comments) (urging the Commission to adopt a sunset of backwards compatibility requirements to avoid the possibility of carriers “necessity, be[ing] driven to particular proprietary technologies to manage the resource load”); West Safety Services at 3 (“Continued long-term support for TTY ... will discourage the transition to NG911 as carriers and PSAPs struggle with TTY shortcomings on IP-based systems and RTT-TTY interoperability challenges, including having to interpret and address incomplete and potentially inconsistent character conversions.”); TIA Comments at 8-9.

*See also Technology Transitions et al.*, Declaratory Ruling, Second Report and Order, and Order On Reconsideration, GN Docket No. 13-5 *et al.*, FCC 16-90 ¶¶ 26, 158 (rel. July 15, 2016) (2016 *Technology Transitions Order*) (adopting a sunset date of 2025 for certain compatibility requirements).

allow people with disabilities to benefit from innovation. The record supports the Commission following the proven, technology-neutral performance objective approach adopted in its accessibility rules for telecommunications and advanced communications services (ACS).<sup>13</sup> The proposed rules regarding RTT-TTY interoperability (Proposed Section 67.2(b)(2)), using telephone numbers (Proposed Section 67.2(d)(1), and PSAP delivery (Proposed Section 67.2(d)(2)) are examples of such technology-neutral performance criteria.

As discussed in more detail below, however, the Commission should not micromanage specific RTT features and functionalities (*e.g.*, character-by-character consumer input, emojis, and specific settings to control font size, text color, text windows, and text presentations) that should instead develop organically in response to consumer demand.<sup>14</sup> As demonstrated recently at the Commission’s Disability Advisory Committee meeting, other technology solutions are developing that can incorporate video, text, and voice that are separate from the service provider RTT service envisioned in this proceeding.<sup>15</sup>

Moreover, although the initial comments broadly support creating a safe harbor standard for interoperability, such as RFC 4103,<sup>16</sup> the record demonstrates that additional work is needed

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<sup>13</sup> AT&T Comments at 8-10; CTA Comments at 5-6; CTIA Comments at 9-11.

<sup>14</sup> AT&T Comments at 8-10 (urging that specific RTT user features beyond requirements “to ensure that RTT replaces the functions of and allow for an orderly transition from TTY” should be “consumer driven”); CTIA Comments at 9-10; *see also Notice* ¶¶ 79-80 (seeking comment on the technical feasibility, costs, and benefits of requiring RTT to allow use of the full Unicode character set and “the ability for users to control text settings..., adjust text conversation windows, and to set up text presentation”) (footnotes omitted).

<sup>15</sup> *See, e.g.*, FCC, Disability Advisory Committee Meeting (June 16, 2016 135:55 – 178:30) (demonstrating the FCC’s ACE Direct technology), <https://www.fcc.gov/news-events/events/2016/06/disability-advisory-committee-meeting>.

<sup>16</sup> *See, e.g.*, RERC Comments at 28; TDI *et al.* Comments at 10; NANSA Comments at 2; T-Mobile Comments at 6.

to make RTT a fully interoperable, end-to-end service.<sup>17</sup> The deployment of any service, including RTT, requires coordination across a broad set of stakeholders that goes beyond wireless service providers and device manufacturers. For example, government agencies, such as those involved in public safety and lawful intercept, will also require the development of standards necessary to interact with RTT.<sup>18</sup> For these reasons, the Commission should refrain from considering only a single RTT implementation or standard as being necessary to satisfy the rules, and recognize that RTT implementation requires flexible, technology-neutral rules that give clear direction of performance objectives for all stakeholders, whether subject to or affected by the FCC's rules.

**B. The Record Demonstrates that the Effective and Successful Adoption of RTT Will Require Sufficient Flexibility in Implementation and Deployment.**

The record demonstrates the complexity of ushering in a wholly new service, such as RTT.<sup>19</sup> This complexity counsels caution against detailed, prescriptive rules based on inflexible deadlines, and in favor of functional, performance-based requirements that are phased in throughout the industry. To avoid potential delays and waiver requests that would result from the prescriptive requirements and inflexible deadlines proposed in the *Notice*, which are not

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<sup>17</sup> See, e.g., NENA Comments at 2-3 (discussing how its i3 standards incorporates RTT, including RFC 4103); ATIS Comments at 4 (discussing ATIS standards supporting RTT interoperability); CTA Comments at 5 (noting the value of voluntary, consensus standards and urging the Commission to acknowledge that other standards are permitted if they meet the necessary performance objectives for RTT).

<sup>18</sup> See, e.g., NENA Comments at 6-7 (noting that its i3 and NG-SEC standards include mandatory secure protocols for use within Emergency Services IP networks).

<sup>19</sup> See NENA Comments at 4 (cautioning that there may be “potential operational limitations that consumers and PSAPs could face if the RTT roll-out is not care-fully coordinated with as-yet unresolved issues relating to the broader NG9-1-1 transition”); Comments of TracFone Wireless, Inc. at 2-3 (TracFone Comments) (noting the limits of resellers’ “direct influence” on the many networks upon which resellers rely to provide service to their customers); Texas 9-1-1 Entities Comments at 3-5 (urging a notification process and related communications between service providers and 9-1-1 Authorities responsible for the IP network serving a PSAP to ensure emergency communications are successfully facilitated); Comments of Verizon at 4 (Verizon Comments) (noting that the transition from TTY to RTT is “complex”).

supported by the record, the Commission’s final RTT rules must provide flexibility for the wireless industry to deploy a fully interoperable, end-to-end RTT service.

RERC correctly observes that a successful move from TTY to RTT requires a “harmonized” transition.<sup>20</sup> A sufficient transition period will set the foundation for any harmonized approach.<sup>21</sup> As AT&T notes, not all of the capabilities proposed in the *Notice* will be feasible by December 31, 2017.<sup>22</sup> Instead, the Commission should focus on core RTT functions that the record supports as feasible in the near term,<sup>23</sup> while encouraging appropriate stakeholders, including industry, consumers, and others, to evaluate the feasibility of other features in the future.<sup>24</sup> TracFone also explains why compliance deadlines should apply to *new models* of wireless devices manufactured on or after the deadline, as opposed to models manufactured prior to the deadline.<sup>25</sup> Others agree that any compliance date should apply from the date of device manufacture, rather than the date of importation or sale.<sup>26</sup> The Commission

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<sup>20</sup> RERC Comments at 8.

<sup>21</sup> Comments of Competitive Carriers Association at 3-6 (CCA Comments) (arguing for a phased-in approach for non-nationwide carriers); CTA Comments at 7-8 (noting that the *Notice* proposes an unrealistically short amount of time, but if the given additional time, “manufacturers will use this transition period to implement the new regulatory requirements in a coherent, coordinated, and efficient manner”); TracFone Comments at 4; TIA Comments at 5-8.

<sup>22</sup> AT&T Comments at 12-13, 17-18.

<sup>23</sup> *Id.* at 17; *see also* T-Mobile Comments at 7-8 (minimum functionalities should be backward compatible two-way real-time text capability that provides access to 9-1-1 and 711-based relay services); Verizon Comments at 8 (supporting a focus on fundamental requirements like interoperability and backward compatibility); RERC Comments at 42 (stating that lossless transliteration from TTY is not feasible).

<sup>24</sup> The Commission need not and should not conduct a proceeding regarding such evaluations. Instead, the additional feasibility evaluations necessary for the features that are unsupported in the record, such as video, should be left to the appropriate technical industry and consumer technical experts.

<sup>25</sup> TracFone Comments at 8-10 (discussing that, among other things, “[r]equiring RTT implementation whenever a carrier introduces ... an update would hinder the release of these time-sensitive updates and threaten the security of consumers’ devices”).

<sup>26</sup> *See, e.g.*, AT&T Comments at 18; CTA Comments at 7-8 (“[T]he Commission should set any new compliance date from the time of device manufacture.”); TIA Comments at 5-8 (noting that

should disregard NANSA’s infeasible suggested deadline of December 2017 for native RTT devices and networks, which underestimates the time needed for an RTT transition involving fundamental changes to both wireless networks and devices.<sup>27</sup>

Consistent with the Commission’s existing accessibility rules,<sup>28</sup> the record is also clear that the final RTT rules should ensure that responsibilities for certain requirements are clearly delineated between the covered entities that have control over that capability.<sup>29</sup> Therefore, due to the complexity of RTT deployment and the harmonization that is necessary across multiple stakeholders, the Commission should adopt a phased-in approach that recognizes the dynamics in deploying a successful RTT service.<sup>30</sup>

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manufacturers “generally have control over the point of manufacture not the point of sale or distribution channels”).

<sup>27</sup> NANSA at 2 (arguing for a December 2017 deadline for native RTT devices and networks).

<sup>28</sup> For example, under the ACS rules, manufacturers are responsible for the accessibility of apps they preinstall, but not those that consumers independently download. *See, e.g., Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010 et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557, 14588 ¶ 78 (2011). Recognizing that its closed captioning rules did not reflect business realities, the Commission recently adjusted its closed captioning framework to more closely track the entities creating and delivering captions. *Closed Captioning of Video Programming; Telecommunications for the Deaf and Hard of Hearing, Inc. Petition for Rulemaking*, Second Report and Order, 31 FCC Rcd 1469 ¶¶ 17-31 (2016).

<sup>29</sup> *See generally* AT&T Comments at 14 (cautioning against designing rules that would, in effect, deem carriers “co-manufacturers” of devices); TracFone Comments at 2-3 (observing that resellers are reliant on several networks, the capabilities of which are independent of the resellers’ direct influence); T-Mobile Comments at 10 (urging the Commission to allow carriers to deploy RTT-capable devices on a phase-in schedule, consistent with past practice); Comments of Hamilton Relay, Inc. (Hamilton Relay Comments) (noting that TRS providers may be able to leverage their unique expertise and technology to facilitate RTT conversations and consumer outreach); NENA Comments at 4 (noting that “implementation challenges are likely to differ between regulated entities that are Originating Service Providers (‘OSPs’), only, and those that are both Access Network Providers (‘ANPs’) and OSPs”); West Safety Services (observing West Safety’s expertise with respect to NG9-1-1).

<sup>30</sup> RERC Comments at 12 (supporting a phased-in approach based on carrier size); TDI *et al.* Comments at 5-6; Verizon Comments at 4 (urging a graduated transition rather than attempting to undertake this complex transition in a “single leap”).

**C. The Record is Clear that, in Order to Avoid Delaying the Availability of RTT, the Commission Should Not Mandate Features or Capabilities that are Overly Prescriptive or Require Further Evaluation.**

Introducing RTT will lead to important consumer benefits, especially given how little wireless consumers use TTY. The Commission must safeguard the move to RTT against attempts to create something so detailed and specific that it risks implementation delays and consumer indifference. As a guiding principle, the Commission should refrain from micromanaging the introduction of this new communications service.

For example, the Commission should not require RTT to be native to a device's default voice app.<sup>31</sup> Such a requirement at the outset of the Commission's rules will only serve to delay the transition from an unused technology – wireless TTY – to a superior technology – RTT – that has the potential to benefit all consumers, including people with disabilities.<sup>32</sup>

Given the potential benefits of downloadable and/or over-the-top (OTT) apps, particularly in the near term, the record clearly supports rules that provide the flexibility for wireless service providers and manufacturers to support RTT through either native functionality or downloadable/OTT applications.<sup>33</sup> The record demonstrates that, given the unique design of each carrier's network architecture, the Commission should not prefer one approach over another. Both should be permissible and utilized at the carrier's discretion.<sup>34</sup>

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<sup>31</sup> See NANSAs Comments at 2; RERC Comments at 14-15; *see also* Notice ¶ 41.

<sup>32</sup> RERC Comments at 9 (observing that “the largest group that will benefit from RTT on emergency calls will not be people who are deaf, or who primarily communicate in text, but rather people who normally communicate via speech but not reliably – and who cannot understand spoken instructions from 9-1-1 due to their hearing loss and/or due to problems with background noise.”).

<sup>33</sup> See AT&T Comments at 20-21; CTA Comments at 6; CTIA Comments at 17; T-Mobile Comments at 8-9; Verizon Comments at 9.

<sup>34</sup> See T-Mobile Comments at 8-9.

The Commission also cannot ignore the success of accessibility and communication apps that are widely used by people who are deaf, hard of hearing, or speech-impaired.<sup>35</sup> Requiring end-user devices to have native RTT capabilities risks delaying the introduction of RTT into devices generally.<sup>36</sup> Today’s wireless consumers, including people with disabilities, are accustomed to accessing different functionalities, one of which would be RTT, whether offered natively or through OTT applications. As observed by NENA, “there is growing frustration among both PSAPs and consumers that 9-1-1 service cannot currently meet what have become basic consumer expectations for service functionality,” *i.e.*, modern text services.<sup>37</sup>

Additionally, the Commission should limit the scope of covered equipment to devices that are typically used with voice communications (rather than end-user devices that are merely text capable)<sup>38</sup> and not impose requirements for wireless RTT beyond those previously associated with TTY obligations (such as video, simultaneous text and voice, automated attendant/interactive voice response systems, caller identification, and “similar” functions).<sup>39</sup> As stated above, expanding the scope of the rules without the necessary technical feasibility evaluations will ultimately delay RTT implementation.<sup>40</sup>

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<sup>35</sup> PN Comments of CTIA – Accessibility of Communications Technologies, CG Docket No. 10-213, at 17-22 (filed June 22, 2016) (CTIA PN Comments) (describing numerous first-party and third-party apps that enhance the accessibility of wireless products and services).

<sup>36</sup> AT&T Comments at 17-18; CTA Comments at 6.

<sup>37</sup> NENA Comments at 3.

<sup>38</sup> CTA Comments at 2-3; CTIA Comments at 18.

<sup>39</sup> NANSAs Comments at 3 (calling for RTT requirements that must be able to send and receive both text and voice simultaneously in both directions over IP on the same call and via a single device); TDI *et al.* Comments at 15 (urging same).

<sup>40</sup> *See, e.g.*, ATIS at 8 (“Implementation of functions such as support for video and graphic symbols, (e.g., emoticons) could make compliance with the December 2017 deadline difficult if not impossible to meet.”).

The expanded features and functions proposed in the *Notice* are not clearly needed for the purpose of transitioning from TTY to RTT. For example, specific character input requirements (e.g., transliteration, specific character usage, character-by-character requirements) are limiting and, in any event, premature.<sup>41</sup> Along the same lines, the Commission should decline at this time to mandate a specific set of characters for RTT.<sup>42</sup> Proposed Section 67.2(d)(7) related to caller identification and “similar telecommunications functions” is also vague and unnecessary. These and similar proposals are not associated with TTY obligations and should not be adopted at this time without further evaluation.<sup>43</sup>

With respect to portability of devices across networks, in light of the technical challenges involved, the Commission should not adopt a device portability requirement for RTT.<sup>44</sup> Portability is challenging in the current environment, even without RTT, and IP-based networks multiply the challenges. As CTIA explained in its initial comments, RFC 4103 is not a device portability solution.<sup>45</sup> If a device portability requirement is adopted, which the record does not

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<sup>41</sup> See Hamilton Relay Comments at 6-8 (explaining that it is “speculative” to assess the nature of RTT to RTT conversation etiquette and symbol usage at this time); TIA Comments at 9-11.

<sup>42</sup> TDI *et al.* Comments at 15 (seeking the same set of characters for RTT as MMS and SMS); ATIS Comments at 7 (noting the technical and practical challenges associated with supporting the capability to transmit emoticons and graphic symbols).

<sup>43</sup> AT&T Comments at 9; *see also supra* note 24.

<sup>44</sup> CTA Comments at 5-6 (noting that “it is premature to require carrier portability requirements akin to swapping SIMs for RTT generally, and native RTT in particular”); *see also* RERC Comments at 62 (discussing limitations with respect to device portability).

<sup>45</sup> CTIA Comments at 13; *see also* RERC Comments at 28-30 (distinguishing between interoperability between networks, for which RFC 4103 could serve as a standard, and device portability).

support,<sup>46</sup> at the least, the Commission must carefully set consumer expectations so that they reflect the available technology.<sup>47</sup>

Moreover, dictating how RTT is included in the plans that wireless providers offer their subscribers is inappropriate and unnecessary.<sup>48</sup> Some service providers offer data-only plans to individuals who are deaf or hard of hearing or have speech disabilities in order to avoid charging these individuals for unused voice services.<sup>49</sup> The Commission should not accept the invitation to undermine important policies and goals that encourage providers to offer plans designed for people with disabilities and similar innovative service plans.<sup>50</sup>

Finally, the Commission should reject calls to impose a backup power requirement on RTT-capable wireless devices.<sup>51</sup> Backup power requirements would be an unwarranted expansion of this proceeding, which focuses on replacing TTY. This proceeding thus is distinct from the Technology Transitions docket, which is considering backup power among many other issues in the context of the transition from the wireline public switched telephone network

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<sup>46</sup> See *id.*; see also Verizon Comments at 8-9 (stating that “the Commission should not introduce any portability mandate” in this proceeding); CTA Comments at 6 (noting that “it is premature to require carrier portability requirements akin to swapping SIMs for RTT generally, and native RTT in particular.”).

<sup>47</sup> The Commission should build on efforts similar to its FAQ for Cell Phone Unlocking. See FCC, Cell Phone Unlocking, <https://www.fcc.gov/general/cell-phone-unlocking> (last visited July 21, 2016) (“[U]nlocking’ a device will not make a device fully interoperable—a device designed for one network is not made technologically compatible with another network merely by ‘unlocking’ it. Additionally, ‘unlocking’ a device may enable some functionality of the device but not all (*e.g.*, an unlocked device may support voice services but not data services).”).

<sup>48</sup> RERC Comments at 14 (arguing that RTT OTT apps data should be counted against a subscriber’s voice plan).

<sup>49</sup> CTIA PN Comments at 5-6.

<sup>50</sup> *Id.*

<sup>51</sup> See NANSAs at 3.

(PSTN).<sup>52</sup> Such requirements also are inappropriate for the mobile, battery-operated devices that are subject to the wireless TTY obligations.

#### **IV. RATHER THAN IMPOSING OUTREACH REQUIREMENTS, THE COMMISSION SHOULD BE A FACILITATOR, LEADING OUTREACH BY THE MANY STAKEHOLDERS CRUCIAL TO THIS TRANSITION.**

As part of the NG9-1-1 transition, the Commission should lead efforts among consumers, public safety, and industry representatives to promote public awareness and education regarding the capabilities of RTT. Instead of mandating outreach efforts by the wireless industry, the Commission should be an outreach facilitator – providing guidance, identifying issues, and helping educate all involved. With respect to individual consumers, the wireless industry’s accessibility outreach efforts will include RTT in the normal course of this dynamic business, as will compliance with the existing accessibility rules requiring outreach.<sup>53</sup> In addition to the outreach the wireless industry will undertake, consumer groups, state equipment distribution programs, and relay providers may be in a better position to assist with outreach and education campaigns than carriers and device manufacturers.<sup>54</sup> Indeed, the wireless industry, state equipment distribution programs, libraries, and others are increasingly making smartphones and technology training available throughout the country.<sup>55</sup> For these reasons, the Commission

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<sup>52</sup> 2016 Technology Transitions Order ¶¶ 130-133.

<sup>53</sup> See, e.g., 47 C.F.R. § 14.31(a)(1) (requiring service providers and manufacturers to maintaining records of about “efforts to consult with individuals with disabilities”).

<sup>54</sup> Hamilton Relay Comments at 9 (observing that TRS providers are experts in providing education and outreach services).

<sup>55</sup> See, e.g., CTIA, Access Wireless, <http://www.accesswireless.org/Home.aspx>; CTIA Comments at n.11; Tech Talk Tuesdays, DC Public Library, <http://www.dclibrary.org/node/51990> (“This meet-up is an opportunity for assistive technology users to get together and share information on specific topics.”); The Oasis Institute, Technology Connections, <http://www.oasisnet.org/National-Programs/Connections-Technology>; *id.* at Mobile Accessibility Guide, <http://www.oasisnet.org/National-Programs/Connections-Technology/Accessibility> (each last visited July 25, 2016).

should not mandate that wireless providers and manufacturers undertake any specific outreach efforts beyond the normal course of promoting services, such as RTT.

**V. CONCLUSION.**

For the reasons discussed above, the Commission should relieve wireless providers and manufacturers from supporting TTY technologies for new wireless services and equipment and provide flexible, technology neutral performance-based objectives that will usher in more innovative accessibility solutions, such as RTT.

Respectfully submitted,

By: /s/ Matthew B. Gerst

Matthew B. Gerst  
Director, Regulatory Affairs

Thomas C. Power  
Senior Vice President and General Counsel

Scott K. Bergmann  
Vice President, Regulatory Affairs

Kara D. Romagnino  
Director, Regulatory Affairs

**CTIA**  
1400 Sixteenth Street, NW  
Suite 600  
Washington, DC 20036  
(202) 785-0081  
[www.ctia.org](http://www.ctia.org)

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