

**Before the  
Federal Communications Commission  
Washington, DC 20554**

|  |   |                      |
|--|---|----------------------|
| In the Matter of   | ) |                      |
|  | ) |                      |
| Transition from TTY to Real-Time Text<br>Technology  | ) | CG Docket No. 16-145 |
|  | ) |                      |
| Petition for Rulemaking to Update the<br>Commission's Rules for Access to Support<br>the Transition from TTY to Real-Time<br>Text Technology, and Petition for Waiver<br>of Rules Requiring Support of TTY<br>Technology | ) | GN Docket No. 15-178 |
|  | ) |                      |

**REPLY COMMENTS OF AT&T**

**AT&T Services, Inc.**

Robert Vitanza  
Larry Jones  
Gary L. Phillips

208 S. Akard Street  
Rm 2914  
Dallas, Texas 75202  
(214) 757-3357 (Phone)  
(214) 746-2212 (Fax)

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**REPLY COMMENTS OF AT&T**

AT&T Services, Inc., on behalf of its affiliated companies, (“AT&T”) files these reply comments in response to the Notice of Proposed Rulemaking (“*Notice*”)<sup>1</sup> released by the Federal Communications Commission (the “Commission”) on the transition from text telephone (“TTY”) technology to real-time text (“RTT”) communication.

**I. INTRODUCTION**

Commenters in this docket unanimously support the transition from RTT as a substitute for TTY and the adoption of standard RFC 4103 as a safe harbor. Commenters recognize RTT as a superior technology that will allow persons with disabilities to benefit from accessible communications and public safety services as the wireless industry evolves to internet protocol (“IP”)-based technologies. While a few commenters expressed concerns about the specifics of implementation, the record clearly demonstrates that the Commission is on the right path in revising its rules to allow for a transition from TTY to RTT with IP-based wireless voice services.

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<sup>1</sup> 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 (2016) (the “*Notice*”).

A few commenters also express concerns about the user experience due to incompatibilities between RTT and TTY. AT&T recognizes the inherent inconsistencies involved when meshing a 50-year-old technology with a modern day accessibility solution, but believes there will be few problems. What problems do occur will be discovered in testing in sufficient time to resolve through outreach, education, and other appropriate means. Of course, Commission rules will need to account for some of these incompatibilities, such as higher latency with RTT to TTY communications.

Industry commenters agree that technology neutral rules that do not dictate technical requirements, such as allowing an over-the-top (“OTT”) application to comply with RTT obligations, allow service providers and manufacturers the flexibility to adapt to changes in technology and consumer demands. Disability organizations concede to the use of an OTT solution in the short term, but seek long-term compliance solely through an RTT solution embedded in user devices due to concerns about the usability of an OTT solution. AT&T believes that customers are comfortable using OTT applications and will be indifferent to the technology as long as the OTT application produces the same result as a native solution. In large part, they have already demonstrated their results oriented approach by eschewing TTY in favor of text messaging, applications, and other wireless centric technologies.

Industry commenters further support AT&T’s position that it is premature for the Commission to adopt video, character, and multimedia requirements for RTT and premature to explore imposing RTT requirements on wireline networks. RTT development is in its infancy and there are still more questions than answers. It would be most efficient, productive, and beneficial for potential users to resolve those questions before forcing RTT to include features that are not necessary to make voice communications accessible, are not part of any current standards, and, like

video and multimedia capabilities, could compromise network performance. These unanswered questions also weigh strongly in favor of deferring a transition to RTT on wireline networks that still allow for the use of TTY and will for a long time to come.

AT&T elaborates on these and other issues in this reply. Though disability organizations may not share the same view as AT&T or the industry on some of these issues, we share a common goal—to provide an effective means for persons with disabilities to communicate over wireless IP-networks. AT&T is optimistic that differences will be reduced through 2016 as industry standards are finalized and service providers and manufacturers develop and incorporate RTT into their networks and devices.

## **II. DISCUSSION**

### **A. The User Experience Inherent in RTT to TTY Communication Will Be Effective and Positive Through Outreach and Education.**

A few commenters expressed concerns about the potential for confusion when an RTT user communicates with a TTY user. For example, Hamilton Relay, Inc. (“Hamilton”) observes that TTY users have developed etiquette and abbreviations that may be unknown to an RTT user not experienced at using TTY.<sup>2</sup> The Association of Public-Safety Communications Officials-International, Inc. (“APCO”) has similar concerns in the context of RTT calls to 911 via TTY.<sup>3</sup> Hamilton also addresses the potential for buffering or other actions to minimize the disparity in transmission speeds between RTT and TTY.<sup>4</sup>

Due to differences in features, latency, and character set, among others, there is an inherent

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<sup>2</sup> Comments of Hamilton Relay, Inc., CG Docket No. 16-145, GN Docket No. 15-178 at 6-7 (filed July 11, 2016) (“Comments of Hamilton”).

<sup>3</sup> Comments of The Ass’ of Public-Safety Communications Officials-Int’l, Inc., CG Docket No. 16-145, GN Docket No. 15-178 at 2-3 (filed July 11, 2016).

<sup>4</sup> Comments of Hamilton at 4-5.

incompatibility in the communication styles of RTT and TTY users. As AT&T observed in its comments, “RTT features will be restricted by the limits of the TTY device.”<sup>5</sup> The best way to minimize the impacts of these differences is through customer education, not by minimizing the advantages of RTT. Information on carrier and Commission websites combined with outreach to applicable national disability rights organizations would most effectively explain TTY to RTT transition issues, including the incompatibilities between the two technologies.

Moreover, it would be premature to impose extensive regulatory requirements for a problem that might not exist. AT&T does not anticipate that the differences between TTY and RTT will create significant problems for users, as users will quickly adapt. Nevertheless, over the next 18 months wireless carriers and manufacturers will conduct significant further testing of their RTT services, including incompatibilities of RTT and TTY. If those incompatibilities are expected to create user or technical issues, including implications due to differences in latency, manufacturers and service providers can work with affected parties – including PSAPs – to resolve the issue, while continuing their efforts to educate users about the differences in the manner described above.<sup>6</sup>

**B. An OTT Application Can Provide an Effective RTT Solution.**

Commenters support allowing wireless service providers to use an OTT application to comply with their RTT obligations during an interim period while manufacturers develop native RTT capabilities. The Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing, the Rehabilitation Engineering Research Center on Universal Interface and IT

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<sup>5</sup> Comments of AT&T Services, Inc., CG Docket No. 16-145, GN Docket No. 15-178 at n.12 (filed July 11, 2016) (“Comments of AT&T”).

<sup>6</sup> The incompatibilities inherent in RTT and TTY would likewise impact a service provider’s ability to meet one second latency on communications between RTT and TTY devices.

Access, and Omnitor (collectively “RERC and Omitor”) agree that “a downloadable application is the most feasible interim TTY replacement.”<sup>7</sup> 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 (collectively, the “Consumer Groups”) likewise recognize that “immediate implementation of built-in RTT solutions may not be feasible[] and agree that use of applications or plug-ins would be sufficient to constitute compliance with the RTT requirement” during the interim period.<sup>8</sup>

AT&T is working with device manufacturers to deliver a native RTT capability. But, AT&T and other wireless service providers should also be given the long-term flexibility to implement OTT RTT solutions beyond the interim period contemplated in the *Notice*. The Alliance for Telecommunications Industry Solutions (“ATIS”) “supports the ability of service providers to meet their obligations under the proposed rules through the use of OTT applications.”<sup>9</sup> Verizon observes that regulations requiring specialized access to devices for RTT applications are unnecessary because “[t]he open application marketplace in which modern smart phone operating systems permit customers to download applications benefits customers.”<sup>10</sup> And, CTIA states that “[s]o long as apps can support the RTT performance objectives adopted in the final rules, covered

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<sup>7</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, CG Docket No. 16-145, GN Docket No. 15-178 at 14-15 (filed July 11, 2016) (“Comments of RERC & Omnitor”).

<sup>8</sup> Comments of Telecommunications for the Deaf and Hard of Hearing, Inc., Ass’n of Late-Deafened Adults, Inc., Cerebral Palsy and Deaf Org., Hearing Loss Ass’n of America, and National Ass’ of the Deaf, CG Docket No. 16-145, GN Docket No. 15-178 at 8 (filed July 11, 2016) (“Comments of Consumer Groups”).

<sup>9</sup> Comments of the Alliance for Telecommunications Industry Solutions, CG Docket No. 16-145, GN Docket No. 15-178 at 6 (filed July 11, 2016) (“Comments of ATIS”).

<sup>10</sup> Comments of Verizon, CG Docket No. 16-145, GN Docket No. 15-178 at 9 (filed July 11, 2016).

equipment that supports RTT applications should be deemed compliant with the Commission’s rules.”<sup>11</sup>

The National Association of State 911 Administrators (“NASNA”), RERCs, Omnitor, and Consumer Groups seek to limit the use of OTT applications to the interim period due to concerns about usability.<sup>12</sup> NASNA is specifically concerned that the use of OTT applications “would benefit people who have smart phones and the technical savvy to download and install OTT application on their devices” and “would not benefit the millions of relatively unsophisticated users who continue to use older mobile devices.”<sup>13</sup> Yet, older devices, such as flip phones, are TTY capable. Consumers with IP-enabled devices that do not support TTY would need to benefit from an OTT application and would download OTT applications to meet their everyday needs, including for RTT capabilities. As CTIA observes, “[w]idespread use of downloaded apps demonstrates that consumers will utilize multiple technologies and migrate to the technologies that perform best for them” and therefore, “the Commission should provide the flexibility to comply with the [RTT] requirements through applications.”<sup>14</sup>

**C. Industry Standards Will Dictate How Messages are Delivered on Devices with Native RTT Capabilities.**

RERC and Omnitor propose that RTT should be “default activated” in new devices.<sup>15</sup>

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<sup>11</sup> Comments of CTIA, CG Docket No. 16-145, GN Docket No. 15-178 at 17 (filed July 11, 2016).

<sup>12</sup> Comments of RERC & Omnitor at 14-15; Comments of the National Ass’n of State 911 Administrators, CG Docket No. 16-145, GN Docket No. 15-178 at 2 (filed July 11, 2016) (“Comments of NASNA”).

<sup>13</sup> Comments of NASNA at 2.

<sup>14</sup> Comments of CTIA at 16.

<sup>15</sup> *Id.* at 14 (emphasis added). *See also* Comments of Consumer Groups, CG Docket No. 16-145, GN Docket No. 15-178 at 16 (July 11, 2016).

While AT&T generally agrees, the Commission need not incorporate this technical concept into the RTT rules, as it is already being addressed—in collaboration with disability rights groups—through the ATIS standard setting process. Currently pending standard “Real Time Text Mobile Device Behavior Specification” would allow for the receipt of RTT messages without user action and for sending of RTT messages based upon the choice of the user. The Commission should defer to these standards and allow collaborative efforts between industry and disability rights groups to define how RTT will function.

**D. It is Premature to Require Providers to Transition to RTT-RTT Interoperability with PSAPs.**

The Texas 9-1-1 Alliance, the Texas Commission on State Emergency Communications, and the Municipal Emergency Communication Districts Association (collectively, the “Texas 9-1-1 Entities”) propose a rule requiring wireless providers to use RTT-RTT interoperability (or another agreed approach) within six months after a request from a 9-1-1 Authority responsible for the IP network serving a public safety answering point (“PSAP”).<sup>16</sup> Though, at first glance, the proposal appears innocuous, it ignores several prerequisites required of the PSAP before a transition can be accomplished and, therefore, would start the clock on obligations that providers cannot meet. For instance, RTT-RTT communications require a PSAP with NG-911 capabilities and an originating wireless carrier with a direct SIP IP connection to the NG-911 network. Today, only legacy-TDM connectivity is supported. And, it would take more than six months to establish the capabilities sought by the Texas 9-1-1 entities. Moreover, consideration of this issue is premature, as this and other related issues are under consideration in the Technology Transition proceeding, GN Docket No. 13-5. The Commission should delay any rules requiring RTT-RTT interoperability with

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<sup>16</sup> Comments of Texas 9-1-1 Alliance, the Texas Commission on State Emergency Communications, and the Municipal Emergency Communication Districts Ass’n, CG Docket No. 16-145, GN Docket No. 15-178 at 5 (filed July 11, 2016).

PSAPs until the issue is resolved in that docket.

**E. It is Premature to Impose Video, Detailed User and Character Settings, and Other Multimedia Features on RTT.**

AT&T urged the Commission to refrain from defining RTT to include simultaneous transmission of video, specific user and character settings, and other multimedia features, which is also referred to as “total conversation.”<sup>17</sup> AT&T emphasized that video in particular is not supported by existing standards, would require development of new user interfaces, and could create network capacity constraints, leading to increased latency and error rates. Industry commenters agree. Verizon explains that the Commission should “avoid . . . prematurely introducing multimedia capabilities” because they “complicate efforts to deploy RTT in a timely way.”<sup>18</sup> “CTIA is not aware that any standards or technical body has evaluated and recommended support for end-to-end support of simultaneous RTT and video communications.”<sup>19</sup> And, ATIS elaborates:

ATIS notes that there are technical and practical challenges associated with supporting the capability to transmit emoticons and graphic symbols. While the industry is working to examine these issues, these features should not be required for RTT. For example, ATIS notes that it would be impractical to attempt to support multiple sets of international emoticons. ATIS further notes that there are significant technical issues associated with the transmission of video simultaneously with voice that warrant additional industry evaluation. As video services continue to mature, the industry will address the capability to transmit video simultaneously with voice, but this functionality will not be ready by December 2017.<sup>20</sup>

RERC, Omnitor, and the Consumer Groups understandably seek the advantages of simultaneous video, text, and multimedia capabilities, with RERC and Omnitor describing the risk

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<sup>17</sup> Comments of AT&T at 9, 11.

<sup>18</sup> Comments of Verizon at 8, n. 30.

<sup>19</sup> Comments of CTIA at 18.

<sup>20</sup> Comments of ATIS at 7-8.

of network congestion as “low.”<sup>21</sup> AT&T disagrees with that categorization. Even RERC and Omnitor admit to a greater risk of network congestion if persons without disabilities decide to use video on a regular call.<sup>22</sup> This is a very real risk that AT&T and other members of the industry take seriously. These constraints on a “total conversation” approach to RTT cannot be ignored and are in fact within the scope of this discussion, as they could make RTT difficult to use as intended for persons that are speech and hearing impaired. Further, a total conversation to RTT is not necessary to make voice communications accessible in a wireless IP environment, which should be the focus of this docket, and thus, it is premature to impose these requirements on the first generation of RTT service. For these reasons, RTT rules should avoid requiring a total conversation approach to RTT.

**F. Wireline Service Supports TTY and Need Not Transition to RTT.**

A consensus of industry commenters agree with AT&T that there is no urgency for transitioning to RTT on wireline networks. “ATIS believes it would be very premature to impose RTT support obligations on wireline IP services because the industry has not identified and researched potential use cases for implementing RTT in wireline networks” and it is unclear “how users would exercise this capability for devices that do not typically have a keyboard or screen interface that is capable of utilizing RTT functionality.”<sup>23</sup> The American Cable Association notes the importance of delaying consideration of wireline RTT because “very few wireline providers (almost certainly no smaller providers among them) and none of ACA’s known wireline equipment providers, have any significant knowledge of RTT technology and how it could or would work

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<sup>21</sup> Comments of RERC and Omnitor at 57.

<sup>22</sup> *Id.*

<sup>23</sup> Comments of ATIS at 7.

within their networks.”<sup>24</sup> And, Verizon urges the Commission to defer consideration of RTT over wireline networks because “[i]n contrast to wireless, TTY over wireline service continues to be used by some customers,” “[a]dopting RTT over wireline poses different technical challenges than does RTT over wireless,” and “customer expectations of a service provider’s role also differ.”<sup>25</sup>

Simply put, consumers continue to use TTY to communicate over wireline voice networks and at this time, there are many more questions than answers about the implementation of RTT. The Commission should defer any review of RTT over wireline networks until some of those questions are answered, after which an analysis of RTT in a wireline environment in conjunction with the IP-transition would be timely and appropriate.

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Respectfully submitted,



Robert Vitanza  
Larry Jones  
Gary L. Phillips

AT&T Services, Inc.  
208 S. Akard St.  
Rm 2914  
Dallas, Texas 75202  
(214) 757-3357 (Phone)  
(214) 746-2212 (Fax)

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<sup>24</sup> Comments of the American Cable Ass’n, CG Docket No. 16-145, GN Docket No. 15-178 at 3 (filed July 11, 2016).

<sup>25</sup> Comments of Verizon at 9-10. *See also*, Comments of National Cable & Telecommunications Ass’n, CG Docket No. 16-145, GN Docket No. 15-178 (filed July 11, 2016); Comments of Telecommunications Industry Ass’n, CG Docket No. 16-145, GN Docket No. 15-178 at 11-12 (filed July 11, 2016).