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

COMMENTS OF AT&T

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AT&T Services, Inc., on behalf of its affiliated companies, ("AT&T") files these comments on the Notice of Proposed Rulemaking ("*Notice*")[1] released by the Federal Communications Commission (the "Commission") on the transition from text telephone ("TTY") technology to real-time text ("RTT") communication.

I. INTRODUCTION

The *Notice* presents another opportunity for the wireless industry and the Commission to empower persons with disabilities as they live, work, and play every day. The industry's transition to next generation technologies, such as voice over internet protocol ("VoIP") service, must include persons with disabilities, but it is evident that TTY—a legacy assistive technology developed 50 years ago—is not up to the task. TTY is half-duplex, is inefficient, has a limited

[1] 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*").

character set, and requires a separate assistive device—all of which are antithetical to cutting-edge wireless technologies. More importantly, TTY is less reliable when used with IP-based wireless networks.

RTT is a viable alternative, superior to TTY in nearly every way. RTT requires no assistive device, has a more complete character set, is more efficient, is full duplex—allowing nearly instantaneous character by character conversation—and is very reliable. AT&T applauds the Commission for beginning this transition to RTT, an effort that will ensure that persons with disabilities benefit from accessible communications, public safety services, and the evolution to IP-based technologies. In undertaking this effort, the Commission's proposed RTT rules must be technology neutral to allow service providers and manufacturers the flexibility to adapt to changes in technology and consumer demands. The Commission cannot predict how the RTT technology might evolve and RTT rules that mandate specific technologies or are otherwise inflexible could limit innovation during this evolution by codifying requirements that become outdated over time.

Consistent with this philosophy, AT&T supports the Commission's proposed rule changes to identify RTT as the accessibility solution of choice for VoIP service, recognize RFC 4103[2] as a safe harbor (rather than a requirement), and establish minimum RTT capabilities, such as interoperability with other RTT users and TTY users, simultaneous voice and text. These basic foundations of RTT will provide certainty and predictability for the wireless industry in its efforts to develop RTT capable services and devices, but still allow the industry flexibility to

[2] RFC 4103 refers to industry standard Internet Engineering Task Force (IETF) Request for Comments (RFC) 4103, Real-time Transport Protocol Payload for Text Conversation (2005) and its successor protocol as determined by a telecommunications industry setting body such as IETF and the Alliance for Telecommunications Industry Solutions ("ATIS").

otherwise meet consumer or technology demands. However, the Commission should pivot from other proposals in the *Notice* that are too restrictive in ways that might impede innovation. For example, RTT over-the-top ("OTT") applications that meet Commission minimum requirements could benefit customers with disabilities beyond the interim time period contemplated in the *Notice*. Also the Commission should avoid regulating settings that are not necessary to make voice communications accessible, such as "block mode" messages (described below), video over RTT, emoticons or special characters, or display settings, as those types of regulations might frustrate a user's intended manner of communication and risk delaying a service provider's or manufacturer's RTT offering.

Service providers should not be responsible for ensuring RTT support for devices unless they are extensively involved in manufacturing the device. The Commission lacks the authority to extend end-user device accessibility requirements to service providers, which have limited control over the accessibility features built into devices and how those features are implemented. Service providers also lack control of Wi-Fi networks that may carry RTT transmissions. Thus, while the latency and error rate values proposed in the *Notice* are consistent with expected RTT performance on a service provider's managed network, providers have no means to ensure that level of performance for RTT transmissions on other networks. AT&T proposes modifications to the proposals in the *Notice* to account for these realities.

With technology neutral RTT rules modified as proposed above, AT&T would expect to meet the December 31, 2017 RTT compliance deadline proposed in the *Notice.* However, the Commission must be cognizant that service providers and manufacturers leading the RTT effort have designed their RTT solutions based on existing standards and, as such, their initial RTT offerings cannot be judged by later adopted Commission rules or standards, which should have a

later compliance date or be deemed not applicable to initial RTT offerings scheduled to meet the December 2017 deadline. Undoubtedly, device manufacturers will weigh-in on their ability to meet an end of year 2017 RTT compliance deadline. AT&T will defer to their projections, but would observe that in recognition of the complexity of the device ecosystem, the Commission has typically provided two years for manufacturers to come into compliance with accessibility regulations based on the date of device manufacture. The evolution to RTT is a complex undertaking and a clear, objective compliance date would provide manufacturers and developers with much needed certainty.

The transition away from TTY is at the heart of this docket. The wireless industry, disability rights groups, and the Commission all agree that there is little, if any, TTY use on wireless devices. Consistent with that reality, the Commission's accessibility rules should be revised to eliminate the obligation to support TTY in services and devices introduced after the RTT compliance dates. Backward compatibility will address any concerns about the ability to communicate with landline TTY users.

II. DISCUSSION

A. Manufacturers and Service Providers Should Be Relieved of their Obligations to Support Wireless TTY.

In its Petition for Rulemaking preceding release of this *Notice*, AT&T made the case for relieving manufacturers and service providers of their obligations to support TTY on IP-capable wireless devices. AT&T explained that TTY is obsolete and, accordingly, regulatory obligations to support the technology on next generation IP platforms are anachronistic.[3] AT&T also

[3] Petition of AT&T Services, Inc. for Rulemaking, PS Docket Nos. 10-255 and 11-153, WC Docket No. 04-36, CG Docket Nos. 03-123 and 10-213, at 3 (filed June 12, 2015) ("*Petition for Rulemaking*").

emphasized that recognizing RTT as a replacement for TTY would encourage the deployment of IP-based voice services and spur manufacturers and service providers to develop RTT and potentially other innovative accessibility solutions.[4] In the *Notice*, the Commission agrees with these assessments, explaining the limitations of TTY and the need for rules that would allow service providers and manufacturers to adopt RTT as an alternative accessibility technology.

In support of the *Notice*, Chairman Wheeler succinctly stated: "TTY is the past and real-time text is the future."[5] AT&T could not agree more. In recognition that TTY belongs in the past, AT&T supports modifications to Commission rules that would relieve manufacturers and service providers from the obligation to support wireless TTY on services and devices introduced after the RTT compliance date. TTY does not meet, and has not met for a long time, the needs of wireless consumers. The Commission even acknowledged more than four years ago that "[t]he disabilities community considers TTY an antiquated technology with technical and functional limitations" and that TTY has been largely abandoned by persons with disabilities and surpassed by emerging solutions.[6] Consequently, it is counterproductive to require service providers and manufacturers to continue supporting TTY on new products and services, with little to no benefit to persons with disabilities. It is time for the Commission to truly put TTY in the past by revising its rules to remove all obligations to support TTY on new products and services.

B. RTT Will Ensure an Interoperable Accessibility Solution for VoIP Service, but Service Providers' Responsibility to Support RTT Should Be Limited to the Services They Provide in Accordance with Existing Industry Standards.

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[4] *Id*.

[5] Statement of Chairman Thomas E. Wheeler, *Notice* at 77.

[6] *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment*, Notice of Proposed Rulemaking, FCC 11-134, PS Docket Nos. 11-153, 10-255, 26 FCC Rcd 13615, 13624, 13629-30 ¶¶ 26, 30 (2011).

1. The Benefits from Industry Transition to RTT Justify its Imposition as the Preferred Accessibility Solution.

The *Notice* proposes new Commission Rule Part 67 and modifications to Rule Parts 6, 7, 14, 20, and 64 that would require service providers and manufacturers to support RTT instead of, rather than as an optional replacement for, TTY. In reaching this proposal, the Commission concludes that "establishing an RTT *requirement* is necessary to ensure that people with disabilities continue to have effective access to wireless communications services as these services make the transition to an all-IP environment."[7] AT&T agrees with the Commission's approach, even though affirmatively mandating RTT as an accessibility solution deviates from the outcome oriented approach of Sections 255 and 716 of the Communications Act[8] and their implementing regulations in Parts 6, 7, and 14.

The modifications to Commission Rule Parts 6, 7, 14, 20, and 64 proposed in paragraph 16 of the *Notice* would avoid the potential patchwork of accessibility solutions for IP-voice services that might otherwise develop, complicating efforts to ensure interoperability with TTY and other service provider networks. The proposal would also accomplish what AT&T sought in its Petition for Rulemaking—greater regulatory and business certainty, while charting a course away from TTY.

2. RTT Rules Must Be Flexible and Technology Neutral to Allow Service Providers and Manufacturers to Develop Innovative Solutions as Technology Evolves.

Adopting RFC 4103 (and any successor protocol) as a safe harbor RTT standard strikes the right balance between regulatory certainty and the need for the RTT rules to be technology neutral and flexible. This technology neutral rule would allow service providers and manufacturers to

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[7] *Notice* at 12.

[8] 47 U.S.C. §§255, 716.

define interoperable RTT based upon a commonly used cross-manufacturer, non-proprietary standard, without the risk of static regulations that become outdated as technology evolves. It would also provide the wireless industry with the flexibility to develop new and potentially updated RTT standards over time in a manner that would benefit persons with disabilities through successive versions of RTT with more robust features, more extensive capabilities, and better reliability. Locking service providers and manufacturers into a prescribed RTT standard could preclude that evolution.

Similarly, Commission rules should avoid imposing mandates for specific RTT user features. While AT&T supports minimum functionality requirements to ensure that RTT replaces the functions of and allows for an orderly transition from TTY, such as backwards compatibility (i.e., interoperability) with legacy TTY and simultaneous voice and text capabilities, other features of RTT should be consumer driven. For example, the Commission asks about requiring such features as "block mode," which would allow users to set how messages are composed and sent and, in effect, override one of the hallmark benefits of RTT by delaying the transmission of a message;[9] simultaneous transmission of video, voice, text, and data; the transmission of emoticons and other special characters; and the ability to control settings, such as font size and color, conversation windows, and text location. These features should be neither required nor prohibited. While they may improve communications, even for persons without disabilities, these features impose requirements extending far beyond the performance objectives in Rule Parts 6, 7, and 14. Adding video to an RTT call session is especially problematic because it would require

[9] Consumers should be able to adjust RTT settings in the manner that suits their preferred method of communicating. For users who prefer block, rather than character by character, communications, forcing RTT to revert to a character by character before each RTT session would be extremely inconvenient and frustrating.

development of new user interfaces, triggers significant concerns about capacity in a service provider's managed networks, and is more likely to increase error rates for RTT transmissions over Wi-Fi or other unmanaged networks. Moreover, requiring RTT to include these features may frustrate users' intended manner of communicating and risks delaying service providers' ability to meet RTT compliance deadlines. Finally, the U. S. Access Board declined to require the "total communication" approach in its 2015 NPRM.[10]

3. An Effective RTT Solution Must Be Interoperable with TTY and Other Networks.

AT&T agrees with the Commission's conclusion that an RTT solution must be interoperable across all carriers' networks and interoperable (i.e. backwards compatible) with TTY users. Interoperability across networks and platforms is critical to ensuring that persons who use RTT can switch carriers, networks, and devices without compromising the functionality of RTT or needing to acquire a new device. It also would promote the adoption of common standards and capabilities and allow RTT users to communicate with other RTT users regardless of their network provider.[11]

Interoperability with TTY is likewise essential for RTT users to communicate with landline TTY users.[12] Without interoperability with TTY, RTT users would have no accessible means of communicating with friends and family, private businesses, medical providers, or pharmacies that

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[10] *See generally* https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh/proposed-rule/single-file-version.

[11] Even if RTT is interoperable, the RTT user experience will not be exactly the same across networks, platforms, and devices. End user experiences will differ slightly depending on the user interfaces and other unique features developed by each service provider and manufacturer.

[12] In any communications between RTT and TTY technologies, including RTT to PSAP calls, the RTT features will be restricted by the limits of the TTY device.

use TTY, would be unable to use relay services, and would be impeded from securing crucial government services. TTY interoperability is just that important.

However, just as the obligation to provide TTY will sunset, so must the obligation to ensure RTT interoperability with TTY. Despite the many uncertainties associated with a replacement for landline TTY, it is reasonable to conclude that individual landline customers, commercial businesses, and government agencies will make an easier and swifter transition away from TTY than PSAPs, if for no other reason than the complexity of 911 systems. Thus, the Commission should consider a conservative date for sunsetting the obligation to support a backward compatible RTT based upon the dates when PSAPs have transitioned to IP systems.

4. The Proposed Latency and Error Rates Are Appropriate for Transmissions Over Service Provider Managed Networks.

AT&T likewise supports the Commission's proposal to require that RTT characters be transmitted within one second of when they are generated, with a 0.2% or less character error rate. These transmission values are consistent with the expectations for RTT when transmitted over a service provider's managed network. However, not all RTT transmissions will occur over those managed networks. Increasingly, service providers offer voice over Wi-Fi capabilities that customers can use in areas that are difficult to serve (e.g., within buildings) and areas outside of a provider's network coverage. When Wi-Fi is used for voice communications, it will likely be used for RTT transmissions as well. In those instances, service providers have no control over the performance of the Wi-Fi network carrying the transmission, including the RTT latency and error rates, which may be lower if simultaneous video or data are required. This is a real life issue that must be accounted for by limiting the proposed latency and error rates in proposed Commission rule section 67.2(d)(3) solely to transmissions over a service provider's managed networks.

5. RTT Would Improve 911 Communications.

AT&T agrees with the Commission that RTT to 911 is a more effective option than TTY and message-like services for persons with disabilities to reach emergency services. In emergencies where time saved can translate into lives saved, callers may not have the patience, ability, or clarity of thought to complete a message or hit "send" as required with messaging. And with TTY, the lack of duplex capability can lead to slower and more confusing emergency communications. These are substantial drawbacks to the use of TTY and messaging services on emergency calls.

In contrast, RTT's ability to support real-time character by character communications without the caller having to hit "send" would help solve these problems by saving crucial time, providing information to the PSAP immediately when the conversation is initiated, and allowing PSAPs to immediately query and receive answers to important questions without the potential confusion that could otherwise arise from crossed messages. By providing nearly simultaneous, duplex communications, RTT will provide the text equivalent of an emergency telephone call. AT&T does not expect PSAPs to incur any immediate expenditures associated with an interoperable RTT. Instead, the backwards compatibility feature deployed by service providers will allow RTT to TTY communications with no burdens on PSAPs.

AT&T expects its RTT offerings, including its OTT application, to meet Commission 911 location accuracy requirements. And while AT&T also expects the native RTT solution to be released by device manufacturers to be capable of 911 calling for non-service initialized devices[13], AT&T's RTT OTT application will not provide that support. 911 support for non-

[13] There is strong support in the Petition for a Notice of Inquiry Regarding 911 Call-Forwarding Requirements and Carriers' Blocking Options for Non-Initialized Phones, Public Safety Docket 08-51 to retire support for non-service initialized handsets in 4G and 5G networks and beyond.

service initialized devices would require extensive additional programming changes in both AT&T's network and in the devices developed by manufacturers. These changes could not be completed by the end of 2017. Requiring this capability would delay the ability to offer RTT by December 31, 2017 and it is likely the native RTT solution will be available before the network and device changes could be made to make the OTT solution compliant with a non-service initialized device requirement.

6. Service Providers and Manufacturers Must Be Responsible for Only What Is in Their Control.

The *Notice* proposes a belt and suspenders approach to end user device accessibility, making *both* manufacturers and service providers responsible for RTT support in those devices. This proposal deviates from the carefully orchestrated balance of responsibilities in Sections 255 and 716 and improperly conflates the responsibilities of service providers and manufacturers.[14] Sections 255 and 716 require service providers to make their covered "services" accessible and manufacturers to make their covered "equipment" accessible. Neither requires service providers to make end user devices accessible. Nor do Commission rule Parts 6, 7, or 14, which implement Section 255 and 716. This is not an accident. In its Section 255 Order, the Commission expressly rejected proposals that would make vendors responsible as manufacturers:

> [W]e define manufacturer as an entity that makes or produces a product. This definition puts responsibility on those who have direct control over the products produced . . . . We decline to adopt the Access Board's definition because we find that it is so broad that it could include retailers, who simply sell products and may not control any aspect of their actual manufacture. We conclude that our adopted definition more clearly distinguishes

[14] Commission Rule Sections 20.18(c) and 64.603 likewise do not currently and should not in the future hold service providers' responsible for accessibility features in devices.

> between sellers of a product and manufacturers, who control the design, development and fabrication of a product.[15]

The Commission reiterated the same policy just 4½ years ago in its Section 716 Order.[16]

To be sure, the Commission has previously explained its intention, in individual circumstances, to deem an entity a co-manufacturer of a product if it is extensively involved in the manufacturing process, such as by "providing product specifications" or "contracting to . . . make or produce a product."[17] But, the *Notice* goes far beyond that, proposing to treat a service providers as a "co-manufacturer" merely for purchasing devices for resale or authorizing a device to operate with its service.[18] There is no justification for this deviation from Congressional intent and prior Commission regulations.

Service providers do not control the accessibility of a device or the manner in which accessibility is attained, even if the provider gives the manufacturer specifications for a device feature or asks for an accessibility feature, like RTT. And merely offering a device for sale or authorizing its use on a service provider's network does not involve the provider in the

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[15] Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as enacted by the Telecommunications Act of 1996, Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities, WT Docket No. 96-198, *Report and Order and Further Notice of Inquiry*, 16 FCC Rcd 6417 ¶90 (Sept. 29, 1999) ("*Section 255 Order*").

[16] 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, Amendments to the Commission's Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996, In the Matter of Accessible Mobile Phone Options for People who are Blind, Deaf-Blind, or Have Low Vision, *Report and Order and Further Notice of Proposed Rulemaking*, CG Docket No. 10-213, WT Docket No. 96-198, CG Docket No. 10-145, 26 FCC Rcd 14557, 14587 (2011) ("*Section 716 Order*").

[17] *Section 255 Order*, 16 FCC Rcd 6417 ¶90; *Section 716 Order*, 26 FCC Rcd at 14587.

[18] *Notice* at ¶18 and Appendix A.

manufacturing process. It merely subjects service providers and manufacturers to clumsy and ill-fitting processes as service providers seek accessibility information about devices, including achievability analyses, to confirm compliance from a manufacturer that is reluctant to release intellectual property or other proprietary data. Even when a manufacturer discloses information, service providers typically have no way to confirm its accuracy without extensive testing of the device, a burden that is unnecessary, inefficient, and beyond the reach of many service providers. For these reasons, the new RTT rules would work most effectively if service providers' obligations to support RTT apply to only the services they offer—the same way service providers must support TTY under current Commission Rule Parts 6, 7, and 14 and Sections 20.18(c) and 64.603.

7. The Transition from TTY to RTT in Wireline Networks Can and Should Wait for the IP Transition.

Although AT&T agrees with the Commission's assessment that the same issues that plague TTY use on IP-based wireless networks can also occur on IP-based wireline networks, they are not as significant. Bandwidth limitations on IP-based wireline networks are less problematic and can often be resolved through quality of service safeguards and other technologies. By way of example, AT&T has used these types of solutions to support reliable TTY use with U-verse Voice, a wireline VoIP service. Consequently, the urgency that exists to transition the wireless industry to RTT does not exist within the wireline industry.

Perhaps this is best. An RTT transition for the wireline industry may present unique and potentially more complicated issues than a wireless industry transition. Prudence dictates that the Commission defer a wireline transition until many of the open questions associated with the wireless transition are answered and the work that will facilitate those answers is complete. Moreover, AT&T is preparing for the transition of its legacy wireline network to an all IP

network. Part of AT&T's preparatory work for the IP-transition involves a review of accessibility solutions for AT&T's customers, including solutions to better meet the needs of persons with hearing loss and/or speech disabilities. AT&T would support a transition to RTT in conjunction with this IP-transition. Until that time, service providers can continue to comply with Sections 255 and 716 and Commission Rule Parts 6 and 14 and Section 64.603 by making IP-based wireline services compatible with TTY.

C. AT&T Generally Supports the Proposed Timetables with an Appropriate Interim Timeline to Facilitate a Transition to RTT.

1. An End-of-Year 2017 RTT Compliance Date Based on Current Industry Standards May Be Viable for Tier I Service Providers to Support RTT.

In its IP-Voice Accessibility Status Report, AT&T explained its plan to launch an RTT OTT application by end-of-year 2017.[19] AT&T reiterates its intention to meet this timeline based upon existing industry standards. However, some of the minimum functionalities proposed in the *Notice* exceed existing industry standards and could not be implemented in that timeframe. To avoid Commission rules with which service providers and manufacturers cannot comply, the RTT offerings should be deemed compliant if they follow industry standards in existence when the *Notice* was released or, alternatively, the Commission can adopt an extended compliance date for features that are not included in existing industry standards.

AT&T has been working on the development of RTT since 2014 and has been planning for a 2017 RTT release since filing its Petition for Waiver over a year ago.[20] In the absence of a comprehensive set of RTT industry standards or Commission RTT rules, AT&T designed its

[19] IP-Voice Accessibility Status Report of AT&T, GN Docket No. 15-178, at 3 (filed Apr. 6, 2016).
[20] *See* Petition of AT&T Services, Inc. for Rulemaking, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213 (filed June 12, 2015).

RTT OTT solution based upon existing industry standards, namely RFC 4103, ITU-T T.140, GSM Association standard IR.92[21] and multiple 3GPP standards. Potentially, other service providers and manufacturers that are also working on RTT did the same. Yet, the *Notice* includes two minimum functionalities in proposed Rule Section 67.2(d)(5) and (6) that AT&T's RTT OTT application will not meet:

> (5) transfer RTT calls and initiate conference calls using the same procedures used for voice communication;
>
> (6) use RTT to communicate with and retrieve messages from messaging, automated attendant, and interactive voice response systems

These requirements are neither included in existing industry standards nor being considered in proposed changes to the industry standards.[22] Subpart (5) would even require changes to the 3GPP standards impacting the core network, a process that could take two or more years.[23] In recognition that service providers and manufacturers have led the way to begin RTT development without a comprehensive roadmap, they should be deemed compliant for an interim period of time based upon existing industry standards or given an extended compliance date for proposed Rule Sections 67.2(b)(5) and (6) that is tied to the adoption of standards that make possible industry-wide development of these requirements.

The Commission likewise proposes a December 31, 2017 date by which end-user devices must support RTT. While VoIP and data capable end user devices may be able to support an

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[21] Official Document for IR.92—IMS Profile for Voice and SMS, Ver. 9.0 (April 8, 2015), available at http://www.gsma.com/newsroom/wp-content/uploads/IR.92-v9.0.pdf.

[22] Additionally, Clause (7) calls for Caller ID and "similar telecommunication functions." This was broad language from the DAC and suitable in the discussion portion of the NPRM, but in the rule itself is too open-ended. Service providers would not know if OTT implementations meet this requirement without knowing what's considered "similar."

[23] Service providers could, unilaterally, develop proprietary solutions in the interim, but they likely would not be interoperable with other RTT implementations.

OTT RTT application by December 31, 2017,[24] device manufacturers may be unable to provide a native RTT capability by that date. RTT industry standards are still under development by the Alliance for Telecommunications Industry Solutions ("ATIS") and 3rd Generation Partnership Project ("3GPP") and will not be completed until later in 2016, at the earliest. In fact, AT&T does not expect any of its device manufacturers to deliver a device with native RTT functionality until 2018, and even that timeline, if met, will not translate into generally available native RTT capabilities by all manufacturer devices. Nevertheless, AT&T will defer to the estimates of device manufacturers, as they can more accurately estimate a timeline for delivery of a native RTT device.[25]

2. An RTT Compliance Date Tied to the Date of Manufacture or Development Would Provide Certainty.

Any RTT compliance date imposed by the Commission on end user devices should be tied to the date of manufacture of the device, not the date of importing, shipping, or sale of the device. Requiring compliance for devices manufactured after a date certain allows for like treatment of like devices and would reduce consumer confusion, meet industry expectations, and allow manufacturers, service providers, and retailers to dispose of existing inventories for

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[24] Manufacturers' ability to comply with the RTT support requirements could also be impacted by additional rules developed in this docket.

[25] In the past, the Commission has given manufacturers two years to bring devices into compliance with new accessibility regulations. *See, e.g., Section 716 Order*, 26 FCC Rcd at 14601-14603, n.268; Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, *Report and Order*, MB Docket No. 11-154, 27 FCC Rcd 787, 859 (2012); Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty- First Century Communications and Video Accessibility Act of 2010, Video Description: Implementation of the Twenty- First Century Communications and Video Accessibility Act of 2010, MB Docket No. 12-107, MB Docket No. 11-43, 28 FCC Rcd 4871, 4923 (1013) ("*Emergency Information Order*").

devices manufactured before the compliance date. This treatment is also consistent with prior Commission rulings implementing other accessibility requirements.[26]

This compliance deadline would be an objective date on which the RTT obligation begins. Devices already in service or in inventories at this compliance deadline would not require RTT, even if modified. Sections 255 and 716 require covered entities to consider accessibility at "natural opportunities," such as "the redesign of a product model or service, new versions of software, upgrades to existing features or functionalities, significant rebundling or unbundling of product and service packages, or any other significant modification that may require redesign."[27] Manufacturers are not required to recall or retrofit equipment already in their inventories or in the field. This exception should extend to software upgrades to make existing devices RTT capable.

Making an existing device RTT capable is a complex task requiring substantially more design, resources, and time than many other software upgrades that the Commission might consider a "natural opportunity" to consider accessibility, such as bug fixes, security patches, and other features important to consumers with and without disabilities.[28] Requiring manufacturers and service providers to retrofit existing devices to support RTT before those software upgrades

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[26] *See, e.g.*, Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, *Order on Reconsideration and Further Notice of Proposed Rulemaking*, MB Docket No. 11-154, 28 FCC Rcd 8785, 8798 (2013); *Emergency Information Order*, 28 FCC Rcd at 4924.

[27] *Section 716 Order*, 26 FCC Rcd at 14609.

[28] Even if RTT can be implemented over existing devices, reducing the hardware costs of implementation, service providers will still incur substantial costs to design, develop, and test software, applications, and networking functions to enable RTT and ensure that it is interoperable with TTY and other RTT systems. For its part, AT&T will spend millions of dollars on its network to bring RTT capabilities to its customers.

are performed would delay the roll-out of these important and often crucial software upgrades and modifications until the RTT software retrofit is complete. Such delays are not in the public interest.[29]

3. An OTT RTT Application Provides Service Providers and Manufacturers with Flexibility to Comply with the Commission's RTT Requirements.

AT&T supports the Commission's conclusion that an OTT RTT application would be a sufficient solution to comply with RTT rules. But allowing an OTT application only as an interim solution will unnecessarily limit its usefulness. Any RTT feature that meets the performance requirements in Parts 6 or 14 of Commission rules and any minimum RTT functionalities adopted by the Commission should be allowed, whether it is enabled by an OTT application or is native to the device. Service providers and manufacturers may choose to rely solely on an OTT application to avoid the extensive resources, testing, and timelines associated with developing a native RTT capability. And, while initial versions of the RTT OTT application may, as first generation applications, enable basic version of RTT, there is no reason why an OTT application could not provide the same functionality as an embedded RTT solution. Further, allowing an OTT RTT application may incent service providers to develop an application for existing VoIP capable end-user devices that might not be covered by the new rules, potentially even devices that already support TTY. An OTT application may, in fact, be the only way to provide RTT on such devices.

Today's consumers, including those with disabilities, use smartphones and download OTT applications to meet their everyday needs. As of September 2015, 77% of all mobile subscribers used a smartphone, which during the same time period comprised 88% of all mobile

[29] For like reasons, Part 7 voicemail and interactive menus services should not require retrofitting.

devices sold.[30] Moreover, a quick web search shows that persons with disabilities are in fact using those smartphones to download applications of all kinds.[31] There is no reason to believe that they would not also download and use an RTT application if that is the solution they desire.[32] The Commission should allow continued use of any RTT application that meets Commission rules and in so doing would avoid requirements that might force customers to buy a new device with native RTT capability.

III. SUMMARY

AT&T applauds the Commission's work in this *Notice*, concluding that TTY has run its course and needs to be replaced with RTT. Service providers and manufacturers will develop RTT technology as needed to meet basic functions, but should otherwise be allowed to introduce innovative features for use with RTT and reach industry consensus on the best manner in which to implement where interoperability is required. The Commission should strive for rules that are outcome oriented and that avoid limiting how RTT must operate, both in terms of preferred consumer settings and how service providers deploy it. Those rules should hold service

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[30] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, *Eighteenth Report*, WT Docket No. 15-125, 30 FCC Rcd 14515, 14606 (2015).

[31] *See, e.g., J. Hindy*, 10 best Android Apps for the Disabled (2015), available at http://www.androidauthority.com/best-android-apps-disabled-586626/; M. O'Neill, 5 Smartphone Apps for People with Disabilities (2015), available at http://www.makeuseof.com/tag/5-smartphone-apps-people-disabilities/; 7 of the Best Apps for People with Disabilities, available at http://www.goodnet.org/articles/7-best-apps-for-people-disabilities-list.

[32] AT&T is providing consumers information on the status of its RTT development, including its anticipated RTT OTT application, as required by its TTY waiver. *See* Petition for Waiver of Rules Requiring Support of TTY Technology, *Order*, GN Docket No. 15-178, 30 FCC Rcd 10855 (2015); *Supra* n. 22.

providers responsible only for the actions that they control, and otherwise should allow them to meet RTT responsibilities in the manner they see fit provided they meet the minimum functions required of RTT.

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