



**6712-01**

**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Parts 6, 7, 14, 64, and 67**

**[CG Docket No. 16-145 and GN Docket No. 15-178; FCC 16-169]**

**Transition from TTY to Real-Time Text Technology**

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document, the Commission seeks comment on further actions the Commission could undertake to continue the transition from outdated text telephony (TTY) technology to a reliable and interoperable means of providing real-time text (RTT) communication over Internet Protocol (IP) enabled networks and services for people who are deaf, hard of hearing, deaf-blind, or have a speech disability.

**DATES:** Comments are due **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Reply Comments are due **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may submit comments, identified by CG Docket No. 16-145 and GN Docket No. 15-178, by any of the following methods:

- **Electronic Filers:** Electronic Filers: Comments may be filed electronically using the Internet by accessing the Commission's Electronic Comment Filing System (ECFS), through the Commission's web site <http://apps.fcc.gov/ecfs/>. Filers should follow the instructions provided on the web site for submitting comments. For ECFS filers, in completing the transmittal screen, filers should include their full name, U.S. Postal service mailing address, and CG Docket No. 16-145 and GN Docket No. 15-178.
- **Paper Filers:** Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must

submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

**FOR FURTHER INFORMATION CONTACT:** Michael Scott, Consumer and Governmental Affairs Bureau, at (202) 418-1264 or e-mail Michael.Scott@fcc.gov, or Suzy Rosen Singleton, Consumer and Governmental Affairs Bureau at (202) 510-9446 or e-mail Suzanne.Singleton@fcc.gov.

**SUPPLEMENTARY INFORMATION:** Pursuant to 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated in the DATES section. Comments may be filed using the Commission's ECFS. See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12<sup>th</sup> Street, SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

This is a summary of the Commission's document FCC 16-169, Transition from TTY to Real-Time Text Technology, Further Notice of Proposed Rulemaking, adopted December 15, 2016, and released December 16, 2016, in CG Docket No. 16-145 and GN Docket No. 15-178. The Report and Order, FCC 16-169, adopted on December 15, 2016, and released on December 16, 2016, is published elsewhere in

this issue. The full text of document FCC 16-169 will be available for public inspection and copying via ECFS, and during regular business hours at the FCC Reference Information Center, Portals II, 445 12<sup>th</sup> Street, SW, Room CY-A257, Washington, DC 20554. This proceeding shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s ex parte rules. 47 CFR 1.1200 et seq.

Persons making ex parte presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the ex parte presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum.

Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with 47 CFR 1.1206(b). In proceedings governed by 47 CFR 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission’s ex parte rules.

To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

## **INITIAL PAPERWORK REDUCTION ACT OF 1995 ANALYSIS**

Document FCC 16-169 seeks comment on proposed rule amendments that may result in modified information collection requirements. If the Commission adopts any modified information collection requirements, the Commission will publish another notice in the Federal Register inviting the public to comment on the requirements, as required by the Paperwork Reduction Act. Pub. L. 104-13; 44 U.S.C. 3501-3520. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, the Commission seeks comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees. Pub. L. 107-198; 44 U.S.C. 3506(c)(4).

**SYNOPSIS:**

1. Real-time text is a mode of communication that permits text to be sent immediately as it is being created. The Commission's proposed action seeks to further ensure that people who are deaf, hard of hearing, deaf-blind, or have a speech disability can fully utilize and benefit from twenty-first century communications technologies as the United States migrates from legacy circuit-switched systems to IP-based networks and services.

2. In document FCC 16-169, the Commission seeks further comment on:

- Setting an appropriate timeline or trigger for the sunset of service providers' obligation to ensure backward compatibility between real-time text (RTT) and text telephone (TTY) technology, and a proposed date of 2021 for this purpose;
- Integrating RTT into the provision of telecommunications relay services (TRS);
- Addressing the RTT needs of people with cognitive disabilities and people who are deaf-blind through the provision of block mode and connectivity with refreshable Braille displays.

Establishing a Deadline to Sunset the Obligation to Ensure RTT is Backward Compatible with TTY Technology

3. In document FCC 16-169, the Commission concludes that it is premature to establish a deadline to sunset the obligation to ensure that services and equipment that support RTT is backward compatible with TTY technology, until the Commission has gathered additional information about the deployment

and effectiveness of the transition from TTY to RTT technology. The Commission believes that collecting such information will be useful for a Commission determination as to when TTY users have transitioned to RTT to a point that warrants elimination of the backward compatibility requirement. To this end, the Commission seeks comment on the type of data and metrics that can be used to monitor the availability, adoption, and acceptance of RTT services and devices. For example, would it be useful to gather data on the total number of end user devices supporting RTT that are made available for sale? Would it also be helpful to track the adoption of RTT on services and devices used by public safety answering points (PSAPs), government entities, and businesses? To assess the impact of RTT on PSAPs without IP connectivity, should the Commission track the frequency of RTT-to-TTY 911 calls, and how should the Commission address contingencies if there is an adverse impact? To what extent can service providers also gather data on RTT usage by consumers? Next, the Commission seeks input on when and how such data should be reported. The Commission currently requires wireless service providers who have been granted waivers of the TTY obligations to report to the Commission semi-annually on the progress of their RTT implementation efforts. Should the Commission require similar reports of wireless and wireline service providers and manufacturers? Should certain actions, such as the grant of a waiver, trigger a reporting requirement? Alternatively, should any reporting requirement be postponed until after the requirements for the wireline transition have been adopted? Are there other reports collected by the Commission through which it should collect this or similar information on RTT?

4. The Commission notes that by 2021, Tier I wireless service providers will have had the opportunity to support RTT on their IP-based networks for three years, manufacturers will have been producing RTT-compliant equipment for two years, and smaller wireless service providers will have supported RTT on their network for at least 18 months. For these reasons, and because by such date, the Commission expects to have data sufficient to assess adoption of RTT technology, the Commission proposes to set a sunset date for RTT-TTY backward compatibility of 2021 unless the Commission finds a reason to extend this deadline. The Commission seeks comment on this proposal, and whether there is a different point in time when it would be appropriate for the Commission to reassess the need for covered

entities to continue supporting TTY technology via backward compatibility on their IP-based voice service networks. For example, should the Commission's reassessment be tied in any way to the implementation of the deployment of RTT technology over wireline networks, or should this reassessment take place after the sunset of the public switched telecommunications network (PSTN) and the transition of all consumers to IP-based wireless and wireline networks?

#### Requirements for TRS Providers

5. In document FCC 16-169, the Commission allows wireless service providers to support TRS access through RTT technology, including via 711 abbreviated dialing access, in lieu of supporting TRS through TTY technology. The Commission further clarifies that wireless service providers transmitting such calls may comply with these RTT support requirements by ensuring that such communications are backward compatible with the TTY technology currently used in such call centers. This approach is designed to ensure that RTT users can place and receive TRS calls through state TRS program call centers even when such centers are not equipped to receive RTT calls.

6. Some forms of TRS are provided over the PSTN, while others are made available via IP networks. In the Notice of Proposed Rulemaking (NPRM), published at 81 FR 33170, May 25, 2016, preceding document FCC 16-169, the Commission sought comment on whether and how it should amend the Commission's TRS rules to authorize or require other forms of TRS to incorporate RTT capabilities into platforms and terminal equipment used with these services.

7. Comments in the record express a variety of views as to the manner in which RTT should be integrated into TRS operations. The record in this proceeding also contains extensive information about the benefits of RTT. It would appear, therefore, that integrating RTT into TRS operations similarly would benefit text-reliant users, and would fulfill a congressional directive to the Commission to ensure that TRS regulations "encourage . . . the use of existing technology and do not discourage or impair the development of improved technology." In other words, taking this action will ensure that TRS users are able to benefit from evolving technologies in what will eventually be an all-IP environment.

8. However, before adopting rules governing the provision of RTT as an integrated component of

TRS, the Commission seeks additional comment on the costs, benefits, and technical feasibility of enabling this feature for various forms of TRS, for both TRS providers and TRS users. For example, what changes would be needed in TRS equipment (e.g., hardware, software, or applications) to support RTT between an IP-based TRS user and the communications assistant (CA) or between the parties to the call? Will adoption of an RTT mandate require TRS providers or users to purchase new TRS equipment or updates to TRS equipment software? To what extent will providers have to modify their call routing and handling features?

9. Additionally, the Commission seeks comment on whether the incorporation of RTT into the provision of TRS operations should be mandated or only allowed. Along these lines, the Commission seeks comment on the appropriate regulatory treatment for RTT in the TRS context. Specifically, given that RTT is a text-based form of communication – as is TTY-based TRS and IP Relay – should this feature be subject to the same regulatory treatment that applies to TTY-based TRS, or would it be more appropriate to consider this akin to IP Relay for purposes of the Commission’s TRS rules? For example, should the Commission require RTT-based TRS providers to meet the same mandatory minimum standards as currently applied to TTY-based TRS, such as call release functionality? To what extent should such providers be required to handle emergency calls, and should they adhere to the Commission’s rules for TTY-based TRS or IP Relay TRS for this purpose? Are there certain mandatory minimum standards that should not be applicable to RTT technology?

10. Given that TTY-based TRS is a mandated service for common carriers, if the Commission requires the provision of RTT-TRS, at what point in the future should providers be relieved of their obligations to provide and support TTY-based TRS? Should wireline IP-based voice service providers and equipment manufacturers be required to support RTT before TRS providers are required to support RTT?

11. At the same time that the Commission recognizes that RTT has the potential to improve TRS for certain RTT users who choose to communicate directly in text with another party, the Commission agrees with commenters that RTT should augment and complement rather than supplant TRS, and seeks

comment on this belief. Specifically, the Commission acknowledges that some forms of TRS, such as video relay service and speech-to-speech service, may fulfill the needs of people with disabilities who are not text-reliant users. The Commission therefore believes that the addition of RTT as a TRS option should not diminish the ability of individuals who are reliant on these other forms of TRS to continue having access to those services. The Commission seeks comment on this assumption.

12. Finally, the Commission seeks input on the mechanisms that are needed to ensure that the provision of RTT-TRS by IP-based providers effectively meets the communication needs of TRS users. Should the Commission require TRS providers to support RTT to enable text-based communication between the CA and the text-reliant user; between the CA and the other party to the call; or between both parties to the call? Are there technical challenges associated with supporting RTT in situations where the parties to the call are connected through an IP-based TRS provider? Should the Commission require IP captioned telephone service (IP CTS) providers to support RTT transmission in any voice channels they provide and in any off-the-shelf equipment provided to IP CTS users? Would the use of conversation windows help an IP CTS user distinguish between a direct RTT communication received from the other party and text generated by an IP CTS relay operator? Are there technical standards the Commission should adopt for the provision of RTT by IP-based TRS providers? The Commission seeks comment specifically on the costs, benefits, and feasibility of requiring IP-based TRS providers to incorporate RTT capability into the provision of their services and on other related matters. Finally, the Commission seeks comment on the appropriate timeline for adopting RTT requirements for IP-based TRS providers.

13. Impact of RTT on TRS. In the NPRM, the Commission assumed that because RTT will provide greater opportunities for direct, point-to-point text communications and can enable text to be intermixed with voice, it can reduce reliance on relay services to the extent RTT capabilities in end user devices become ubiquitous as a universal text solution. The Commission similarly noted that RTT could enhance the ability of TRS to provide functionally equivalent telephone service for those individuals who continue to rely on TRS as their communication method. AT&T agrees that it is important to review the potential impacts of RTT on TRS, and specifically to assess the need to adjust the TRS Fund supporting these

services as this impact becomes clearer. The Commission seeks comment on the best methodology to determine the extent to which RTT reduces reliance on TRS. Additionally, how can the Commission best determine the extent to which the introduction of RTT increases TRS use among some consumers because it enhances the ability of TRS to provide functionally equivalent telephone service? Should any data collected on the effect that RTT has on TRS wait until wireline networks transition from TTY technology to RTT? What other information should the Commission consider in determining whether the availability and use of RTT necessitates changes to the TRS program or its funding?

#### Other RTT Features

14. In the NPRM, the Commission sought comment on whether it is possible to identify certain RTT features or functional capabilities that are necessary to meet the communication needs of individuals who are deaf-blind, people with cognitive disabilities, or other specific segments of the disability community. Some commenters suggest that slowing down an RTT text display is necessary for refreshable Braille displays. They also suggest enabling Braille display users to suspend incoming text when the user is typing, because receiving text while typing on a Braille keyboard could cause confusion. The Commission seeks comment on whether these and similar features can enhance service providers' and manufacturers' ability to meet performance objectives under 47 CFR parts 6, 7, and 14 for individuals who use refreshable Braille displays, including people who are deaf-blind. The Commission also seeks further comment on the technical and practical challenges of supporting compatibility with refreshable Braille displays and similar assistive technologies. What current steps are being taken to examine these issues? Is there a potential timeline for resolving concerns to support the use of refreshable Braille displays with RTT?

15. Block mode allows the user to hold onto a text communication while it is being composed, and then send it in its entirety, in a manner akin to short message service (SMS) or text messaging. This enables the user to edit individual characters and groups of words before sending a message. Some commenters agree that block mode is a desirable option that would enhance effective communication for certain individuals and in certain situations. The Commission seeks further comment on the extent to

which offering a block mode option will enhance service providers' and manufacturers' ability to meet part 6, 7, and 14 performance objectives for people with certain types of disabilities.

### **INITIAL REGULATORY FLEXIBILITY ANALYSIS**

16. As required by the Regulatory Flexibility Act, as amended (RFA), the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in document FCC 16-169. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments specified in the DATES section. The Commission will send a copy of document FCC 16-169, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).

### **Need for, and Objectives of, the Proposed Rules**

17. In document FCC 16-169, the Commission seeks comment on :

- Setting an appropriate timeline or trigger for the sunset of service providers' obligation to ensure backward compatibility between RTT and TTY technology, and a proposal of a date of 2021 for this purpose;
- Integrating RTT into the provision of TRS; and
- Addressing the RTT needs of people with cognitive disabilities and people who are deaf-blind through the provision of block mode transmission and through connectivity with refreshable Braille displays.

### **Legal Basis**

18. The proposed action is authorized under sections 1, 2, 4(i), 225, 251, 255, 303, 316, and 716 of the Communications Act of 1934, as amended, section 6 of the Wireless Communications and Public Safety Act of 1999, and section 106 of the CVAA; 47 U.S.C. 151, 152, 154(i), 225, 255, 303, 316, 615a-1, 615c, 617.

### **Listing of Small Entities to Which the Proposed Rules Will Apply**

19. The majority of the proposals in document FCC 16-169 will affect obligations on telecommunications carriers and providers, VoIP service providers, wireline and wireless service providers, advanced communications services (ACS) providers, and telecommunications equipment and software manufacturers. Other entities, however, that choose to object to the substitution of RTT for TTY technology under the Commission's amended rules may be economically impacted by document FCC 16-169.

- Wired Telecommunications Carriers;
- Local Exchange Carriers (LECs);
- Incumbent Local Exchange Carriers (Incumbent LECs);
- Competitive Local Exchange Carriers (Competitive LECs), Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers;
- Interexchange Carriers;
- Other Toll Carriers;
- Wireless Telecommunications Carriers (except Satellite);
- Cable Companies and Systems (Rate Regulation);
- All Other Telecommunications;
- TRS Providers;
- Electronic Computer Manufacturing;
- Telephone Apparatus Manufacturing (wireline);
- Computer Terminal and Other Computer Peripheral Equipment Manufacturing;
- Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing;
- Other Communications Equipment Manufacturing; and
- Software Publishers

#### **Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements**

20. In document FCC 16-169, the Commission seeks comment on integrating RTT into the provision

of TRS, requiring certain additional features and capabilities of RTT, and the appropriate timeline to sunset the requirement for backward compatibility of RTT with TTY technology. With the following exception, these proposals do not include new or modified reporting, recordkeeping, and other compliance requirements. Specifically, in document 16-169, the Commission seeks comment on the type of data that should be collected to help determine the extent to which RTT reduces reliance on TRS or alternatively the extent to which the introduction of RTT increases TRS use among some consumers because it has enhanced the ability of TRS to provide functionally equivalent telephone service.

**Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

21. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.”

22. In document FCC 16-169, the Commission seeks comment on the type of data and metrics that can be used to monitor the availability, adoption, and acceptance of RTT services and devices. This information is intended to help the Commission determine when TTY users have transitioned to RTT to a point that would warrant elimination of the requirement for RTT to be backward compatible with TTY. While the collection of data may initially burden small businesses, the eventual sunset of the obligation to ensure that RTT is backward compatible with TTY will in the long run reduce the burden for small entities and emergency call centers to maintain TTY technology and backward compatibility capability.

23. The Commission also seeks comments on the costs, benefits, feasibility, and appropriate timeline for requiring IP-based TRS providers to incorporate RTT capability into the provision of their services. The information requested will inform the Commission of concerns with the transition and appropriate

timelines for all entities, which will allow the Commission to consider rules and implementation deadlines that minimize burdens and relieve possible adverse economic impact on small entities. The Commission's gathering of information to determine the effect of RTT on TRS services and the TRS Fund will allow the Commission to consider changes to the rules that may minimize burdens and relieve possible adverse economic impact on small entities.

24. In document FCC 16-169, the Commission also seeks comment on identifying certain RTT features or functional capabilities, such as compatibility with refreshable braille displays and block mode transmission, that are necessary to meet the communication needs of individuals who are deaf-blind, people with cognitive disabilities, or other specific segments of the disability community. In seeking comments on feasibility, the Commission seeks to integrate flexibility into the requirements to take into consideration the limitations of small businesses. Because the Commission will require implementation of these features only if achievable, the Commission anticipates that there will be little to no impact on small entities that would claim the requirement is not achievable.

#### **Federal Rules that May Duplicate, Overlap, or Conflict with the Commission's Proposals**

25. None.

#### **ORDERING CLAUSES**

Pursuant to sections 4(i), 225, 255, 301, 303(r), 316, 403, 715, and 716 of the Communications Act of 1934, as amended, and section 106 of the CVAA, 47 U.S.C. 154(i), 225, 255, 301, 303(r), 316, 403, 615c, 616, 617, document FCC 16-169 IS ADOPTED.

The Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of document FCC 16-169, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION.

Katura Howard,  
Federal Register Liaison Officer.  
Office of the Secretary.

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