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Transitioning from TTY and Legacy Text-to-911 to Advanced Real-Time Text (RTT)

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Agenda

- Real Time Text (RTT)
  - RTT Defined
  - RTT Example
  - RTT Service Architecture
  - RTT Emergency Services Overview
- Standards

What is Real-Time Text (RTT)?

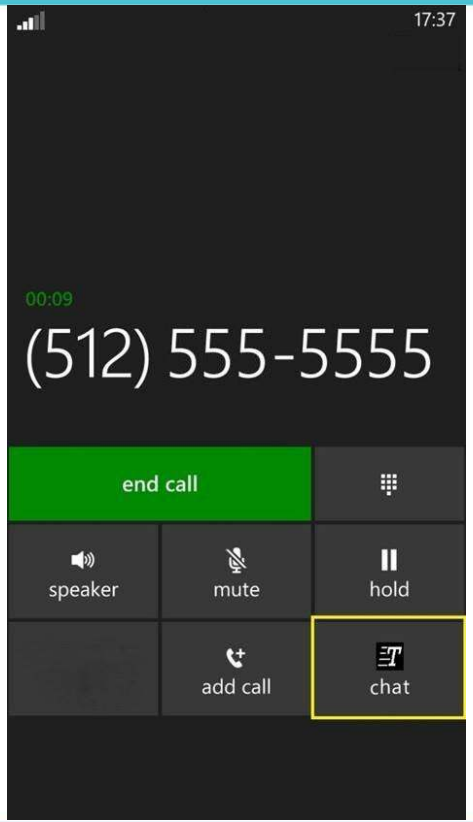
- Real-time text (RTT) is a text-based mode of communication where each text character appears on the receiving device at the same time it is typed on the sending mobile device, allowing for a conversational flow of communication, simultaneously with voice communication

- RTT is the Internet Protocol (IP)-based, functionally equivalent successor to TTY technology that makes telephone service accessible to individuals with hearing and/or speech disabilities

FCC NPRM Overview for RTT

- FCC NPRM was adopted July 28, 2016
- RTT must be interoperable across networks and devices. This may be achieved through adherence to the IETF RFC 4103, (or ITU-T T.140) standard.
- RTT must be backward compatible with TTY until the FCC determines TTY is no longer necessary.
- Wireless services and equipment capable of sending, receiving and displaying text must support specific RTT functions, features, and capabilities necessary to ensure that people with disabilities have accessible and effective text-based communications service.
- Tier 1 wireless carriers and manufacturers – MUST implement on their networks by December 31, 2017

Example of RTT Conversation (Ref: ATIS-0700029)



What are the benefits of RTT?

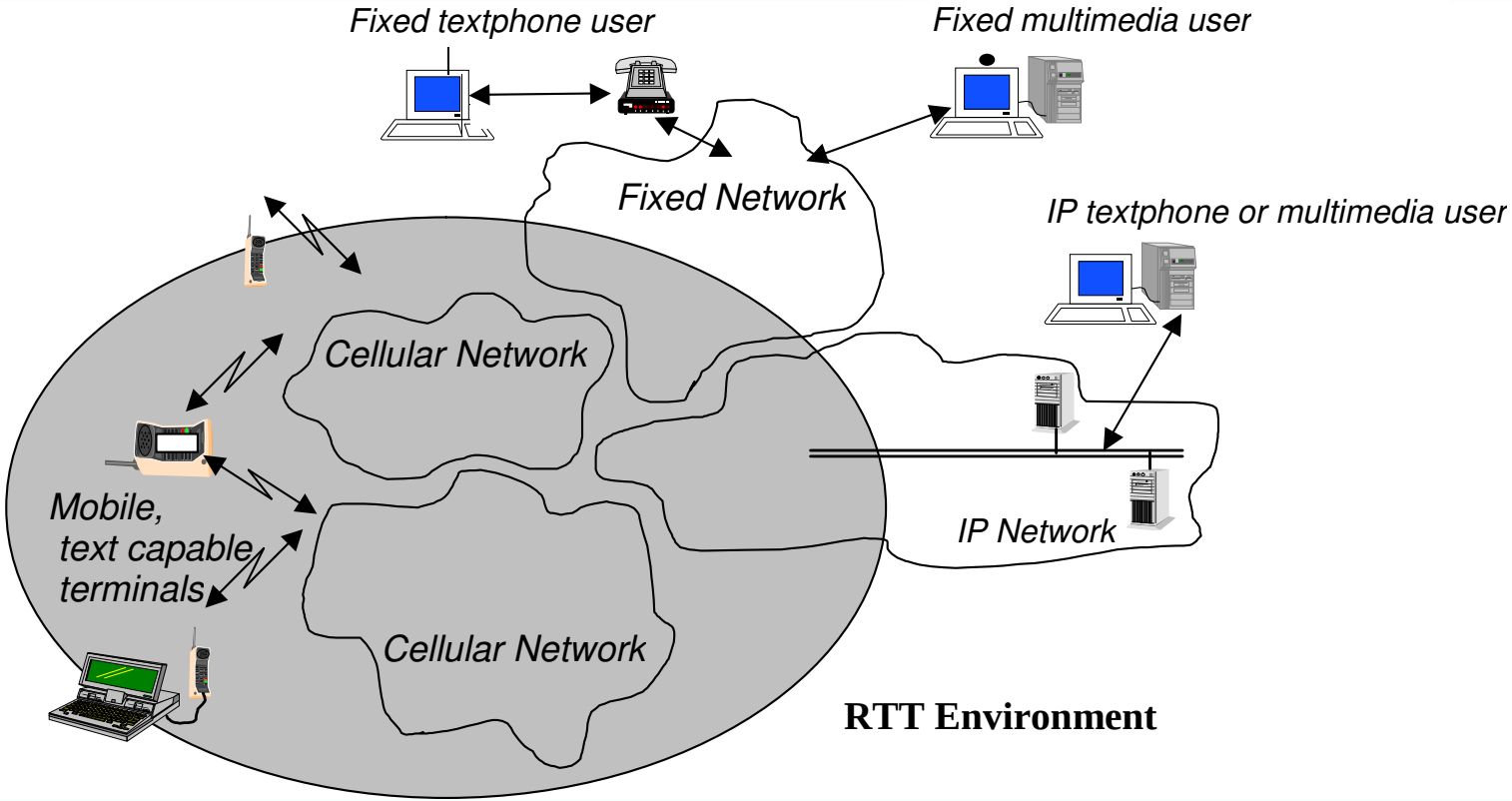
A. An RTT user will be able to reliably reach any 911 Public Safety Answering Point (PSAP) and have a simultaneous voice/text call
   - » All PSAPs are equipped with TTYs today
   - » All RTT users will have RTT-TTY interoperability
   - » Over time, PSAPs will adopt NG9-1-1 enabling RTT-to-RTT native 911 calling/texting
   - » RTT will be real-time and managed with QoS/CoS

B. Anyone with hearing loss or a speech disability will be able to call anyone with an RTT-enabled device and have a voice/text call
   - » Will need interoperability between service providers
   - » Will reduce the need for TTY devices and Relay Services (TRS/VRS)

RTT to 9-1-1 Migration/Evolution

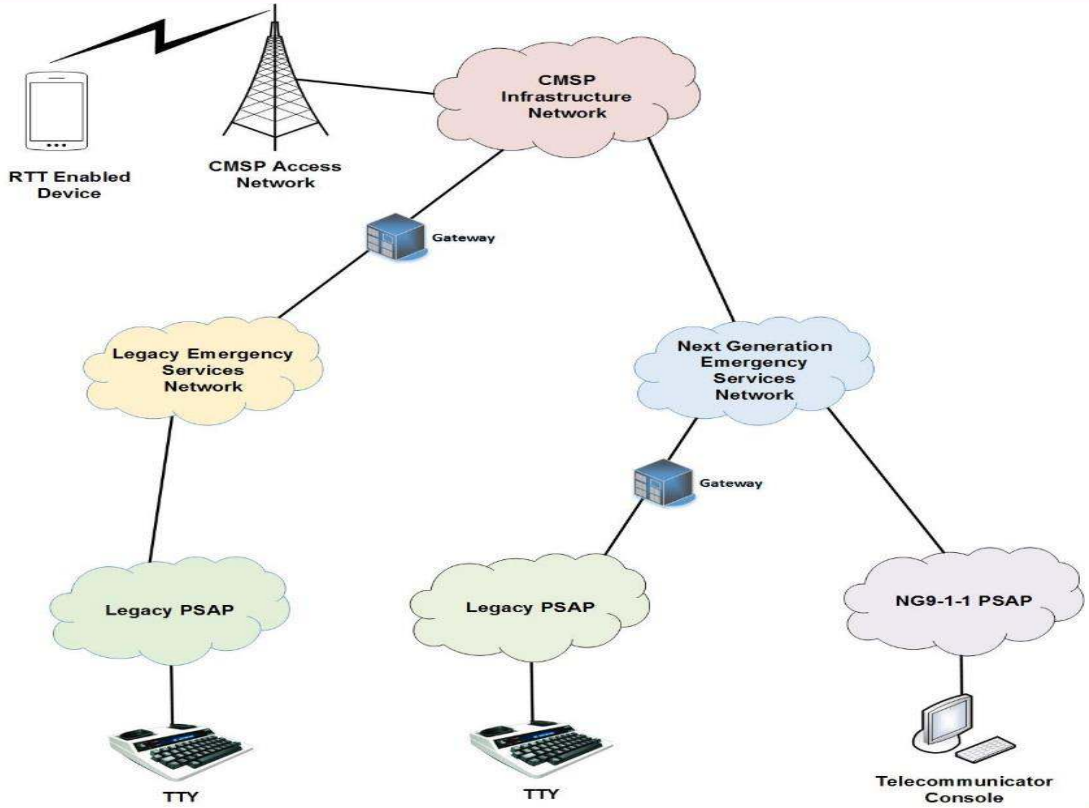
- PSAPs will only develop and deploy RTT as an integrated solution if they are ensured wireless carriers will deliver it to them natively.
- Delivering RTT calls over TTY to SMS Text-enabled PSAPs would be a step backwards.
- SMS-to-911 text traffic will begin to shift to RTT-to-911 when available for users with hearing/speech disabilities.
- A migration to RTT should include support for TTY through a solution that encourages all users to transition away from TTY to an integrated solution at the PSAP for end-to-end RTT service delivery.

RTT Architecture (Ref: ATIS-1000068)

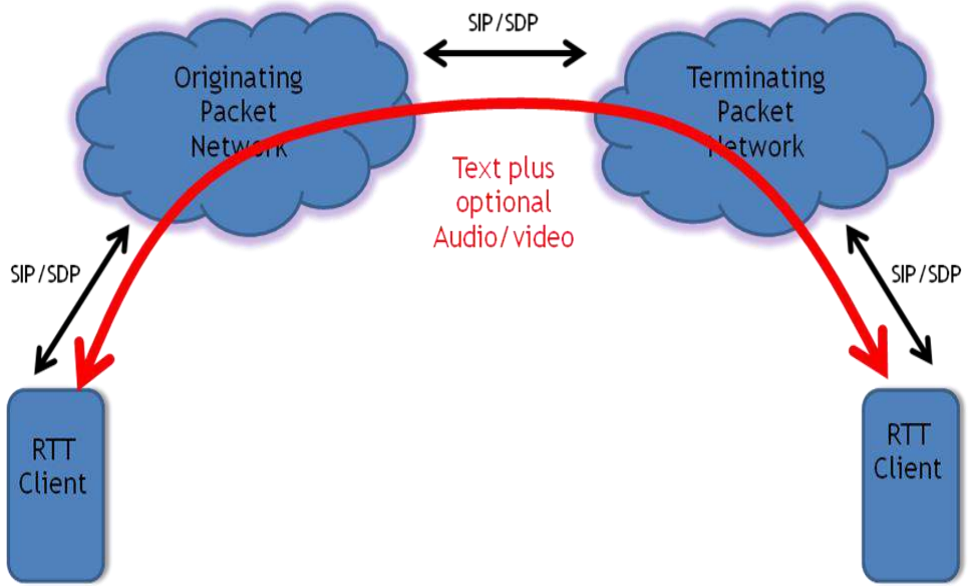


RTT Environment

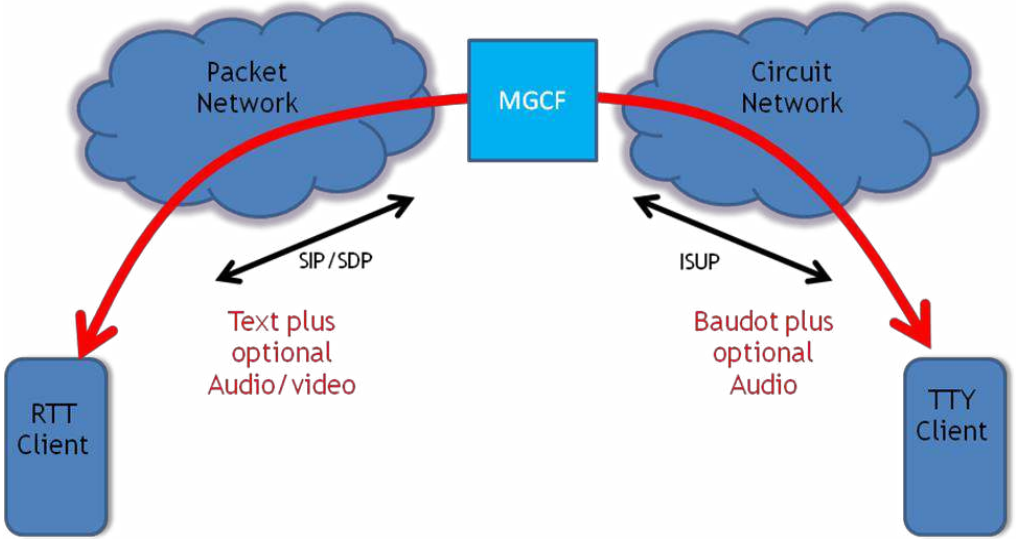
RTT Emergency Services Overview (Ref: ATIS-0700030)



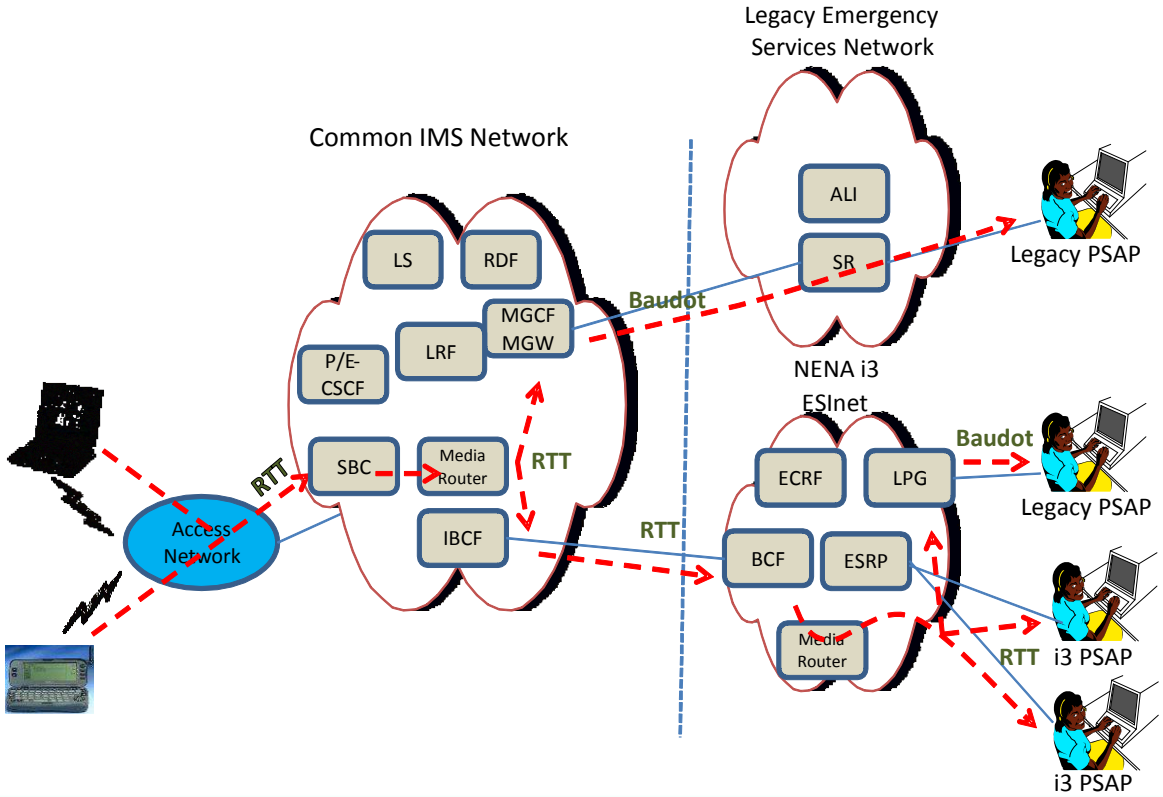
Interconnecting RTT Clients



Interworking RTT/TTY Clients



Delivering RTT to Emergency Services Networks



Status of RTT Standards within ATIS

ATIS is working on multiple standards for RTT:

- ATIS-1000068 (published October 2015): “Support of TTY Service over IP using Global Text Telephony” (i.e., requirements for the network)
- ATIS-0700029 (published January 2017): RTT Mobile Device Behavior (MDB) Standard (i.e., requirements for the phone)
- ATIS-0700030 RTT End-to-End Service Architecture (with anticipated completion in mid 2017)
  - » Define the RTT end-to-end service architecture for handling RTT in support of the IP transition in order to facilitate a consistent use of RTT across multiple wireless carriers.

Existing Standards

- **ATIS-1000068 Technical Report on Support of TTY Service over IP using Global Text Telephony (GTT)**
- The ATIS specification ATIS-1000068 “Technical Report on Support of TTY Service over IP using Global Text Telephony” was published in October 2015.
- This Technical Report (TR) describes the means that the Teletypewriter (TTY) service can be provided over Internet Protocol (IP) between operators’ networks through the use of the GTT capability which enables simultaneous audio and/or video with text media stream.
- TTY service allows real time conversation in text between two persons having a Baudot-capable device. This service is supported through the Circuit Switched (CS) public network. Although new internet technologies have reduced the need for this service, it still plays an important role, especially for emergency 9-1-1 calls.

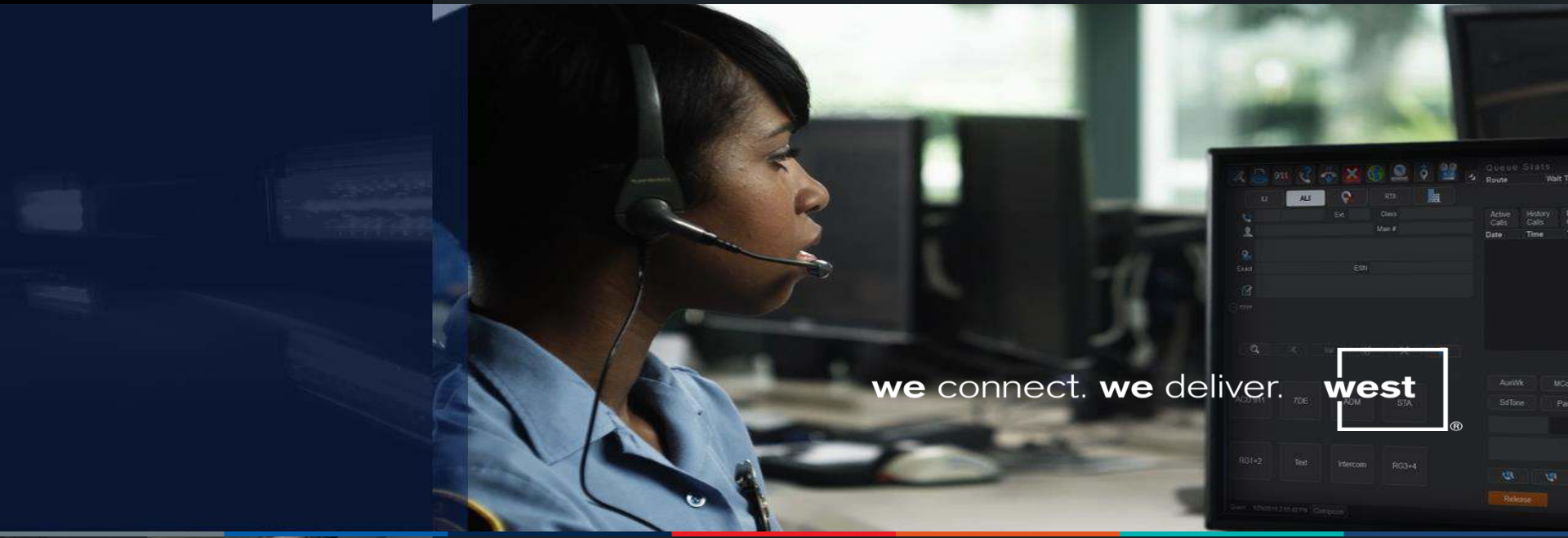
Existing Standards

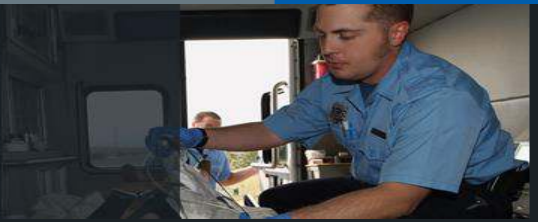
- **ATIS-0700029 RTT Mobile Device Behavior (MDB) Standard**
- The ATIS specification ATIS-0700029 “RTT Mobile Device Behavior Standard” describes the behavior of a mobile device for a voice call with a RTT media component. The scope of this standard is limited to RTT implementations for both emergency and non-emergency communications via commercial cellular networks.

Standards Under Development

- **ATIS-0700030 RTT End-to-End Service Architecture Specification**
- The ATIS specification ATIS-0700030 “RTT End-to-End Service Architecture Specification” is currently under development to describe the end-to-end RTT service for a voice call with a RTT media component which is carried via a commercial cellular network. The current scope of this specification is limited to RTT implementations for both emergency and non-emergency communications via commercial cellular networks.

Questions





Thank You…