ROADMAP DOMAIN: VOICE COMMUNICATIONS

LMR-LTE Interconnect

MCPTT

Direct Mode

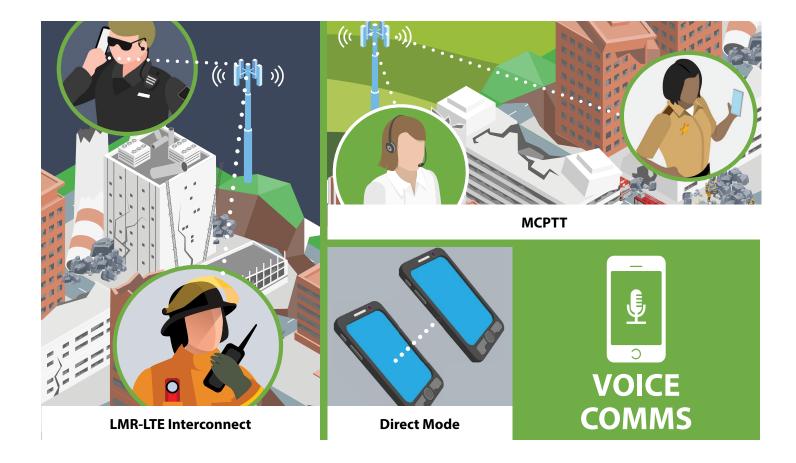**VOICE COMMS**

The Vision

The FirstNet Authority envisions a nationwide network that provides high-quality, reliable voice communications leveraging mission critical technologies to ensure the most advanced feature set is available for first responders.

Domain Overview

Voice communications continues to be the fundamental form of public safety communications. In the current market, public safety agencies continue to rely on LMR for critical communications while augmenting voice communications with LTE. A 3GPP-compliant MCPTT offering is a requirement of the FirstNet Authority's contract with AT&T, and AT&T launched the initial introduction of FirstNet Push-To-Talk (FirstNet PTT) in March 2020. The coexistence of FirstNet PTT and LMR will provide for integrated voice capabilities in the near term.

Public safety's use of data and video is becoming increasingly commonplace in daily operations and may soon be of equal importance to PTT voice and telephony. The FirstNet Authority and AT&T recognize this evolution, and AT&T will introduce MCData and MCVideo capabilities to complement the MCPTT voice offering as part of a suite of mission critical services (MCX) based on the 3GPP standards. The MCX suite is being designed to interoperate with legacy LMR networks for integrated voice, video, and data capabilities.

FirstNet Authority

Roadmap Priorities for Voice Communications

The FirstNet Authority will prioritize the following areas in alignment with stakeholder contributions, evolving 3GPP standards, and the prioritized needs of other Roadmap domains.

- **Operationalize FirstNet PTT:** Work with public safety to assist in operationalizing the FirstNet PTT solution by educating on relevant use cases and supporting efforts to establish relevant nationwide governance and policies.
- **Active Role in Standards:** Continue to play an active role in emerging 3GPP and other relevant standards development focused on MCPTT, MCVideo, and MCData, as well as dispatch advancement.
- **Critical Features:** Advocate for continued implementation of critical MCX features such as device-to-device communications, LMR-LTE interconnection, and dispatch capabilities based on public safety operational needs.

Key Technologies and Solutions that Impact Voice Communications

- **LMR-LTE Interconnect:** Technology that enables interworking of LMR systems with FirstNet PTT.
- **Mission Critical Push-to-Talk (inclusive of voice, video, and data):** A standards-based, group-enabled PTT voice, data, and video ecosystem that is designed for the acute demands of public safety.
- **Direct Mode:** Capability for devices to communicate directly between or among other devices without relying on central network infrastructure.

Public Safety's Take on Voice Communications

- MCPTT solutions must be able to communicate with legacy systems (including dispatch consoles) and offer comparable features and performance.
- First responders will not consider FirstNet's PTT solution to be "mission critical capable" until it has been validated in real-world scenarios.
- The public safety community foresees various governance, standards, and policy challenges with multi-agency use of FirstNet PTT and expects the FirstNet Authority to assist in addressing those.

Key Takeaways from the FirstNet Authority's Analysis of Learnings from Stakeholders

- The FirstNet Authority has contributed significantly toward the initial introduction of FirstNet PTT, and the first responder community expects the FirstNet Authority's continued involvement as FirstNet PTT evolves.
- Crucial MCX features (e.g., direct mode; interconnection, including dispatch consoles) need the FirstNet Authority's continued engagement and active refinement to allow full adoption by public safety.
- Public safety envisions migration to LTE that is coexistent with LMR, requiring an economical, easy-to-implement interworking solution.

54
STATES AND TERRITORIES

469
ENGAGEMENTS

13,490
STAKEHOLDERS

Public safety engagements that addressed Voice Communications (October 1, 2019 – September 30, 2020)

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