AT&T

Push to Talk over Cellular & Interoperability into LMR networks

Agenda

- Introduction

- Evolution

- Overview of Push to Talk over cellular

- Interoperability into LMR

- Use Cases

- Why a carrier solution vs. third party

Two Way Radios

- *VHF, UHF, 800 & 900*
- *Conventional*
- *Community repeaters*
- *Trunked*
- *P25*
- *Motorola & Harris*
- *Kenwood*
- *E F Johnson & Tait*

Cellular

- *AMPS*
- *GPRS*
- *GSM*
- *CDMA*
- *Voice Calling*
- *Paging*
- *Testing/SMS*
- *Slow data networks*

iDEN

- *Integrated Digital Enhanced Network*
- *Push to Talk*
  - *One to One*
  - *One to Many*
- *Voice Calling*
- *GPS*
- *TDMA*
- *WiDEN – 90kbs*
- *Applications*

LTE

- *Long Term Evolution*
- *Low Latency*
- *Down load 299mbs*
- *Uploads 75mbs*
- *VoLTE*
- *Simultaneous voice and data*
- *Supports Multicast*

Interoperability

- *LMR Commercial Interoperability*
- *Cellular PTT & LMR Talk Groups*
- *IP interoperability to allow all types communications including video*

Why organizations select carriers for Push-to-Talk

Cost Savings

- More economical solution than traditional Land Mobile Radio Systems for non-life saving dispatch traffic.
- More economical solution than cellular phone usage. Providing both intra and inter agency two-radio service.
- More economical and more comprehensive solution for managing assets and non-life saving radio traffic than traditional Land Mobile Radio systems.

Improving Workforce Performance

- Employees are more productive by staying off the phone and on task due to the nature of push-to-talk conversations versus cellular conversations.
  - ATT ePTT calls last an average of 30 seconds.
  - ATT cellular calls last as average of 2 minutes.
- Provides instant one-to-one or one-to-many private two-way radio conversations between staff members.

Provides a broadband platform for adding additional 'Field Force Automation' tools for remote workers.

Ecosystem on cellular PTT

Superior User Experience

- Fast call setup times
- Sub-second latency
- View real-time presence/status of your talk group members
- Supervisory override functionality
- Utilize 3G, 4G, LTE and Wi-Fi
- *Web based Admin Tools*

Scalability

- *1000 Contacts*
- *100 talk groups*
- *250 users per talk group*
- *30 users per ad hoc talk group*
- *Talk Group Scanning*
- *Talk Group Camping*
- *Inter-enterprise (shared) talk group calls 1-to-1; One-to-Many*
- *Privacy Modes*
- *Instant Personal Alerts*
- *Dispatch for PC w/GPS*
- *Loan worker*

Devices

- *Android*
- *iOS*
- *Windows*
- *Tablets*
- *Feature Phones*
- *Specially built devices*
  - *IS*
  - *Non Camera*
  - *3 yr. warranty*
  - *2D barcode*
  - *RFID*
  - *Wi-Fi Only*

Accessories

- *RSM*
  - *Wired*
  - *Wireless*
  - *Surveillance*
- *Headsets*
- *Hands free car kits*
  - *Lockbox*
  - *Non locked*
- *Desktop base station*
- *Charging Stations*

The Corporate Admin Tool gives you fast and flexible control of your EPTT user's devices from wherever you are.

Web access, anytime, anywhere
- IE 7, 8 or 9
- Firefox 8; Chrome 15
- Safari 5

Efficient assignment of contacts & groups
- Up to 1K groups; 250 per group
- Up to 5,000 users per CAT
- Supports 1000 external contacts

Support mobile & desktop users
- PC desktop users
- Integrated dispatch users
- Tablet licensed users

Corporate mode to manage users
- Limit users to create contacts
- Limit users to create groups
- Restrictive mode

Control & flexibility of your enterprise
- Supervisory override
- Manage all EPTT device apps
- Add & assign external contacts

APCO International
Emerging Technology Forum

Dispatch Console

• Presence & Status
• Record Conversations

Talkgroup Features

• One-to-One

• One-to-Many

• Instant Personal Alerts

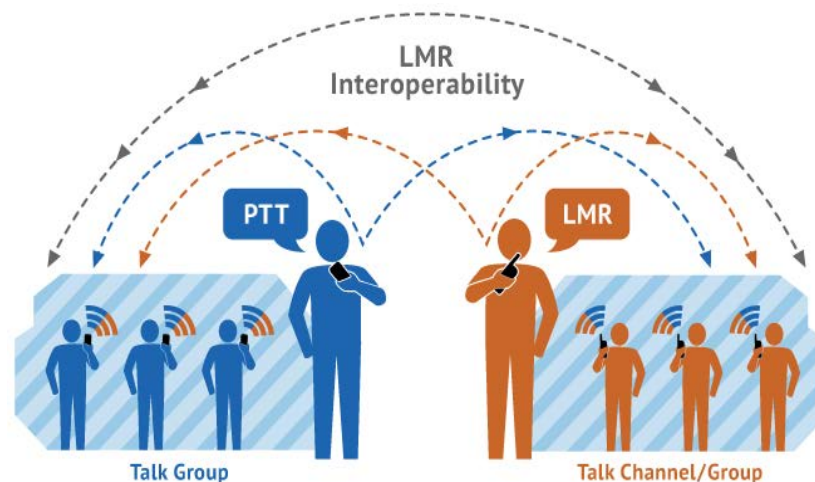• Monitor up to 8 Groups Simultaneously

• Talk Group Camping

Integrated Dispatch

Logs: Retrieve Alerts, Call Logs & Recordings

Locate Fleet Members

Interoperability enables the connection between PTT and disparate push -to-talk systems (Two-Way Radio or cellular) near seamless interoperation between multiple networks.

Customer Benefits

- –Preserve capital investment of radios and AT&T EPTT phone networks by linking them together

- –Extends coverage between radios and AT&TEPTT phones to the entire ATT nationwide network.

- –Improved productivity and response time with existing radio and AT&T EPTT work groups communicating.

- –Existing smart phone& feature phone users can now access radio talk groups.

8

Sample Architecture

PoC Donor Phone

LMR Donor Radio

Kodiak PoC System

LMR System

AT&T Network

LMR Network

Raytheon ACU-2000 IP
or
ACU M

Non Mission Critical

- Coordination of logistics and keep non-critical traffic off the LMR network while leveraging interoperability for critical talk group calling

Investigations / Under cover

- Undercover officers who cannot carry a radio due to the nature of their work but need to quickly respond and coordinate and multijurisdictional

Push-to-Talk

Command Staff

- Augment communications for staff that do not carry radios day to day. Allow for quick communication to all departments via interop. Extend coverage outside radio network.

Other Gov Depts.

- Increase capacity and elevate congestion on existing LMR networks by moving non public safety traffic to PTT over cellular

Why Push to Talk from a carrier

- ❖ More than **30+ certified** devices
- ❖ Purpose built Feature Phones (LTE & WiFi)
- ❖ Purpose built accessories (car kits, charging solutions, audio accessories)
- ❖ Geo Diversified and Redundant Service
- ❖ Ongoing Roadmap
    - ❖ Broadcast
    - ❖ CSSI and RSSI interoperability
    - ❖ API & Web RTC
    - ❖ LTE QoS
    - ❖ Talkgroup scanning with priority
- ❖ End to End Customer Service and Training