



Initiatives for LMR/LTE Interworking

2021 Virginia Emergency Management Symposium

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Public Safety Communications Inflection Point

For Everyone evaluating, or considering, FirstNet™, Push-to-Talk Responder, or other LTE based Mission Critical Push to Talk, you are also faced with the Next Problem to solve:

How will LTE Smartphone Users with MCPTT communicate with existing LMR Radio Subscribers?

Answer: Interworking

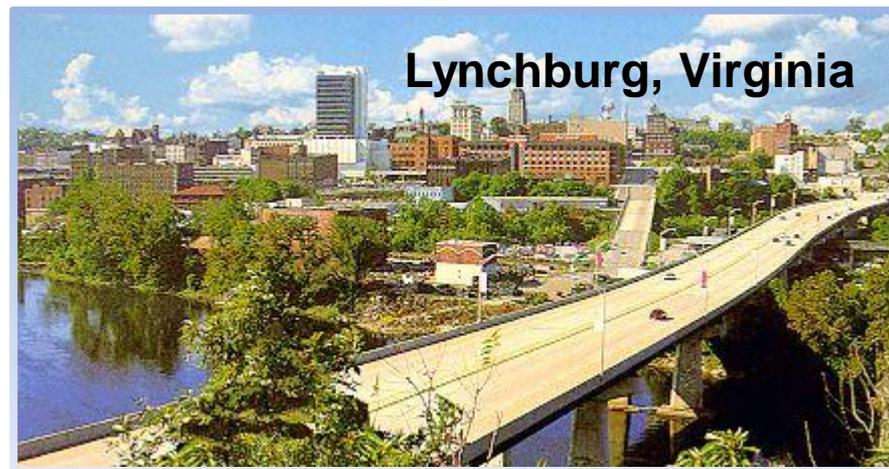
Catalyst Overview

Dispatch

Incident Command

Interoperability &
Interworking

- Founded in 1997 as a Technology Leader Bringing IP Technology to Mobile Radio
- Serve the Public Safety, Utility, Energy, Education and Government markets
- Fielded the First VoIP Dispatch System in 1999
- Catalyst provides single gateway solutions up to solutions involving over 50 gateways
- **Recipient of two DHS Awards to research and develop standards compliant LMR LTE Interworking Solution**



Catalyst Technologies and Capabilities Applicable to These Awards

Catalyst – over 20 years developing Mission Critical Communications Technologies

Catalyst has created and fielded technology and solutions for

- Dispatch
- Interoperability
- Incident Command

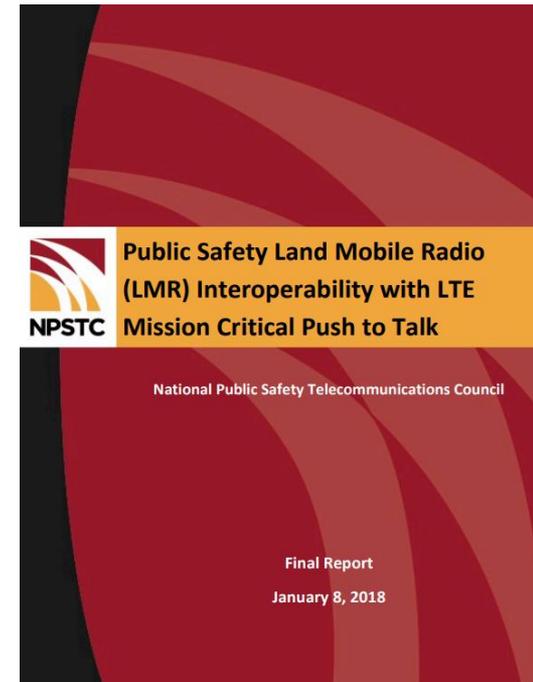
Catalyst has strengths in Networks, Radio Interfaces, and Mission Critical Communications

- Understands the complexities of internetwork communications
- Experienced provider of P25 and other Standards-based dispatch & Interoperability solutions
- Broadband interface experience with existing carrier and over the top (OTT) PTT solutions
- Focused on serving the First Responder, Critical Communications community

Catalyst makes mobile radio voice communications more accessible to people.

Project Summary

- Public Safety Requirements Mapped to Standards:
 - Third Generation Partnership Project (3GPP) for LTE
 - Project 25 (P25)
 - Digital Mobile Radio (DMR)
 - Terrestrial Trunked Radio (TETRA)
- Solution Roadmap Developed in DHS Phase I
- Prototypes built and tested in DHS Phase II
- Commercialization underway in Phase III (PSCR)
- Field Demonstrations in Progress



LTE Interfaces



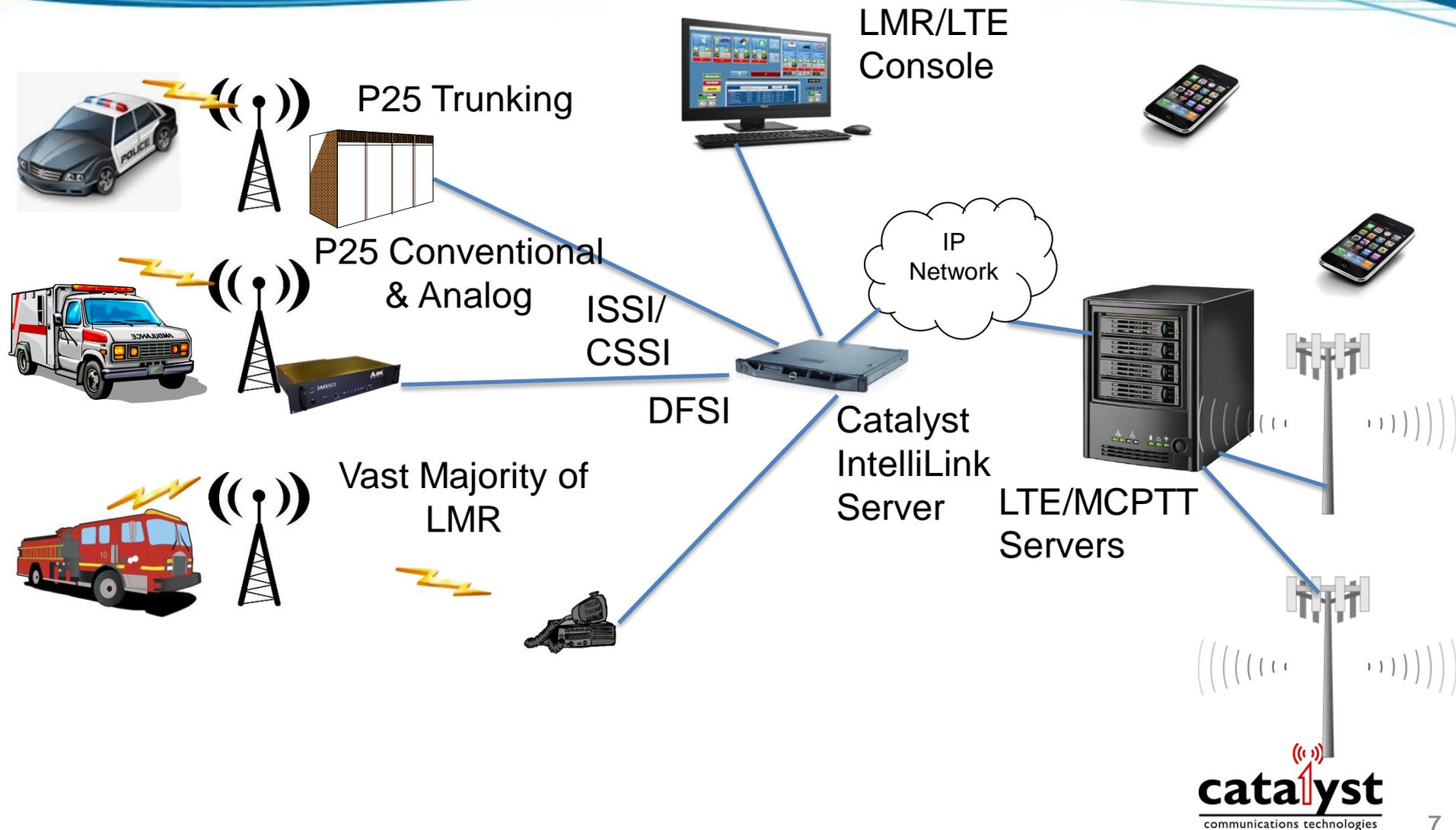
- MCPTT Client Interface Specified by 3GPP Release 13
 - Mature
 - Provides Essential Features
- MCPTT Server-to-Server Interface Specified in 3GPP Release 16
 - Stage 3 in Fall 2020
 - Complex
 - Will Take Time to be fully Implemented



Catalyst Implements

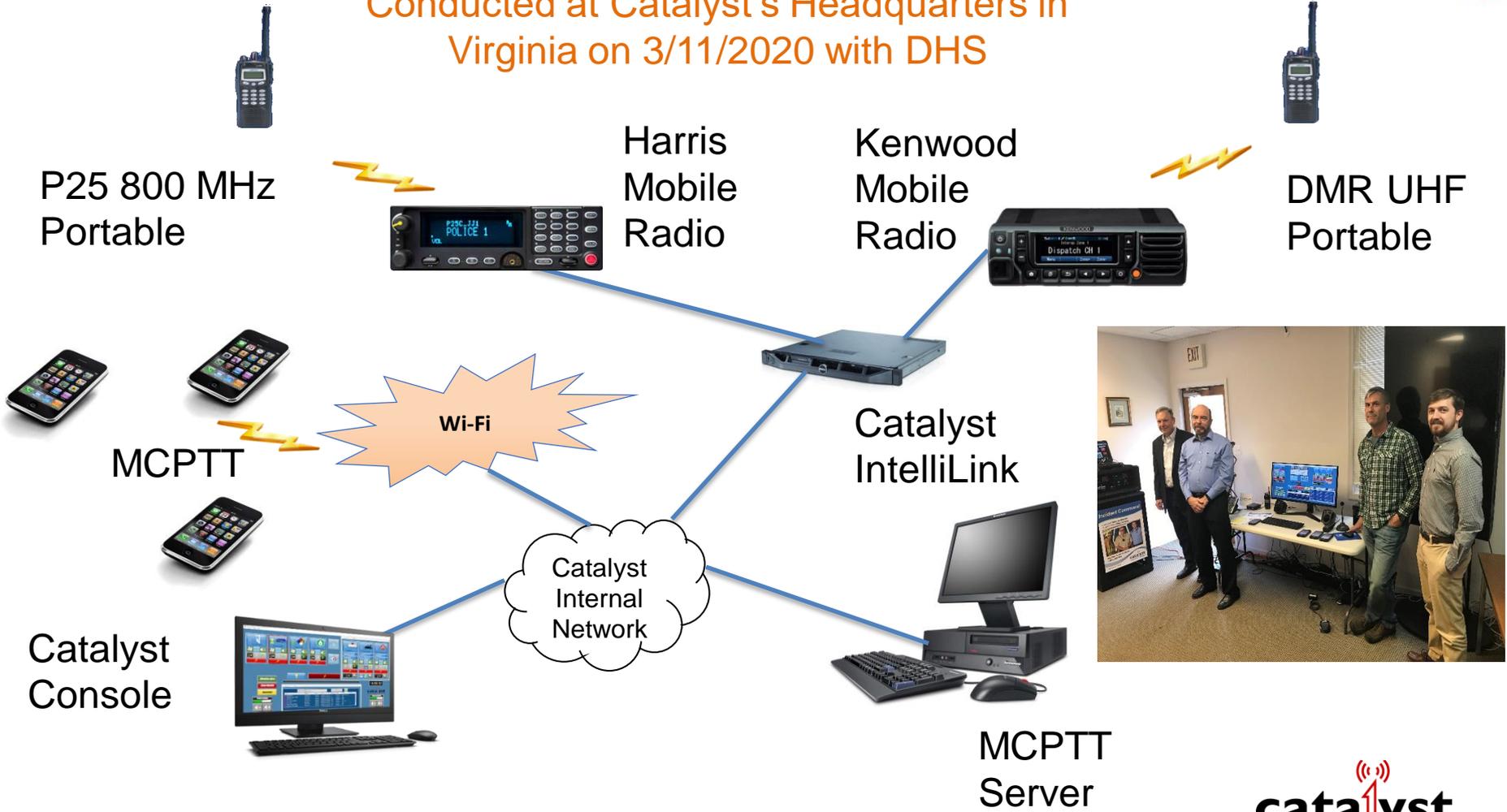


Our Architecture supports a variety of Radio Systems and Dispatch Console Options



Demonstrations Began 1Q 2020

Conducted at Catalyst's Headquarters in Virginia on 3/11/2020 with DHS

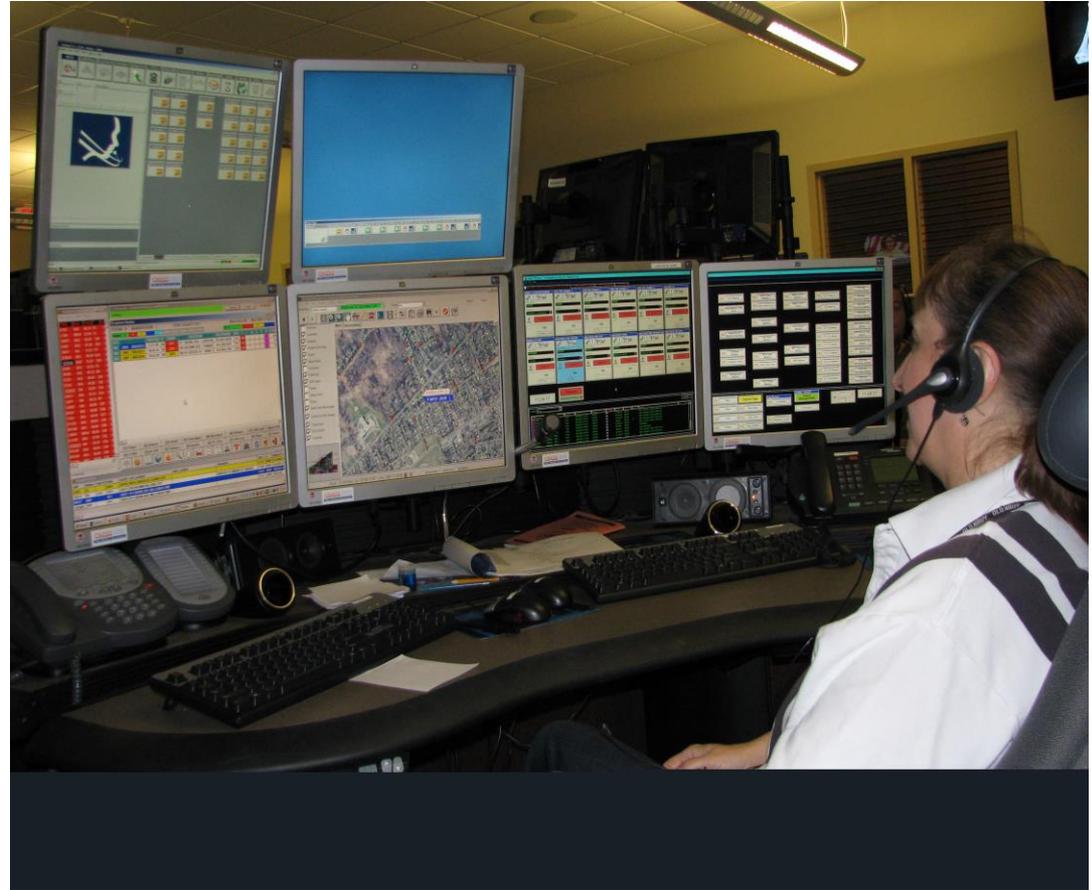


Interworking Functionality Available Now for Evaluation

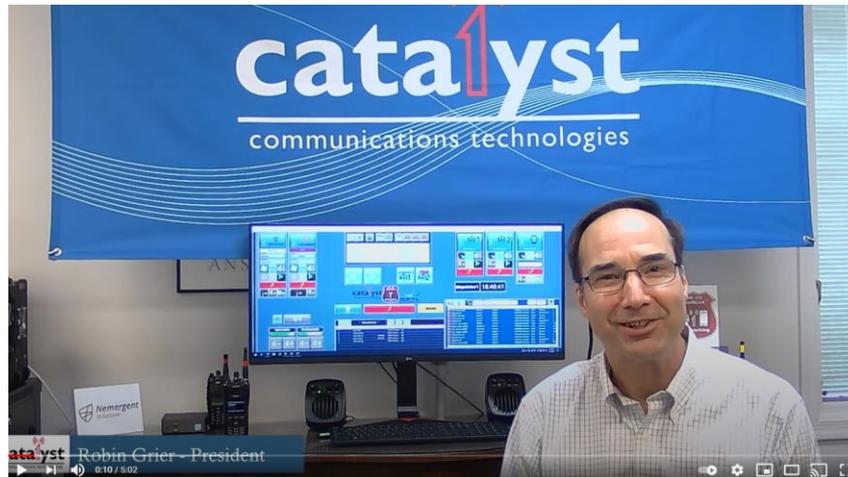
- **Group Calls Between MCPTT and LMR**
 - P25 Trunking and Conventional
 - Analog Conventional including MDC-1200 Unit ID
 - EDACS Trunking
 - DMR Tier II (Conventional), NXDN
- Remote Selection of LMR Group/Channel
- Protection Against Dropped Syllables
- Route Unit IDs from MCPTT to P25 Conventional
- Multiple Simultaneous Patches (1 per Control Station)
- Late Entry
- Recording of Audio and Meta Data

LTE/LMR Dispatch Functionality Available Now for Evaluation

- Group Calls
- Private Calls
- Location (GPS)
- Caller ID/Alias
- Emergency
- Imminent Peril
- Text Message
- MCX Subscriber Registration



Interworking Demonstration Video



https://www.youtube.com/watch?v=Fh8YBEYsqL8&ab_channel=CatalystCommunicationsTechnologies

5 minutes

Next Steps for any organization wishing to evaluate Catalyst's IntelliLink™ Interworking

- Demonstrate Interworking via Zoom or at your Facility
- Send me your email and we'll keep you informed of Catalyst / Interworking Developments
- Visit us at
 - www.catcomtec.com
 - https://www.youtube.com/watch?v=Fh8YBEYsqL8&ab_channel=CatalystCommunicationsTechnologies

Questions & Feedback

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