

Federal Interagency Communications

During both planned or unexpected events, the need for federal agencies to communicate with other public safety agencies is critical to the success of the event and for the safety of the public and officials.

Public safety agencies such as local, state, federal, and tribal emergency responders, utilities, and the military rely on land mobile radio (LMR) systems as a primary means of voice communication. As LMR systems and platforms have evolved over decades, there are a variety of communications systems currently in use.

Even with the best communication processes and procedures, integrating these evolving communication technologies creates significant mission challenges.

Further challenges are pre-event support and planning depending on the location and timing of events. Agencies continue to face personnel and budget shortages which can impact the availability of resources for pre-event planning and staging. Events are occurring in urban, rural and remote locations with varying degrees of local support and communications infrastructure.

Problems Identified



Resource Constraints

Agencies are facing shrinking resources and personnel to support pre-event planning. Diversity of events in rural, urban and remote locations.



Multiple LMR Technologies and Frequencies

Local, state, federal, and tribal emergency responders, utilities, and the military all use a variety of radio manufacturers and technologies, operating on both licensed and unlicensed frequencies.



Deployment Locations

Events such as natural disasters, social unrest, and political assemblies occur in a variety of urban, rural, and remote locations. Gaining access to power, connectivity, and backup networks is an ever-present challenge. A variety of topography and technology needs must be addressed.



Usability

The interop system or device(s) need to be deployed and managed quickly and easily, many times by users without a deep LMR or engineering background. Once deployed, the user should be able to link the disparate systems without needing special software.



At a Glance

Challenges

- Inability to have real-time interagency communications
- Radio frequency disparity
- Lack of standards-based systems
- Slow Convergence of Advanced Technology / Not Backwards compatible
- Events occurring in a variety of different terrains and geographies

Needs

- Unified Interagency voice communications
- Improved event safety and security
- Improved collaboration and coordination
- Ability to deploy to a range of locations
- Support for short-window planning events

Solution

Vocality Radio over IP (Vocality RoIP) gateways can be installed or deployed to enable local, state, federal, and tribal emergency responders, utilities, and military to communicate using Vocality RoIP's crossbanding feature. This feature creates one or more common voice communication channels combining the analog audio from each radio channel connected to the Vocality RoIP.

Up to four disparate radio systems can be connected to the Vocality RoIP (up to eight with an expansion kit), each set to a specific talk group channel. When users want to communicate with other agencies via the Vocality RoIP, they switch their radio to the same talk group channel as the radio connected to the Vocality RoIP.

The solution means that agencies can maintain communications with their own teams, but when needed, they can seamlessly communicate with all other users connected via the Vocality RoIP.

✓ Conclusion

Seamlessly integrating disparate radio systems, the Vocality RoIP gateway facilitates efficient communication, collaboration, and coordination among local, state, federal, tribal, and territorial emergency responders, utilities, and the military. These capabilities enhance operational resilience and lead to safer and more successful events.

LMR CROSSBANDING INTERAGENCY COMMUNICATIONS



FEDERAL AGENCY

- Audio Port 1
- DMR Radio



STATE POLICE

- Audio Port 2
- VHF Radio
- Manufacturer 1



VOCALITY ROIP GATEWAY

- Fixed or portable deployments
- Supports up to four radio connections
- Local channel cross-banding



LOCAL POLICE

- Audio Port 3
- UHF Radio



FIRE/RESCUE

- Audio Port 4
- VHF Radio
- Manufacturer 2

CUBIC | vocality*

Solution Benefits



Multiple Technologies

A variety of radio manufacturers and frequencies, including VHF, UHF, P25, and DMR radios, are connected to the Vocality RoIP, creating a unified voice solution across federal agencies, local authorities, and first responders.



Locations

Fixed and portable options readily support events in a variety of locations. Solutions can be vehicle-mounted or person-portable backpacks and transit cases powered by batteries or a USB power bank.



Usability

Users can access the Vocality RoIP setup using a laptop and web browser without needing special software. A simple click-and-drag web interface allows users to configure talk groups between the radio systems connected to the Vocality RoIP.