



CRITICAL CONNECT

MAKING INTEROPERABLE COMMUNICATIONS READILY AVAILABLE AND EASILY REACHABLE FOR ALL AGENCIES

The size and complexity of natural and manmade incidents increasingly require a coordinated response by multiple public safety agencies. Seamless, cross jurisdictional voice, data and video communication for first responders is key to their ability to work together, providing the collaborative response necessary to protect life and property during these catastrophic events.

“Emergency incidents can occur anywhere, and do not respect jurisdictional borders. When this happens, responders from more than one agency have to respond and work together. Agencies set themselves up for failure and put lives at risk when interoperability is not carefully considered and built into the purchase and implementation of equipment and programs they utilize to communicate, both with the public and with other agencies.” Steve Lesse, *What Does Interoperable Mean in the Real World?*, APCO International May 2018.

FILLING THE VOID – INTEROPERABILITY ON-DEMAND

Legacy interoperability solutions take a significant amount of time to setup and provision, requiring a separate interface for each agency connected. As a result, they cannot adjust quickly as the interoperability needs for an agency change. At the same time, the growing size and complexity of incidents is driving the need for a dynamic solution that can quickly setup interoperable push-to-talk (PTT) communications between different networks for coordinated, multi-agency responses.

Critical Connect from Motorola Solutions fills this void by providing cloud-based interoperability between land mobile radio (LMR) systems, broadband PTT, and applications to eliminate barriers and unify communications for all responders. The real-time exchange of voice, data and video enabled by Critical Connect improves collaboration between agencies, making it easier for them to share information regardless of device or network.

SIMPLE, STANDARDS-BASED INTEROPERABILITY

A single, secure P25 ISSI (Inter RF Subsystem Interface) connection provides standards-based interoperability with internal groups and external organizations, reducing both the cost and complexity of interoperable PTT communications.

Critical Connect uses virtual connections to eliminate the proliferation of backhaul links required by ISSI 8000 and other traditional interoperability solutions.

The one physical link from your ASTRO 25 network to Critical Connect provides interoperable communication with other ASTRO 25 networks, AT&T's EPTT, Verizon's PTT+, Verizon's Group First Response, and WAVE PTX broadband PTT services, as well as MOTOTRBO networks and other LMR systems.

With that one link to Critical Connect, state, local and federal agencies can connect to other agencies, as well as Motorola Solutions' broadband PTT platforms for interoperable PTT communications independent of device and network.

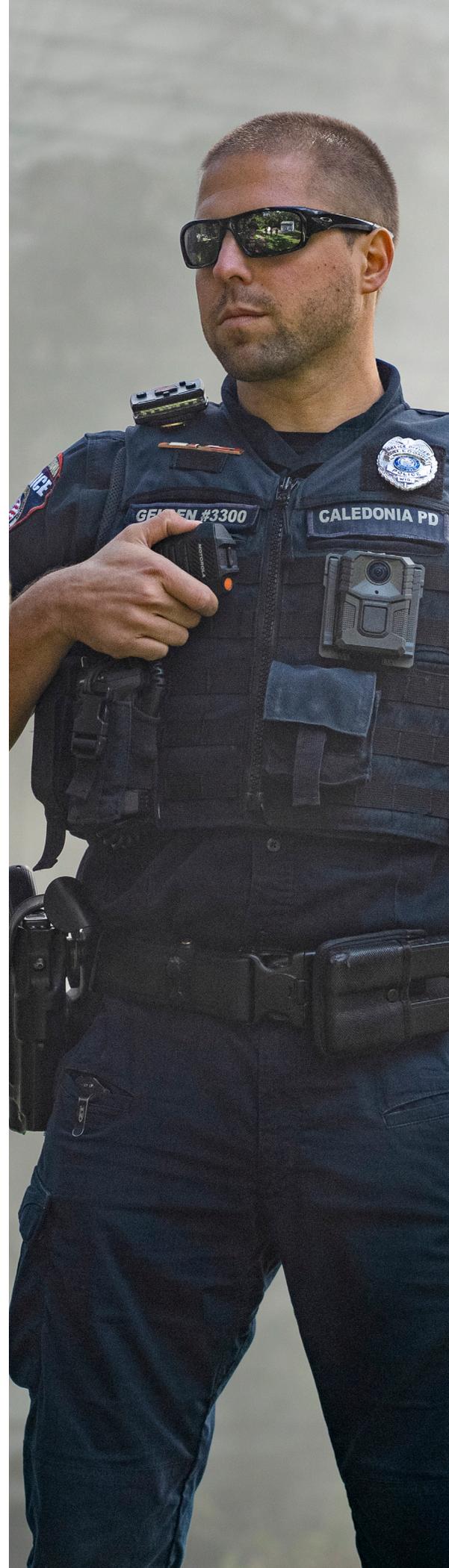
A basic Critical Connect Subscription includes:

- Installation
- Interoperability with ASTRO 25, other vendor P25, MOTOTRBO,
- Radio over IP and/or MSI broadband PTT
- Group calling
- Manual roaming
- Emergency alerting/calling
- Encryption
- Support



FLEXIBLE, DYNAMIC CONNECTIVITY

Customers can select with whom they want to connect from the other agencies and broadband PTT carriers linked to Critical Connect, quickly setting up and tearing down connections as needs change. Critical Connect also simultaneously translates between communication protocols to ensure that each endpoint receives the format appropriate for its device and network.



SCALABLE, FULLY-FEATURED COMMUNICATIONS

Critical Connect is a subscription-based interoperability service as opposed to the traditional solutions that are capital-intensive. The monthly subscription fee allows customers to adjust their level of service quickly and easily as needs grow. Whether an agency needs to connect with one, two, or up to 23 individual agencies, Critical Connect scales to meet the requirement.

And, when it comes to interoperable voice communication, Critical Connect goes beyond the features provided by ISSI 8000 and other traditional ISSI interoperability solutions. Both solutions support seamless group calling, emergency alerting/calling, as well as the sharing of user & group IDs, manual roaming, and the use of AES 256 encryption for secure communication. But, Critical Connect separates itself from traditional solutions by enhancing interoperable communication with features such as private calling, automatic roaming, grouping/regrouping, and end-to-end LMR encryption.

ISSI STANDARD PROVIDES

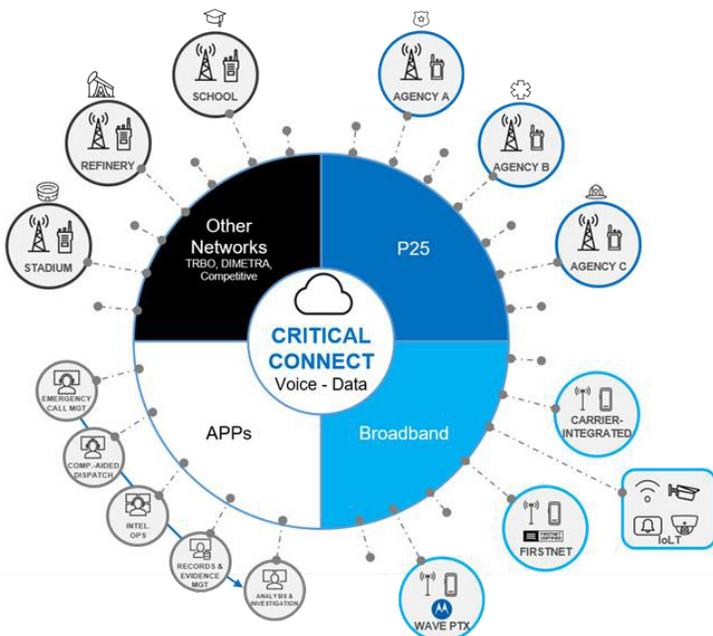
- One-to-One Interop
- P25 CAI
- Registration
- Group Call
- Affiliation
- ID/Alias Transport
- Emergency Group Call & Alert
- Announcement Group
- Manual Roaming
- Automatic Roaming
- Messaging
- Encryption

CRITICAL CONNECT DELIVERS MORE

ALL OF THE ISSI CAPABILITIES...

- P25 CAI
- Registration
- Group Call
- Affiliation
- ID/Alias Transport
- Emergency Group Call & Alert
- Announcement Group
- Manual Roaming
- Automatic Roaming
- Messaging
- Encryption

- Many-to-Many Interop
- Private Calling
- Ruthless Preemption
- Grouping/Regrouping
- Data Communications
- Location
- Presence
- Status
- Status/Query Update
- End-to-End LMR Encryption



TAKING INTEROPERABILITY BEYOND VOICE

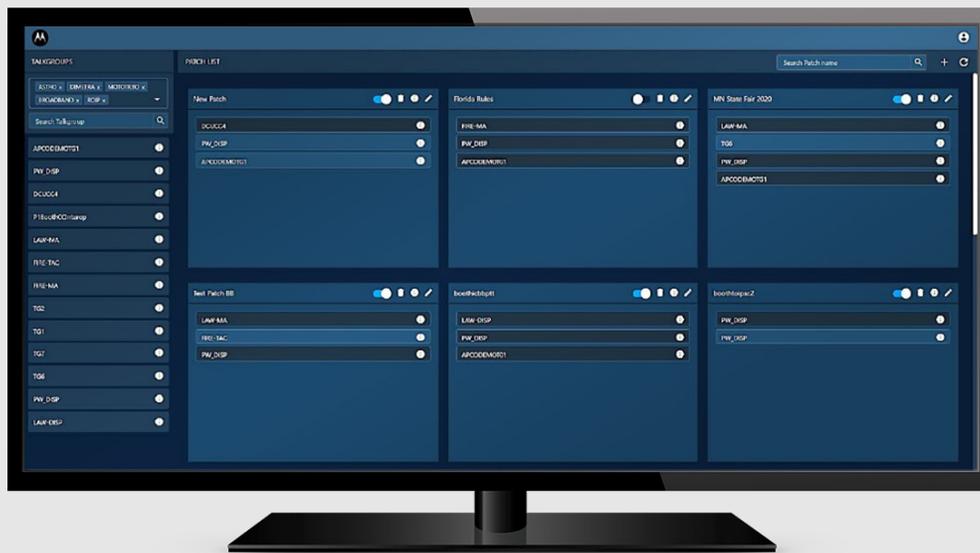
Critical Connect also takes “interoperability” to the next level, providing the seamless data communication that is increasingly becoming key to the coordinated multi-agency responses necessary to deal with large-scale events. On top of its enhanced voice features, Critical Connect adds interoperable data communication, making it possible for P25 LMR and broadband PTT users on different networks to share location, presence, and messages for more efficient responses.

Critical Connect provides control room applications, including call handling, dispatch, and situational awareness, with the single point of connectivity and the common APIs (Application Programming Interfaces) needed to dynamically access voice, data and video communications from a wide variety of networks and devices. For example, situational awareness applications can utilize Critical Connect to access location, presence, and other information for personnel from each responding agency, including those using broadband PTT devices, to create a single map display identifying the position and status of all responders. The result is a new level of interoperable multimedia communication that enhances safety, situational awareness, and operational efficiency.

INTELLIGENT FLEET MANAGEMENT

Successful interoperable communication with Critical Connect involves intelligent fleet management, radio programming and operation coordination. The Critical Connect Link Manager is a web-based tool that allows agencies to setup the right combination of interoperable talkgroups necessary to address any incident or event. With Link Manager, administrators can dynamically link one or more broadband and/or LMR talkgroups in a patch, as well as use a drag & drop operation to create, enable, and disable patches.

During the onboarding process, the service team works with each customer to identify the radio and/or broadband PTT talkgroups that will be shared with other agencies. When loaded into the Critical Connect system, these shared talkgroups each receive a unique identifier, similar to a phone number, and appear as local resources for that agency. The unique ID makes it possible for agencies to share talkgroups, using an “Invite-Approve-Reject” model to manage who has access to which groups to keep traffic at a desired level.



For example, when a talkgroup ID is shared with an external agency, that agency will trigger an invite request which will be sent, via the Link Manager, to the agency that controls the group; the controlling agency can then accept or reject the request. Only after its request has been accepted, can the external agency patch that talkgroup with their own local groups. The controlling agency has a view of the patch created, can see the other resources with which their talkgroup is being shared, and, at any time, can revoke an external agency's use of their shared group.

WAVE PTX ADDS OPTION FOR CARRIER-INDEPENDENT BROADBAND PTT

WAVE PTX for public safety, our carrier-independent broadband PTT service, is available to Critical Connect customers who want to implement a "bring your own device" policy for their push-to-talk users. WAVE PTX provides interoperable broadband PTT communications across any commercial broadband, public Wi-Fi, or private data network. With an offering tailored for critical communications, WAVE PTX for public safety also provides Critical Connect customers with access to the MCPTT-based features required to enhance safety, improve situational awareness, and increase operational efficiency for State and Local Government and other mission essential users.

The basic WAVE PTX for public safety service includes the following capabilities:

-  Group and private PTT calls
-  Background calling
-  Real-time presence
-  Voice message fallback
-  Location services
-  Communication history
-  Text messaging
-  Soft or hard PTT buttons
-  Push videos, images and files

The SafeGuard Package adds critical communications features to WAVE PTX that enhance user safety, increase situational awareness, and improve operational efficiency, including:

- Emergency Calling & Alerting - users press a hard or soft dedicated button to initiate an emergency call with the highest priority and preemption.
- Remote User Check - allows supervisors and dispatchers to monitor the health of a user's device, including battery level, signal strength, and location.
- Ambient Listening - dispatchers and supervisors can remotely open a device's microphone to check on the well-being of its user.
- Discreet Listening - supervisors and dispatchers can monitor all PTT communications between a targeted user and other callers.
- User Enable/Disable - makes it possible for supervisors and dispatchers to remotely enable or disable the PTT function on a specific device.
- Location-based Temporary Groups - dispatcher-managed talkgroups that add and remove members as they enter or leave a defined geographic area.



In addition, the SafeGuard Multi-Role feature set adds new MCPTT features that make it possible for WAVE PTX to easily adapt to and stay in sync with the changing roles and responsibilities of public safety users. SafeGuard Multi-Role includes features that allow law enforcement personnel and other users to select their role and its associated contacts, talkgroups and permissions at login, simplify the work needed to add large numbers of users or update their contacts, talkgroups and features, and make it possible for users to limit communications to a specific talkgroup so they never miss a call.

PROVIDING SIGNIFICANT VALUE

Critical Connect delivers simple, flexible, scalable interoperable communications between agencies, across town, across state, or across the nation. One link to Critical Connect allows local, state and federal agencies to connect with a number of other agencies - providing dynamic, seamless PTT communication whenever and wherever needed.

And, the value of Critical Connect grows as more agencies connect because, with each new connection, the choices for interoperable communications increase exponentially. For member agencies, the result is enhanced collaboration and increased efficiency as interoperable communications become readily available and easily reachable.

For more information on Critical Connect
www.motorolasolutions.com/criticalconnect

¹April 2018 GAO Report, EMERGENCY COMMUNICATIONS, Increased Regional Collaboration Could Enhance Capabilities



The service packages cover MOTOTRBO infrastructure and does not include MOTOTRBO devices.

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PROVEN SOLUTION

Motorola Solutions has been at the forefront of PTT technology for more than 90 years with proven solutions used by hundreds of thousands of public safety and commercial customers daily. We are proud to be in a position to provide the combination of network technologies, devices and interoperability necessary to enhance the service you provide to your community.

We build broadband PTT that is unbounded by coverage, area, network technology or device type, helping you more effectively communicate whenever and wherever. Applications across our Unified Communications portfolio enhance collaboration and increase productivity with the push of a button, helping everyone stay connected, safe and informed.

Backed by the industry's first and only mission-critical ecosystem, our portfolio is transforming the broadband experience. Combined with command center software, video intelligence and analytics and world-class services, our ecosystem is the technology lifeline your mission depends on. Our mission is to never stop advancing.