EVERY DEVICE. EVERY NETWORK. EVERY TEAM. CONNECTED LIKE NEVER BEFORE.

WAVE™ 5000

WAVE 5000 enables highly scalable, feature rich, enterprise grade push-to-talk (PTT) on broadband networks and devices so that critical, time-sensitive information flows quickly and securely between mobile workers, teams and citizens.

From two-way radios to smartphones, laptops to landlines, tablets to rugged handhelds, WAVE 5000 lets your users use the devices they already have and the networks they already subscribe to connect and talk to others both inside and outside of your communications environment.

> **Wherever your personnel are, whatever they do, WAVE 5000 lets them connect and communicate with simple, secure, affordable PTT.**

THE RIGHT DEVICE FOR THE JOB

We understand that personnel that use a radio system for operational purposes do not need to carry a ruggedized radio handset all of the time.

Perhaps you're the Chief of Police and you want to access Motorola ASTRO® 25 or DIMETRA™ TETRA digital communications from your iPhone when at a conference.

Maybe you're a government agent working undercover. Your Android smartphone and earbuds would be ideal to connect to other tactical units while keeping you inconspicuous.

For every police officer on the beat, agent on a job or for hotel workers, warehouse staff and railroad maintenance crews on shift, there are many other supporting personnel that can provide support, often life-saving assistance, with PTT communications using smartphones, tablets or PCs from any location. WAVE 5000 makes it possible.

BRIDGING TWO-WAY RADIO WITH BROADBAND NETWORKS

With WAVE 5000 you can experience game-changing functionality that lets you build and operate secure, highly-scalable solutions for today's most demanding communications environments:

Connect Radio to Radio
Connect multiple, disparate two-way radio systems and remove barriers to communication interoperability and workforce collaboration.

Extend Radio To Broadband
Extend workforce communications beyond radio to include modern devices and broadband networks for seamless communications in any location.

Deploy Broadband PTT
Secure, 'over-the-top' PTT connecting smart devices over 3/4G LTE and WiFi networks delivers greater choice and flexibility when choosing a non-radio, carrier-independent communications solution.
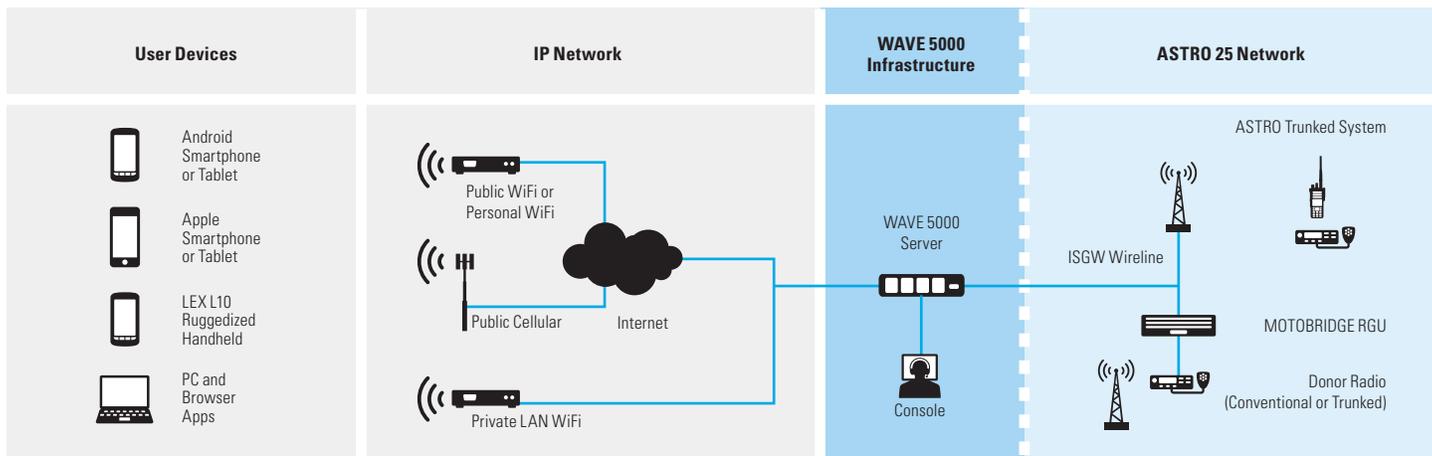
WAVE FOR ASTRO® 25

FUTURE PROOF YOUR PUBLIC SAFETY COMMUNICATIONS

If you're one of the over two million users that rely on a Motorola ASTRO 25 radio for daily communications as well as emergency response in the most demanding situations, you value the importance of staying connected with fellow first responders and supporting teams when it matters most.

And like the majority of your industry peers, you will have noted the almost universal availability of broadband data networks and smart mobile devices and are asking how they can be used to improve public safety communications for everyone.

The answer lies with WAVE 5000 and its ability to add another performance-driven layer of capability to ASTRO 25 systems by securely extending PTT communications to non-radio users over broadband networks, from any location.

WAVE 5000 INTERFACE INTO ASTRO 25

CHOOSE FROM WIRELINE INTEGRATION OR DONOR RADIO

For users that want to extend or share a small number of their ASTRO talkgroups to non-radio users, a donor radio approach is appropriate. Motorola's MOTOBRIDGE radio gateway or any other 3rd party radio gateway provides the necessary audio stream from an ASTRO radio into the WAVE server.

For users that wish to make a large number of their ASTRO talkgroups available, a wireline interface to the WAVE 5000 system delivers the necessary scalability and performance. Currently, up to 50 simultaneous audio streams can be supported using this wireline interface with the capability of configuring hundreds of talkgroups in the system.

ASTRO ENCRYPTED TALKGROUP INTEROPERABILITY WITH WAVE

You trust Motorola radio technology to deliver your mission-critical PTT communications reliability and securely and that means encryption from the radio core to the broadband edge. With WAVE 5000 Release 5.10, ASTRO encrypted talkgroups integrated with WAVE are encrypted using ASTRO key exchange technology on the WAVE Server and AES algorithms on the broadband side.
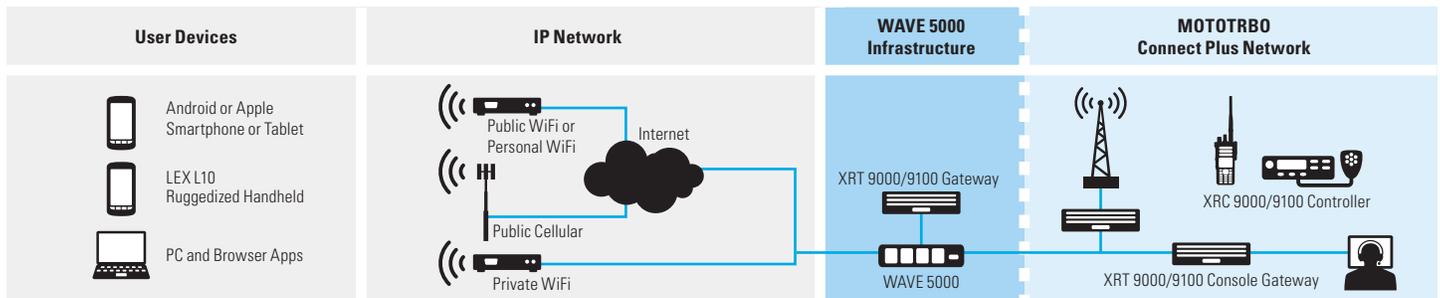
EXTEND MOTOTRBO™

DIGITAL PUSH-TO-TALK
TO ANYONE, ANYWHERE

WAVE 5000 uses a wireline interface to integrate with a MOTOTRBO Connect Plus, Capacity Plus and Linked Connect Plus radio systems. The WAVE 5000 Server manages all communications between MOTOTRBO systems and broadband networks and devices, and maintains user credentials and configuration information for smartphone clients.
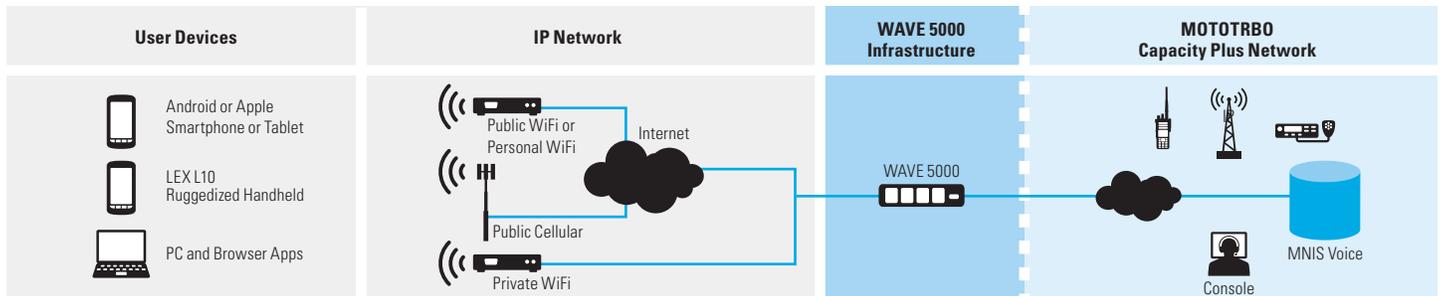
EXTENDING A MOTOTRBO CONNECT PLUS SYSTEM

For MOTOTRBO Connect Plus systems, the WAVE 5000 Server integrates directly with an XRT 9000 or XRT 9100 Connect Plus Gateway. This interface provides an IP-based wireline connection to your Connect Plus system for a highly-scalable, reliable and secure broadband PTT integration.
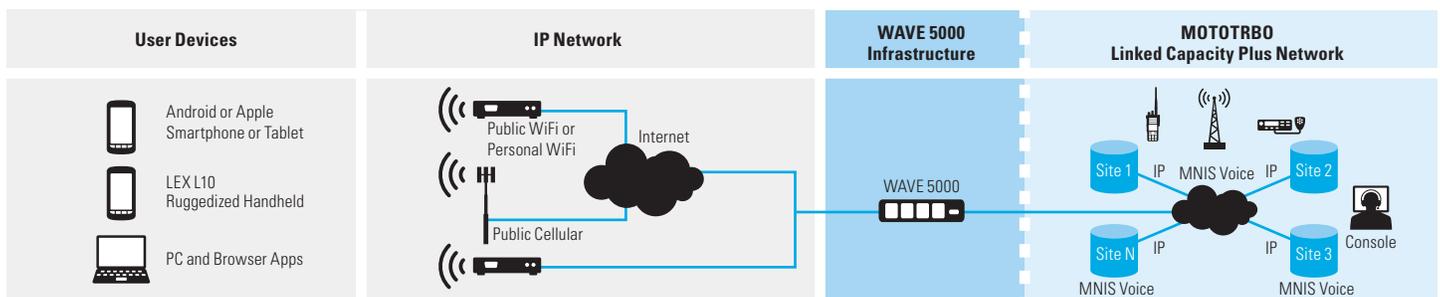

EXTENDING A MOTOTRBO CAPACITY PLUS SYSTEM

For MOTOTRBO Capacity Plus systems there is no requirement for an XRT gateway or donor radios as the WAVE 5000 Server integrates directly with the Capacity Plus system using the IP-based MNIS voice interface. Repeaters that need connectivity to WAVE should have NAI voice licenses enabled.

EXTENDING A MOTOTRBO LINKED CAPACITY PLUS SYSTEM

For MOTOTRBO Linked Capacity Plus systems, the WAVE 5000 Server also integrates directly using the MNIS voice interface. No XRT or donor radios are needed. Repeaters that need connectivity to WAVE should have NAI voice licenses enabled.

WAVE FOR DIMETRA™ TETRA
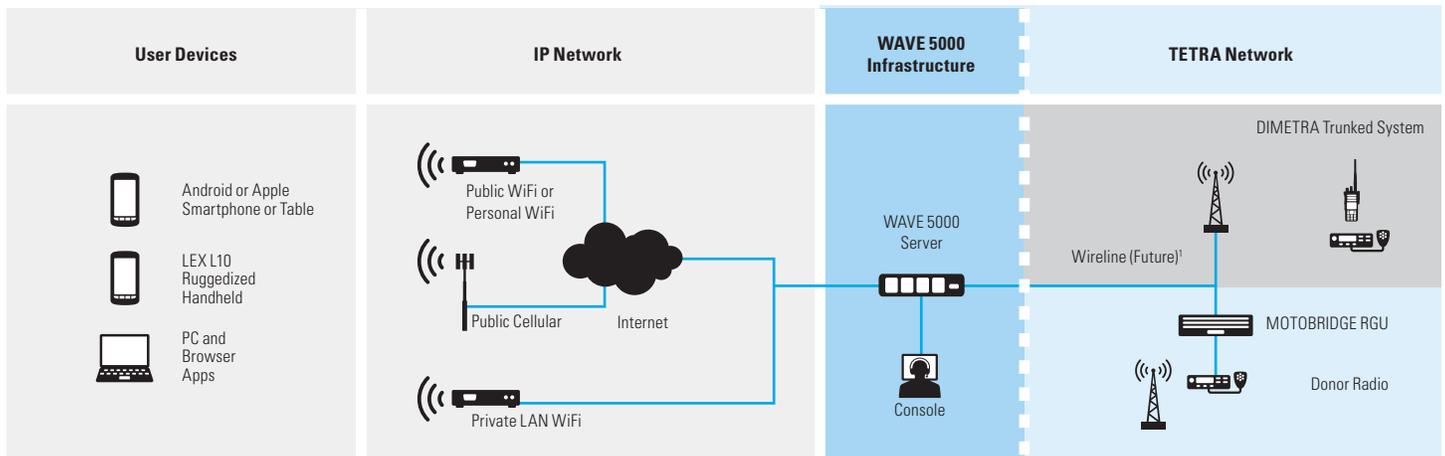## ADDING BROADBAND CAPABILITIES TO YOUR MISSION-CRITICAL RADIO COMMUNICATIONS

Motorola's TETRA solution offers secure, reliable and efficient communications customized to meet the needs of different markets. With a large installed base and multiple vendor support, we offer a wide choice of products and applications so organizations can select exactly the right solution for their needs.

WAVE 5000 continues this system flexibility by enabling secure and scalable extension of TETRA networks to fixed and mobile broadband users and devices, enhancing team collaboration and effectiveness.

Today, TETRA users that want to share a small number of their TETRA talkgroups with non-radio broadband users can use a donor radio per channel connected via Motorola's MOTOBRIDGE radio gateway or any other 3rd party radio gateway. This enables the necessary audio streams from a TETRA radio to interface with the WAVE server.

In 2016, WAVE 5000 will include a wireline interface to DIMETRA networks, enabling greater system scalability and performance.

WAVE 5000 INTERFACE INTO TETRA

User Devices	IP Network	WAVE 5000 Infrastructure	TETRA Network

- Android or Apple Smartphone or Table
- LEX L10 Ruggedized Handheld
- PC and Browser Apps
- Public WiFi or Personal WiFi
- Public Cellular
- Internet
- Private LAN WiFi
- WAVE 5000 Server
- Console
- DIMETRA Trunked System
- Wireline (Future)[1]
- MOTOBRIDGE RGU
- Donor Radio

1. TETRA wireline interface is scheduled for 2H 2016.

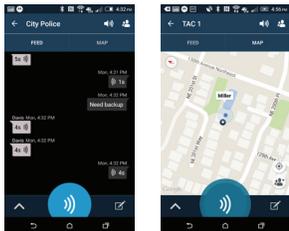## WAVE 5000 INTERFACE INTO NON-MOTOROLA RADIO SYSTEMS

Not every radio system is a Motorola radio system and we recognize that many public sector and commercial organizations may operate one or more non-Motorola radio systems across their global operations. With WAVE 5000 these organizations can still enjoy the many communication and collaboration benefits from the secure extension of radio PTT communications to non-radio users over broadband networks.

The extension of non-Motorola system talkgroups to non-radio users requires a donor radio with an appropriate radio gateway radio to enable the necessary audio streams to interface with the WAVE server.

WAVE 5000 CLIENT APPLICATIONS

Whatever the device or available network, WAVE has client applications that meet the needs of all types of users. Called WAVE Communicators, these applications provide the user interface to a WAVE communications system:
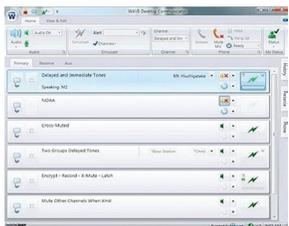
MOBILE COMMUNICATOR

Turn Your Apple or Android Device into a Multi-Channel PTT Handset

Not everyone needs or wants to carry a radio handset. But they do want instant, secure access to important, often mission-critical communications wherever they are located.

With a WAVE Mobile Communicator installed on a smartphone, tablet or custom handheld, any user can access PTT communications from any location, talking with groups of other users or individuals as required. Mapping, presence and channel activity monitoring improve situational awareness for everyone.

DESKTOP COMMUNICATOR

Access PTT Communications from Your Desktop PC

You're not a mobile worker in the field responding to events and service calls, but you're there to provide support from headquarters, a communications center or a remote location. Let's turn your desktop PC into a PTT communications hub.

WAVE Desktop Communicator is a feature-rich software application that allows workers to use their desktop or laptop PC to monitor, transmit, and receive audio from multiple communication systems such as two-way radio networks and telephones. With an intuitive and easy to use display Desktop Communicator runs on virtually any PC, from multiprocessor desktop machines to Netbooks.

WEB COMMUNICATOR

Use a Web Browser to Access Your WAVE Communications Channels

You're not at your own PC, or you cannot get to it quickly. Other PCs are available. That's when the WAVE Web Communicator comes in to its own. WAVE Web Communicator can manage more than 20 channels of secure, encrypted audio from inside a web page.

Using secure access to WAVE processing and management functionality on remote servers, in a hosted environment or as a Cloud-based service, any web browser attached to any IP network (wired or wireless) can provide access to WAVE-enabled communications.

ADVANCED DESKTOP COMMUNICATOR

Scalable Dispatch Console Balancing Capabilities with Value

If you're a small to mid-size organization that has to balance communications console capabilities and performance with acquisition and operating costs then WAVE Advanced Desktop Communicator will meet your needs.

Advanced Desktop Communicator provides advanced VoIP dispatch features that give individual dispatchers the ability to display and manage hundreds of communications channels that make up a complex and fluid communications environment. Multiple radio channels, telephone calls and other communications systems can be quickly patched together. Activity displays, audio recording and instant replay give dispatchers a complete session history for archiving and audit trail purposes.

WAVE COMMUNICATOR FOR MICROSOFT LYNC AND SHAREPOINT

As your organization grows, keeping support staff and administrative workers connected and collaborating effectively becomes harder. They may be required to work closely with other groups located a great distance away, or to access critical information from multiple systems that creates a sometimes unwieldy desktop experience. Unified communications and collaboration tools from Microsoft have help drive organizational efficiency and effectiveness through greater collaboration and easier access to important information. Microsoft Lync and Microsoft SharePoint can be enhanced with WAVE plugins that allow them to display WAVE communications channels directly on the desktop.

DEPLOYING WAVE 5000

Your organization can choose how it wants to deliver WAVE enabled communications

For the majority of deployments, hosted solutions, where WAVE software is installed and runs on your server hardware, is normal. This is particularly true when organizations are particularly sensitive to network and data security, or when organizations have extensive investments and capacity in IT infrastructure.

An alternative approach puts WAVE applications in the Cloud where they are accessed over a private network. Cloud-based PTT services offer compelling benefits, such as access to the latest WAVE software releases and significantly lower IT costs.

Motorola gives you choices. WAVE communications can be delivered either way – on premise or via the Cloud - giving you the flexibility to scale, deploy and support your communications efficiently and effectively as your organization's needs grow.

USE THE WAVE MOBILE COMMUNICATOR
WITH THE MOTOROLA LEX L10 RUGGEDIZED LTE HANDHELD

The Motorola LEX L10 LTE Handheld enables more intelligent communication and collaboration by connecting executives, supervisors, remote knowledge workers, field workers and IT managers across businesses. Originally designed for public safety, the sleek yet rugged LEX L10 also meets the unique requirements of the manufacturing, utilities, hospitality, public works and other enterprise environments by delivering advanced capabilities not available in consumer-grade smartphones.

The sleek LEX L10 is ergonomically designed for one-handed operation with a no-slip grip and a 4.7-inch touch screen. It features best-in-class audio performance with dual 1 Watt front-facing speakers, tri-microphone noise and echo cancellation, and a dedicated PTT button for fast voice collaboration. It uses a removable battery that enhances long-term usage in the field.

The LEX L10 is secured with hardware encryption and Security Enhanced Android OS. It works on Verizon 3G/4G LTE and Public Safety LTE, ensuring seamless roaming and optimal coverage at all times.

Sonim Compatible

The WAVE Mobile Communicator is compatible with the Sonim XP7 ruggedized LTE/WiFi Android smartphone, featuring a side PTT button.

For more information about WAVE 5000 and other
WAVE Work Group Communications solutions, go to motorolasolutions.com/WAVE

MOTOROLA *SOLUTIONS*