

An aerial photograph showing a fire truck, an ambulance, and a white van at an emergency scene. The fire truck is on the left, the ambulance is in the middle, and the white van is on the right. A blue wheelchair icon is visible on the white van. The scene is set in a parking lot or street area with white lines.

VerizonFrontline

Solution brief

The critical need for interoperability in emergency response

Interoperability makes effective communications and collaboration among public safety agencies possible.

On September 11, 2001, police and fire departments in New York City responded to the terrorist attacks on the World Trade Center. Over 400 first responders were lost when the towers collapsed. Many of them were unable to hear the calls to evacuate because the radio systems used by police and fire officials were not interoperable. The police and fire departments could not communicate with one another.

The events of 9/11 highlighted the need for improved and interoperable communications among first responders while still allowing them to have access to the newest equipment and technologies available.

Since then, some industry progress has been made toward creating interoperability across public safety agencies.

A number of products and standards were developed to help increase compatibility between disparate public-safety Land Mobile Radio (LMR) systems, enabling mission-critical voice communications between different agencies.

More importantly, advanced LTE wireless broadband networks have evolved to help meet the expanding data communication needs of public safety agencies. Advances in technologies like our 3rd Generation Partnership Project (3GPP) standards-based mission-critical push-to-talk (MCPTT) solutions, Verizon Push to Talk Responder and Group First Response, make interoperability possible not only for voice, but also for video and data, significantly improving situational awareness.

However, despite the improvements over the past two decades, the problem of network interoperability remains. Although you can currently make a phone call to users on a different network, having effective interoperability means communicating and collaborating not just with voice, but also with text, data, video and applications, with the appropriate priority and preemption levels. This will only be fully possible when there is industry-wide participation in designing networks, platforms and devices that work together.

At Verizon, we recognize this problem and understand that when lives are on the line, first responders and frontline workers need an advanced network and technology that's built right. That's why we're working to make real interoperability a reality.

An interoperable network that is built right will help ensure eligible first responders and frontline workers have the best quality of service and ability to share information between multiple agencies and departments, regardless of their choice of network, enabling seamless collaboration in near real time. So even though you may not know the scope of your next mission or who you will need to collaborate with next, you will be able to count on Verizon and our partners to help you communicate in a crisis.

The importance of interoperability

Interoperability, however, is more than just interconnecting different networks. It calls for uniform standards to help ensure that quality of service and priority and preemption capabilities are applied consistently across multiple networks. It connects users on LTE networks with users on LMR networks. And it requires push-to-talk and device-to-device communications capabilities, plus real-time video sharing, geospatial information and data sharing to work effectively across all networks.

“The public safety community in every state should expect offerings from all the major [wireless] carriers who want to compete. This is why it’s so important that interoperability discussions remain network-neutral. This is why public safety applications remain network-neutral and multiplatform.”

– Red Grasso, Director of the First Responder Emerging Technologies (FirstTech) program for the state of North Carolina

Further, interoperability would enable first responders to communicate and share data with whomever they need, when they need to, regardless of platform or device. However, this won't be possible until all wireless carriers, device manufacturers, platforms and solution providers commit to enabling interoperability.

Promoting cooperation between carriers to better serve first responders.

Interoperability between commercial wireless networks isn't a revolutionary idea. Developing and implementing open standards and protocols is the way the wireless industry grew from a niche market that served relatively few wealthy consumers in the 1980s to the force behind today's information economy. It's also the fundamental premise upon which today's 4G LTE and 5G networks are based.

At Verizon, we believe that network interoperability is crucial to the safety of first responders and the organizations that support them. That's why we created Verizon Frontline, the advanced network and technology for first responders. Verizon Frontline is built right to help ensure that eligible first responders and others on the front lines have the best quality of service and the ability to share information, regardless of their choice of network.

Verizon has decades of experience supporting public safety agencies across the nation. Over the years, we've made significant investments in our LTE network to support the efforts of first responders. We offer priority and preemption capabilities and other advanced solutions specifically for public safety agencies. We also offer a higher level of security with end-to-end encryption and any-to-any communication capabilities. And we continually work to enhance network output and capabilities to further enable interoperability across agencies, jurisdictions, networks and devices. These investments in broadband public safety networks and solutions deliver tremendous benefits to first responders.

However, all networks should include interoperability capabilities. This will help to ensure that first responders can effectively communicate with each other, stay safe and help save lives. Because that's what it's all about—enabling cross-agency collaboration to help first responders make better-informed decisions, keeping them safe and helping reduce time to incident resolution.







We're committed to working with the public safety community, other network operators and the entire wireless industry to promote a fully interoperable ecosystem that serves first responders—because it's the right thing to do.

Interoperability delivers any-to-any communications virtually anytime.

Network interoperability should be able to improve agency collaboration by enabling first responders to communicate using virtually any media, on any device, on any network, at virtually any time—especially during emergencies. The wide-scale solution will help public safety, school and private security personnel overcome communication silos by sharing audio, video and data in near real time. In addition, such a solution would include the ability to turn interoperability on or off, so responders and public safety agencies can better control communications. By doing so, first responders will be able to approve or deny access to determine who can join the call to effectively coordinate their on-scene response.

We partnered with Mutualink to bring a new level of interoperability to MCPTT capabilities and solve for inter- and intra-agency communications with user access and participation privileges.

Verizon is advocating for interoperability that will provide:

-  Uniform standards between networks
-  Priority and preemption alignment across networks
-  Support for any media, anytime, over any device and on any network
-  4G LTE networks interconnecting with LMR systems
-  Device-to-device communications across networks
-  Nonproprietary and nonexclusive public safety applications available to all first responders via the Verizon Public Safety Applications Portal

When lives are on the line, first responders need a network that's built right.

Learn more:

For more information about the interoperability of Verizon Frontline solutions, visit [verizon.com/interoperability](https://www.verizon.com/interoperability) or contact your Verizon Government Account Manager.

