



FirstNet and AT&T Continue Rolling Out the First Responder Network in all 50 States on Cisco Mobile Core Network

Summary

FirstNet's mission is to create a nationwide broadband network for America's public safety community. The FirstNet network strengthens and modernizes public safety communications, enabling agencies to coordinate and respond more quickly and effectively during accidents, disasters, and emergencies. It provides first responders such as law enforcement, fire, and emergency medical personnel access to new technologies, increased capacity, and higher reliability for their mobile voice and data communications (Figure 1).

All 50 U.S. states, 3 territories, and the District of Columbia opted in to FirstNet. That presents a unique opportunity to bridge public safety capabilities with the Internet of Things (IoT), helping to create smarter cities and smarter responses. Ultimately, FirstNet will connect first responders to the world around them like never before. It's an exciting time to explore how technology and connectivity will transform public safety in 2018 and beyond.

The solution

First responders perform a specialized job. By deploying a nationwide broadband public safety network built specifically to meet the communications needs of first responders, the FirstNet network will provide a solution to the decades-long interoperability and communications challenges first responders have experienced.

FirstNet is the United States' first nationwide public safety communications platform dedicated to first responders in times of need. Built with AT&T, in public-private partnership with the First Responder Network Authority, FirstNet is bringing public safety a much-needed technology upgrade.

But bringing the FirstNet network core to life is one of the most exciting milestones yet.

“Outdated communications capabilities are a threat to public safety. We’ve seen it repeatedly when disasters strike – from September 11, the Boston Marathon, and Parkland. We’ve been advocating for the future of communications to bring us a modern solution that will empower us with next-generation tools. And with FirstNet, that future is here, giving us an experience we can’t get on any commercial network.”

–Ed Davis,
Former Boston police
commissioner.

AT&T was uniquely qualified and capable to deliver FirstNet’s public safety mission. The company has been enabling public safety communications for nearly 140 years, allowing public safety agencies and first responders to focus on what matters most: protecting communities and saving lives.

AT&T is well-positioned to deliver the value and experience our first responders expect, and it is committed to building and maintaining the first-ever nationwide public safety mobile broadband network.

Figure 1. NYC World Trade Center – 9/11 image cbsnews.com



The challenge

Emergency first responders across the country currently rely on more than 10,000 separate radio networks that often do not interoperate with one another. When a disaster occurs, not only can thousands of calls for help strain a city's resources and first responders to the limit, but also the lack of information sharing across agencies and neighboring jurisdictions can hamper response efforts.

In emergencies, people now stay glued to their smartphones. Where governments once relied on the television and news media to inform communities in peril, they now supplement those efforts by using text messaging and social media channels, such as Facebook and Twitter. The flow of information runs two ways, with the public providing real-time digital updates that can help authorities assess damage and deploy resources. Authorities can now crowdsource data gleaned from Wi-Fi networks or specially designed websites and mobile apps like Twitter or Waze to piece together a picture of which evacuation routes are passable, where power is out, and whether specific shelters are full.

Command centers with big data dashboards and data visualization tools can help authorities monitor rapidly evolving situations, allocate help where it is needed, and coordinate multiple agencies.

What it means for first responders

Although first responders already have access to the early benefits of FirstNet, the launch of the FirstNet Evolved Packet Core (EPC) is a major breakthrough for public safety. Built on physically separate hardware, it finally gives first responders their own separate, nationwide broadband network. And it's being certified by the First Responder Network Authority, so first responders can be confident that it's a solution they can count on.

"This is what public safety has spent years advocating for," said Scott Edson, executive director, Los Angeles Regional Interoperable Communication System (LA-RICS). "We knew giving first responders a network that they could truly call their own was possible from our work on LA-RICS – 1 of 5 FirstNet early builder projects. But to see the public safety's network core roar to life nationwide, well, there are no words for how meaningful that is. We at LA-RICS look forward to connecting our sites to the FirstNet network core."

The future for FirstNet will include IoT, which will allow FirstNet to go beyond the interconnectivity of different radio types and services; it will incorporate a multitude of devices that will add additional intelligence and visibility for first responders (Figure 2).

The Future of FirstNet will incorporate IoT Devices and Intelligence

Figure 2. FirstNet



“The launch of the network core comes a year into the FirstNet public-private partnership. It’s been a nonstop 12 months. And we’re proud of the quick progress we’ve made in this short timeframe, consistently delivering on or ahead of schedule.”

–Chris Sambar,
Senior vice president, AT&T
– FirstNet.

How Cisco helped

Built from the beginning, the AT&T FirstNet evolved packet core is based on the Cisco® ASR 5500, Cisco Ultra Packet Core (UPC), Cisco Policy Suite for Policy Control, and Cisco Policy Suite Diameter Routing Agent (DRA). Combined they operate as the brain and nervous system of FirstNet. The solution:

- Creates and controls the FirstNet experience, which is available only to FirstNet subscribers
- Processes and carries vital public safety information
- Unlocks critical capabilities such as First Priority to help law enforcement, EMS, and fire departments respond to incidents unfolding around them
- Forms the basis for the unified, interoperable, and nationwide communications system that the public safety community envisioned

Cisco is taking a multicloud-to-client approach to fourth- and fifth-generation (4G/5G) mobile networks, unifying multivendor solutions into a single, standards-based architecture. This architecture spans across multicloud, IP transport, 4G/5G core, service edge, access networks, IoT, automation, and security. We deliver the technology the AT&T FirstNet network needs, where it needs it, so it can stay ahead of emergency situations without network constraints.

For more information

- About Cisco Ultra EPC, go to <https://www.cisco.com/go/ultra>
- About Cisco DRA, please visit https://www.cisco.com/c/en/us/td/docs/wireless/quantum-policy-suite/R13-0-0/CPS13-0-0vDRAAdministrationGuide/CPS13-0-0DRAAdministrationGuide_chapter_01.html
- About Cisco IoT, go to: <https://www.cisco.com/c/en/us/solutions/internet-of-things/overview.html>
- About FirstNet, go to: <https://www.firstnet.gov/newsroom/blog/new-year-new-network-new-firstnet>
- About AT&T FirstNet, go to: http://about.att.com/story/nationwide_launch_of_firstnet_dedicated_core_network.html
- Whitepaper on Nashville, Tn Fire Department connecting first responders: https://www.cisco.com/c/dam/en_us/about/case-studies-customer-success-stories/nashville-fire-department-case-study.pdf