Three Reasons Data Priority is Essential for First Responders
by Teddy Durgin

First responders have to roll up on all sorts of uncertain, even daunting scenes—whether it's a building fire, an active shooter situation, or just fighting the crowds to get to a sick or injured person at a major festival or sporting event. Skills and training are, of course, essential. But equally important in this age of widespread mobile phones and cellular traffic is data priority and reliability.

U.S. Cellular, the fifth-largest wireless carrier in the United States, has made helping emergency personnel stay connected at all times both a business priority and a social responsibility. We sat down with two key members of the company—Andy Schlingman, Director of Business Markets for U.S. Cellular's business channel serving Wisconsin and Northern Illinois, and Mahesh Patel, Senior Manger of IoT Product Management—to discuss the three main reasons why data priority is essential for first responders.

Prioritizing Connectivity

If you are a police officer, a firefighter, or a paramedic, reliable connectivity is a must when responding to an emergency. "Communication is the lifeblood of what we do, from everyday response scenarios to emergency response management," Schlingman said. "First responders need to stay connected in such situations."

U.S. Cellular has been providing emergency responders with a dedicated Long-Term Evolution (LTE) network that separates mission-critical data from commercial and consumer traffic.

"The network that we created is part of our public safety solution to provide consistent high-quality service with the ability to prioritize and provide pre-emption for our first responders during high-traffic public events or during emergencies," Schlingman said. "We have developed a network that separates mission-critical data from the commercial and consumer traffic."

From a layman's perspective, what U.S. Cellular has done is provide a dedicated SIM card to its emergency responders that puts them at the front of the line when it comes to mission-critical data. The dedicated SIM allows emergency responders to have both quality of service and priority of service.

"The biggest challenge you have with first responders overall is competing with consumer traffic," Patel said. "Our dedicated core helps get prioritized traffic onto the network to deliver the back-end services that first responders need. One way to think about it is when you are driving on a highway and you have traffic all flowing together and it gets jammed. We open up a lane just for first responders so they don't get congested with the other traffic."

Also proving effective is U.S. Cellular's Wireless Priority Service (WPS), a solution for the cellular communications side of emergency response. The service evolved out of the Department of Homeland Security's Office of Emergency Communications' efforts to address the growing need for priority when excessive call volumes exist. WPS access is an add-on feature to existing wireless networks, but it's restricted to use by emergency support, national security, and emergency preparedness activities such as command and control functions, usually within the first 24 to 72 hours of team support. The best application for the WPS is in situations like disasters, major power outages, civil emergencies, sporting events, festivals, and other large public gatherings, Schlingman said.

Peace of Mind

Equally important is knowing a solution is going to work regardless of how dire the emergency is or how large the event being policed is. Schlingman describes his team as the front line.

"Fortunately, I don't think first responders have a stigma when adapting to cutting-edge technology—we just need to make sure the technology works when they need it," he said. "We work with police, fire, and emergency responders prior, during, and after implementation of a new solution. We allow them to test the solution in their own environment in order to provide that peace of mind when adapting to new technology. We want them to say, 'Whatever I'm running into, I know this is going to work.'"

The company also offers 24/7 emergency support. So if an emergency within an emergency does occur, U.S. Cellular staff is available to help.

"A common call to 24/7 support is a broken device," Schlingman said. "Someone dropped their phone, and it got wet or broken for one reason or another. Or there are those scenarios where there's a large group of people that are coming in to support a festival or a large public gathering. There may be a lot of volunteers and other support staff, and they don't have enough devices. So, what we do is help them out—by fixing a broken device over the air with spare devices they have on hand or by having a team of people ready and able to run a new device or a new SIM card out to them."

Another factor that plays into peace of mind is choosing the best data plan. U.S. Cellular works with customers to make sure they always have the right-size plan. Unlimited plans are a popular option that provide peace of mind.

"Generally, those are the plans that first responders gravitate to," Schlingman said. "But there are other options. What it boils down to is, with U.S. Cellular, no matter what plan the first responders choose, we are always going to have that quality, that priority, and that pre-emption that they need in a time of crisis."

A Range of Applications

U.S. Cellular has had great success deploying its technology and team support in various disaster scenarios and, on the more fun side, during big entertainment and sporting events. Regarding the former, one recent effort where Schlingman had to mobilize his team was in Wisconsin, where there was flooding on the

state's southern border. Many streets were shut down, and emergency responders had their hands full.

"We had to go to a particular firehouse and set up a wireless command center," he said. "We also had to provide them with additional handsets because their entire wire-line communications network was down. So, they relied solely on the wireless side and the services we could provide."

Wisconsin also hosts SummerFest, the largest music festival in the United States. There were 19.8 million LTE data connections during the 2018 SummerFest. "It's really a small city down there for a 10-day period," Schlingman said. "If you're down there on a commercial network, in times of congestion, on some networks you're going to be slowed down or you going to have connection issues. So, that was one area that we certainly were able to deploy the WPS to the organizations we support, and they were able to communicate fully."

Looking ahead, both men are excited about the potential 5G has to offer.

"I see us having carved out our public safety-focused network, we'll start enhancing that network with the new technologies that 5G offers," Patel said. "We'll create a virtual network for first responders that will feature functions that will be quite different from your normal consumer network."

"5G is the next generation of wireless technology," Schlingman added. "The 5G speeds will be much faster than the speeds we see today. The latency of moving data will be almost instantaneous. It will provide our first responders with real-time access to mission-critical information, allowing them to make quicker and more informed decisions when time is of the essence. 5G in the emergency response space is going to be a game-changer in the next two to three years."