WASHINGTON STATE EMERGENCY MANAGEMENT DIVISION LEVERAGES WAVE FOR STATEWIDE PUBLIC SAFETY COMMUNICATIONS INTEROPERABILITY

Washington State's Emergency Management Division (EMD) is tasked with overseeing public safety operations and coordinating emergency and disaster response across the state's more than 70,000 square miles of land. This vast reach means that emergency response often involves a large number of disparate organizations, including more than 50 public agencies as well as tribal entities, cities, towns and counties. With such a diverse group of stakeholders potentially involved in any emergency scenario, challenges invariably arise in enabling efficient, seamless communications.

At the same time, in efforts ranging from natural-disaster response to terrorism prevention, collaboration between multiple agencies has become not only key for managing operations, but also often required under Department of Homeland Security regulations. As such, the EMD needed a communications solution that would provide a high degree of interoperability, allowing users on a wide range of devices and networks - smartphones, landlines and Land Mobile Radio (LMR) systems broadcasting on myriad frequencies - to communicate with each other under the most stressful of emergency circumstances.

The EMD also faced growing budget pressures, as state officials sought to find cheaper solutions to the state's public safety needs. For the EMD, this meant finding a solution that could modernize its communications infrastructure - enabling emergency responders to communicate instantly and efficiently - without creating new costs.

An additional criterion for the new system was that it allow seamless redundancy. While the EMD operates out of a central command center in western Washington, finding a solution that could be readily duplicated and instantly brought online in an emergency from anywhere throughout the state was critical.

BENEFITS OF WAVE TO THE WASHINGTON EMD

Interoperability in large-scale response scenarios: Effective emergency response scenarios often engage a wide range of organizations, operating disparate networks and using their own, proprietary devices. WAVE's ability to bridge and unite radios and other devices, regardless of technology, manufacturer, frequency or operator allows the EMD to effectively coordinate emergency response among any number of different organizations.

Improved dispatch failover and redundancy: Public safety officials know that under emergency circumstances, they need a communications system they can rely on to save lives. The EMD needed a solution that would allow for a simple switchover to a redundant system in case of disaster. WAVE's software can be run on industry-standard laptops, giving the EMD flexibility to operate the system from anywhere in the state if it should need to relocate from its main Emergency Operations Center.

Cost-effectiveness: Washington's EMD, like many emergency response organizations around the United States, faced tightening budgets and the challenge of doing more with less. Moving to WAVE allowed the EMD to leverage existing communications devices and spared it the expense of purchasing costly, new proprietary equipment.

FINDING A SOLUTION

For its statewide emergency communications, the EMD relies on a network called On-Scene Command and Coordination Radio (OSCCR), which was created to allow for command and coordination during emergencies that require a simultaneous response from multiple agencies. The OSCCR network covers a diverse group of agencies, including the Department of Natural Resources, the Washington State Patrol, the state's Department of Transportation and a number of other emergency-response organizations.

To bridge these disparate communications systems, the EMD began the search for a new IP-based voice communications system. At the time, Washington state emergency management officials already had experience working with IP-enabled communications interoperability.

When it had faced challenges upgrading the smaller Olympic Public Safety Communications Alliance Network (OPSCAN), which powers inter-agency communication on the rugged Olympic Peninsula, the state turned to Motorola Solutions' WAVE Work Group Communications solution. From this upgrade process, officials knew that pursuing a solution based only on proprietary technology would not be ideal and would not provide the necessary level of interoperability. Making WAVE software the core component of OPSCAN instead brought extensive interoperability, simple redundancy and cost-effectiveness to the network. Given this success of WAVE's integration into OPSCAN, the agency sought a way to bring a similar level of interoperability, on a larger scale, to its statewide network.

Roy Benavente, who manages the OSCCR network for the EMD, highlighted the importance of identifying a solution that would be both powerful enough for statewide use and flexible enough to accommodate multiple networks and devices.

"The OSCCR network is utilized by just about every agency involved in emergency planning and response across our state," Benavente said. "And the system was designed to be used on-site in emergency scenarios. This meant that we needed to identify a communications solution that would bridge all of these networks together, under the most testing of circumstances."

The EMD decided to follow OPSCAN's lead and began implementing WAVE in 2008.

Using the WAVE Dispatch Communicator, a feature-rich IP dispatch console application, the EMD is able to manage its entire statewide network from 14 industry-standard laptop PCs, linked via the state's existing communications networks. While the EMD's communications are based primarily out of its Emergency Operations Center located in western Washington, its deployment of WAVE allows for full dispatch functionality from anywhere in the state.

This mobile functionality was a differentiating factor for WAVE, said Benavente.

"Our disaster-planning scenarios include a catastrophic Cascadia earthquake," he said. "In this type of scenario, redundancy and mobility of our emergency communications system becomes a primary concern. With WAVE, we're able to easily relocate our dispatch operations and communications management to another part of the state, essentially at the push of a button. That kind of functionality wasn't an option with older technology. WAVE truly modernized our operations in that regard."

With WAVE implemented, emergency management personnel can access the OSCCR channel via virtually any device - smartphones, tablets, desktop PCs or LMR handsets among them - without the need to patch in additional users. In an emergency scenario, dispatchers on the city, county or statewide level can alert personnel across all agencies, at headquarters or in the field, to join the OSCCR network in coordinating a response.

"To put it simply, public safety agencies are a few mouse clicks away from communicating with any other agency across the state," Benavente said.

Now approaching its 6th year of using WAVE, the EMD is looking for ways to expand its use into other systems such as its Comprehensive Emergency Management Network (CEMNET), used as a backup communication link by agencies such as the National Weather Service and the state's extensive ferry system.

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