

Communication Is Critical for Public Safety

When improving police, fire and EMS communications,
the right solutions provider makes all the difference.

In today's ever changing world, the public safety field is required to adapt. Things evolve quickly in this area. That's true also for the communications tools agencies rely on. Lives can be lost when communication fails. Failure is not an option.

It's crucial to have the best possible communications systems in place for today and for the future. Every public safety agency wants to have the best communication network it possibly can, but the challenges are many.

Budgets are tighter than ever. Infrastructure is aging. Networks are becoming more complex, and there are always interoperability issues. It takes a great deal of effort to stay current with all the new technologies being released. Continuity of operations is critical. And security threats never go away.

To deal with these challenges, it makes sense for the public sector to lean on private sector communications expertise. A trusted partner who's done it at a high level many times before can be a huge blessing for any government agency with enough on its plate already.

Obstacle Course

Police, fire and EMS have their own individual issues, and improving communications can be a complicated process. Much planning is needed. Months of work may be required. Then there's design, testing and implementation. Issues arise and setbacks occur.

Communication is more important now than ever before because today's events can unfold in an alarmingly rapid fashion. Fires, floods, shootings, weather emergencies and other events can put entire agencies to the test at any time.

A good partner can help the public sector navigate the obstacle course and emerge with a better communications system. And communication is more important now than ever before because today's events can unfold in an alarmingly rapid fashion.

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Communication tools must be available not just for the public's safety, but also for the safety of firefighters, police officers and EMS personnel.

Interoperability is critical for a truly effective and stable communications environment. It also presents a unique set of challenges for each entity involved, and there is no standard solution that's right for every situation. The right private sector partner can analyze what government agencies have and advise them on what they need. The result is a tailor made system that's perfectly suited to the agencies involved.

Experience Is Vital

A company that's experienced at putting together multi vendor networks can be invaluable. Many public sector agencies turn to Alcatel Lucent for these and other solutions. Alcatel Lucent provides government agencies of all sizes with the technologies and services needed to improve voice, data and video communication for public safety networks.

The company offers help with critical communications interoperability for land mobile radio, emergency broadcast and multiagency collaboration. Alcatel Lucent also aids the public sector in local area networking and advanced capabilities for a variety of communication applications. IP communications is another area of expertise for the company.

Alcatel Lucent understands public sector needs and offers end to end solutions in a number of communication areas, including those just taking hold in today's quickly changing world.

With operations in more than 130 countries, Alcatel Lucent has the knowledge and experience needed to pave the way for better communications and better public safety.

Constant Connection

Interoperability among 15 public safety agencies raises a communications network to a new level.

Anything that improves law enforcement, fire protection or emergency medical services also benefits the public. That's the case with a new communications network for public safety in Fresno County, Calif.

By connecting 15 agencies with the new network, Fresno and Fresno County have eliminated jurisdictional barriers to communication. Whether it's a chase across city boundaries, personnel from several agencies responding to an incident or a dispatch center going down, radio communications can now continue seamlessly. Prior to the network, it was often much more difficult – or even impossible – to do those kinds of things.

Now the county has improved communication interoperability among the agencies, which also have better reliability and a collaborative environment that simply didn't exist before.

The project was made possible by a \$7 million Urban Area Security Initiative grant from the U.S. Department of Homeland Security. The aim of the grant was to improve radio and data communications interoperability among 15 police, fire and EMS agencies in Fresno, Clovis and several smaller communities within the county.

Fresno is the sixth-largest city in California, with a population of nearly 500,000. Fresno County is home to nearly 900,000 people.

It was an ambitious project which took four years to plan and implement. It involved agencies at the state, county and municipal levels. Much time was devoted to getting the 15 agencies together and agreeing on what kind of system was needed.

Alcatel-Lucent provided an IP multiservice platform, allowing the convergence of voice and data traffic. A digital wireless microwave transmission network gives the agencies more bandwidth and network redundancy, and allows responders and public safety officials to access the network throughout the county.

Part of the grant went toward putting dual-band radios in every patrol vehicle in the county. Every dispatch center in the county now has a new radio console, and the Alcatel-Lucent microwave system connects all the components. In much of the municipal area, the microwave system is a backup to existing cable. In the outlying areas, the microwave is often the primary system.

New Opportunities

Along with increased interoperability, many of the agencies get a more stable and reliable system than the one

they had before. And with the IP system, the agencies are keeping up with the current trend of using more IP in communications.

There are two main systems within this new public safety network. One is based in Fresno and covers the municipal area; the other is the county's system, which goes out to the smaller communities. The two networks are linked, putting all 15 agencies on the same system.

Some of the smaller agencies weren't able to share data for computer-aided dispatching before, but now they can. And if any dispatch center in the network goes down, calls can be easily moved to another dispatch center.

"The bandwidth on the Alcatel-Lucent microwave is so much greater than our existing cable that we'll transmit data, video and GIS mapping," said Sgt. Ronald Grimm, homeland security coordinator for the Fresno Police Department. "That's a huge benefit. Plus the microwave can get us into locations that would be completely inaccessible to existing cable or radio."



With all the agencies linked, incidents that cross jurisdictional lines no longer present communication problems. First responders, for example, are finding great value in the new system.

"Time is of the essence in emergency response," said Mike Dottai, Fresno's communications manager. "Having the ability to just flip a switch on your radio and talk to someone else is huge for emergency responders."

Building the new system involved replacing phone circuits in some places and replacing old microwave segments in others. It also meant creating new paths that didn't exist before. Fresno and Clovis, for example, didn't have a communications link. Now they have three, including one for redundancy. The city and county weren't linked before either, but now they are.

It all means more flexible communications. The network can instantly patch any two radios together, so a police officer from Clovis can talk with a firefighter from Sanger. The city and county systems are each managed from a single platform. And even though the systems are linked, each can still maintain its network security.

Once some fiber-optic work is finished in one section of Fresno, the main city and county radio console networks will be connected. "When everything is completed, we'll have all the radio channels of every agency throughout the area in everyone's dispatch centers," Dottai said. "All the dispatch centers will be linked together in one network of radio consoles. And that's police, fire and emergency medical."

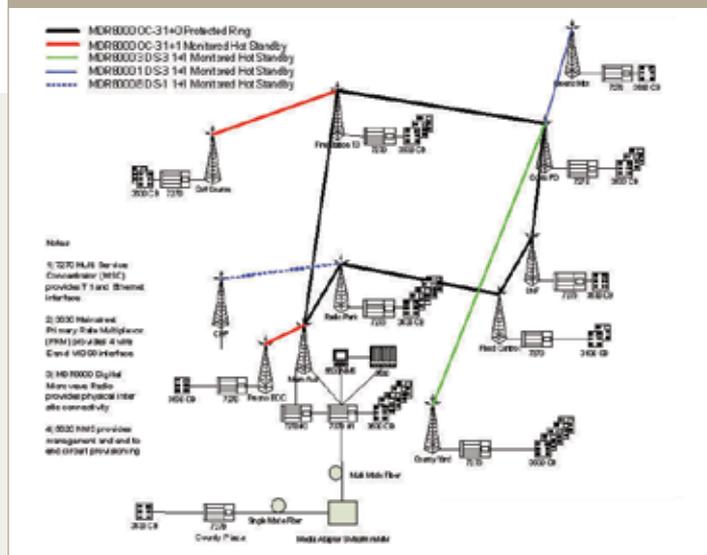
Collaborative Approach

Previously if there was a chase across jurisdictional lines, a Fresno officer would be cut off from communications if the chase went too far from the city. That's not the case with the new system. "With the use of the interoperable dispatching consoles and the microwave link, we can pass off the pursuit from one dispatching center to another almost seamlessly," said Grimm. "That keeps us in contact with the officer throughout the incident."

If one agency requires more manpower for any reason, personnel from another agency can come in to help, and they'll all have seamless radio communication.

The Fresno Police Department has already seen the new system save the day. A construction crew cut through the copper lines for police communications. "Without the backup provided by the Alcatel-Lucent system, we would have lost police radio to about half of the city," Grimm said. "Alcatel-Lucent's system provided an instant backup so we never lost connectivity."

City of Fresno Public Safety System



Another key benefit was greater collaboration among the agencies, which typically hadn't worked together in the past. The new system has everyone working from the same platform – to everyone's benefit. "We have a line of communication because of this project that we didn't have before. Everybody is a partner in this," said Grimm.

While the grant made it possible to have better technology, it's also brought new relationships between agencies that are expected to pay dividends well into the future. "We've also had exercises, and training, and planning meetings that have fostered cooperation and have been really good team-building exercises," Dottai said. "That team-building on a project like this is very valuable."

The project has gone so well that it recently received another federal grant for expanding the interoperability into six surrounding counties.

Dottai and Grimm agreed that Alcatel-Lucent was excellent to work with. In fact, Fresno is also working with Alcatel-Lucent on a video policing project as it installs cameras throughout the city.

Grimm said a big factor in the success of the radio interoperability project was the working relationship the agencies had with the company. "In the dealings I have had with vendors, Alcatel-Lucent has been far and away the easiest vendor we've ever dealt with," he said. "Alcatel-Lucent was very accommodating to us."



Alcatel-Lucent delivers complete, best-in-class communications solutions aligned with the most challenging mission imperatives of government, and tailored to business needs. Alcatel-Lucent: serving those who serve the public in an always-on world.

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