



## OVERVIEW

# IP COMMUNICATIONS IN PUBLIC SAFETY

## Improving Command, Control, and Decision Making—From Headquarters to the Field



Public safety agencies serve a vital role in state and local government’s top-level goals: maintaining a safe environment for citizens, providing effective services, and advancing economic development by making the community more appealing to new residents and businesses. To meet aggressive goals for response and prevention, public safety agencies and public officials need to achieve the highest degree of awareness of their operation. The challenge is that they lack the ability to share information quickly enough to achieve the best outcome.

Today, public safety agencies across the United States are overcoming this challenge without increasing operational costs. Their method: process change, enabled by advanced network technologies that take advantage of a converged voice, video, and data network. It’s a concept called “IP communications.”

IP communications is changing the way public safety agencies protect and serve. With Cisco® IP Communications Solutions for Public Safety, agencies connect the entire chain of command, wherever they may be, to actionable information. The result is a more responsive and resilient public safety environment.

Read on to discover how Cisco IP Communications Solutions for Public Safety are helping public safety agencies connect more efficiently, for greater collaboration, faster response, and a safer community.

### Communicating with the Tip of the Spear

Effective crime prevention, protection of life and property, and crisis management depend on collaboration and timely delivery of actionable information to the “tip of the spear,” the personnel at the scene or in the field. These personnel are farthest removed from law enforcement and public safety information, and yet must make decisions that affect public safety, such as:

*Should I arrest this individual?*

*Am I dealing with terrorism?*

*Should I call for backup?*

By making it easier and faster to deliver information to personnel at the tip of the spear, Cisco IP Communications solutions increase the value of information.

## IP COMMUNICATIONS FOR HEADQUARTERS

### **Cisco IP Communications facilitate a unified command by enabling secure, reliable communications over multiple channels.**

Public safety agencies and public officials experience the greatest need for situational awareness and collaboration during emergencies. However, timely information delivery is difficult to achieve when headquarters needs to deliver messages to diverse devices including phones, PDAs, laptops, and pagers. Cisco IP Communications solutions can improve emergency response by enabling headquarters to:

- Initiate and receive calls with any device that field personnel use, including standard telephone handsets, wireless phones, radio consoles, push-to-talk radios, and others.
- Manage crises by immediately connecting response teams to a voice-and-video conference with data collaboration, where they can plan and implement recovery actions.
- Extend the command structure to personnel outside the range of the radio network by communicating with their cellular or fixed phones from any radio device.
- Increase collaboration between headquarters and the field to reduce the likelihood of missed messages, delayed directives, or communications that do not reach the recipient because of incompatible or proprietary technologies.
- Provide unified messaging so that personnel can retrieve and respond to confidential voice mail, e-mail, and faxes from either their voice-mail or e-mail in-box.

### Improving Response and Prevention Without Increasing Operational Costs

Cisco IP Communications solutions help improve awareness of the operation without increasing operational costs. IT groups can maintain a single network for data, voice, and video rather than separate networks for voice and data. Easy-to-use management and configuration tools and end-user self-service configuration further simplify management. The cost of moves, adds, and changes for telephone extensions drops because either IT or field personnel themselves can simply reconnect the IP phone in the new location. IP communications can also reduce phone bills because the public safety agency pays no toll charges for calls on the same network.

## IP COMMUNICATIONS FOR FIELD HEADQUARTERS AND DISPATCH

### **Used in community contact centers and first responder organizations, Cisco IP Communications facilitates interagency communication and collaboration and scales easily to serve more field personnel in the event of crisis.**

During crises such as natural disasters, crimes in progress, major accidents, public disturbances, or potential terrorist threats, field headquarters and dispatch personnel need instant access to personnel in different locations. Often, vital minutes and seconds are lost while dispatchers and incident commanders look for critical information in multiple sources, including phone-based directories, paper directories, and computers. Further delays can result from the technical difficulty of communicating with disparate devices such as phones and radio consoles. Cisco IP Communications overcomes these challenges, allowing field headquarters and dispatch to:

- Increase the span of control during crises by communicating with multiple device types on different frequencies. This facilitates cross-jurisdictional events such as coordinated pursuits.

- Improve responsiveness to the community with unified messaging. Personnel can check both voice-mail and e-mail messages either from their phone or e-mail in-box, avoiding delays while they check messages in two places.
- Increase productivity by delivering applications to the built-in display on Cisco IP phones. When staff can report in and out of a shift on their Cisco IP phones, for example, the agency can free up administrative resources and reduce overtime.
- Make it easier to reach mobile command officers by allowing them to log in to any Cisco IP phone to personalize it with their own phone number, a capability called “extension mobility.”
- Improve access to training and foster intra-agency collaboration through the use of Cisco IP-enabled video conferencing and collaboration solutions. Agencies with remote locations can reduce travel costs and overtime by delivering training over the network.

## **IP COMMUNICATIONS FOR PUBLIC SAFETY ANSWERING POINT (PSAP) AND EMERGENCY OPERATIONS CENTER (EOC)**

**With Cisco IP Communications, PSAPs and EOCs can improve responsiveness by collaborating with decision makers from other agencies, even those outside the radio coverage area.**

Dispatchers typically need to spend precious time managing the complexities of setting up calls with decision makers who use different types of communications devices. With Cisco IP Communications, dispatchers need just a few clicks to create a “talk group” including all personnel who need to be on the same call. All types of communications, including radio frequency and traditional voice, are converted to a common form that travels over the network. Adding a new person to the talk group is as simple as dragging a device to the talk group icon. Cisco IP Communications also allows PSAP/EOC personnel to:

- Provide remote access to IP video surveillance and dispatch, improving situational awareness for first responders and thereby increasing safety both for the responders and the citizens they protect.
- Enable effective crisis management by connecting first responders’ response teams to command personnel through a voice and video conference with data collaboration where they can plan joint actions.
- Broadcast vital voice and data alerts, such as Amber alerts, natural disasters, and elevated threat levels, to employees’ IP phones, cellular phones, PDAs, and other devices.
- Establish an efficient contact center with flexible call-routing options to handle the rising call volumes associated with major incidents, natural disasters, terrorism threats, and mass disturbances.

### **Success Story**

#### **City of Dallas-Fort Worth, Texas**

When paralyzing winter storms hit Dallas-Fort Worth, Texas, and call center employees couldn’t drive to work, a Cisco IP telephony solution automatically routed urgent citizen calls to locations that were out of the storm’s path. Public safety services remained accessible at a time of crisis, when they were needed most.

## **IP COMMUNICATIONS FOR CITIZENS**

**Cisco IP Communications facilitates community-oriented policing by making it easier for public safety agencies to collaborate with the citizens they serve to make the community a safer place.**

Agencies can collaborate with citizens to make the community a safer place when they make it more convenient for those citizens to provide information such as crime tips, receive information, and request services such as a visit from a Neighborhood Watch advisor. Public safety agencies can create more effective partnerships with citizens by using Cisco IP Communications to:

- Improve responsiveness with unified messaging. Citizens receive faster response to their inquiries when public safety officers can check both voice-mail and e-mail messages either from their phone or e-mail in-box, rather than checking messages in two places.
- Establish contact centers that provide information about public safety services and incidents via interactive voice response (IVR).

- Automatically route callers to the most appropriate person, based on information the caller enters on the keypad. Caller choices might include language preference and the purpose of the call, such as information on a criminal investigation, organizing a community activity, scheduling a visit from a school resource officer, and so on.
- Answer callers' more complex questions using the automated speech recognition and text-to-speech translation capabilities in Cisco Voice Portal. This capability can even read text that appears on the agency's Website and convert it to voice for callers.

## THE TECHNOLOGY BEHIND THE PROCESS CHANGE

### Cisco IP Communications Solutions

Cisco IP Communications advances the goals of public safety agencies by facilitating secure, reliable communications over multiple channels, fostering interagency collaboration, and increasing service reach and responsiveness. Operational costs remain level or drop because IT can manage one converged network instead of separate voice and data networks, and phone bills can decrease.

Cisco IP Communications is a complete enterprise-class system that securely integrates voice, video, and other collaborative data applications into intelligent network communications solutions. It takes full advantage of the power, resilience, and flexibility of the public safety agency's IP network to deliver IP telephony, unified communications, rich-media conferencing, IP video broadcasting, and customer contact solutions. Built-in intelligence enables public safety organizations to solve problems, conduct transactions, and complete tasks more automatically. The result is a highly effective and collaborative business environment that significantly improves the way public safety organizations interact with their personnel, citizens, and other agencies.

### IP Telephony

Cisco CallManager is the software-based call-processing component of the Cisco IP telephony solution, delivering enterprise telephony features to wired and wireless IP phones and video devices. Key benefits of IP telephony for state and local governments include:

- **Reduced toll charges**—Interagency voice traffic can travel over the state or local government LAN and WAN, eliminating toll charges.
- **Self-service moves**—An employee who relocates to another cubicle or office can keep his or her phone number after simply disconnecting the phones and reconnecting it in the new location, eliminating expensive moves, adds, and changes.
- **Four- or Five-digit dialing**—Interagency collaboration improves because employees can dial employees in any agency served by the same Cisco CallManager server simply by dialing an extension.
- **Ability to transfer citizen calls to other departments**—Rather than forcing callers to hang up and dial a different department, employees can transfer citizen calls to any department served by the same Cisco CallManager server, giving a unified face to government.
- **Extension mobility**—The extension mobility feature enables employees who need to work temporarily in other offices or buildings served by the same Cisco CallManager server to log into any IP phone as their own, so that it has their phone number, directory, and other preferences.

### Cisco Unity Unified Messaging

With Cisco Unity<sup>®</sup> unified messaging, government employees can listen to e-mail messages over the telephone, check voice messages from within their e-mail in-box, and (when integrated with a supported third-party fax server) forward faxes to any local fax machine. Unified messaging increases organizational productivity, improves citizen services, and enables faster response.

### Cisco Unity Express

Cisco Unity Express services provide localized voice-mail and automated-attendant functions for small and midsize public safety agencies. Employees can easily and conveniently manage their voice messages and greetings with intuitive telephone prompts and a straightforward interface that allows simple administration.

## **Cisco IP Contact Center**

A “contact center in a box,” Cisco IPCC Express delivers sophisticated call routing, contact management, and administration features. It gives public safety agencies the flexibility to deploy agents in any location. Service to callers improves with features like call routing based on business rules, call-in-queue and expected-wait-time messages, and IVR.

## **Cisco MeetingPlace**

Integrating voice and Web conferencing, the Cisco MeetingPlace® solution improves communications and productivity by allowing government employees to meet anytime, anywhere. Deployed “on-net,” behind the firewall, Cisco MeetingPlace integrates with the agency’s private network for security and low total cost of ownership. Based on Cisco MeetingPlace software, the Cisco Crisis Management solution immediately connects response teams to a voice-and-data collaboration conference, where they can plan and implement recovery actions.

## **Cisco IP Videoconferencing (IP/VC)**

Using Cisco IP/VC solutions, public safety officers can conduct videoconferences. When used for training, Cisco IP/VC videoconferencing solutions reduce the time and costs associated with travel to remote facilities.

### **Cisco Partner Solutions for Public Safety**

#### **CML Emergency Services**

Public safety agencies that receive e-911 calls can respond more quickly using a specialized IP-based e-911 emergency system offered through CML Emergency Services, a Cisco Technology Developer Partner. Using the 911 emergency communications system, multiple public safety agencies can share critical information in real time and synchronize their responses, directing critical resources to the right location in seconds rather than minutes. Faster response contributes to more favorable outcomes and greater safety, both for first responders and the constituents they serve.

#### **Berbee InformaCast**

Berbee InformaCast sends emergency broadcast messages to personnel in multiple locations and agencies, broadcasting important information through the speakers integrated into Cisco IP phones or over external loudspeakers.

#### **AAC PhoneTop Alerts**

AAC PhoneTop Alerts works with the Emergency Alert System to provide Amber alerts, weather alerts, and security alerts issued by local, state, or national government to agencies in the affected zip code areas.

#### **Tandberg Public Sector Solutions**

Tandberg provides business-quality video communication solutions for the individual workspace. Cost-effective solutions for government are easy to use, provide embedded security, and allow agencies to offer a reliable, “face-to-face” communications option to every employee. Government agencies throughout the world are using visual communications to accelerate decision making, provide employees with increased access to experts and information, and improve responsiveness.

## WHY CISCO

The leader in networking for the public sector, Cisco Systems® offers experience serving state and local governments of all sizes throughout the world. Unlike legacy communications vendors or networking niche players that lack networking depth or breadth, Cisco delivers industry-leading expertise, partnerships, and solutions that result in the most comprehensive network solutions for serving the public sector.

With Cisco IP Communications Solutions for Public Safety, public safety agencies meet top-level goals for improved safety and increased service effectiveness without increasing operational costs. It's a proven concept: governments and government agencies around the world have revamped their processes for greater efficiency and safety by using their networks in new ways. Cisco IP Communications Solutions for Public Safety contribute by facilitating secure, reliable communications over multiple channels, fostering interagency communication and collaboration, increasing service reach and responsiveness, and helping agencies use their personnel and network resources more effectively.

**Get connected.** For more information about Cisco IP Communications Solutions for Public Safety, visit <http://www.cisco.com/go/localgov>.



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