Creating Connected Agencies for Public Safety Using the Internet of Everything

The Power of Convergence

The convergence of mobility, big-data analytics, and the cloud is revolutionizing IT. It is uniting applications, systems, and processes in ways that will have an impact on you for years to come. Convergence is also at the heart of the Internet of Everything (IoE) that is connecting people, processes, data, and things anytime, anywhere. For public safety the IoE can provide real-time information through mobile communications and video, which improves situational awareness for first responders. It can help manage resources more efficiently by letting firefighters and emergency medical services (EMS) share critical information before and during incidents. It can even provide real-time video feeds from in-car, wearable body, or local surveillance cameras to emergency operating centers (EOCs) for immediate collaboration or secure recording for later use.

Increase Situational Awareness

Cisco® IoE-based architecture and solutions intelligently and securely connect smartphones, tablets, cameras, sensors, vehicles, and other mobile devices. This ensures public-safety officers can stay constantly connected with resources and colleagues wherever they are.

Manage Resources More Efficiently

Thanks to the IoE's convergence of mobility, big data, and the cloud, we can even enable predictive modeling that helps you anticipate trends and short-term fluctuations in citizen behaviors. With predictive modeling, you can manage resources more efficiently and provide citizens with better government at lower costs. Plus, we can help you work toward a customized solution that is secure, scalable, and affordable for your agency.

Cisco IoE-based solutions allow public-safety officers and staff to move sensitive information over secure mobile networks, where it can be accessed or shared quickly in times of crisis. This security can help ensure that public safety is more cost-effective and efficient for all by improving departmental operations and streamlining training initiatives.

Immediate Collaboration

With this tremendous leap forward in real-time, situational information sharing, your public-safety team can better help citizens by providing immediate collaboration with the right resources; resulting in faster, more accurate resolutions to their everyday problems.

Cisco's thought leadership in the IoE can help your agency create a unified, interoperable environment that makes real-time cross-agency collaboration possible. We do this by providing you with an easy-to-use, network-based solution that can help solve your most complex communications challenges.

How Cisco Public-Safety Solutions Help

Law enforcement, fire departments, and EMS are turning to the IoE to stay safer and more informed. By using Cisco converged network infrastructure, real-time technologies, and physical security solutions, your public-safety agency can:

- Protect and secure your people and assets
- Provide faster and more effective incident response
- Collaborate and react in real-time field conditions
- Rapidly deploy communications infrastructure in a crisis
- Train and educate more effectively and efficiently

From the initial call center contact to the end of an engagement, Cisco solutions can help your public-safety team better protect citizens and employees. By maximizing the IoE's ability to provide your team with easy-to-use, uninterrupted delivery of services and information, Cisco can help you improve situational awareness, decrease response times, and provide your citizens with better services at lower costs.

Protect and Secure Your People and Assets

First responders and vehicles are increasingly equipped with multiple IP-enabled devices, so you need a secure, reliable way to connect them easily. With Cisco Public Safety solutions, your agency can streamline operations and become a truly connected force. We help you build a unified and physically secure network that lets your organization:

- **Prepare:** Adopt early warning tools and response plans.
- **Prevent:** Safeguard people, property, and assets.
- **Detect:** Provide instant notification of security breaches and threats.
- **Assess:** Determine scope of incident and next actions.
- **Respond:** Coordinate real-time communication.

Provide Faster and More Effective Incident Response

Throughout each stage of a crisis situation, Cisco collaborative incident response solutions can help emergency responders collect and disseminate real-time information to anyone, anywhere, even across agencies. This lets you and your team efficiently and securely:

- Identify threats faster
- Rapidly disseminate critical information
- Make more informed decisions across agencies
- Develop a unified incident command

Collaborate and React to Real-Time Field Conditions

Cisco solutions provide you with secure but flexible IP networks that feature ruggedized routers, switches, and surveillance hardware. They are built to take the abuse of daily use in the field, harsh weather conditions, and unexpected events. This can help reduce your long-term maintenance and replacement costs. Plus, Cisco solutions are designed to maximize collaboration through mobile communications and video surveillance, so your team can:

- Maintain constant contact with dispatch and fleet
- Use GPS to map the fastest and most direct route
- Use vehicle-to-infrastructure (V2I) communications so vehicles can communicate with traffic lights, rail crossings, traffic cameras, and roads
- Comply with safety mandates and regulations
- Transmit live telematics data for proactive maintenance of vehicles
- Quickly send video back to headquarters

Rapidly Deploy Communications Infrastructure

Crisis situations can test the limits of your agency's deployment capabilities. Sometimes they are even forced to operate beyond the reach or capabilities of their information networks. But thanks to the IoE, the Cisco Rapidly Deployable Communications solution can help your agency quickly extend capabilities when and where they are needed the most.

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With the Cisco Network Emergency Response Vehicle (NERV), your agency can leverage a mobile, fully-functioning communication center during emergencies. The Cisco NERV can even withstand harsh weather events, helping you maintain cross-agency communications and continuity of government.

Train and Educate More Efficiently

Cisco collaboration technologies also maximize the IoE to provide law enforcement, fire, and EMS staff with access to a variety of continuing education opportunities. Certifications, live or remote training, and other instructive programs can all be accessed from anywhere at any time. They can also be accessed on almost any device, cutting the costs of travel and training for your agency.

Case Studies

A State in the Southeast Department of Highway Safety and Motor Vehicles Installs VoIP System to Increase Efficiency and Security

Situation: Update low-quality switches to handle call volumes. Cut costs, improve efficiency and public-safety measures.

Solution: Updated network foundation to support new public safety services. Integrated IoE-based voice, video, and communications solutions to reduce costs. Installed video technology in 1000 patrol cars to connect captains with troops in the field. Deployed Cisco voice over IP (VoIP) system that improved response times and reliability at regional dispatch centers. Installed more than 1200 phones statewide at headquarters and other offices through a wireless upgrade. These enabled the implementation of an integrated communications system (voice, video, and text).

Benefits: Reduced costs by $1.1 million through a streamlined footage-sharing process. This included dashboard cameras in 1000 patrol cars with antennas in designated parking areas to reduce upload times from three hours to 20 minutes. Improved productivity through virtual meeting spaces for office personnel.

Monmouth County Sheriff's Office Relies on Mobile Command Center to Help Ensure Situational Awareness for First Responders

Situation: Need to communicate with and provide real-time information, such as video, to field staff. Desire for mobile access to the Internet in police and emergency response vehicles.

Solution: Updated network foundation with Cisco ASA 5500 Series Adaptive Security Appliance with firewalls and Cisco routers, and switches.to support new IoE-based solutions for mobile command centers. Installed **a Cisco wireless network plus** additional security measures. Built mobile police stations that can be deployed to large-scale events.

Benefits: Increased information sharing and productivity within communications division. Improved the utilization of wireless applications and real-time communications with field officers. Reduced strain on 911 operators and increased response time to emergencies.

Los Angeles County Fire Department Uses Grant Funding to Modernize Training Procedures

Situation: Need to reduce training costs for approximately 10,000 firefighters across Los Angeles County while improving training and limiting travel.

Solution: Deployed Cisco TelePresence® solution at 16 locations across county and integrated recording capabilities for future training sessions. Los Angeles County worked with Urban Areas Security Initiative (UASI) through the U.S. Department of Homeland Security to fund project.

Benefits: Saved hundreds of thousands of dollars on training and travel costs, and improved response times due to limited travel and more effective training. New solution also allows all county firefighters to receive same training regardless of location.

To learn more about Cisco solutions for Public Safety, visit cisco.com/go/uspublicsafety.