



Overview

Border security organizations face increasingly complex challenges, and rising expectations to:

- Detect, prevent, and apprehend terrorists, undocumented aliens, and smugglers
- Maintain surveillance, follow up leads, and respond to surveillance systems
- Collaborate to collect actionable intelligence for anti-smuggling activities

Cisco Connected Border

Secure Mobile Communications and Collaboration



Figure 1. Networked Connection of People, Process, Data, and Things

The Network: The Platform for IoT

The networked connection of people, process, data, and things presents a tremendous opportunity for today's border security. Commonly called the Internet of Things, or IoT, it supports proven, converged mobility solutions, network security, cloud, and big data in an integrated mission fabric with the power to fundamentally change operations with:

- Real-time situational awareness
- Intra-agency communication and collaboration (voice, data, and video services)
- Data analytics and information sharing

The IoT incorporates physical objects with secure networks, to provide capabilities for communication and collaboration. This keeps field agents connected to vital information they need to respond to ever-changing conditions, and helps agencies:

- Enhance operational capabilities with situational awareness, using real-time voice, video, and data
- Bridge communication gaps by integrating existing land mobile radio (LMR) and cellular capabilities with next-generation wireless technologies

Cisco Connected Border

The Cisco® Connected Border solution provides security and public safety agencies the tools to improve interagency connectivity and collaboration. By combining information and analytics from video

surveillance cameras, other sensors, facial recognition, social media, and citizen reports, the solution provides a richer view of public safety. The solution is built on Cisco IoT architectures, which include:

- Computing, storage, and virtualization assets in the data center
- Cisco Fog Computing™ nodes that extend Internet Protocol (IP) to the tactical edge
- Comprehensive network security policies
- Cisco Intercloud Fabric for connectivity
- Voice- and video-enabled secure mobile infrastructures
- Wearable and remote sensors

The Cisco Connected Border solution can be replicated and scaled to help enhance security operations across specific mission environments with the following capabilities:

Automated Incident Detection, Assessment, and Response Capabilities

Change-detection capabilities automate the discovery of incidents, and analyze data to deploy the appropriate response resources and tactics. Citizens can report incidents using any available communications device. These can be combined with video surveillance and sensors to help public safety organizations collect real-time information. This makes it possible for agencies to accelerate incident management to:

- Reduce time between incident detection and response
- Help field personnel to make decisions based on all available information
- Get the right information to the right people at the right time

Integrated Sensor Platforms to Capture Data and Close Communication Gaps

Integrated intelligent sensors and alarms allow agencies to capture data, and to create a backhaul link between sensors and data collection points. Analytics tools process data and events at the tactical edge or in the cloud, and provide a visual presentation of data and events for in-depth analysis, decision-making, and execution.

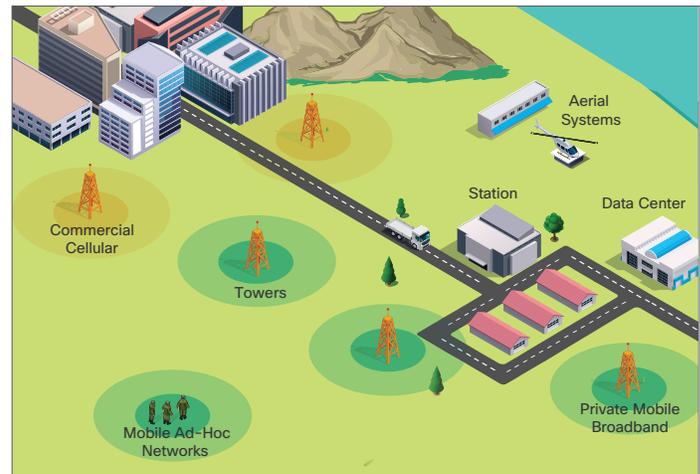


Figure 2. Integrate Sensor Platforms

Operation Centers with Collaboration and Situational Awareness Tools

These tools support both fixed and mobile rapid-deployment operation centers to facilitate:

- Integration of administrative plus command-and-control functions
- Mobile office environments through portable “office-in-box” or “office-on-wheels” solutions
- A rich set of tools for applications such as voice, video, and data services

Extended Communications for Mobile Vehicles and Field Agents

Improve real-time situational awareness and collaboration with wireless LAN connections to multiple devices, management of backhaul links to fixed infrastructure, and support for multiple vehicle platforms. With these capabilities, organizations can deploy advanced applications such as:

- Real-time video streaming (to a dash camera, license plate reader, or wearable camera)
- Biometrics, thermal hand-held imaging devices, mobile personal radiation detectors, night vision goggles
- Geographic information system (GIS) mapping, location-based services (LBSs), automated vehicle locator (AVL), Blue Force Tracking (BFT), license plate recognition (LPR)
- Radio interoperability, plus short- and long-haul radio repeating

- Platform telemetrics
- Remote video surveillance systems, unattended ground sensors
- Common operating picture and situational awareness

Expanded Access and Collaboration with Information Resources in the Cloud

Optimize internal processes using shared cloud-based services to accelerate deployment. Benefits include increased flexibility and collaboration, cost savings from consolidated data centers and open data, and increased mobility—all with security that provides the framework for operational efficiency. Agencies can also provide broader access to resources such as:

- Enterprise applications
- Telephony
- Video conferencing
- Chat
- TelePresence
- Whiteboard

A Secure Platform with Cisco IP Network Mission Fabric

This platform provides the tools that help interconnect agencies and field personnel to:

- Seamlessly integrate wired and wireless technologies (LMR, Wi-Fi, public 3G and 4G, private 4G, and satellite)
- Combine existing and next-generation mission-critical voice, video, and data applications
- Allow mobile and fixed nodes to communicate voice, video, and data
- Support multilevel security
- Complement typical LMR and satellite communications with next-generation public networks, plus provide mobile cellular broadband and ad-hoc mesh networks as needed

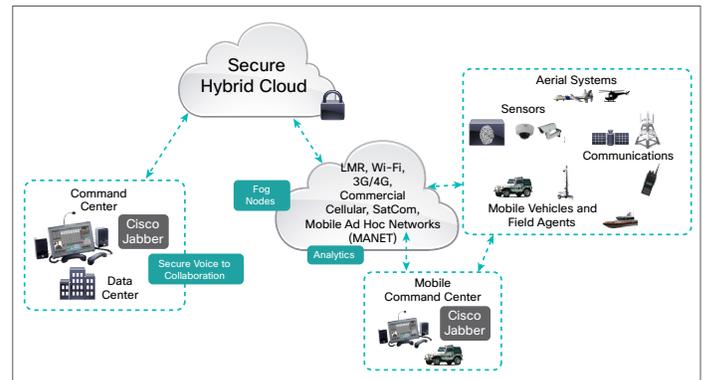


Figure 3. IP Network Mission Fabric

Why Cisco?

Through digital solutions, Cisco and its ecosystem of partners help organizations in every country and community in the world to provide a smarter, healthier, and safer environment. This digital platform also provides the capabilities to improve operational efficiency, reduce costs, and grow innovation.

Because Cisco solutions are everywhere, we have the resources and expertise to work with government organizations to transition to the twenty-first-century government. Cisco helps public safety and security organizations deliver innovative capabilities with network solutions, expertise, and resources. For more information, contact your local Cisco account representative or authorized Cisco partner, or visit www.cisco.com/go/government.