

Police Department Increases Situational Awareness



Joliet Police Department deployed Video Surveillance Manager to centrally manage wired and wireless video surveillance cameras.

EXECUTIVE SUMMARY

CITY OF JOLIET POLICE DEPARTMENT

- Public Safety
- Joliet, Illinois
- 260 Employees; 152,000 Citizens

CHALLENGE

- Prevent crime and fear of crime
- Minimize management overhead
- Enable public-private partnerships for physical security

SOLUTION

- Deployed centralized Cisco Video Surveillance Manager system
- Connected existing analog video surveillance cameras and IP-based video surveillance cameras from different vendors
- Connected outdoor cameras using Cisco Aironet 1520 Series Lightweight Outdoor Access Points

RESULTS

- Increased situational awareness in riverfront area
- Enabled authorized people to remotely access live and archived video feeds
- Preserved investment in existing video surveillance cameras

Challenge

The City of Joliet is the fourth largest city in the state of Illinois, spanning approximately 50 square miles. Approximately 152,000 people live in the city, which is located 45 miles southwest of Chicago's Loop. One border of the downtown area is 12 miles of riverfront along the Des Plaines River.

The Joliet Police Department has 260 employees, most of them police officers. The department previously used a standalone video surveillance network to monitor the police station and jail. Security officers monitored a few cameras 24 hours a day, and reviewed stored video captured by the other cameras for investigations, such as citizen accident or injury reports.

The old video surveillance system required too much time to manage. Video was stored on VHS tapes, and each day someone had to remove the previous day's tapes, label and store them, and insert new tapes. "We could only view real-time video from one console in the station, and exporting archived video was a complex process," says Jeremy DeVivo, MIS manager and network administrator for the City of Joliet Police Department. In addition, a very-low-frame-rate-per-second for archived video meant that someone could walk past a camera without being detected.

When the City of Joliet built a secondary police station in response to population growth, the Police Department began investigating more efficient video surveillance solutions. Criteria included:

- Centralized management of all cameras, in any location, including outdoor cameras connected to the city's wireless network
- Ability for authorized personnel to view real-time or archived video from any location, including home or a squad car
- Interoperability with existing analog video surveillance cameras, and with IP-based cameras from any vendor
- Ability to store video with sufficient resolution and frame rate to accurately identify people

Solution

The City of Joliet Police Department chose Cisco® Video Surveillance Manager. "Cisco Video Surveillance Manager is based on open standards, which enabled us to continue using our existing analog cameras and later add wired and wireless IP-based video surveillance cameras from any vendor," says DeVivo. "Other vendors said they used open standards, but some of their solution features worked only with their cameras."

The Police Department applied for and received a four-to-one matching grant from the U.S. federal government, under a program to secure the area along the port of Chicago. The total budget for the project is US\$734,807, of which the government will contribute \$551,105. "In our grant application, we proposed using IP-based video surveillance for real-time monitoring and visibility into the riverfront area, and to provide access to the video feeds to other government agencies and businesses," says DeVivo.

The Cisco Video Surveillance Manager server resides at police headquarters. Authorized personnel can view video from any camera at either station, as well as outdoor wireless video surveillance cameras that monitor a public housing area near the waterfront. The cameras are mounted on poles and bridges and connect wirelessly by way of Cisco Aironet® 1520 Series Lightweight Outdoor Access Points. "We're not only saving capital costs, we're also avoiding the costs of running Ethernet cabling to new areas," says DeVivo. "If we didn't have the Cisco wireless network, we would not have been able to deploy the cameras in this area because of the difficulty of getting permits for trenching, and so on."



The City of Joliet is currently building out a Cisco Unified Wireless Mesh Network to provide access throughout the city instead of only in localized hotspots. The network currently provides coverage in part of the downtown area, and the Police Department is adding more cameras gradually, as it receives grant money.

Results

Enhanced Public Safety

Just a few days after the outdoor cameras were deployed, a watch commander back at the station happened to be monitoring a live video feed when he noticed suspicious persons. Using Cisco Video Surveillance Manager, he zoomed in the camera and witnessed a drug transfer. He called an officer, who arrived quickly enough to charge the suspect with criminal trespassing.

"Video surveillance cameras act as a force multiplier, because we can monitor more areas with the same number of officers," DeVivo says. "They help reduce crime, and also reduce citizen fear of crime. And when crime does occur, we now have evidentiary-quality video."

Cisco Video Surveillance Manager archives 720- x 480-pixel video at approximately 7.5 frames per second, for nearly full-motion video that makes it easy to identify people and recognize activities.

Investment Protection

The Police Department continues to use its existing analog cameras, and has also added IP cameras from two different vendors. "Our old analog cameras were serving the purpose, and we always try to avoid unnecessary taxpayer expense," DeVivo says.

Simplified Video Retrieval and Sharing

Authorized personnel can now access real-time or archived video from any location, using a web browser. The police chief has connected remotely to view video of significant incidents.

The department can also easily share video with other organizations, when appropriate. Barges occasionally cause damage to bridges. "If our cameras capture video of the incident, we will share it with the Illinois Department of Transportation," DeVivo says. "Real-time video can assist in a timely and appropriate response." Similarly, in the event of an oil spill, the Police Department can provide access to archived video to the county Emergency Management Agency.

Ease of Expansion

The Police Department can easily expand the system as it adds new cameras. The department has already added a second Cisco Video Surveillance Media Server to the system, which simply required entering a couple of commands at the management console.

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— Jeremy DeVivo, Manager of Management Information Systems, City of Joliet, Illinois

Next Steps

The City of Joliet Police Department plans to implement a Cisco Unified Wireless Mesh Network to provide coverage throughout the City of Joliet for police, fire, and emergency medical services. Public safety personnel will be able to view real-time video and access maps, mug shots, and law enforcement databases from their vehicles, increasing situational awareness. In-vehicle network access will save trips to police headquarters, enabling officers to spend more time on the street. "With real-time visibility into the incident scene, the commander will know the right number of resources to deploy, avoiding sending six fire trucks when one would suffice, for example, or one when more are needed," says DeVivo.

PRODUCT LIST

Physical Security

- Cisco Video Surveillance Manager, including Cisco Video Surveillance Media Server and Cisco Video Surveillance Operations Manager

Wireless

- Cisco Aironet 1520 Series Lightweight Outdoor Access Points Content Networking

The Police Department also plans to offer riverfront businesses the opportunity to invest in the outdoor video surveillance solution in exchange for access to specified video feeds. For example, an oil company or gasoline refinery might want monitor arriving barges to know when to assign personnel to the docks to help unload. And if a suspicious person is loitering, the company's security officer might want to investigate.

Technical Implementation

City of Joliet government buildings connect over a Cisco Unified Wireless Network solution that provides 20 MB connectivity, more than 100 times faster than the previous T1 network. It's fast enough for voice over IP (VoIP) and video surveillance. "Some cities are building fiber backbones, which often takes several years and costs \$10 to \$15 million," DeVivo says. "Using the Cisco Unified Wireless Network solution, we completed in our project in 10 months, and for less than \$1 million."

For More Information

To learn more about Cisco Physical Security solutions, visit: <http://www.cisco.com/go/physicalsecurity>

To learn more about Cisco Video Surveillance Manager, visit: <http://www.cisco.com/go/vsm>



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