Public Safety Agencies Help Ensure Safe, Orderly Event

Washington D.C. agencies integrated video traffic- and pedestrian-monitoring systems during presidential inauguration.

EXECUTIVE SUMMARY

WASHINGTON D.C. DEPARTMENT OF TRANSPORTATION, METRO POLICE DEPARTMENT, AND HOMELAND SECURITY EMERGENCY MANAGEMENT AGENCY

- Washington, D.C.

BUSINESS CHALLENGE

- Help ensure smooth, orderly flow of people
- Enable coordinated video traffic monitoring by multiple agencies
- Deploy solution within weeks

NETWORK SOLUTION

- Integrated three agencies' disparate cameras and encoders using Cisco Video Surveillance Manager

BUSINESS RESULTS

- Enabled interagency collaboration for crowd and traffic monitoring
- Gained early awareness of potential traffic congestion point
- Increased value of existing video cameras and encoders

Business Challenge

On January 20, 2009, an estimated 1.8 million people attended the inauguration of President Barack Obama, an attendance record for any event in the U.S. capitol. People arrived by foot, by car, and in 10,000 busses from every region of the country to stand along the 1.7-mile parade route and participate in nearby events.

Helping ensure the smooth and orderly flow of people into and out of the city would be essential to keep attendees safe and help them enjoy the event. Therefore, multiple Washington D.C. public safety agencies needed a way to monitor crowds and traffic patterns to identify potential problems and respond quickly to prevent harm or disruption.

The district's various public safety agencies already operated 299 video traffic- and pedestrian-monitoring cameras deployed throughout the parade area. These cameras included some of the hundreds of cameras that the D.C. Department of Transportation uses to monitor intersections, as well as other cameras owned by the Metro Police Department and Homeland Security Emergency Management Agency. Most are older analog cameras from a variety of vendors.

Although the existing cameras provided adequate coverage, they could not be centrally monitored. That is, feeds from cameras owned by the Homeland Security Emergency Management Agency could only be viewed at the Unified Communications Center, the nerve center for federal and district communications. Similarly, feeds from the Department of Transportation's cameras could only be monitored in that agency's headquarters. Therefore, each agency would only be able to see fragments of the scene instead of the holistic view needed to detect and respond to problem situations.

"Effective crowd control would require a centralized solution to manage, monitor, and archive all 299 video feeds," says Glen Carter, director of networking and telecom services for the Office of the Chief Technology Officer. The goal was to increase situational awareness for all agencies by making all feeds available on large plasma screens in the Washington D.C. Unified Communications Center, Department of Transportation, and Metro Police headquarters, and on PCs and laptops in other locations.

Complex integration work can take months, but the Washington D.C. public safety agencies needed the solution in just a few weeks.

Network Solution

The agencies integrated their separate video traffic- and pedestrian-monitoring networks by the deadline, using Cisco® Video Surveillance Manager. "We selected the Cisco solution because it could connect all of our cameras and encoders over the existing DCNet fiber-optic IP network without time-consuming integration," says Carter. The

agencies had confidence in the reliability of Cisco Video Surveillance solutions because Washington D.C. public schools use them successfully.

To complete the time-sensitive project by the deadline, Cisco engineers worked closely on design and implementation with the agencies' IT and security personnel. First the Cisco engineering team determined the number of encoders and video feeds to add to the system. Then the team helped the district quickly integrate its previously separate video systems. This effort involved deploying Cisco Video Surveillance Manager (VSM) Multiservice Platform servers in all three agencies, and connecting the agencies' existing analog cameras to the DCNet fiber-optic IP network, which is built on Cisco switches and routers.

Cisco configured Cisco Video Surveillance Manager to archive 10 days of video streams on the servers' integrated storage. If an incident occurred, personnel would only need to know the location and approximate time to quickly find the relevant images, no matter which agency's camera actually captured the video.

Cisco completed the implementation one week before inauguration, and continued adding feeds up to the day before. Cisco also trained agency personnel how to add the cameras to the system and select the feeds to view.

> "The Cisco Video Surveillance solution facilitated monitoring of locations along the parade route and throughout the inauguration site to help ensure coordinated traffic flow for the event."
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> **— Glen Carter, Director of Networking and Telecom Services, Office of the Chief Technology Officer, Washington D.C.**

Business Results

On Inauguration Day, personnel from the various agencies viewed feeds from any camera, in any of the following places:

- On a video wall in the district's Unified Communications Center used by the Homeland Security Emergency Management Agency. This wall displays 48 feeds simultaneously, from any combination of the 299 cameras.
- On a video wall in the Emergency Management Agency's Emergency Operations Center, set up especially for Inauguration Day.
- On a video wall in the City Administrator's office, which simultaneously displays any six feeds that the City Administrator selects.
- On a video wall in the Metro Police Department.
- On any PC or laptop throughout DC's network, using Cisco Video Surveillance Virtual Matrix Software.

All agencies were pleased with the Cisco solution. "The Cisco Video Surveillance solution facilitated monitoring of locations along the parade route and throughout the inauguration site to help ensure coordinated traffic flow for the event," says Carter.

As an example, the Cisco solution helped the district act quickly to alleviate a potentially dangerous situation in the 3rd Street tunnel, used for foot traffic to the mall area. "So many people crowded through the tube that it backed up, and the people stuck inside could not move forward or back," says Carter. "The Cisco solution gave security personnel early awareness of a problem that had the potential to get much worse. They dispatched someone to open up another tube, which mitigated the problem."

PRODUCT LIST
Cisco Catalyst® Switches and routers (existing)
Cisco Video Surveillance Manager

Carter concludes, "The Cisco Video Surveillance solution provided the flexibility to meet the needs of a complex, multiagency public safety environment. It enabled collaboration among agencies that traditionally operate independently."

Next Steps

Now that the Cisco solution is in place, Washington D.C. agencies can easily extend its scope and use. The following plans are under consideration:

- Deploy Cisco Video Surveillance IP Cameras, eventually doubling the number of cameras from 5400 to 10,000.
- Integrate Cisco Video Surveillance with gunshot location and detection systems. The camera will automatically turn to the reported geographic positioning system (GPS) coordinates to capture images of potential suspects, injured people, and witnesses.
- Monitor more areas of the city, including lots for abandoned cars. Protecting cars from vandalism will maximize city revenues from car auctions.
- Add roles-based access control. Ordinarily, a commander in the Metro Police Department, for example, can only see Metro Police Department feeds. Cisco roles-based access control solutions enable commanders to change permissions at will, for more flexible event response.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV
Amsterdam, The Netherlands

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