Video Changes the Future of Policing

Abstract

Public safety organizations continuously look for new tools to help them better serve and protect the citizens of the community as well as to ensure the safety of their officers. For years, law enforcement has used radio to provide them with the information they need to perform their missions. To increase the success of each operation, police are now incorporating video into their information network.

Video can benefit law enforcement before, during, and after an incident. Before an event, highly visible video cameras act as a deterrent to crime. During an event, real-time video can be useful to a command center to plan a measured response with mobile units. After an event, recorded video can aid investigation efforts or serve as a source of additional evidence.

Mobile Video Sharing: Improving Policing Effectiveness

Until recently, video has been constrained to either fixed locations with high-bandwidth wireline networks or to local storage with future playback solutions. These solutions lack the ability to provide live information to the people who need it most: officers on the front line. Combining mobility with video sharing allows officers and commanders to share critical new information, helping them to safely perform their missions. We are not simply talking about traditional CCTV video surveillance; we are talking about putting video into the hands of officers on the street, greatly increasing the availability of accurate real-time information at their disposal.

Surveillance cameras are becoming more prevalent, thereby increasing the number and location of video sources. Video cameras can be found on light poles, on fire trucks, in police cars, and as part of buildings surveillance systems. Instant access to this video helps individuals and groups assess situations in real-time and respond more effectively.

Mobile Video Sharing extends the availability of this information to the many individuals outside the command center. With access to this same information, officers en route can assess a situation and plan their approach prior to arrival. Once at the scene, the live video from the patrol car can be sent back to the command center for another angle and view of the incident, providing a true video collaboration opportunity.

The Future of Policing

"Mobile applications of camera technology are the future of policing," said Charlie Beck, deputy chief of the LAPD. The department implemented a wireless network in the Watts neighborhood of Los Angeles where crime has been high.

- 10 cameras wirelessly deliver video to an intelligence officer who monitors the area

- When trouble is spotted, an intelligence officer instantly sends that video to the mobile police officers in that area

- The responding officer views the video and responds accordingly

- The technology helps LAPD cover a greater area with fewer people

- Responding officers are more aware of the situations before they enter the area

Mobile Video Sharing Use Cases

Users of mobile video sharing today are finding new ways to utilize the technology. The following are examples of the value of mobile video sharing.

High crime area monitoring

Monitoring areas with a history of a high criminal activity can be enormously advantageous for police departments and the community. Conspicuous placement of cameras throughout the area creates an immediate crime impediment because criminals are aware that they are being monitored and recorded.

When suspicious activity is captured on camera, mobile officers can view the crime in progress and may choose the share the video with other officers. This form of immediate collaboration helps officers to evaluate the situation before entering a dangerous area. The result is greater officer safety.

Response also benefits. Officers can see what is happening prior to arriving on scene, keeping them a step ahead of the bad guys. Officers do not need to drive slowly down the street, looking for the suspect – knowing exactly where to go and who to look for allows them to speed directly to the location.

In-vehicle camera monitoring

In-vehicle camera monitoring provides another valuable measure for improving officer safety. Car-mounted cameras capturing video in front of them helps deliver a "virtual backup." All the activity at a traffic stop caught on camera may be viewed live

at remote locations, which may prove immensely valuable if the situation escalates. That video may be shared with a command center and/or other officers as needed. As a result, the police department can respond quickly with the appropriate support.

Disaster management

Serious management challenges emerge in the aftermath of a disaster. In most cases, different agencies need to work together to respond effectively to the incident. Here again, video can play a key role in facilitating the response and improving the outcome. With Mobile Video Sharing, an ad hoc network can be established to assist decision-makers as they establish a plan of action and workflow. A unified command center might coordinate and help the various agencies deliver the best possible relief. Video from various responder agencies may be shared amongst one another and with incident command.

Additional applications

Mobile Video Sharing also delivers benefits for:

- *Event monitoring*—Cameras are set up to monitor an important public event in need of public safety enforcement.

- *Building fires*—Video will help increase fire fighter safety and effectiveness. "Remote eyes" can equip fire fighters with knowledge that saves lives.

- *Industrial hazmat*—Reliable video streaming enables a remote expert to make fast assessments and deliver critical advice.

The intuitive user interface makes an easy effort out of selecting and sharing from multiple sources while on the go.

"When you put cameras in, crime goes down and stays down."

Charlie Beck,
Deputy Chief, LAPD

Technical Requirements of a Successful Mobile Video Sharing Solution

A mobile environment provides some unique challenges to implementing a video sharing solution. Consider the essential requirements:

- A wireless broadband network must be available to mobile clients
- The network must accommodate two-way video streams
- Security must be provided at all access points and across the network
- Users must be able to send and receive data while on the move
- Each unit, mobile or fixed, must be equipped for "command and control" collaboration
- Cameras must serve the various needs of police, fire, and EMS departments
- Huge amounts of digitized video must be recorded and archived
- All technology must be easy to adopt and extremely user-friendly

Motorola Mobile Video Sharing Solution

Mimicking the Push-to-Talk nature of voice radios, Motorola's Mobile Video Sharing uses a push-to-share software solution to shield users from the technical complexity of streaming video wirelessly. To officers already familiar with 2-way radio communication, Motorola's Mobile Video Sharing solution is second nature. Motorola's Mobile Video Sharing solution includes the following key features:

Wireless broadband network—A high performance wireless broadband network is required to support broadband video streaming applications, maintain quality of service, and scale to meet changing needs.

Optimization for the wireless medium—A purpose-built video codec overcomes adverse effects of wireless networks to effectively balance image quality and bandwidth consumption. Also, the ideal solution balances the frame rates needed for motion reproduction with a practical level of data volume for storage and transmission.

VPN—Mobile VPN (Virtual Private Network) provides users with secure access to network services and protects against attacks with authentication and access control. Content in transit is secured with encryption.

Video surveillance—An intelligent video surveillance and control solution is put in place to monitor multiple video sources and deliver alerts to personnel as needed. This approach relieves safety professionals from endless watching of video monitors, and frees them to focus elsewhere.

Evidence capture and archive—Video evidence can be immensely important to substantiate incident reports.

Camera integration—An appropriate camera solution must be cost-effectively integrated into the wireless network to support a range of fixed and mobile applications.

Mobile devices—Public safety professionals require reliable and easy to use data devices such as ruggedized laptops and handhelds.

Conclusion

The increasing availability of video is changing traditional policing methods before, during, and after an event. Putting that video into the hands of the officers in the street exponentially increases the value of that information. Sharing and collaborating video to and from commanders provides real-time information helping agencies make better decisions, which result in better outcomes. Motorola's video sharing solution tackles the technical hurdles of streaming video wirelessly yet keeping it easy to use so the users can focus on their mission, not the technology.

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