Video Quality in Public Safety

Background

Anyone who has seen video action break up while watching a live televised sporting event knows the frustration of missing a key play because of technology failure. For public safety practitioners using video technologies, an unclear picture can have much graver implications and may mean the difference between life and death.

Whether video is being used as evidence in a criminal case, to provide aerial images of wildfires to firefighters working to suppress the blaze, or to assess the scene of an incident aiding in personnel deployment decisions, video applications are quickly emerging as an essential component in the effort to create seamless communications among emergency responders. In the past, public safety has looked to manufacturers to inform them of their video equipment needs, but as video technology has evolved, the array of options for public safety practitioners has grown and the interoperability challenges have become increasingly complex. Thus the need has emerged for public safety to collectively articulate their video quality needs to the manufacturing community.

An Innovative Approach

In 2008, the Office for Interoperability and Compatibility (OIC) within the Department of Homeland Security and the U.S. Department of Commerce's Public Safety Communications Research program formed the Video Quality in Public Safety Working Group composed of volunteers from each public safety discipline – local, state, and Federal law, fire, and emergency medical services; Federal partners; representatives from academia and non-profit entities; and manufacturers to coordinate efforts among organizations and agencies that are developing video standards for their own use. These needs as identified by the practitioner community fall into two categories, educating practitioners and creating video quality specifications.

Although each public safety discipline's video content may seem very different on the surface, many common elements exist that imply similar video quality specifications. The Working Group is therefore developing a set of application independent use cases, and a User Guide to help public safety agencies determine their particular use cases. This approach will eliminate the duplication of effort caused by each application needing to form projects to determine their own individual needs. The Working Group effort will help practitioners implement effective video systems for their specific needs. Future outputs of the Working Group will include a glossary of shared terminology related to video quality, video equipment; and the development of specifications to aid public safety agencies in becoming more effective.

Value to Public Safety

As public safety agencies migrate to more powerful broadband systems, the use of video will undoubtedly increase. In preparation, OIC is bridging the gap between diverse agencies and preventing duplicative or competing efforts to define and deploy video systems. OIC is also acting as an objective technical resource to ensure future video technologies reflect the needs of the entire public safety community.

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Through a practitioner-driven approach, the Science and Technology Directorate's Command, Control and Interoperability Division (CID) creates and deploys information resources—standards, frameworks, tools, and technologies—to enable seamless and secure interactions among homeland security stakeholders. With its Federal partners, CID is working to strengthen capabilities to communicate, share, visualize, analyze, and protect information.