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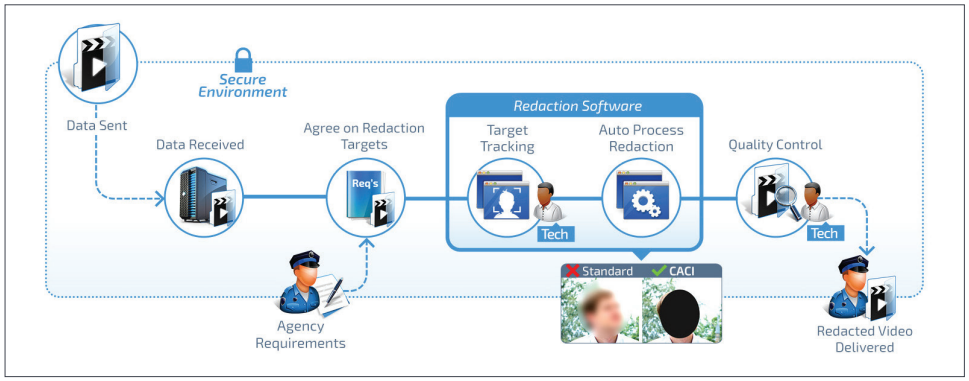
Worldwide Headquarters:
1100 N. Glebe Road, Arlington, VA 22201
703-841-7800

An Innovative Approach to Managing Video Redaction Services

Leveraging Interoperability and "As a Service" To Enhance Body-Worn Camera Programs

CACI's Digital Forensics Laboratory (CDFL) is a premier internationally accredited full service computer, mobile device, and audio/video forensics laboratory in Alexandria, VA providing a full range of onsite and offsite digital forensics services for government investigation, litigation, eDiscovery, FOIA, cyber security, and intelligence projects. CDFL received its ISO/IEC 17025 accreditation in computer forensics in April 2014 from the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) International, whose accreditation program provides a means for continuous quality improvement of lab services as well as criteria for assessing and improving the performance of digital forensics operations. This accreditation assures clients that CDFL's management, personnel, equipment, physical facilities, quality system, and operational and technical procedures meet recognized standards of excellence. Personnel certifications include: Certified Electronic Evidence Collection Specialist (CEECS), Certified Forensic Computer Examiner (CFCE), Digital Forensics Certified Practitioner (DFCP), Certified Information Systems Security Professional (CISSP®), et al.



CACI's Secured Client Portal allows Clients to easily initiate requests, upload video, monitor job status, review and accept work products, and sends notifications when items are in queue for client review.

For more information, contact:
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at **cdfl@caci.com** to discuss their portfolio of digital forensics services currently in use by the DOJ, SEC, FTC, FDIC, and other federal agencies.

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Overview

For law enforcement agencies, body-worn cameras (BWC) are moving from optional system to necessary resource. Over 500,000 cameras are expected to be deployed within the next ten years, more than doubling current totals. And as the number of BWC grows, so do the demands around storage, infrastructure, application, policy, training, and more. For example, agencies may find that BWC deployments may require infrastructure upgrades that significantly increase the overall costs and implementation timelines while diverting resources from their primary mission.

Seeking partners with BWC expertise, departments turn to some of the best-known vendors in the space for support: Taser and VieVu to name a few. However, vendors at this level promote end-to-end solutions covering cameras, evidence management systems, storage, redaction tools, and more. While attractive on the surface, all-in-one systems create situations where the agency is locked in to an inflexible environment with limited opportunities for customization. Departments are forced to manage the technology and related projects in-house. Future migration or integration with other technology is dependent on a single vendor, their available capacity, and their desire to work with the agency and other vendors.

A member of the Fortune 1000 Largest Companies, CACI provides information solutions and services in support of national security missions and government transformation for Intelligence, Defense, and Federal Civilian customers for over 50 years. Our Digital Forensics Laboratory (CDFL) is one of only six private digital forensics laboratories in the world to earn ISO/IEC 17025 accreditation from ASCLD/LAB-International. This experience provides us with a unique opportunity to discuss the implications of interoperability and the potential advantages of departments adopting newer technology trends including "as a service" options.

Technology and the Future of Law Enforcement

In 2014, RAND Corporation conducted a *Law Enforcement Futuring Workshop*. This exercise brought together law enforcement practitioners and academics "to explore the range of possible future law enforcement methods and operations that may be enabled by, or may be required to respond to, technology developments and applications over the next two decades."

RAND Corporation. (2015). *Visions of Law Enforcement Technology in the Period 2024-2034.* Available at www.bja.gov

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Participants Acknowledged the Likelihood Of a "Technologically Complex Future" For Law Enforcement, and the Study Identified 30 Technology Needs That Law Enforcement Agencies Should Consider in Their Near- and Long-Term Projections. Their Top Ones Included:

- Technologies to use information more effectively, including smart search, sensor analytics, general predictive analytics
- Tagging and tracking technologies
- Technologies and processes to support data sharing, including communications infrastructure, equipment standards, integrated data systems, and adaptable/upgradable systems
- Improved translation technologies

Each of these correlates to the use and application of body-worn cameras, creating effective systems that enhance law enforcement capabilities, the interaction with the broader public and engagement with other agencies. Each also requires a significant degree of interoperability between technologies in order to work.

Value Of Interoperability

Interoperability refers to an architecture or standards that enable diverse systems to work compatibly in a true information network without significant technical customization. A basic example of interoperability would be how individuals and organizations use the 'cloud' for data storage and information exchange. Any device using Internet open standards is able to access the cloud without requiring special programming or customization. The application of interoperability promotes significant benefits including:

- **Specialization**: Providers can focus on developing a single component of a system rather than the entire environment, driving higher quality and encouraging a wider range of unique products.
- **Cost**: Interoperability encourages competitiveness between vendors, driving down prices. Users are able to shop for the best deals.
- **Speed**: With a narrower focus, providers can identify new user needs and bring corresponding products to market more quickly.
- **Purpose-Driven Growth**: As RAND noted, the future is likely to be complex with new technologies continuously being developed that law enforcement will wish to adopt. Creating an environment now that allows users, rather than vendors, to dictate growth patterns will eliminate potential future roadblocks.
- **Data Sharing**: Agencies need systems that can easily connect and share data, providing new predictive and investigative tools and allowing information to be centralized rather than stored across multiple servers and environments.

Interoperability would increase the complexity of a BWC program design as users could select different vendors for cameras, evidence management, storage, data transfer, redaction tools, etc. Hence, the perceived value of the "all-in-one" solutions BWC providers deliver as that range of choices is narrowed to only a few options.

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Challenges Of Lock-In

As mentioned previously, the downside of this is that the agency is then locked in with limited opportunities for interoperability. Video is stored in proprietary codecs, requiring that vendor's evidence management system to decode and manage the content natively. Application programming interfaces (APIs) can allow other technologies to 'dock' into the system, but those are again at the control of the vendor rather than the user. Technology innovation is typically slowed as more resources go into maintenance and management. Departments may be limited in future migration or expansion, and potentially be forced to start from scratch should they choose to go in a different direction.

To mitigate some of the complexity around interoperability but still reap the benefits, law enforcement should also consider using what has become common in enterprise information technology – the "as a service" model.

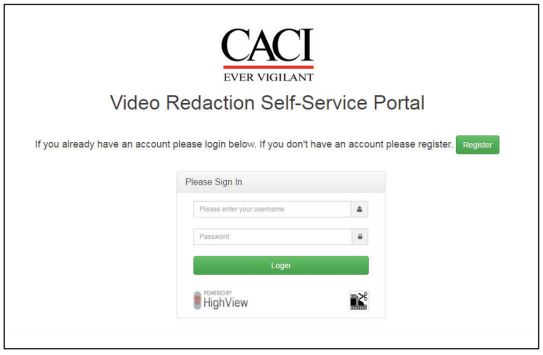
Everything As a Service

"Everything as a Service", also known as "XaaS", is where resources are delivered to an enterprise rather than being managed in-house. Something most are probably familiar with would be using Google Docs. This 'service' exists in the cloud and does not require the individual or organization to own and install a specific document application. The benefits of leveraging "as a service" offerings are similar to those for interoperability, including:

- Lower costs
- Scalability and integration
- Ease of use
- Faster time to upgrades/enhancements

The services model is significantly easier to implement as the work is done externally to the organization, and may only require a few hours to "flip the switch" and provision the capability. Services do not have to be limited to software capabilities. As an example, CACI offers Digital Forensics as a Service and Redaction as a Service available on-demand to federal agencies, state, and local law enforcement. By leveraging our full-service internationally-accredited computer, video and audio forensics laboratory, we are able to efficiently and cost-effectively provide CJIS-compliant audio/video redaction, analysis, and reporting capabilities to any law enforcement agency in the United States.

In order to enhance interoperability while reducing internal workloads and overstretched resources, law enforcement could consider shifting elements of a BWC solution to an 'as a service' option including: project management, hardware maintenance, redaction and forensics, evidence management and more.



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