

## ► SUMMARY

The art of managing physical evidence has greatly evolved. New apps and software are providing ways of handling both traditional physical evidence and digital evidence.

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# MODERN EVIDENCE MANAGEMENT

## FROM AFFORDABLE STORAGE TO COURT DISCOVERY REQUESTS

► By Kathy Marks

**M**anaging evidence for modern police departments has become even more challenging as departments are required to maintain digital recordings from dash cams and body cams. Added to the sheer volume of recordings, the freedom of information requests that are being made for those recordings and which must be processed in a timely and legal manner have become a monumental issue.

The art of managing physical evidence has greatly evolved with barcode evidence labels and software that flags when

evidence may be released or destroyed, helping with the huge backlog in many evidence storage rooms from never getting rid of anything nor having a system that would manage this issue. New apps and software are providing ways of handling both traditional physical evidence and digital evidence.

These new products are helping solve issues of affordable storage, managing digital evidence to be able to reply to court discovery and FOIA requests, and being able to quickly search and locate information critical to modern investigations.

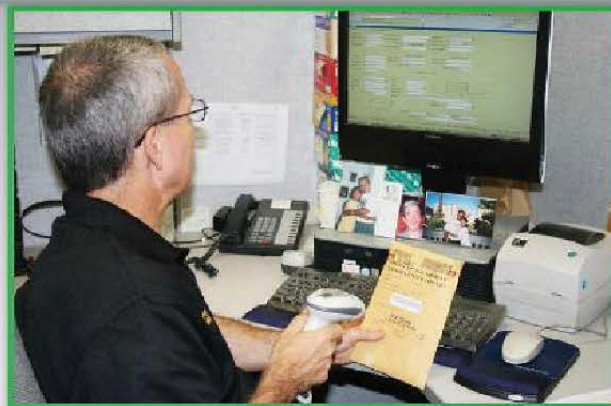
**Abbott Informatics**  
[www.starlims.com](http://www.starlims.com)

The STARLIMS Forensics platform from Abbott Informatics offers both a LIMS (Laboratory Information Management System) and a QMS (Quality Management System) in one package. STARLIMS integrates agencies' needs for tracking evidence,





■ **McMinnville PD uses EvidenceOnQ to manage physical evidence from collection to storage to court to disposal.**



■ **The Contra Costa Sheriff's Department uses EvidenceOnQ to manage evidence and complete requests for evidence from storage.**

conducting analyses, writing reports, and obtaining statistics, all in compliance with accrediting body requirements. In a single system, a user can track case information, documents, quality assurance standards, equipment, inventory, and corrective or preventative actions as well as conduct audits.

Since all of this information is housed in one system, with the click of a button, discovery and/or FOIA requests can be filled by compiling the information into a PDF. The STARLIMS Forensics platform can also easily identify every sample associated with a reagent, piece of equipment, or personnel.

The Abbott Informatics STARLIMS Forensics product is a quality assurance partner. Rather than having a separate system to monitor the expiration date of a material, it is smarter to track that information within the LIMS so if an analyst tries to use the expired materials in their analysis, the system can prevent them from making the mistake. Likewise, the LIMS documents if an instrument is offline and unavailable for the analysis at hand. This prevents the examiner from analyzing the sample on an instrument that is not fit for use.

STARLIMS Forensics is a role-based system that allows users to have access to necessary information and components to fulfill their responsibilities. Information is saved in real time and accessible from anywhere in the world via a secure log-in.

Security and up-time are typical issues for law enforcement agencies. In addition to the security offered by the client's own firewall, STARLIMS utilizes a stringent authentication and is used by some of the most security-sensitive agencies in the world. In addition, because STARLIMS is a Web-based application, the up-time would be equivalent to the up-time of the client's internal network.

Items that are collected may be evidence or property, so from point of collection through court, return to owner, auction, or destruction, all of the information is collected and maintained so clients have results that are defensible in court.

STARLIMS Forensics is easily upgradeable, and because it is a Web-based system, only the server(s) need to be upgraded rather than specific computers. STARLIMS Forensics is easily expanded through the use of a server farm. The technology platform is compatible with both SQL and Oracle out of the box.

Dr. Robin Gall, Senior Manager of Forensics Informatics at Abbott, reported, "The trends we are seeing include the use of smartphones or tablets, data mining, and the desire for a com-

prehensive, unified solution. Users can take advantage of Abbott Informatics mobility features whether on an Android or iOS.

In addition, Abbott Informatics Advanced Analytics enables users to interact with their data, meaning rather than a static graph or Excel table, users can click on a graph to drill deeper and look for root causes, turning data into actionable information."

She added that by having a comprehensive solution, there is no need to purchase separate software for the crime scene, lab, property room, quality system, or pre-logging of evidence. This mitigates the need to build and maintain expensive interfaces and eliminates redundant data entry, which in turn reduces transcription errors. STARLIMS Forensics operates on a concurrent license model, which means you simply purchase licenses for the number of users you expect to be logged in at any given time regardless of what areas they are accessing, which means their clients do not have to pay for more than they actually need.

### **FileOnQ Inc. [www.fileonq.com](http://www.fileonq.com)**

FileOnQ is the parent company for the apps of EvidenceOnQ and DigitalOnQ, products to manage law enforcement data and records, which can be combined into an integrated seamless system or used independently of each other. FileOnQ not only handles physical evidence but also digital evidence through DigitalOnQ, such things as body cam footage. The evidence is handled from cradle to grave, including the chain of custody, authenticating that the digital footage is from the original source and not altered in any way.

Bruce Adams, FileOnQ Evidence Specialist, pointed out that the trend over the past 8–10 years has moved from the more traditional physical evidence of bloody shoes or a bag of white powder to concerns for storing things from the digital world, body and dash cam footage, surveillance videos, audio and video recordings, and recorded interviews done by every police agency every day.

Film cameras have disappeared and digital photos are now used, their higher resolution requiring storage of larger and larger data files. Computer crime, such as child sexual exploitation, generates an incredible amount of information when police must seize computers, copy the contents, and do forensic investigation of the contents. All of this contributes to the storage issues.



■ EvidenceOnQ allows departments such as this to track and manage evidence.

Law enforcement agencies are looking for storage after determining that all that digital media is evidence that must be controlled and secured the same as physical evidence. They must be able to show that not one pixel has been changed in a digital photo and the ability to store, secure, and manage digital evidence is crucial to every agency.

EvidenceOnQ and DigitalOnQ provide agencies with the ability to remotely share evidence with the prosecutor or other agencies by allowing them online access without requiring copies being made and having to be transported. Along with this ability comes the capability of vetting what is to be released and what information should not be released.

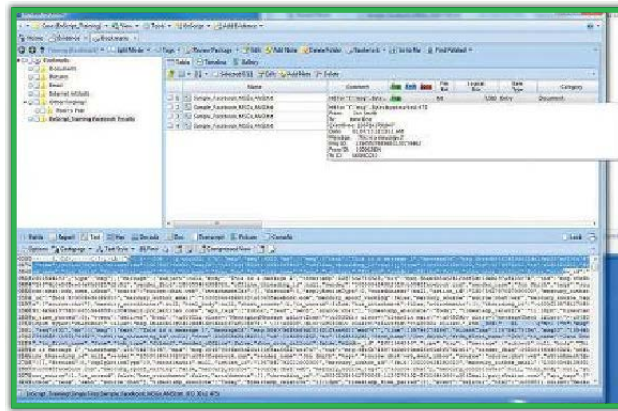
This release of information issue is critical in situations involving FOIA requests (Freedom of Information Act) and the sheer volume of information often requested in FOIA situations is a major issue. The search functions of EvidenceOnQ and DigitalOnQ are extremely flexible and allow for clear searches, such as particular cases, victims, or officers.

The information can then be further refined by being able to search for certain videos and the search parameters can be very broad or extremely narrow. The user-defined classifications in DigitalOnQ can be used to filter information and make sure that certain files, such as child sexual abuse photos, are not visible to the wrong party.

While cloud storage of digital information is being more widely accepted because security and compliance can be certified, there are complaints of the time it takes to download videos from the cloud, particularly if several must be viewed to get the necessary information. The primary issue with cloud storage still remains the cost.

Hosted cloud storage can often be many times the upfront costs for body cams and other devices and is the leading cost for body cams. Customers need to do their homework before deciding on local storage options or cloud storage. FileOnQ utilizes local storage rather than cloud storage in DigitalOnQ for faster access to files and lower recurring costs. DigitalOnQ is very easy to use, easy to put information into and retrieve.

Adams stated, "These systems don't exist in a vacuum. There must be written policies that control the release of information, specifying what can and cannot be released and how long cer-



■ Guidance Software shows how a Facebook Enscript Screenshot would appear to investigators.

tain types of information should be retained. Policies and procedures should be approved by the prosecutor's office and meet state and federal guidelines and retention requirements." All digital information is not equal and the DigitalOnQ app is flexible enough to separate evidence that might only need retained for a short period from evidence that must be retained forever.

Manoj Phillip, FileOnQ Senior Developer, reported, "Local storage is better for random or frequent access to large files because the files will be on the faster local network. The server does not necessarily have to be the latest or very powerful to provide an enormous amount of storage. A storage area network (SAN) is a dedicated high-speed subnetwork to present shared pools of storage devices to multiple servers. SANs can offer large amounts of local storage without the need for a powerful server."

He mentioned that all the digital storage needs of a law enforcement facility could be met with reasonable hardware purchases and are within the IT capabilities of the staff in most cases, thus not incurring the recurring cloud hosting charges.

Adams pointed out that most police departments probably already have offsite backup systems for normal RMS needs. He stated that for police departments to utilize cloud storage, they must be assured the hosting agent has redundancy, disaster recovery capabilities, and available technical support.

If the cloud storage is a general package for the storage needs of a city, including tax and financial records, that package must include adequate security for digital evidence, secure enough to show that nothing has been altered in any way with audit controls for the chain of custody. Evidentiary standards are likely going to be higher than general standards.

Adams stated that the trend they are seeing is that law enforcement agencies are coming into the modern age and recognizing that management or mismanagement of evidence can bring down an entire agency, jeopardize criminal cases, and diminish the reputation of law enforcement agencies.

Departments must bring evidence management to the forefront and recognize that there is a need for professional training, best practices and automation. Even some larger departments still have paper-based evidence management



systems or computers with '80s technology. Standards for managing evidence have risen. Professionalism, best practices, and the accreditation of law enforcement agencies are what modern law enforcement managers are seeking.

### Guidance Software Inc. (GUID) [www.guidancesoftware.com](http://www.guidancesoftware.com)

Digital evidence is increasingly playing a role in law enforcement investigations. System and application artifacts including Facebook, Twitter, and Tinder to name just a few have provided the clues and evidence necessary to place the suspect behind the keyboard in order to prosecute the offender.

Collecting digital evidence and being able to quickly search and identify key evidence in the future is a challenge now routinely faced by investigators and law enforcement agencies globally. Departments are having to handle massive amounts of evidence through digital forensic investigations and manage that evidence for court, sharing with other agencies, or other requests.

EnCase® Forensic Version 7 provides a platform for investigators to search, collect and maintain evidence from digital forensic investigations, including murder, child pornography, financial crimes, malicious acts, security violations, and other malfeasance using a computer or other digital device.

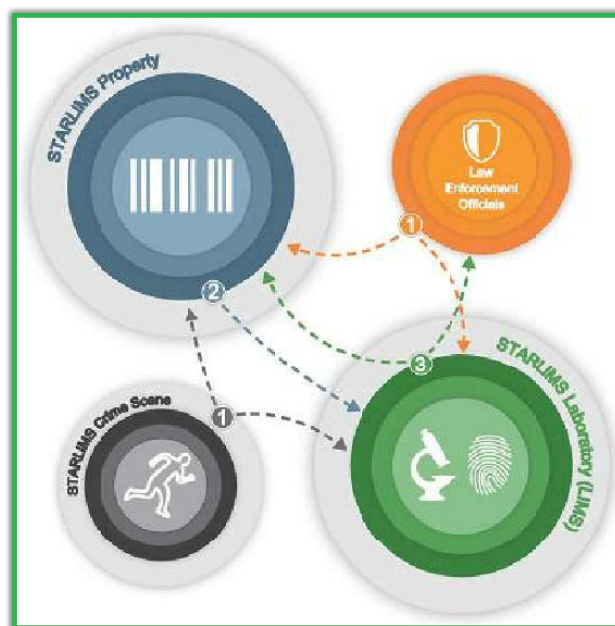
EnCase Forensic is designed to handle the needs of investigators now and in the future and seamlessly integrates with other forensic tools to more quickly and easily analyze evidence from smartphones, tablets, Internet chat, and other technologies in one place as well as other features including search, review, and customizable reporting templates. Additionally, the processing and indexing engines now handle evidence more quickly and allow users to modify how potential evidence is processed.

The EnCase Forensic evidence processor, with its enhanced indexing engine performs more powerful queries and processes even huge files at speeds faster than any solution in the industry, efficiently producing any and all potential evidence and then allowing searching and categorizing the evidence easier than ever. EnCase Forensic was created in 1997 and has been cited in over 100 cases earning its brand in cases involving Osama Bin Laden, the BTK Killer, Richard Reid, the infamous "Shoe Bomber," and Scott Peterson.

EnCase Forensic is recognized as the software that uncovers the most potential evidence and incorporates diverse technologies seamlessly and processes data quickly and comprehensively. Guidance Software was the first to market this type of product and it is designed to be the tool of choice for digital forensic investigators to evolve with their needs in the fast-changing digital investigation environment.

Its remote forensic capability allows investigators to preview and collect from a remote computer quickly and easily and investigators can discreetly and directly access a suspect's hard drive, RAM, and memory. EnCase Forensic's evidence processor manages and allows for distribution and control of evidence processing.

Users can search across the entire case from one easy-to-use, flexible and more powerful search interface for diverse types of information from varied sources. Three principal methods of searching: Index Searches, Tag Searches and Keyword Searches through Raw Data, incorporate search results into a single tab, allowing for easier review and search results are comprehensive across the three methods.



#### ■ Abbott Informatics' STARLIMS Forensics Product Overview showing the interaction between law enforcement officers, crime scene, STARLIMS property and STARLIMS Laboratory.

EnCase App Central was launched two years ago and now marks over 60,000 downloads providing extensibility and efficiency to EnCase users by offering fully tested EnScripts® templates and third-party apps that were previously created by thousands of users and scattered among numerous websites and blogs. Selection of over 130 EnScripts and apps from EnCase App Central increases functionality and efficiency.

EnCase Forensic is designed for maximum return on your investment and presents a great leap forward for ease of use, customization, extensibility, and scalability. It is designed to handle the challenges investigators face of increasingly larger data sets, diverse technologies, case backlogs, and tight budgets. It does this by integrating more tools and technologies, supporting more operating systems and applications, while giving investigators the ability to modify and adapt the EnCase Forensic to their own workflow and investigative process.

In terms of budget-saving, it does not require expensive operating systems for optimum performance and leverages system resources to deliver processing speed advantages over market alternatives. The efficient workflow reduces case backlogs and reclaims more investigative time by automating many traditionally time-consuming processing and indexing tasks.

Kathy Marks has been a child abuse investigator for more than 30 years. She teaches classes regarding domestic terrorism and is a previous contributor to *LAW and ORDER*. She can be reached at [kathymarks53@aol.com](mailto:kathymarks53@aol.com).

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