What Comes After Video Surveillance

A picture paints a thousand words, but sometimes a picture isn't enough. We need to know what the picture is telling us. Similarly, body cams, dashboard cams, public CCTV and even citizen video can contribute to improved public safety (one study found a decrease in citizen complaints against officers and use of force reports and an increase in arrests when officers were outfitted with body cameras[1]), however, cameras alone are not sufficient to reduce violence, ensure the public's confidence in law enforcement operations or prevent lawsuits. The ability to gather hours of footage does not in itself enhance public safety. To make the best use of video technology, police departments must be able to efficiently store, retrieve and analyze video data, as well as manage the associated storage costs.

THE CURRENT LANDSCAPE

Cameras can provide valuable situational awareness, but they also create new issues around data storage, retrieval and analytics. In simple terms, the data from video is only as good as a police department's ability to access and interpret it.

The need for high-performance storage is self-evident. One local police department generated 142,000 separate video files — or 33 terabytes of data — in its first month of using body cams.[2] Michigan State Police estimates body cams deployed across its entire force could produce 5,000 to 7,000 terabytes of information over three years.[3] CCTV and dashboard cams add to this growing problem.

The burden of all that video has an impact on public safety. Officials in Chesterfield County, Va., say devoting time to reviewing video footage will force them to "radically curtail" the prosecution of some misdemeanor and traffic offenses.[4]

The sheer volume of data justifies the need for analytics software. It isn't realistic to expect human analysts to visually examine multiple streams of video data in real time. In addition to efficient storage and retrieval processes, police departments need sophisticated video analytics to sort through the footage being gathered.

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PARTIAL SOLUTIONS PRESENT PROBLEMS

Present methods to bridge the gap have so far proven ineffective, relying on outmoded technologies and excessive use of human labor. Most police departments depend on manual methods of data retrieval and analysis, but this approach can be time consuming, error prone and inherently inefficient.

When police departments have looked to technological remedies, they have too often sought piecemeal solutions. They've attempted to build out storage by leveraging existing, outdated storage equipment or by signing expensive and inflexible cloud contracts.

A new solution is needed, one that combines a powerful storage capability with cutting-edge artificial intelligence (AI) techniques in a single turnkey platform.

THE NEW VISION

Video is ripe to benefit from the power of AI. Powerful analytics solutions can help police departments capture and share crime details more quickly and analyze data to predict crime and prevent it from happening.[5]

Machine learning promises the ability to consume vast amounts of raw, unstructured data to produce structured, actionable insights. AI is about more than just the automation of analytic tasks: it's about applying learnable intelligence to the operation.

To gain the advantage of AI, however, storage and analytics solutions need to dovetail.

For police departments seeking to leverage video, a solution that combines storage and data analytics in an integrated, end-to-end operation offers an expedited path to improved citizen safety.

Enter Pure Storage. Enterprise flash storage provider Pure Storage offers a new approach to public safety video data that combines high-performance storage solutions with innovative and affordable real-time data analytic capabilities in a single collaborative, integrated architecture.

Conventional storage mechanisms work in sequential or serial fashion, accessing files one at a time. Yet it is in the very nature of AI to ingest large quantities of information quickly to make correlations and associations on a large scale. Traditional storage systems are not well-suited to such a need.

Flash or memory-based storage intrinsically supports multiple reads and writes, processing in parallel rather than serial fashion. This makes it ideally suited to support the data streams coming from multiple cameras, as well as sensors and other Internet of Things (IoT) implementations. Memory-based storage allows analysts to access that data at high velocity and with high veracity, and to feed it full throttle into the AI engine.

The emerging solution will be an integrated platform that marries flash storage and AI capabilities. A platform approach will help rein in engineering costs, simplify IT management and speed deployment. It will also help pull data out of silos so it can be shared effectively across the organization, giving analysts easy access to information that has traditionally been segmented and difficult to utilize.

A COMBINED STORAGE/ANALYTICS SOLUTION FOR POLICE DEPARTMENTS WOULD ENABLE:

- **END-TO-END FUNCTIONALITY.** Rather than cordon off storage with a dedicated operation, it would efficiently integrate the archiving, retrieval and analysis of video data in a single workflow.
- **COST SAVINGS.** Automating analytics lowers staffing costs and reduces the risk of litigation due to human error.
- **BETTER OUTCOMES.** Analytics can help police officers respond more quickly to developing situations and take preventive action based on emerging intel. A combined storage/analytics approach puts real-time information at their fingertips, allowing video data to be a valuable intelligence asset.

AN EXPEDITED PATH TO IMPROVED PUBLIC SAFETY

For police departments seeking to leverage the informational power of video, a solution that combines storage and data analytics in an integrated, end-to-end operation offers an expedited path to improved citizen safety. Working with a trusted partner with experience in government, and public safety in particular, can help departments take the first step in harnessing the value from video data.

Endnotes:

1. https://www.cna.org/cna_files/pdf/IRM-2017-U-016112-Final.pdf
2. https://www.democratandchronicle.com/story/news/2017/04/24/police-body-cams-generating-massive-amount-video/100621862/
3. http://www.govtech.com/public-safety/Price-Tag-for-Kansas-City-Mos-Body-Cam-Program-Reaches-6-Million.html
4. http://www.richmond.com/news/local/crime/time-burden-in-reviewing-police-body-camera-videos-may-force/article_91eb146b-0fa4-5e99-9833-430312e55efb.html
5. https://www.accenture.com/t20180117T093433Z__w__/us-en/_acnmedia/PDF-70/Accenture-Collaborate-To-Innovate.pdf

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