



# Information overload

*As CCTV technology develops, installation becomes easier, and body worn cameras become more popular, the potential for problems multiplies. Dan Worth looks at how Staffordshire Police is coping with the storage and handling of its video footage.*

**W**hen the Home Office made three million pounds available for forces to claim from, many forces jumped at the chance to update their technology and increase their camera networks. But many did not consider the time and effort involved with accumulating so much data. Staffordshire Police is one force that realised it needed to make sure it had a technology system in place that would allow them to cope with the footage they collected.

David Edge, an Inspector with Staffordshire Police, explains; "We visited an open day in Plymouth held by Devon and Cornwall Police who had been using the CARMA system from Reveal Media to handle all their video footage. We thought the software was very good but felt that having three backroom staff to handle it, as Devon and Cornwall did, would be too much for our force of four divisions. Having 12 people running the technology would be a considerable expense."

The solution for Staffordshire was to use CARMA over the entire force network and enable officers themselves to operate the system, uploading, storing and collating the video data. "We have a central server system for the storage of the data and 12 computer terminals at key locations in the county where officers upload their footage. It's a very simple system to use and this was one

of the things we demanded from Reveal Media. We didn't want a system where the officers would have to wrestle with IT, we wanted something very intuitive and straightforward."

Alasdair Field of Reveal Media explains that ensuring the technology was simple to use was one of their primary goals when creating CARMA; "We knew this technology would have only limited success if it wasn't easy to use, therefore we set ourselves the target of making sure officers would need only 10 minutes training to understand how to use it. At the end of the day technology such as this is a timesaving device. The evidential aspects are great but if it doesn't make officers' jobs easier then it won't get used, so making it simple and efficient was vital."

Home Office report *Guidance for the Police use of body-worn video devices* predicts that using these forms of new technology will result in a 22.4 per cent reduction in officer time spent on paperwork and file preparation which equates to almost a quarter of shift time. As Staffordshire plan to expand the usage of the system to between 50 and 100 officers this would be a massive reduction and allow officers to spend far more time out on the streets.

The system works by having officers upload their videos

*"We have a central server system for the storage of the data and 12 computer terminals at key locations in the county where officers upload their footage. It's a very simple system to use and this was one of the things we demanded from Reveal Media."*

**■** Inspector David Edge, Staffordshire Police.

and then catalogue the data. A lot of the basic information times – the camera number and dates for example – are automatically generated by CARMA, but then officers add their own key words to help streamline the searching process if the video needs to be searched in the future.

The system allows for the burning of data to CDs and DVDs very quickly so officers can put video onto disc and if necessary replay it to defendants and solicitors almost immediately after an arrest “Often when they see the quality of the video footage they will confess and enter a guilty plea. This helps reduce time in a number of areas and plays a crucial role in supporting the efforts of the Criminal Justice Simple Speedy Summary (CJSSS) initiative,” says David.

Furthermore the system has another benefit in that if an officer uploads some footage that has no seemingly current evidential value but wants to store it, the system can be configured to flag up non-evidential video that has been on the system for an allotted time (31 days in Staffordshire’s case) and inform the operators that it needs to be deleted.

This again helps with the maintaining of such a large amount of data, says David. “Some forces run their own cataloguing system on DVD discs but it’s a nightmare to maintain under the guidelines of Management of Police Information (MoPI).” This tells forces about reviewing, retention and disposal of Police Information.

Alasdair from Reveal Media agrees; “The vast majority of forces are very aware of the need to implement technologies like ours but there is still a small minority who are ignoring the benefits it can bring. Often the problem is money, or the lack of it. In some cases the police are given community partnership money to spend and so they choose to only spend it on things that will be visible to the public – like body-worn cameras. This means they often don’t spend money on systems to manage the data from the cameras as there are no visible benefits to this from the public point of view. However, this is changing and now almost all forces understand the advantages of using technology like ours.”

Yet another example of the extent of issues to be addressed in this area is that the data recorded is often used as evidence in court. However, there will undoubtedly be claims that the evidence has been tampered with or doctored in some way but as Alasdair explains. “The software automatically creates a unique sequence of letters and numbers for every piece of data that is uploaded called an MD5 hash code. This is a form of ‘digital fingerprint’ and if anything is changed on that piece of information, even just one pixel, then an entire new sequence of letters and numbers is generated. This system allows the evidence in court to be traced from its source and can be used to refute claims of tampering.”

Ensuring data is secure is vital. Officers on the street can now return to the station and write up their reports and rather than having to write long descriptions of what happened, they can simply write a shorter report and refer to the video data they have stored.

Given the recent spate of news stories concerning lost data it is no surprise that companies in this area have started to look again at their security measures. Alasdair

says, “we are aware of the recent news concerning data losses and are working with forces to come up with a viable solution to ensure data is always safe and secure.”

Further systems have been developed by NICE, a company that provides the software tools that enable the police and emergency services to track and analyse interactions and events. This technology can be used not just on video footage but on other multimedia sources including voice (telephony, radio, VoIP), GIS information, call-taker CAD screens, crime scene photos and video clips (sent from cell phones), incident reports, mug-shots and emails. Jamie Wilson, Marketing Manager, Public Safety at NICE Systems, explains how the system was developed. “The NICE Inform solution was created as a direct response to the requirement of the police and emergency services to have a system that could deal with the huge increase in the multimedia information they were gathering.”

NICE invited its public safety customers to offer their opinions on needs and challenges within their command and control environments, explains Jamie. “What became clear was the need to reduce time in searching and accessing information and to be able to easily organise the relevant data and then securely share and distribute with other key personnel.”

One of the issues is that lots of data and systems were not designed for interoperability. “Coping with data that exists in an array of multimedia formats that were not designed for interoperability is an issue for all police forces today,” explains Jamie, “but this system can operate in total security with a partitioned infrastructure to ensure each organisation can work independently for day-to-day operations and then come together when necessary.”

*“Coping with data that exists in an array of multimedia formats that were not designed for interoperability is an issue for all police forces today”*

➤ *Jamie Wilson, Marketing Manager, Public Safety, NICE Systems.*

*Sergeant Stephen George, Staffordshire Police, demonstrates a body worn video camera that feeds into the CARMA system.*



## Record and store – video footage

*"We knew this technology would have only limited success if it wasn't easy to use, therefore we set ourselves the target of making sure officers would need only 10 minutes training to understand how to use it. At the end of the day technology such as this is a timesaving device.*

➤ *Alasdair Field, Reveal Media.*



This ability to share information is one of the key benefits of the technology and Jamie is under no doubts about the potential for change it can have: "Clearly, this technology has the capacity to revolutionise the disclosure and delivery of evidence as there is no more re-recording to audiocassette tape or sending paper-based evidence by messenger or mail. The full multimedia contents of an electronic incident folder can be copied onto a CD, electronic file for email, or securely viewed by simply granting authorised users' access to the folder."

Regarding data protection and recent data loss issues, Jamie adds that these systems have built-in functionality to automatically track who has access to specific incident folders and what their level of access is (read only or read and write), as well as a detailed audit trail, detailing each time an incident folder is opened, viewed or edited.

The technology used to monitor and record phone calls also allows for increased improvement in their monitoring of suspicious calls. The software allows investigators to sift through large volumes of recordings to locate specific interactions containing key words said by callers or call-takers – such as "bomb", "fire", "terrorist", "knife", "kill" for example – and by being able to bring up key words and phrases the data can be searched and interpreted quickly and efficiently. The

scope of use for the technology has seen it taken up by areas outside the emergency services. "Not only are a significant number of US police authorities using NICE Inform, but also the FAA in the US and a national rail transportation company has purchased NICE Inform to securely manage and transfer signal box data," adds Jamie.

The wide spread use of technology like this underlines its growing potential and as with so much technology it seems as if this is an area that is only just the beginning. The integration of GPS software in to the cameras as part of their in-built data would allow the position of an officer to be traced and could prove exactly where they were when they made a recording. This would give potentially stronger evidence to the police.

Alasdair of Reveal Media also sees the continuing growth of mobile wireless networks as something that will benefit the police force. "As mobile networks become more ubiquitous, especially in urban areas, officers will be able to stream footage instantly to other officers or back room staff. This will allow the video to be used from an operational point of view as well as an evidential one and means the footage being recorded can be stored instantly, rather than having to wait for the officers to return to their station where there is an outside chance that it might be lost."

All this advancement and implementation of technology makes the recent Flanagan report, highlighting the need for forces to embrace the benefits of technology, even more pertinent. David Edge feels Staffordshire Police are already demonstrating the potential for using technology to turn the difficulties of having so much video footage into a positive, by being able to use the footage to their advantage. Alasdair of Reveal Media is equally positive about the Flanagan report and believes that, on the back of the Flanagan report the UK's police forces have an enormous opportunity to lead the way in this area. "While more professions start to utilise the benefits of body worn cameras, from security firms to lollipop ladies, it is the police who will be at the forefront of this change."

## **imass** Integrated Solutions

**Imass is a leading IT solutions provider of software and services to the Public Safety and Homeland Security markets.**

With a reputation for delivering dependable operational solutions, Imass have integrated products into several Command and Control Systems, using numerous communications bearers including Tetra and GPRS. Additionally, Imass are involved in delivering the largest Mobile Data System within the UK industry, through the FiReControl Project.



Our best of breed solutions include:

- Mobile Data
- Real-time GIS
- Strategic Emergency Planning & Response
- Corporate Gazetteer & Spatial data management
- Automatic Resource Location System (covert/overt)



For more information please contact:

andy.kerr@imass.co.uk  
or  
paul.warner@imass.co.uk

Alternatively visit stand number 408  
at the BAPCO 2008 exhibition.

Northumbria House, Regent Centre, Gosforth, Newcastle Upon Tyne, NE3 3PX  
Telephone: +44 (0)191 213 5555 Fax: +44 (0)191 213 0526  
www.imass.co.uk