

Under Surveillance

Laurence Cohen

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The loss prevention department has finally come in from the cold. With security and IT converging, retailers have discovered they can use loss prevention tools such as CCTV, data mining and electronic tagging not only to detect crime, but also to study other aspects of their business. Thanks to the emergence of video-over IP, where video footage can be transmitted via the internet. The CCTV camera has become much more than just a crime deterrent. As well as helping retailers to protect sites overnight¹ remote video monitoring enables managers to access their company's intranet and view locations from anywhere in the world.

By logging onto a computer at head office, a manager can observe the progress of a delivery at a distribution centre 200 miles away, or use a laptop to monitor staff performance at one of their UK stores, even while they're away on an overseas business trip.

A growing number of UK retailers and landlords have realised the potential of remote video surveillance. Prudential Property Investment Management (PruPIM) has started to roll out remote CCTV monitoring across all its UK retail parks and warehouses. PruPIM director of property management and leasing John Proctor says: "It makes sense to monitor our parks remotely. New technology has made remote monitoring more viable and will enable us to reduce manned guarding costs."

Before video-over IP came along, most UK retailers considered remote video monitoring to be too expensive to adopt, because of the high cost of transmitting video footage via leased phone lines. However, retailers can now send video images over their company's IP network at a fraction of the cost.

Dixons has dispensed with 1200 dedicated phone lines and started monitoring CCTV and intruder alarms at remote sites via the company's existing IT infrastructure; saving itself a six-figure sum in the process. Anthony King, managing director of Kings Security Systems, which helped Dixons implement remote video monitoring, says:

"Most large retailers IT departments have set up a broadband network for the entire company and their security managers are telling them they can get a lot more out of their network by using it for remote surveillance of sites."

Video over IP also enables security staff and police to monitor incidents on the move. Dominic Berger, sales director at Venue Solutions, which provides IP CCTV systems to shopping centres in partnership with Sony, says:

"If there's an incident unfolding in a shopping centre, staff in the security control room can send images of what is happening over a wireless network to security guards or police officers carrying PDAs, enabling them to assess the situation before arriving on the scene."

Berger says shopping centres are increasingly keen to use video-over IP for other purposes besides security such as monitoring footfall and staff performance. "Our view, which is shared by a growing number of UK retailers, is that CCTV should be shared across the business, not just the loss prevention department," he says. IP networks, he adds, can be secured by a Virtual Private Network containing several layers of IT security such as firewalls.

With developing technologies, retailers will soon be able to configure their CCTV systems to automatically detect suspicious behaviour picked up on security cameras, helping CCTV operators to identify incidents on-screen in the control room.

The past 12 months have seen the launch of several intelligent video motion-detection systems in the UK. These can be programmed to detect irregular movement picked up on security cameras, such as an intruder climbing a perimeter fence at a warehouse; a person leaving a bag unattended in a store or shopping centre; or a gang of youths loitering in a mall car park. If irregular movement is detected, an alarm is triggered to alert a CCTV operator or retail manager to the incident.

MILITARY SYSTEMS

One of these systems is Object Video, which has evolved from technology originally developed for the US military and now used in several airports, seaports and military bases worldwide. The system analyses the skeletal form of humans, picking up points on their arms and legs, so it can differentiate between humans, animals and inanimate objects.

Keith Bloodworth, managing director of Computer Network, which has developed its own IP Security Centre software to manage alarm activations from Object Video, says intelligent video motion detection can provide retailers with other benefits besides security. "Most high street shops already have a large amount of CCTV cameras," he says. "An intelligent video motion detection system could automatically detect long queues and ring a buzzer in the manager's office to alert them to assign more staff to tills."

Video motion detection could also be used to detect a lone worker falling over in a warehouse and injuring themselves. The technology can be set up to spot that a moving vertical object – the worker – has suddenly become horizontal and isn't moving, then can send an alarm to a central monitoring station.

It's still early days for automatic video motion detection in the UK, but several large retailers have already shown an interest in adopting the technology, according to Paul Fileman, UK marketing manager for Tour Andover Controls, which distributes Integral Technologies' Active Alert system in the UK.

He says: "We've had one big retail property developer tell us they want a control room with this type of system in it, because one of the most stressful things for operators in a retail CCTV control room is the fear that they might miss an incident."

Intelligent video motion detection systems cost from £3,000 up to tens of thousands of pounds, depending on their level of sophistication and the number of cameras in use.

Although many UK retailers already link in-store CCTV cameras to electronic point of sale (Epos) data mining systems to review video footage of suspicious-looking till transactions, data mining itself is no longer merely used to detect crime – it can now be used to monitor all aspects of business performance.

Digging for Data

Bhs uses data mining not only to detect Epos fraud, but also to identify and prevent loss across all areas of its business, whether the losses are because of internal fraud or honest errors made by staff. Bhs does this through IntelliQ's RetailKey Loss Prevention, an Epos analysis system.

IntelliQ product development director David Snocken says more and more retailers are realising the need to analyse overall loss and not just shrinkage. "Our experience has been that fraud is merely the tip of the iceberg when it comes to retail loss," he says. "Human error is at least as big a problem as fraud, whether it's missed keys on the till or incorrect refund procedures because of a lack of staff training".

Argos is another major retailer using IntelliQ's RetailKey Loss Prevention for both security and non-security purposes. The chain initially used the software to detect fraud and found it more efficient than relying on manual investigations, staff tip-offs or ad-hoc store visits to spot fraud. Argos says the system has helped minimise false refunds, and it is also starting to use the tool to streamline a whole range of business processes and procedures. Argos security solutions manager Adrian Sherry says: "By being able to drill into Epos and other data, we'll be able to make real improvements in stock handling, merchandising and promotions as well."

Meanwhile, retailers including Boots, New Look and B&Q are using the ORIS Group's Management Information System (MIS) to drill down into business data to detect crime and analyse company performance.

ORIS MIS is an online database system that breaks data down into several different groups, ranging from incident reporting to asset management. For instance, the system can analyse all data from a single store and produce a one-page report outlining everything a manager needs to know about that outlet.

"The data is very helpful, particularly to an executive visiting a store they've never visited before," says ORIS Group managing director Andrew Wood, who previously worked in retail operations for B&Q, Bhs and Arcadia. "Does the store do needle replacement, or is it selling perfume? These sorts of things affect the risk a store faces from crime and can highlight where retailers need to be spending their money on security."

Retailers have realised that data mining, along with video surveillance and electronic article surveillance tagging, can provide benefits besides loss prevention. Security finally looks set to lose its reputation as a grudge purchase. RW