

Learning curve



Newport County Borough Council in South Wales was suffering from a number of issues with local schools. Many of the sites were termed as open, in that children used them out of school hours to play. This made sense because it meant there was a safe environment for them. However, as with most things in the world, it only takes a few individuals to ruin things for the majority. The situation was not aided by the fact that when schools were being designed in the 1950s and 1960s, scant regard was paid to issues such as vandalism, arson and other forms of anti-social behaviour.

CCTV over networks has grabbed the imagination of many in the security industry, and the benefits to end users will certainly fire up their imagination too. Whilst video over IP is currently the flavour of the month, but will we still have a taste for it once it is in everyday use? The proof of the pudding, as they say, is in the eating. When Newport County Borough Council won Home Office funding to create a CCTV solution for local schools, Phil Cox, Principal IT Consultant new exactly what he wanted to achieve. The result is a scheme which utilises existing networks to create a credible and cost-effective solution.

Low and flat roofs are the scourge of many educational establishments, and Newport's schools are no different in that respect! Unfortunately, these roofs proved attractive to certain children. Some were intent on nothing more serious than a spot of exploration, but accidents do happen and it was something that the Borough had to prevent. Sadly, not all incursions onto the roof area were totally innocent. Some children used the areas for more anti-social purposes including building bonfires. However, the issues did not solely centre around the roof. Sites faced bills of tens of thousands of pounds each year to put right damage caused by vandalism.

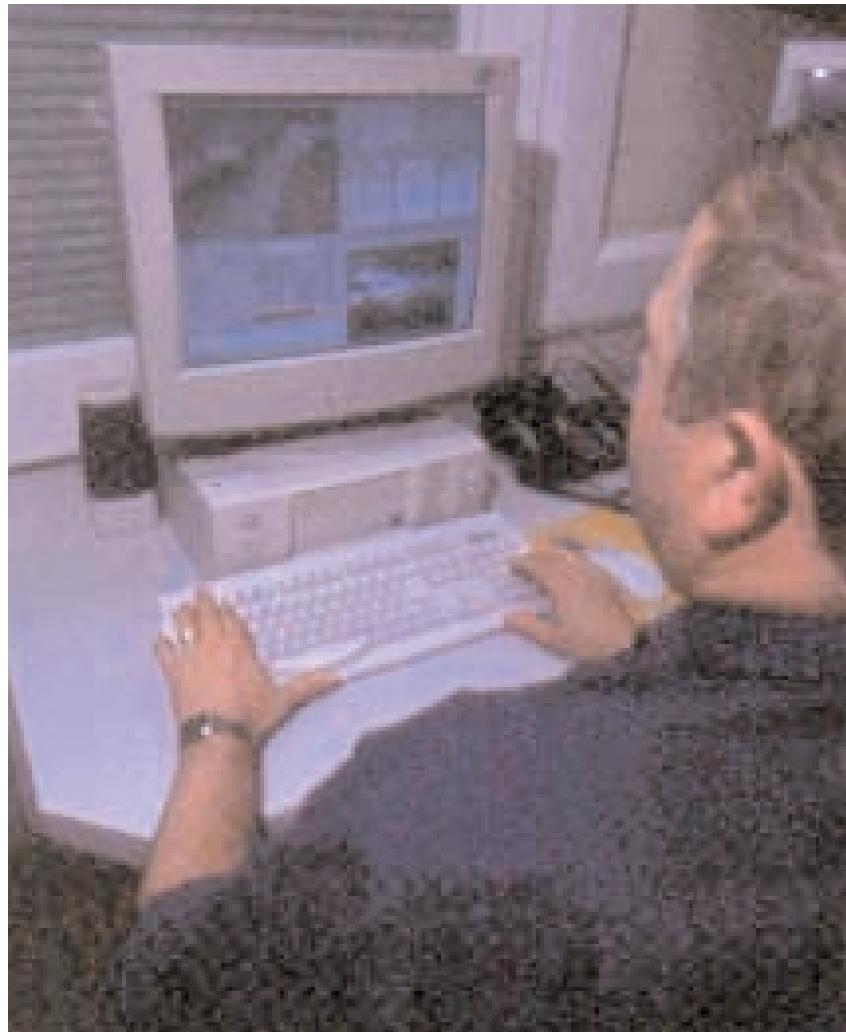
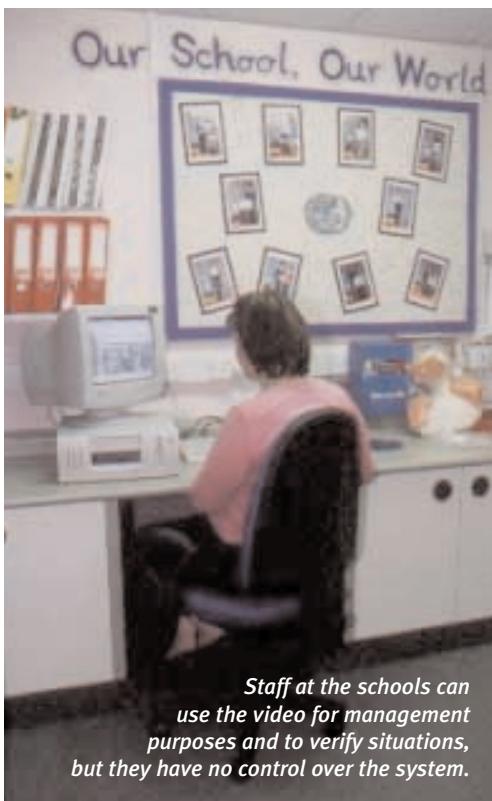
The security scheme put in place was driven by a Community Safety Partnership which combined the Borough Council, Gwent Police and private sector partners including NTL, Farsight, Axis Communications and Bewator (Molynx). The partners were specially selected as the concept for the system was a networked solution giving alarm-based video footage to a control centre. Information would then be passed on the Borough Council's Estate Ranger Service who would offer initial response to events.

On line

Whilst the protection of local sites was important, Phil Cox wanted the various sites to be remotely

monitored. The aim was to ensure that the existing infrastructure was utilised to its fullest potential. The schools were linked up by a network which had been created as Newport's implementation of the National Grid for Learning. This means that fixed lines were linked into the schools with capacity from 128Kb up to 2.0Mb. and these were only used during school hours when the sites were manned. The network was redundant when the schools were closed - the times when criminal and anti-social occurrences took place.

The solution was to use the network to transmit video footage of alarm events back to a monitoring station located at the Newport Civic Centre. The monitoring station used was not a CCTV-dedicated operation. Newport does have a traditional CCTV monitoring operation for its city centre systems, but as the proposed solution was to only react to alarm activations, it was decided to send the images to a control room at the Civic Centre which deals with social alarms. The decision to keep both surveillance elements separate has probably enhanced reactions to the alarm-driven system. Although the operators at the Civic Centre control centre had no previous experience of working with CCTV on a day-to-day basis, Sian Brown - the control centre manager -



pointed out that her team had adapted to its use very quickly and with few problems.

As the Partnership wanted to apply for Home Office funding, it was decided that a pilot scheme should be put in place in order to prove that a networked video system could be effective. The pilot site faced a bill of £6,000 each year on replacement glazing alone due to vandalism, and so represented something of a challenge. The pilot scheme went live in December 2000, and since then the site has not had to spend any money on repairs which are necessary due to vandalism!

Whilst such a resounding success is obviously very pleasing, the downside is that very few lessons were learned. However, as it transpired, the success of the scheme - Phase One is complete and Phase Two and Three are in preparation - has echoed that of the pilot!

Images from alarm events can be viewed and managed at the control centre.



Estate rangers respond to activations when necessary, ensuring the efficiency of the system is always maintained.

The first phase

Whilst many installers might consider that IP-based solutions are complex, difficult to use and expensive, the Newport application - installed by Camrasonic - actually shows that such solutions can be straightforward, simple to use, cost-effective and extremely effective. The equipment located at the sites is similar to that of countless other CCTV applications. It is only when the video starts to be managed that anything changes.

The cameras employed in the first phase (covering six schools) are Molynx Surcha dome cameras from Bewator, mounted on Altron poles. As the system is event driven, these are triggered by Redwall long range infrared detectors from Optex. The system is configured so that the domes will move to a preset relating to the area of activation when an alarm event occurs. The video is then distributed onto the network via a 2400 video server from Axis Communications.

The 2400 video server is a high-performance unit which has been specifically designed for security-based surveillance applications. This is vital given the importance of protecting sites such as the schools of Newport. There are alternatives which are more akin to PCs with

image capture capabilities and a network card, but often users who follow that route find that even a local analogue solution would have been far and away more preferable! The 2400 can network up to four standard CCTV cameras, which are connected via standard BNC connections. The network connection is via standard RJ45 twisted pair cabling.

The cost-effective single-box solution is compatible with 10BaseT and 100BaseTX networks, also handles alarm data and is compatible with the Axis 2191 audio module. Whilst audio has not traditionally been a big issue with analogue CCTV (predominantly because it couldn't be achieved), digital solutions effectively rewrite the rules. A point of interest is that when those behind the Newport schools scheme were asked what they would like to add to the system if they could start again with a clean sheet of paper, the answer was instant - audio!

Finally, the 2400 allows video on demand at the desktop via a standard internet browser (4.x versions upwards).

At the control centre, Farsight software is used to receive alarm data and video footage. The dome cameras can be controlled from the desktop, and Farsight software is also used to archive any footage required to CDs for longer term storage or for evidential purposes.

In conclusion

Phil Cox and his associates at Newport County Borough Council have created a credible and cost-effective solution which highlights the benefits of networked video. As the network was already in place, considerable cost savings have been achieved. As with any project of this scale, there have been a few teething troubles and some lessons learned along the way. Interestingly, when we asked Phil Cox if he would consider switching to analogue solutions for future projects, the answer was negative! It seems that the benefits offered by the system and the effectiveness it has had in reducing anti-social behaviour are not to be ignored.

There will be some slight changes in the second phase. The dome cameras will be switched for Pelco units, as the Farsight software offers a better level of interoperability with these domes. Looking into the future, what Phil Cox would really like to be able to use are dome cameras which send video, audio and telemetry across a single IP link, and judging by announcements at IFSEC, he will soon get his wish!

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Axis Communications

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