by Marlene Orton

What you need to know about…

Eye spy

Buying electronic surveillance equipment

What it is

DVS (digital video surveillance) replaces CCTV (closed circuit televised video) surveillance in organizations looking for a highly effective, cost efficient means of improved security in large organizations. They are the next generation of security to access-control and intrusion, which many large facilities put in place in the 1980s and 1990s. "These intrusion and alarm systems have a fairly long life span of seven to nine years," says John Sheridan, Ottawa-based general manager of Edwards Security. "But it's really eight to 12 years before a large organization will revamp or retrofit a new security system with more surveillance capability."

DVS incorporates digital video, networking and Internet protocol (IP) cameras. Video from the camera or a remote digital video recorder (DVR) can be accessed anywhere in an organization's computer network using smart IT systems. The area is growing so quickly that IBM estimates the market in the United States alone will approach $5 billion in 2005.

Applications

Large institutional markets spread out over campuses, and large buildings ranging from sea ports and power plants to airports and prisons, are turning to DVS – used widely in commercial and enterprise settings. DVS images are stored electronically, replacing bulky tape-based systems, which require a video recorder for each camera. Archiving digital data is fast and easy. Accessing the archives is equally fast. The integrity of digital video is superior to tape-based systems, which wear out with use and deteriorate over time.

Digital video images fit into an organization's IT infrastructure. Electronic surveillance using digital systems allows for remote display and control. Images of a crime in progress can be transmitted over IP-based networks to police, for example. With IP-based networks, live or stored digital images allow for remote review. DVS images can be viewed by a hand-held communications device used by a roving security guard, or a laptop accessed at home by a security manager who has been alerted to an intruder.

"It's like a sophisticated VCR replacement, but the images are digital, time and date tagged so you can easily access what camera they are emanating from and when, and quickly review images stored on a DVR," explains Sheridan, who is engaged in large institutional perimeter digital surveillance systems.

Digital video allows for zoom enhancements and post-capture analysis of the images to pick out details based on image close-ups – of a licence plate, for example. DVS allows authorized security personnel using proper codes and passwords, for example, to click on a browser, ask the software to search video collected at a specific time and the stored video image files will be quickly located.

The majority of security software applications are Windows-based, user friendly and can manage large amounts of complex visual data. For anyone who uses a digital camera and is able to download the images onto a personal computer, think of DVS as a combination of a DVD and digital camera. The applications often have custom browsers that retain a familiar look and feel – for example, to Microsoft Office tools. This makes security applications user friendly for staff that will be required to review and analyze digital images.

Surveillance and security solutions will need to be correctly configured according to available bandwidth. With live digital videostreaming over the Internet, an organization's overall IT infrastructure must be examined. Videostreaming 10 cameras in colour, 24 hours a day, seven days a week, would choke a network, warns Sheridan at Edwards Security.

Just as with a personal computer downloading images from a digital camera, the available bandwidth depends on camera or video resolution and the refresh rate. The lower the resolution and number of frames per second an area is filmed, the lower the bandwidth.

Hot stuff

Fully integrated video and security systems for organizations such as government, its institutions and agencies, large network integration projects will include DVS security systems that run on IP-based networks. Edwards Security, for example, offers a product called Summit NT that can facilitate the exchange of data between different applications. Time, attendance and payroll can be integrated into Summit NT.

Integrated security applications also rely on a single large complex database, which could include searchable images based on photo ID. The system could include other security applications such as badge readers. Sensors could trigger a video camera that could zoom in on an ID badge, send the image to an application that compares the badge number with information in the database. Systems could also be programmed to catch unusual or unexpected situations such as someone walking or driving the wrong way through a customs line.

Security software vendors

IBM Corp. entered the market formally last year with Security and Network Consulting, Integration and Deployment Services for surveillance and security solutions. Canada, however, has several large vendors. These include:

- ADT Canada, **www.adt.ca**
- Honeywell Ltd., **www.honeywell.ca**
- Edwards Security (formerly ISS Integrated Security Solutions), **www.edwards-security.ca**
- Johnson Controls Inc., **www.johnsoncontrols.com/cg/security.htm**
- Siemens Corp., **www.siemens.com**

Marlene Orton is a freelance writer based in the Ottawa area.