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CCTV

## Picture This

DVR helps CVS **cut shrink** and track customer traffic patterns

BY KAREN M. KROLL

**M**any retailers are familiar with the capacity digital video recording systems have to reduce inventory shrinkage, but the latest generation of DVR technology can also help merchants enhance their merchandising and marketing efforts.

For instance, the SmartCamXi, a digital video recorder from ClickIt, offers modules that allow retailers to track the number of customers entering and exiting their stores at any given time. CVS has installed SmartCams in about 60 percent of its 5,400 stores, says Ernie Deyle, vice president of loss prevention for the Woonsocket, R.I.-based retailer.

Since 2002, CVS has been deploying the systems in existing stores at a rate of about 800 per year, as well as in all new stores. Before its partnership with ClickIt, CVS had used VCR multiplexers to help guard against losses. These devices have several limitations: If an employee forgets to change the tape in the machine, the new images simply record over any previously captured images. In addition, VHS tapes lose their clarity over time.

After their initial meeting, Deyle

thought ClickIt had the best product at the best price, but questioned whether a start-up firm could meet the needs of a national retailer with thousands of stores. ClickIt proved it was up to the task. "They really look at what our needs are, and modify the application to meet our needs," Deyle says. "It's been a strong solution."

The SmartCamXi is a digital replacement for conventional VCR technology. It captures images at a rate of about 30 frames per second and stores them digitally. The system also offers a higher-quality image than VCR systems.

The SmartCam software can work with conventional and TCP/IP cameras that run across retailers' networks, as

well as cameras that can view and record a 360-degree field of view. This reduces the chances that an event will occur outside the system's range.

The system is triggered by motion, so the camera begins recording only when something within its field of vision moves. This could consist of a customer walking into or out of the camera's field of vision, or an item tumbling off a shelf.

By recording only when movement occurs, the SmartCam system maximizes its use of storage space. As a result, it can be configured to store just about as many days' worth of images as the retailer requires. (Some retailers



prefer to keep images for a year, while others want to hold onto about a month's worth of images.)

Once the images are captured within the SmartCam system, they can be transferred to a CD, a USB drive or to the company's network for longer-term storage. If the images aren't moved to another storage medium, they're over-written in the order in which they were captured.

#### Analytics possibilities

The SmartCam remains primarily an LP tool, but it can also host a number of software applications that provide valuable information on customers' shopping habits. CVS has begun working with the SmartXi analytics systems, Deyle says, and plans to deploy them as required by the business units.

With the addition of optional SmartXi Analytics modules, for instance, the SmartCam can tally each person who walks into the store. Jim Carey, president of Bethpage, N.Y.-based ClickIt, is quick to point out that the software doesn't identify individuals, but simply records each time a person enters or exits a store or department. Retailers can use the information to determine how to staff their stores at various times of the day and week.

The Path Analysis module can help fine-tune marketing, as software

linked to the camera can track customers' wanderings through the store.

To make this work, the retailer defines various paths through the store during the system installation process. That way, the system will know, for instance, that a customer who enters and immediately turns to the right is heading to the pharmacy area, while a customer who walks straight ahead after entering is checking out the greeting cards.

Another module is Dwell Analysis, which records how long customers stay in different areas. For instance, the software analytical tools may reveal that most customers at a display of shaving products that are on sale are staying for 30 seconds, and that

most are leaving without purchasing anything. That may signal that the items weren't priced low enough to compel customers to buy.

The system can also help retailers stay on top of the need to re-

stock their shelves. To accomplish this, the retailer programs the software so that it notifies the appropriate manager whenever the number of products in an area falls below a set percentage of the desired total. The software doesn't need to learn to count; instead, it captures an image of the area, and issues an alert whenever more than 40 percent of the image has changed.


This information can be gathered at each store with a SmartCam system and transmitted to headquarters so that the marketing department can gain a view of traffic levels and patterns throughout the company.

#### Malfunction alert

Similarly, the SmartCam system can be centrally managed. For instance, when it notices that a camera is malfunctioning, the software issues an e-mail to the ClickIt or retailer help desk, depending on the service contract.

The cost of a SmartCam system varies with the size and number of stores. In addition, the size of the server usually increases with the number of cameras. For instance, a specialty store may be able to get by with 16 cameras and a 500-gigabyte server, Carey says, while a warehouse store may require 128 cameras and 10 terabytes of storage.

CVS physical security manager David St. Angelo and his colleagues have prepared a comprehensive installation program that details the positioning of the cameras and the images on which the camera should focus, among other criteria.

SmartCam's impact on loss at CVS has been significant. Stores in which the systems are installed have averaged a 70 percent reduction in robberies and burglaries, as well as a drop in dollar losses of 92 percent. 

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