Next-generation Search Technologies Transform Video Surveillance

ADT is integrating next-generation IT and search technologies by 3VR Security, Inc., transforming the way clients in all vertical markets search and index surveillance video.

According to 3VR Security, Inc. Founder and Chairman Stephen Russell, some refer to 3VR's surveillance search technology as "the Google for surveillance."

"The core value of a 3VR is really more about taking this deluge of surveillance video that everybody spends time reviewing or attempting to monitor live, and using next-generation IT and search technologies to make that video indexable and searchable--just like you would search the internet," Russell said.

Those search technologies include facial recognition, license plate recognition and advanced motion analytics, as well as point-of-sale integration, ATM integration, access control and radio frequency identification (RFID) integration.

Enhances video capabilities; saves time

The benefits of integrating 3VR video surveillance are far-reaching, from making video more searchable and useful, to saving significant time and money. Basically, corporations, government, education and other vertical markets can pinpoint important events captured on video in minutes—without having to manually search through what can be hundreds or thousands of hours of video.

"That's really the difference between non-intelligent, or non-searchable, video and searchable video," Russell said. "Customers report that they are able to do roughly 10 times the work in one-tenth the time."

Real-life rewards

ADT worked with the largest hotel in Houston, Texas, Hilton Americas-Houston, to integrate 3VR's surveillance search technology. Hotel security has since reported improved customer service and responsiveness; reduced fraud and liability.

The Hilton Americas-Houston now helps guests locate more than 7,000 lost items each year with 3VR's color, directional and object search capabilities. A guest's misplaced suitcase can be found almost instantly by searching based on color, object and movement while on the property. Facial surveillance technology recognizes the resort's repeat customers, flagging Gold Card members, so that the hotel can wow them with service.

3VR facial surveillance registers faces with 90% accuracy, according to John Alan Moore, director of security and life safety for Hilton Americas-Houston.

The 1,200-room hotel also uses 3VR to count arriving vehicles, which helps determine peak times for staffing and monitors vehicle accidents in the garage area to reduce liability from potentially fraudulent claims.

"This is a whole class of investigations that customers in the past might have written off because of the time and money involved in solving them," Russell said.

Russell explained that video surveillance challenges are similar across vertical markets: too many cameras, too much video and too much information. At a petro plant, that means not being able to respond in a timely manner when somebody breaks into a remote pumping facility. Without next-generation video search technology, banks might only uncover a small percentage of check fraud. Retailers might miss fraud, including return desk fraud.

One major US- based diversified financial services company uses 3VR--not just to provide better surveillance but also to do investigations across the global organization. The bank investigator estimated that branches that deployed 3VR had 50% less fraud than comparable bank branches," Russell said. "We had another bank that claimed a 90% reduction in fraud year over year from deploying 3VR."

Seamless integration

In the past, it was often impossible to integrate surveillance video into security and broader IT environments because video is unorganized and unstructured.

"That's a huge problem for an organization that wants an integrated security picture," Russell said. "The benefit of putting a search engine in the midst of the surveillance system is that it transforms that unstructured, unorganized, raw data into tightly packaged, structured and organized surveillance events."

As a result, 3VR can be integrated with any IT system on a network, and the network can support more cameras and much more activity, with about one-tenth of the actual bandwidth utilization.

High-resolution video, without the overload

An important and often underappreciated aspect of 3VR technology is the ability to store higher-resolution video for longer than with traditional DVRs.

Clients with traditional surveillance video capabilities usually have two options: to keep really high resolution images for a short period of time or low resolution resolutions for long period of time.

"There is not an organization in the world that doesn't feel dissatisfied on both fronts," Russell said. "With the 3VR search engine, the technology actively looks through video for elements that might be more important than background video stream. These are things like faces, cars, license plates… moments when transactions happen. Our search engine architecture allows you to store those at native, raw, perfect resolution even

though you compressed the video. What that means is that you can keep those faces and license plates and other important images for years--even if your hard drive only lets you keep the underlying video for a month or two."

Cost-effective integration, designed to evolve

ADT focuses on security solutions that offer clients return on investment. 3VR is cost-effective to implement and is an investment for the long-term, according to Ed England, national accounts manager, Southwest Retail Division, ADT Security Services.

"ADT is about to rollout 3VR at a national restaurant chain," England said. "3VR offers a hybrid solution to the chain's existing analogue cameras, but should it transition to IP or megapixel, the platform is able."

Russell explained that customers investing in 3VR will benefit with a continuously evolving software-based system.

"What that means to customers who have invested in 3VR today is that, next year, if we come up with a different way to search video, a new kind of analysis or way to talk to a different type of external system, our customers will be able to buy and deploy that technology to their existing products," Russell said.