Case Study

Smart Surveillance Systems Tap Reliability and Performance of Seagate SV35 Series Drives

Eco-Partner
ObjectVideo

Location
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Primary Focus
Provider of intelligent video software

All surveillance cameras can record what they see, but most cannot make sense of what they are viewing. Surveillance systems utilizing ObjectVideo's intelligent video software, however, fall within the elite exception. According to Tan Kok Kheng, VP OEM Division of WPG Systems, the exclusive distributor of ObjectVideo products in Asia-Pacific, ObjectVideo's OnBoard solution enables video surveillance equipment manufacturers and system integrators to create intelligent video surveillance products. Such intelligence-imbedded products can see and process visual information in the way humans do. For example, these smart cameras can tell the difference between a human and a car. The system can be programmed to track anything identified as a human and send an alert when the human violates pre-defined rules—like when climbing over a physical wall.

Using technology from Defense Advanced Research Projects Agency (DARPA)—the US military research organization that created the Internet, M-16 assault rifles and GPS—ObjectVideo has over 35 percent of the world's market share in intelligent video surveillance systems. Customers include the military, homeland security teams, banks and the Sydney Opera House. ObjectVideo technology is used to protect U.S. Marines in a war zone.

The Shift to Intelligence in Surveillance

There has been a substantial increase in the use of security surveillance cameras in recent times, largely due to the heightened security in today's uncertain times and the dip in the costs of such cameras. Mr. Tan said, "In the past, security personnel viewed one camera on a single monitor. Now it is not uncommon to find them looking at 20 cameras linked to a single display. After 20 minutes of surveying, the human attention to video detail degenerates into an unacceptable level and video surveillance becomes meaningless. Traditional video surveillance can no longer meet the increased demands of the industry."

The solution is to make use of smart surveillance systems with automated tracking and alert systems. Some standard video cameras also make use of video motion detection, but only in a certain area, which results in many false alarms. Motion detection makes no distinction between falling leaves, a leaping cat or an adventurous burglar. ObjectVideo's technology not only distinguishes the objects, it also lets the user easily set rules to

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determine when a security "breach" occurs. "Video surveillance can no longer be reactive and dumb, it now needs to be proactive and smart," emphasized Mr. Tan.

Seagate SV35 Series Excellent for Digital Surveillance Systems

Today video data is increasingly moving away from being stored in analog VHS tapes to digital hard disk drives (HDD). And when it comes to choosing the right hard disk for its digital video surveillance systems, WPG gives the firm thumbs up for the Seagate® SV35 Series™ of HDDs for video surveillance applications. After going through a series of performance and reliability tests, WPG has validated the suitability of SV35 Series drives for use with ObjectVideo surveillance systems.

Typical HDDs used in PCs are not optimized for surveillance digital video recorders (SDVR). The Seagate SV35 Series drive, however, is specially designed for use in SDVR environments with critical features like high reliability, power optimization, improved performance and high capacity. "Seagate is a first mover in making hard disk drives optimized for digital surveillance use. And the Seagate SV35 well passed all our repetitive data writing 'endurance' tests," said Mr. Tan.

High Reliability and Improved Performance

The Seagate SV35 Series drive is designed for heavy-duty continuous recording, for recording and playback of 24x7 video surveillance operations, and has about a 30 percent longer lifespan than standard PC-based HDDs.

SDVRs usually have multiple HDDs recording in an enclosed environment. Overheating is therefore an issue especially since security systems work round the clock with absolutely no downtime. The SV35 Series drive is also designed for use in SDVR environments where lower heat emissions and power requirements are essential for greater system stability. The SV35 Series drive has the capability to go into power-saving mode to *spin down* the drive and use minimal current. This saves power and generates less heat.

"Reliability is very important in our business. Although our technology frees HDD space for day-to-day operations by storing only video with events that the user is interested in, instead of storing all video, we still need the essential footages to be secure. Hard disk failure is a grave concern in this industry. The reliability of the hard disk will directly affect the integrity of the video data," said Mr. Tan.

PC-based hard disks are designed for data integrity while those in personal video recorders favor streaming integrity. For SDVR, however, video data requires both smooth streaming and high data integrity.

The SV35 Series drive also boasts improved performance and supports the ATA-7 streaming command, which allows the user to customize read and write speeds. "PC-based hard disks are designed for write once, read many times, while in SDVR the reverse is true. Because video is continuously recorded and re-recorded on the hard disks, the technology in SDVR hard disks needs to be reversed. Seagate implemented such a technology with the SV35 Series drive, which is designed for greater write speeds and is best suited for SDVR operations," Mr. Tan added.

Mr. Tan also said that he was looking forward to tamper-proof technology from Seagate in the near future, where the Seagate SV35 drives will come prebuilt with data encryption technology.

"Overall, we are very pleased with the Seagate SV35 Series. We like the SV35 for its improved speeds, high storage size, low power consumption, low heat emission and the upcoming tamper-proof technology. In fact, we like it so much that we are recommending that it be used to all our customers who are implementing SDVR systems with Object Video technology," Mr. Tan concluded.

To Learn More

Seagate SV35 Series drives

For more information on utilizing Seagate SV35 Series drives for video surveillance operations, visit www.seagate.com.

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