

Intel® Vpro™ Technology Improves Digital Surveillance System for Banks

A centralized digital surveillance system (DSS) based on Intel® Core™ i5 vPro™ processors, enhances the security of personal accounts



“With the TITANUS X5 Mini NVR* System, powered by Intel® Core i5 vPro™ processors, the solution delivers amazing performance and stunning visuals, monitoring the on-site scene and tracking the criminal’s face with a high-quality megapixel camera.”

Frankie Chai
Director
SECOM (M) Sdn. Bhd.

The power of Intel® Core™ i5 vPro™ processors can be found in the remote digital surveillance of Malaysia’s leading international banks. The project was spearheaded by three international technological giants, Intel Malaysia, SECOM (M) Sdn. Bhd., and Gamma Solutions Sdn. Bhd., which collaborated on a vision to deliver a surveillance system connected to the TITANUS X5 Mini NVR*, a system producing live video streaming for CCTV monitoring display, and decode the video streaming to video data with various video compression. Powered by Intel Core i5 vPro processors and Intel® Intelligent Systems Framework (Intel® ISF), TITANUS i-Doctor* provides remote console management with the Intel vPro platform’s Intel® Active Management Technology (Intel® AMT). It is preloaded with a GeoVision* surveillance system and megapixel IP camera that can effectively detect criminal acts such as robbery, trigger an alarm, and immediately trap and recognize the assailant.

CHALLENGES

- **Easy target for crime.** Most ATM machines do not have a centralized security system, so response time to criminal acts can be slow.
- **Difficult system maintenance and troubleshooting.** Technicians cannot troubleshoot or perform maintenance tasks once the operating system of the remote management console or remote desktop is out of service or down.
- **Vulnerability.** The possibility of computer virus attacks increases when the system had been deployed over a WLAN.

SOLUTIONS

- **Fully equipped closed-circuit television (CCTV) surveillance systems.** Controllers can view the activity at the remote site and take action such as alerting the police and bank staff, activating internal and external sirens, and activating the lock to trap the perpetrators.
- **Detailed alarm reports.** The control management system can generate a detailed alarm report, providing real-time information to bank managers.
- **Advanced remote management.** With the Intel vPro platform, the SECOM technical team can to perform instant remote, first-level support, even if there is an NVR operating system crash or a hard disk failure.
- **McAfee* security solution.** An embedded application from McAfee is deployed in the NVR system. Any executable application, including malware, blocked until an administrator approves continuing the application’s execution.

IMPACT

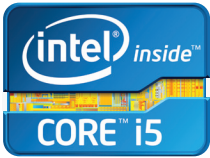
- **Better response time.** Response time to criminal activity has improved dramatically.
- **Multi-tasking productivity.** Information pertaining to customer queuing times when doing a transaction can be analyzed, thus aiding in the improvement of ATM layout and efficiency.

TRIUMVIRATE TECH

Gamma Solution Sdn. Bhd. and SECOM (M) Sdn. Bhd. worked with Intel to develop a new solution addressing challenges in ATM surveillance and security. The goal was to build a system that helps protect the Malaysian public and their savings from ATM crimes. Chosen by an international bank as market-leading technology, this new solution has been deployed in 42 branches and two offsite ATM service points.

SYSTEM FUNCTIONS

The ATM machine is protected with magnetic and seismic sensors. If anyone tries to remove the machine or force open the ATM safe, the alarm is activated and the 24/7 content management system (CMS) center receives the signal. At the same time, it will also activate the live, 24/7 CCTV monitoring center, which runs parallel to the alarmed CMS center. When someone attempts to tamper with or remove the



The power of centralized digital surveillance system

ATM machine, controllers can view the activity at the remote site and take appropriate action such as alerting the police, the bank staff, or the emergency response team and activating internal and external sirens and strobe lights and the lock to trap the perpetrator inside the ATM lobby. The controller can also make an emergency announcement over the microphone at the control center and broadcast to the speaker in the ATM lobby—warning criminals to leave the scene and notifying them that the police are on their way.

To ease the workload for controllers during the graveyard hours (midnight to 7 a.m.), the CCTV camera is programmed to motion mode using an infrared motion detector. Whenever someone enters the ATM lobby, the picture pops up on the monitor screen and the controllers are alerted. Otherwise, the camera is in sleep mode. The ATM lobby is equipped with a panic button customers can activate during an attempted or actual robbery or other emergency events. The CMS operator then generates a detailed alarm report at the vital sign monitor (VSM), complete with event logs. By providing real-time information to bank managers, the system allows the bank to take quick action and improve service for customers.

All CCTV surveillance is monitored by SECOM personnel in SECOM offices. To maximize protection, one person can manage the security of six cameras during daylight and 12 cameras at night, when there is less activity. CMS centers also perform routine remote system inspection on all network video recorders (NVR) stored at individual branches nationwide, reducing manpower costs. SECOM protects data stored by separating the server room, where each bank has its own server support, and having the digital video recorder (DVR) stored on-site. Data storage of video files containing incident records is backed up to the control center, located in CMS.

It is important to ensure the security system is running continuously. If the system is down, it does not provide any protection, regardless of how advanced it may be. A crucial concern for implementing a broad system nationwide is how to perform system maintenance and diagnostics remotely and effectively minimize system downtime. Intel AMT was implemented in the

nationwide NVR system to address this concern. Intel AMT enables a centralized management console to remotely manage the distributed NVR system via wireless networks, even if the operating system is down. Technicians can diagnose and troubleshoot both software and hardware problems remotely using the console, without waiting for a technician to visit the site and having the digital video recorder (DVR) stored on-site. Data storage of videos files containing records of incidents is backed up to the control center, located in CMS.

RESOURCES REQUIRED

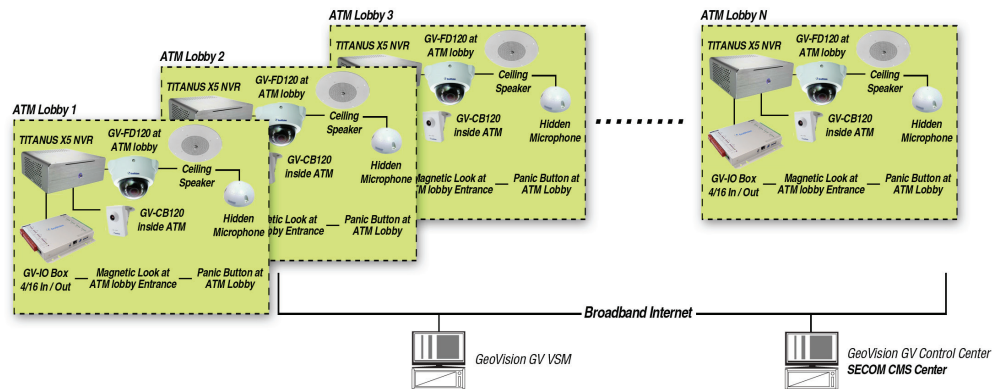
This system includes a wide range of state-of-the-art equipment for the safety of both customers and the bank itself. A GeoVision 1.3MP IR Dome* IP camera (GV-FD120*) was installed in each ATM lobby to monitor overall activities. Another GeoVision 1.3 MP Compact Cube IP* camera (GV-CB120*) is inside each ATM, enabled with face recognition for each ATM user. A speaker and microphone connect to the IP camera in the ATM lobby. The lobby is also equipped with a panic button for further notification during an incident. A TITANUS X5 Mini NVR system, powered by Intel Core i5 vPro processors, Intel ISF, and TITANUS i-Doctor) is installed for remote console management through Intel AMT. TITANUS i-Shield* handles malware infection prevention (using McAfee Application Control*). All of these technologies are preloaded onto GeoVision surveillance systems, which can support up to 16 channels on the megapixel IP camera. To manage different kinds of security incidents a

LESSONS LEARNED

By the end of the project, results showed that the response time was now considerably faster (only 15 to 20 minutes), information on current incidents in the ATM lobbies could be relayed back to bank managers at real-time speeds, and surveillance of ATM locations was effectively managed, with one employee for every six ATM lobbies in daylight and one to 12 after hours. Other lessons learned, focused on the length of customer waiting times and queues, was recorded with surveillance cameras, helping the bank improve ATM layout and efficiency. The information gathered helped inform and shape future surveillance systems for the banking sector. When it comes to system maintenance, the timeline to provide first-level diagnosis to the NVR has been significantly reduced since the system administrator can now remotely access the system for troubleshooting. The service level is consistent regardless of the location, saving travel time and costs.

centralized monitoring system has been put in place within SECOM and monitored by SECOM personnel.

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Additional equipment such as CCTV, microphone, or alarm system supplied by SECOM may be required.

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