Case Study

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Corporation of Hamilton
Harbourfront Surveillance Upgrade Project

Client Profile

The Corporation of Hamilton, founded in 1793, is responsible for the administration and maintenance of the City of Hamilton. Hamilton is the capital of Bermuda and the only city on the island. Within the city limits resides the financial and retail hub of the island, where the majority of the people of Bermuda are employed. The Corporation of Hamilton employs more than 100 staff to oversee infrastructure, development, property, byelaws, zoning, finance, and governance of the City of Hamilton.

Solution Provider Profile

Incorporated in 2000, Computer City is a local IT provider, and the first company in Bermuda to offer IP-based network video surveillance solutions. This offering grew organically from an internal need for a reliable surveillance solution to monitor customer service areas. Clients visiting the store were immediately intrigued by these cameras that ran on Ethernet computer networks and recorded to standard computer systems. Computer City started designing and implementing surveillance solutions for a few corporate clients, and a few years later, dozens of clients spanning commercial, residential, and government. While other companies have recently started offering IP video cameras, Computer City is the leading IP surveillance provider in Bermuda. Their knowledge, training and experience to consult, design, implement and support the largest surveillance projects surpasses their competitors. Computer City has implemented solutions, including many in high-security areas, using a mix of wired and wireless technologies, and recently ventured into leading-edge license plate and facial recognition analytics.

Previous Design

The Harbourfront surveillance system is comprised of twelve outdoor cameras, from Albuoys Point to the container docks. The existing cameras were in various states of disrepair, including many nonfunctional units. In addition, all these cameras were older analog units, limited in resolution and functionality, as well as requiring proprietary analog control and recording equipment, and overall barely functioning at the time Computer City was brought in. All the cameras terminated in the security office, restricting viewable access to a single small display in the corner of one room.

Many of the cameras had not been installed properly or were not facing the targeted areas. Some were non-functional due to cabling and electrical faults, others from a lack of basic maintenance. It appeared that none of the cameras had ever been cleaned, so the residue on the outside and condensation on the inside ensured that the images were blurry on the few functioning cameras to the point of being nearly useless.

Approach

Following the release of the Corporation of Hamilton’s RFP document, Computer City’s Sales and Technical experts performed a full survey of the property, the existing cameras and the cabling infrastructure. Computer City’s team determined the scope and goals of the upgrade project after meeting with Port Operations and City Engineering directors. Computer City’s Milestone surveillance solution, presented in a multiphase proposal, outlined a scalable approach. This would allow integrating the still-functional existing cameras into the solution until such time that further funds were available to replace cameras and cabling with an IP-based network solution.

Primary Phase

A secure locking Belkin rack enclosure was installed to house a Dell PowerEdge R410 as the image processing server and a Dell PowerVault MD1000 as the storage array for image recording. Included in the rack enclosure were a Netgear 24 Port POE switch, an APC 2200va UPS, an Axis 12 Port Video Encoder, plus cable and power management modules by Belkin. Milestone Systems ‘XProtect Enterprise’ platform is the software that runs on the server and makes this open-standard IP-based network solution possible.

Since Computer City is a Certified Dell Partner, their hardware was selected for the level of factory customization available for these enterprise-quality systems. Using Dell equipment enables power, functionality and hardware redundancy options that are not available with traditional video equipment. Belkin, Netgear, and APC are all leading IT hardware manufacturers as well, whose products Computer City has sold and supported for many years.

A video encoder by Axis, a long-standing partner in surveillance projects with Computer City, and not coincidently, the leading IP-camera manufacturer, was utilized. This encoder allows integration, viewing and control of all the existing analog cameras through the new IP-based Milestone network video platform. The encoder replaced the restricted and proprietary control and recording equipment with open-standard IT hardware, run through a standard IP-network, capable of providing higher-quality video, audio, control and power, as well as flexible, secure remote access capabilities.

Computer City is the Milestone Systems Advanced Certified Partner for Bermuda. Milestone Systems is a powerful industry-leading surveillance software platform, enabling integration of almost every significant camera manufacturer and all IT hardware manufacturers allowing for unprecedented choice of equipment. The Milestone software also provides integration options for alarm systems, gate systems, mobile devices, and analytics components, such as facial and license plate recognition.

Working with the Corporation’s IT support team, secure remote connectivity is now available through their internal network and accessible via the internet, through a secured Milestone portal hosted on the Corporation’s domain. As a result, access can now be easily extended to trusted government partners such as the Bermuda Police Service, Bermuda Customs and Maritime Operations for emergency response, collaborative efforts and intelligence sharing.

Secondary Phase

The secondary phase scheduled to begin in 2011 will involve replacing the existing analog cameras with new IP cameras and installing additional cameras to enhance coverage of the area. By using Ethernet/Coax Extenders, existing buried coaxial lines will be used to extend CAT6 cabling removing the need for a mid-point relay or expensive re-trenching with Fibre. For the remote camera locations high-bandwidth wireless links will be installed for connectivity. These new cameras will be powered directly through POE switches, which are in turn powered from remote UPS battery backup units. Maintenance and support contracts will also be included to ensure protection for the investment, improving longevity, increasing security, and guaranteeing that the system is always online and operational.

Timeline

With the versatility of the Milestone surveillance platform, Computer City selected high-quality, readily available equipment supported in Bermuda. Using reliable overseas partners and local contractors ensured that we were able to create an extremely detailed, specific proposal to meet and exceed the Corporation's requirements. Computer City delivered all equipment on schedule and completed the initial phase before March 31st, 2011, having the system fully operational prior to the first cruise ship of the 2011 season.

Return on Investment

Using standard IT hardware instead of proprietary devices provides a higher ROI since IT hardware is more commoditized and less costly to purchase, customize, upgrade and maintain than proprietary video equipment.

The open-standard nature of this solution provides further ROI by ensuring that a solution can be scaled easily and cost-effectively over time using a variety of hardware manufacturers.

Time is saved by more effectively monitoring the area, preventing incidents, and responding quickly to accidents. Further time is saved by quick and easy exporting of images, video clips, even entire multi-camera encrypted video databases for evidentiary requirements.

Milestone's compatibility with Microsoft provides effortless, secure access to internal users through their existing network credentials. When an authorized user logs into their workstation, they are also authorized to log into Milestone, and this saves time setting up access for current and future users.

With this surveillance system in place, the Corporation can effectively achieve a higher level of security, and increase the effectiveness of each patrol, while reducing the number of patrol staff required at any given time. The solution can immediately pay for itself with the savings incurred with less staff. Savings on support have been monumental since internal admin staff can easily be trained to use and customize the software, and internal technical staff could provide support to the equipment if desired. As relayed by our client, "reliable security is priceless".