

SURVEILLANCE TAILORED TO BURLINGTON'S NEEDS

American Integration Security Group (AISG) suits up to outfit one of the nation's most prolific apparel retailers — Burlington Coat Factory — with a uniform IP-based video surveillance solution. Involving several hundred stores and 360° cameras, the project demonstrates how to satisfy retail clients on a national level.

By Scott Goldfine

Retail has long been one of the top markets for installing security contractors, and the introduction of more sophisticated, innovative and integrated solutions is facilitating the capacity to achieve greater growth than ever before. Networked video surveillance, electronic tagging, point-of-sale (POS) systems and much more are becoming standard for new retail establishments and essential in upgrading existing locations, as well as retailers' distribution and warehouse facilities.

Today's retail systems serve multiple purposes: security, safety for staff and customers, loss prevention, internal shrink reduction, liability protection and overall operational efficiencies. Becoming a national chain's preferred provider is a particularly appealing prospect for most integrators. These points are exemplified in a current project revolving around one of the best-known clothing retailers — Burlington Coat Factory (BCF).

"The decision to upgrade CCTV capabilities is one of several significant measures the company has employed to address shortage issues in stores and provide a platform for additional use focused on marketing, operations and safety," says Burlington Coat Factory Senior Vice President, Asset Protection, James Connolly. "The company also upgraded its electronic article surveillance systems and expanded in-store burglar alarm coverage."

New Jersey-headquartered Burlington Coat Factory is one of the largest apparel retailers operating in the United States

and Puerto Rico with more than 500 stores. Founded in 1972 and owned by Bain Capital since 2006, the company's almost \$4 billion in sales placed it among the National Retail Federation's top 100 retailers list.

As Burlington Coat Factory continues to evolve its business and open new stores, management wanted to ensure it had the latest security solutions in place that were not only reliable but also scalable without the need to tinker much with existing infrastructure. To achieve these objectives, the firm enlisted retailing solutions specialist American Integrated Security Group (AISG) of College Point, N.Y.

"Every retailer has some kind of analog system that still works. The biggest challenge is to save as much as possible





Burlington

from the existing system and investments while upgrading to an IP platform," says AISG President and CTO Levy Acs. "We design modular systems so when the retailer is ready to move to a completely IP system, the infrastructure is in place and the head-end recorder can switch automatically without hardware change or licensing fees."

The BCF project's finer details, challenges, benefits and results are covered among highlights that include transitioning from analog to IP, deploying a mix of fixed and 360° cam-

as in critical areas, and a video management system (VMS) equipped with dewarping software.

AISG BECOMES PROVIDER OF CHOICE

BURLINGTON COAT FACTORY was looking to replace and standardize what had become a mixed bag of analog security equipment from several manufacturers that had accumulated from the mid-1990s up through 2011. Although the existing devices were relatively inexpensive, they were unreliable and subject to frequent downtime. It did not help matters that the installations had been performed by multiple low-end security dealers with substandard support service.

"Our company's growth required expansion of remote viewing capabilities and AISG's solution provided the most cost-effective hardware and software to achieve this goal," says Connolly. "We also wanted to install remote viewing stations at the public entrances to the store to present a professional image of security and technology to customers as they shopped. Traditional CCTV applications in retail stores have



The new video systems had to be installed during nighttime hours so as not to interfere with daily store operations. A compressed time-frame required installation at 159 locations during five months across the entire company footprint, Puerto Rico to Alaska and inbetween.



A wireless interface enables remote viewing at stations located at store entrances, and at offsite locations remotely by regional and corporate loss prevention teams. Modularity makes it easy to relocate and expand the system to adapt to the changing retail landscape. The systems are monitored both remotely by Burlington Coat Factory's regional and corporate loss prevention teams and onsite by in-store staffs.

the head-end located off of the selling floor and not visible to employees or customers."

Founded in 2007 and now with additional regional offices in New Jersey, California and Florida, AISG has provided commercial video surveillance and access control systems to more than customers. The firm also monitors commercial accounts through its own video/alarm central station that includes video analytics monitoring and perimeter detection.

Already a preexisting provider, AISG became BCF's exclusive installing integrator after scoring highest among competing companies during a 2011 survey process. Shortly thereafter, a pilot program based on an IP-based NVR solution was conducted in two stores, with changes derived from BCF's suggestions and requests.

"We began working with Burlington Coat Factory when they were relying on an analog system consisting of Honeywell DVRs tied to analog p/t/z cameras and fixed minidomes," says AISG Director of Technical Services Arnold Koble. "The analog systems were bulky and required a lot of wiring. Additionally, the security room was overflowing with equipment. Every cash wrap had anywhere from four to eight cameras with coax cables over the ceiling. We wanted to help them streamline their surveillance network with a clean and greener technology, IP-based surveillance."

The end user was won over by a convincing combination of high quality and attractive price point. AISG was awarded the project in May 2012 and got it under way a month later.

TIME AND PLACE POSE CHALLENGES

BEGINNING IN JUNE 2012, AISG was tasked with installing the surveillance solutions in 159 stores across the U.S. and Puerto Rico within a five-month timeframe. System cost varied from \$45,000-\$55,000 depending on store size (average is 80,000 square feet) and the equipment required.

The integrator assembled a comprehensive team of field technicians, some of whom had to be away from home for



up to three weeks at a time, and organized the work based on geographical locations. All the activity was performed at nighttime so as not to disturb daily business operations, with five evenings allotted per store.

"The most difficult aspect of the project was completing installations in 160 locations in five months across the entire company footprint, including Puerto Rico and Alaska," says Connolly. "Work was completed primarily overnight and required coordination with third-party electrical contractors [120VAC outlets for IDF racks and head-end]. BCF loss prevention employees oversaw the equipment installations to ensure quality control and final signoff."

Turning the work routine upside-down for technicians who were accustomed to toiling during typical business hours was challenging enough for AISG, but it also created additional logistics hurdles. For example, what would ordinarily be a simple thing, such as quickly running out to buy a part unexpectedly needed to complete the job, was not an option since stores like Home Depot were all closed in the middle of the night.

Meanwhile, the integrator also couldn't remove any of the old analog equipment until the IP system was completely functional and viewable. And special care had to be exercised in removing the existing devices as BCF planned to use some items at other locations.

Another key element was that AISG had to work closely with the end user's IT department to integrate the systems into the corporate network, although each store's system does operate on its own separate server. The integrator was given stores' IP addresses and virtual private network (VPN) login information for ongoing remote management, support and maintenance.

"On an IP installation such as this, communication with the IT department is critical. We can't build a strong system without their buy-in," says AISG Service Manager Steve Partent. "Constant communication with us is a priority and once

the system is installed, the loss prevention and IT departments have to continue to have close cooperation to get the most out of the system."

SYSTEMS OFFER DEWARPED 360° VIEWS

AISG PROPOSED the use of Vivotek 360° cameras to replace the four to eight analog cameras that had been deployed to cover each cash register. In addition to being much more efficient, the cameras were also more customer-friendly and aesthetically pleasing, and required a lot less wire and labor.

The Wavestore VMS dewarps the 360° images to create the equivalent of up to eight camera views that can be individually recorded, reviewed and copied as separate feeds. The Linux-based VMS allows throttling, monitoring and logging bandwidth usage for each store. It is robust yet features a simple user interface that enables the end user to create clips from one interface.

The integrator deployed anywhere from 15 to 25 of the Vivotek 360° cameras combined with five to 10 Axis Communications IP fixed mini-dome cameras for each store. IP cameras were installed in each location's computer room to help BCF IT personnel monitor and support their networking equipment on all the sites. Most of the cameras were lowered from ceilings with 10- to 15-foot brackets.

The project was based on Category-6 cabling and included the deployment of power over Ethernet (PoE) switches in racks distributed in each store and used for the installation of the IP cameras. The head-ends are situated within wall-mounted lockable racks.

"BCF needed to get as much coverage as possible with as low an amount of cameras as possible," says Acs. "Another key element of the design was modularity. The option of relocating and expanding the system was a key requirement from the customer due to the constantly changing landscape in a retail store. This was only achievable by implementation of a flexible IP-based camera system."

Other highlights of the standardized store systems include:

- Wide dynamic range (WDR) dome cameras identify those entering and existing storefronts
- 360° cameras at register areas placed no higher than 10 feet from floor for best image quality
- All visible cameras installed at same height to maintain pleasing aesthetics



A single 360° camera enables Burlington Coat Factory to save on infrastructure and security personnel, since it reduces the number of cameras required for a typical surveillance installation. The average deployment includes 15-25 of such cameras, each capable of being processed through dewarping software to produce the equivalent of up to eight camera views.

- Each store has two viewing stations: by front entrance and another in IT room
- Public view monitor mounted at entrance to dressing rooms
- 360° cameras in aisles mounted slightly higher height than register cameras to provide better overview
- Some stores have additional 360° cameras to monitor the parking lot, delivering area or rear employee entrance

Features and capabilities cited as being especially valued and useful to the end user include:

- Low profile, unobtrusive mounting design and style of the 360° cameras
- Digital record retained for up to 45 days at 15 frames per second

- User-friendly remote viewing software requires minimal training
- Wireless interface at store entrances allows moving viewing stations with no downtime
- NVR and software allow for setting alarm features and easy review via search feature
- No moving parts compared to traditional p/t/z technology reduces maintenance issues to software as opposed to mechanical
- Solution allows for planned integration with traffic-counting software and POS exception reporting system

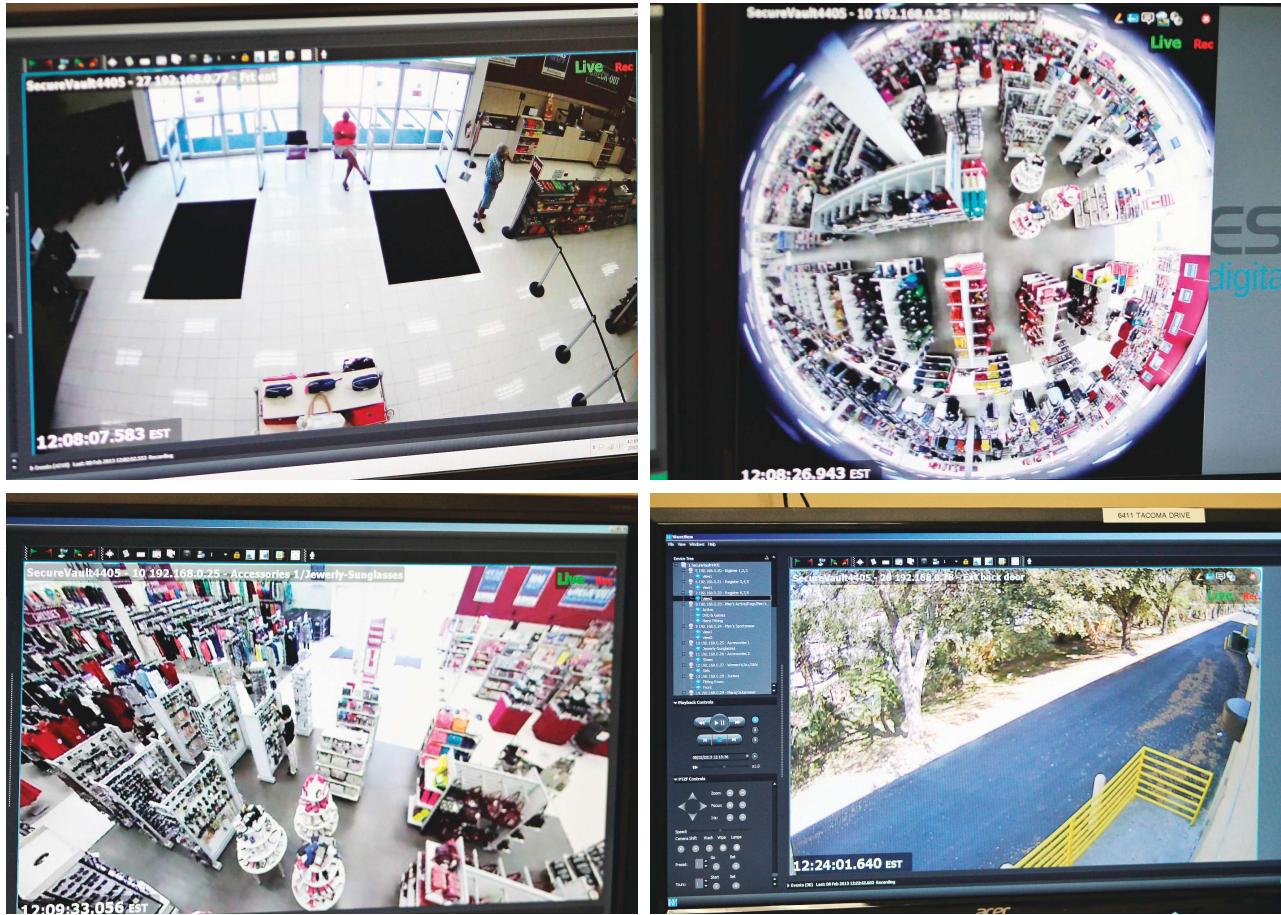
FAST FACTS



- Monroe Milstein opened first Burlington Coat Factory store in 1972 in Burlington N.J.
- In 1997, company purchased by Bain Capital
- Burlington continues to expand its base, opening 25 stores in 2012
- Burlington presently operates 500 stores in 44 states and Puerto Rico
- Typical Burlington Coat Factory store is 80,000 square feet
- In 2011, Burlington posted almost \$4 billion in sales to land at No. 83 on the National Retail Federation's top 100 retailers list

ROI RESULTS REGISTER FOR RETAILER

THE SYSTEMS ARE MONITORED both remotely by Burlington Coat Factory's regional and corporate loss prevention teams and onsite by in-store staffs. Store operations and design teams also have remote viewing access to assess general retail operational and managerial efficiencies and efficacies. This illustrates the return on investment (ROI) proposition by allowing the



A wide dynamic range (WDR) dome camera provides complete coverage at the entrance to each store. Select stores also have 360° cameras outside the main entrance or at the corner of the building to monitor the parking lot. In addition, cameras are installed at the back of the building to cover the dock or employee entrance. The plan for 2013 includes rolling the solution out at 150 more stores.

end customer to directly associate surveillance systems with both reducing costs and increasing revenues.

"The shrink, liability and security are always significant factors in retail," says Acs. "BCF is leveraging its system to mitigate those issues, but besides being a loss-prevention tool the system is also used by the merchandising group. This allows district managers to see in very high detail to make sure the newly installed store banners are correct and the shelf layout is in order."

The solution has already received an enthusiastic reaction from BCF corporate executives and individual stores' field managers. The surveillance systems are decreasing the incidence of bad elements entering stores and in some cases have reduced shrink by as much as 90%. And the new technology is being credited for eliminating concerns about capturing images suitable to help prosecute perpetrators.

"The systems are exceeding our expectations while improving productivity and efficiencies of our loss prevention efforts," says Connolly. "In addition, video records have

proven helpful in managing company exposure from liability associated with accidents that occur on property. Plus, law enforcement has used the technology to assist in the prosecution of criminal activity in stores and surrounding public areas covered by outside camera placements."

AISG is presently busy rolling out the second phase of the Burlington Coat Factory store system installations, with 150 planned for 2013. At this point, the integrator has gotten each deployment down to a science and is zipping in and out of retail branches with precision of a well-oiled machine. While to date the systems are only being rolled out in the retail stores, plans are under way to also deploy IP equipment in BCF's three main distribution centers and a newly announced corporate headquarters in Florence N.J.

"We were able to successfully meet the project timetable and technology requirements within budget," says Acs. "Whenever you can deliver value to the customer and help them be more efficient in terms of security and overall business, you've achieved a significant milestone. Our partnership with Burlington Coat Factory is a long-term one and we look forward to working with them to meet future technology and service needs." ■

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