NEWS MARCH NETWORKS

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Introducing GURU 2.0 /23

World's first self-contained, HDR camera for ATMs /26

Taking a Proactive Approach to Cybersecurity

Welcome to the latest edition of *March Networks News*. We are pleased to bring you another information packed edition of real-world use cases from a diverse set of customers and updated product information.

From the retail perspective, you will read about how Rack Room Shoes and Tommy Bahama, two well-known national brands, are taking advantage of the backwards compatibility and scalability of March Networks 8000 Series Hybrid NVRs to upgrade from the legacy 4000 C Series and extend their footprint. Rack Room Shoes has always been proactive with their loss prevention strategy and has been a long time customer of March Networks. Now in the midst of a refresh cycle, Rack Room Shoes fully understands the benefit of the March Networks architecture, which allows customers to mix and match legacy with new systems and seamlessly upgrade without service interruption. Tommy Bahama, a globally recognized clothing and restaurant brand, has combined the power of the 8000 Series recorders, March Networks IP cameras and Searchlight for Retail software to gain an upper hand on shrink and fraud.

On the banking side, the featured customer story is from Mike Neugebauer and his team at Fifth Third Bank. Fifth Third has also been a long time user of March Networks across all of its more than 1,800 locations and fully utilizes our central management capabilities to monitor and control their entire network of cameras and NVRs from their state-of-the-art monitoring center in Cincinnati, Ohio.

Sticking with the banking theme, we are also pleased to introduce our new, highly specialized ATM camera. The MegaPX ATM camera is a result of several years of market research which included banks, credit unions, ATM manufacturers and integrators who all understand the growing threats of ATM fraud. When combined with the Searchlight for Banking business intelligence platform, our full line of analog and IP cameras and the 8000 Series Hybrid NVR, we can now truly claim to have the industry's most complete end-to-end video solution for financial institutions.

As a trusted partner of many of the world's leading global companies, we take great pride in the fact that we listen to our customers and take a practical and cost effective approach to solving real world problems. In this edition, Dan Cremins, Global Head of Product Management, explores the advantages and limitations of leveraging the cloud for video storage and management. While "Cloud" is the big buzz in the technology sector, there are inherent limitations and costs to consider before deploying a full cloud solution. Staying with the cloud theme, we also feature a story on how the Kenosha Unified School District is successfully leveraging March Networks Cloud with the 8000 Series platform across 43 buildings to provide rapid video access and improve overall responsiveness.

Another source of pride for March Networks is in the area of cybersecurity. Most chief information officers today identify data security and cyber attacks as their number one concern when discussing corporate security. It is no wonder, as not a day goes by when we don't read about another massive data breach, whether it is a large retailer who has had credit cards stolen, a major bank which has lost millions in bank card fraud or a government agency that has had a classified information breach. The cost of these attacks totals billions of dollars annually and is on the rise. Government regulations and standards are beginning to focus on this issue and are dramatically driving up compliance and infrastructure costs.

At March Networks, data security has always been at the forefront of product development. Many of our global banking customers who perform penetration testing on our products as part of their selection process can attest to the security of the NVRs and our adoption of IT standards when it comes to protecting customer data.

In recent months, we have taken our cybersecurity initiatives beyond just the products and have proactively established a Security Vulnerabilities Task Force. This team is responsible for quickly assessing the latest security threats as they are exposed and proactively working with R&D and our customers to understand the exposure. To date, the team has held several webcasts for our partners and has completed over 40 consultations. So far, the feedback has been very positive and we plan to continue to expand our services in this area. I look forward to sharing more information on our efforts in the next edition.

Once again, welcome to this edition of *March Networks News* and I hope you enjoy reading it as much as we did putting it together.

Peter Strom
President
and CEO,
March Networks

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Winning Formula: Great Service, Superior Quality

Shoe Retailer Relies on March Networks Video Surveillance Technology

Great service with a personal touch and superior quality is a winning formula in any business. It's also the main reason Rack Room Shoes relies on March Networks video surveillance systems to fight fraud and shrinkage at its more than 475 stores across the United States.

Regular visits from March Networks keep the retailer's Loss Prevention Director Johnny Turner up to date on the latest technology, and technical support staff are just a phone call away.

Rack Room Shoes, based in Charlotte, North Carolina, selected March Networks as its video surveillance partner in 2006.

"March Networks has an abundance of preferred features which were not offered by our previous vendor," recalled Turner. "Specifically, March Networks systems were IP ready. IP cameras are a big investment; however we felt the technology was needed in our stores. Having hybrid recorders that handled both analog and IP cameras made March Networks extremely attractive."

Another feature that won over Rack Room Shoes is March Networks' motion histogram, which highlights activity in the software interface to help investigators zero in quickly on video evidence.

"The motion histogram is a nice option when you're trying to go back and review video," said Rack Room Shoes Senior Investigator Mark Seaford. "It reduces the amount of time it takes to research an incident."

Rack Room Shoes' loss prevention staff uses their video surveillance system to follow up on suspicious transactions highlighted by their exception-based reporting software.

Seaford and his staff are able to review reports of voids and no-sales, and immediately click through to the associated video.

Rack Room Shoes operates more than 475 stores in 34 states — from Florida to California — under the Rack Room Shoes and Off Broadway Shoe Warehouse banners. The stores are located in both strip and indoor malls, as well as in standalone locations. The average Rack Room Shoes location is 6,000 square feet in size and is equipped with a single recorder and eight cameras, while the larger Off Broadway Shoe Warehouse locations average 20,000 square feet and have 16 cameras. ▶

> "Having hybrid recorders that handle both analog and IP cameras made March Networks extremely attractive."
>
> — **Johnny Turner,**
> Director of Loss Prevention,
> Rack Room Shoes

The company acquired its first March Networks recorders in 2006-2007, and began transitioning to newer and more advanced 8000 Series Hybrid NVRs and IP cameras in early 2013.

"It has been a gradual migration," said Seaford. "Everything we're doing on a go-forward basis is IP; we're only replacing the existing analog cameras as they fail, or as we remodel or open new stores."

Seaford, who uses the system daily, gives March Networks high marks for ease of use, reliability, video quality and backward compatibility.

"The March Networks video surveillance systems are easy to use and very robust," said Seaford. "We've had very few recorders fail over the years and video quality is superb. Backward compatibility and hybrid capability are very important to us because they have allowed us to migrate to newer 8000 Series recorders and from analog to IP without having to incur the expense of replacing all of our legacy equipment at the same time."

Three years into the transition, approximately 100 of Rack Room Shoes' 475 stores are equipped with March Networks-compatible Axis IP cameras.

Rack Room Shoes takes full advantage of the enhanced storage capacity of the 8000 Series NVRs.

"Once you incur the cost of the NVR, storage is a minimal investment," said Turner. "We went with 12 TB (four 3 TB drives) when 12 was the maximum, and now with 4 TB drives available, we'll be maxing out at 16 TB. You can never have too much storage."

Access to video is restricted to corporate headquarters in Charlotte, NC.

"In the past, part of our business model was to permit some of our stores to have video access," stated Turner. "However, we now prefer to have our employees on the sales floor serving customers." "My philosophy is: if you do something every day, you can do it faster, quicker and better than if you just do it once in a while, so we run all of our investigations out of Charlotte."

Help desk personnel also have access to video from the stores to troubleshoot point-of-sale (POS) and data communication problems. Using the camera view at the POS station while talking to a cashier on the phone, they're able to troubleshoot an issue and make sure all of the cables are properly connected.

"It cuts down on the time it takes to diagnose a problem and get our POS system up and running again," said Seaford.

Rack Room Shoes originally acquired video surveillance to help reduce losses from POS fraud and deter shoplifters, but it has also come in handy for investigating liability and worker compensation claims.

"Shortly after acquiring our March Networks video surveillance solution, a claim was filed that was readily disproved based on the video of the incident," recalled Turner. "We also saw a tremendous drop in shrinkage when we started using the March Networks system. In an open-stock store shrinkage can be an issue, so cameras are a huge deterrent."

Overseeing loss prevention for a nationwide chain of stores is a big job, but with the right technology, and the experience of seasoned professionals like Johnny Turner and Mark Seaford, it's a walk in the park. ▼

> "We also saw a tremendous drop in shrinkage when we started using the March Networks system."
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> **— Mark Seaford,**
> Senior Investigator,
> Rack Room Shoes

Johnny Turner,
Director of Loss Prevention,
Rack Room Shoes

Mark Seaford,
Senior Investigator,
Rack Room Shoes

Fifth Third Goes Cutting Edge

Major Upgrade Includes 12,000 March Networks Cameras and 1,600 Hybrid NVRs

Fifth Third Bancorp, one of the top 15 banks in the U.S., is well on its way toward completing a major upgrade of its March Networks video surveillance system. A customer since 2004, Fifth Third has deployed 12,000 March Networks cameras and approximately 1,400 March Networks 8000 Series Hybrid NVRs over a period of 36 months.

"By the end of 2016, we'll have a total of 1,600 new 8000 Series recorders," said Mike Neugebauer, Fifth Third's Vice-President and Director of Corporate Security, who oversees security for 1,300 full-service retail branches, as well as data centers, corporate offices and cash handling facilities across 12 states.

The combination of March Networks MegaPX WDR MiniDome Z IP cameras, Analog WDR Indoor Domes and the 8000 Series Hybrid NVRs with advanced video compression allows Fifth Third to provide law enforcement authorities with high-quality video for the identification and apprehension of suspects.

"Bank robberies and break-ins appear to be trending higher nationally," said Neugebauer. "Much of it is a consequence of the heroin epidemic. Typically, they'll go through a window in the middle of the night to see what there is to steal.

"We constantly get compliments from law enforcement about the quality of our video. Even if the bad guys show

Mike Neugebauer, Vice-President and Director of Corporate Security, Fifth Third Bank, viewing video at the bank's central monitoring facility.

up with hoodies or masks, we can zoom in on clothing patterns and brand logos, partial facial features, tattoos or other distinguishing marks.

"Security staff in our 24-hour monitoring center can verify an alarm and tell responding law enforcement officers what we see," said Neugebauer. "Video verification is huge. It changes law enforcement's urgency to respond."

In minutes, Fifth Third security staff can email crystal clear images of a suspect to police, dramatically improving the chances of apprehension.

The March Networks MegaPX WDR MiniDome Z IP camera's wide dynamic range and progressive scan in high resolution delivers excellent image quality even in bright backlit situations, while its H.264 compression technology reduces bandwidth and storage costs. The MiniDome Z also features Power-over-Ethernet and is ONVIF-compliant, allowing it to be used with a variety of third-party video surveillance systems.

The Analog WDR Indoor Dome also features wide dynamic range, progressive scan in high resolution and low light sensitivity, making it ideal for capturing quality images in a variety of lighting conditions.

The 8000 Series Hybrid recorder is a perfect fit for Fifth Third, accommodating a mix of analog and IP cameras and offering up to 16 TB of onboard storage across four hard drive slots.

"Typically, we'll have two IP MiniDomes and 14 analog cameras per branch, but we're starting to use more exterior-mounted IP cameras in our elevated risk branches, so storage is important to us," said Neugebauer. "The other thing we like about the 8000 Series is how it gives us sharper images from our analog cameras."

The availability of the 8000 Series Hybrid NVR in 4, 8, 16 and 32-channel configurations is also a plus because it allows Fifth Third to acquire a fit-for-purpose unit for every application.

The decision to standardize on March Networks cameras frees Fifth Third from having to worry about any compatibility issues. "When we weren't buying March Networks cameras, it made management of the cameras a lot harder for us," said Neugebauer. "That was especially the case for IP megapixel cameras and managing the software patches that have to go on them. The fact that our March Networks cameras work in concert with our NVRs means we don't have to do any software loads like we had to do when we were buying another camera brand. We were managing many pieces of software instead of just one platform."

Next on the agenda for Fifth Third is a transition to March Networks Command Enterprise video management software and the acquisition of March Networks' Searchlight for Banking software.

Command Enterprise features a user-friendly, browser-based interface that provides support for up to 10,000 recorders and 128,000 video channels,

Fifth Third Bank

Fifth Third Bancorp is a diversified financial services company headquartered in Cincinnati, Ohio. The company has $117 billion in assets and operates 15 affiliates with 1,316 full-service banking centers, including 104 Bank Mart® locations open seven days a week inside select grocery stores and 2,425 ATMs in Ohio, Kentucky, Indiana, Michigan, Illinois, Florida, Tennessee, West Virginia, Pennsylvania, Missouri, Georgia and North Carolina. Fifth Third operates four main businesses: commercial banking, branch banking, consumer lending and investment advisors. Fifth Third also has a 49% interest in Vantiv, LLC, formerly Fifth Third Processing Solutions, LLC. Fifth Third is among the largest money managers in the Midwest and, as of December 31, 2011, had $282 billion in assets under care, of which it managed $24 billion for individuals, corporations and not-for-profit organizations. Investor information and press releases can be viewed at **www.53.com**. Fifth Third's common stock is traded on the NASDAQ® National Global Select Market under the symbol "FITB." Fifth Third Bank is a member of the FDIC.

while Searchlight for Banking is a suite of tools to speed fraud investigations and capture business intelligence such as tracking customer behavior.

Linking video with teller and ATM transaction data, for example, allows fraud investigators to quickly establish the identity of an individual associated with a transaction.

"On the retail side, we also hope to take advantage of Searchlight to help us make better business decisions," said Neugebauer.

Using Searchlight's queue length monitoring analytics, Fifth Third will be able to gather and compare metrics on branch traffic and speed of service. It can also be used to track self-serve kiosk usage and gather data on how long customers linger in front of marketing displays.

Concurrent with the introduction of Searchlight, Fifth Third is also planning to acquire March Networks' new MegaPX Indoor Analytics Dome camera with built-in intelligence.

"We've just done some testing and we're very pleased with it," said Neugebauer.

While security remains the primary application for video surveillance at Fifth Third, other "lines of business" are taking advantage of it.

"In the past, security directors were always hesitant to share their video surveillance system, but we share our system with our facilities and retail groups, said Neugebauer.

"They use it to see if the sidewalk has been shoveled or if the parking lot has been plowed in our northern branches. In Florida, where we've had some severe storms, they use it to see if the windows have been blown out or if we have water damage.

"Our facilities group has really embraced it. We'll put cameras in mechanical rooms, for example, so they can see the indicator light configurations on the control panels. It often saves them from making a trip to the site. If a technician gets an alarm from an HVAC system or a generator, for example, he can

diagnose the problem remotely and take the necessary steps to resolve it.

"Retail uses the system to look at compliance with opening and closing procedures. Or, they may have a teller who's great at selling and go in to look at best practices for training purposes."

Sharing their March Networks video surveillance system with other departments "makes funding easier for us," said Neugebauer.

However, underlying Fifth Third's choice of a video surveillance supplier is March Networks' track record for product durability.

Fifth Third began retiring the 4000 C Series recorders it acquired in 2004 two years ago and will only complete the transition to new 8000 Series units in 2016.

"Some of my peers in the industry are buying new recorders every three years," said Neugebauer. "Everything has a lifecycle and we feel the lifecycle for March Networks products is significantly longer than most of the other systems out there." ▼

Tommy Bahama Reduces LP Investigation Times by More Than 90 Percent

Tommy Bahama, the island-inspired clothing and home furnishing retailer based in Seattle, Washington, has selected March Networks' comprehensive retail solution to gain faster, more robust loss prevention (LP) capabilities, improve recovery and apprehension rates with higher-quality video evidence, and better safeguard customers and employees at 130 stores worldwide.

Tommy Bahama's Director of Loss Prevention and Operations, Mark Anderson, led the search for a new video surveillance solution to replace an older system that was no longer performing as needed. The winning solution had to be extremely reliable, bandwidth friendly and able to support both existing analog and new IP cameras. It also had to have centralized video management and offer advanced tools to help his team conduct video searches and LP investigations faster and more effectively.

Following a six-month evaluation done in cooperation with Tommy Bahama's IT group and leading systems integrator Diebold, the retailer selected the March Networks solution as its standard for all new locations and retrofits.

Sixty-five stores are already equipped with the technology, which includes new Searchlight for Retail software, 8000 Series Hybrid Network Video Recorders and MegaPX WDR MiniDome Z IP cameras, all managed with March Networks Command Enterprise software. An additional nine sites are expected to be up and running before the end of the year.

"The March Networks system performs extremely well in our networked environment and the quality of the images from the IP cameras is outstanding," said Anderson. "The most important factor for us, though, is the Searchlight for Retail software. What would take an hour or more to find using our old video and exception reporting systems takes me just a minute or two to access with Searchlight. We're saving literally hours a day, and the frustration factor is gone entirely."

March Networks Searchlight for Retail is video-based business intelligence software that integrates surveillance video with point-of-sale (POS) transaction data in a powerful browser-based reporting dashboard. The software enables Tommy Bahama LP staff to conduct rapid searches across all stores simultaneously by transaction type or amount, and create customized reports based on key performance metrics, such as showing all voids or cash refunds between specific dollar amounts. Staff can simply review the daily reports and click through to the associated video to see what happened in further detail. If a theft has occurred, the combined transaction data and visual evidence is easily exported and serves as compelling case evidence for use in recoveries or prosecution.

Searchlight also integrates intelligent video analytics — including people counting, queue length and dwell time — to provide retailers with valuable insights into customer behavior and service, store operations and promotional success. In combination with the software's business analytics reporting, it offers retailers the ability to analyze and compare store performance and trends at one or many locations and identify opportunities for improvement.

"With fully integrated applications like Searchlight, retail organizations get the relevant data and transformative insights they need to cut losses, improve operations and increase profitability," said Net Payne, Chief Marketing Officer, March Networks. "Our comprehensive video solutions are used by leading retail organizations like Tommy Bahama because they are highly reliable, offer exceptional enterprise-class management and deliver new capabilities that extend well beyond security." ▼

> "What would take an hour or more to find using our old video and exception reporting systems takes me just a minute or two to access with Searchlight."
>
> **— Mark Anderson,**
> Director of Loss Prevention and Operations

Safety of Water Supply Critical in Post 9/11 World

Scottsdale, Arizona Selects Bandwidth-Friendly Video Surveillance System to Monitor Remote Water Sites

When the 226,000 residents of Scottsdale, Arizona, turn on their taps, they can be confident that every effort has been made to ensure there is sufficient water, that it's of the highest quality and safe to drink.

That's saying a lot given the fact that Scottsdale receives an average of only eight inches of rainfall per year, compared with the average annual rainfall of close to 40 inches for the United States as a whole.

Ensuring an adequate, high-quality water supply for large population centers like Scottsdale and neighboring Phoenix in the arid U.S. Southwest is a mammoth undertaking. Water from the Colorado and other rivers, as well as underground aquifers, is collected, stored and conveyed through a series of dams, reservoirs and canals to municipal water treatment and pumping stations.

Water quality is assured through rigorous testing for contaminants, but in the post 9/11 world of global terrorism, the safety of the water supply is equally dependent on a comprehensive security plan incorporating access control, video surveillance and patrols by security personnel.

The City of Scottsdale Water Resources Department takes the security of its water supply seriously.

The department started with a vulnerability assessment performed in compliance with the U.S. Department of Homeland Security and Environmental Protection Agency requirements soon after 9/11, and began deploying March Networks video ▶
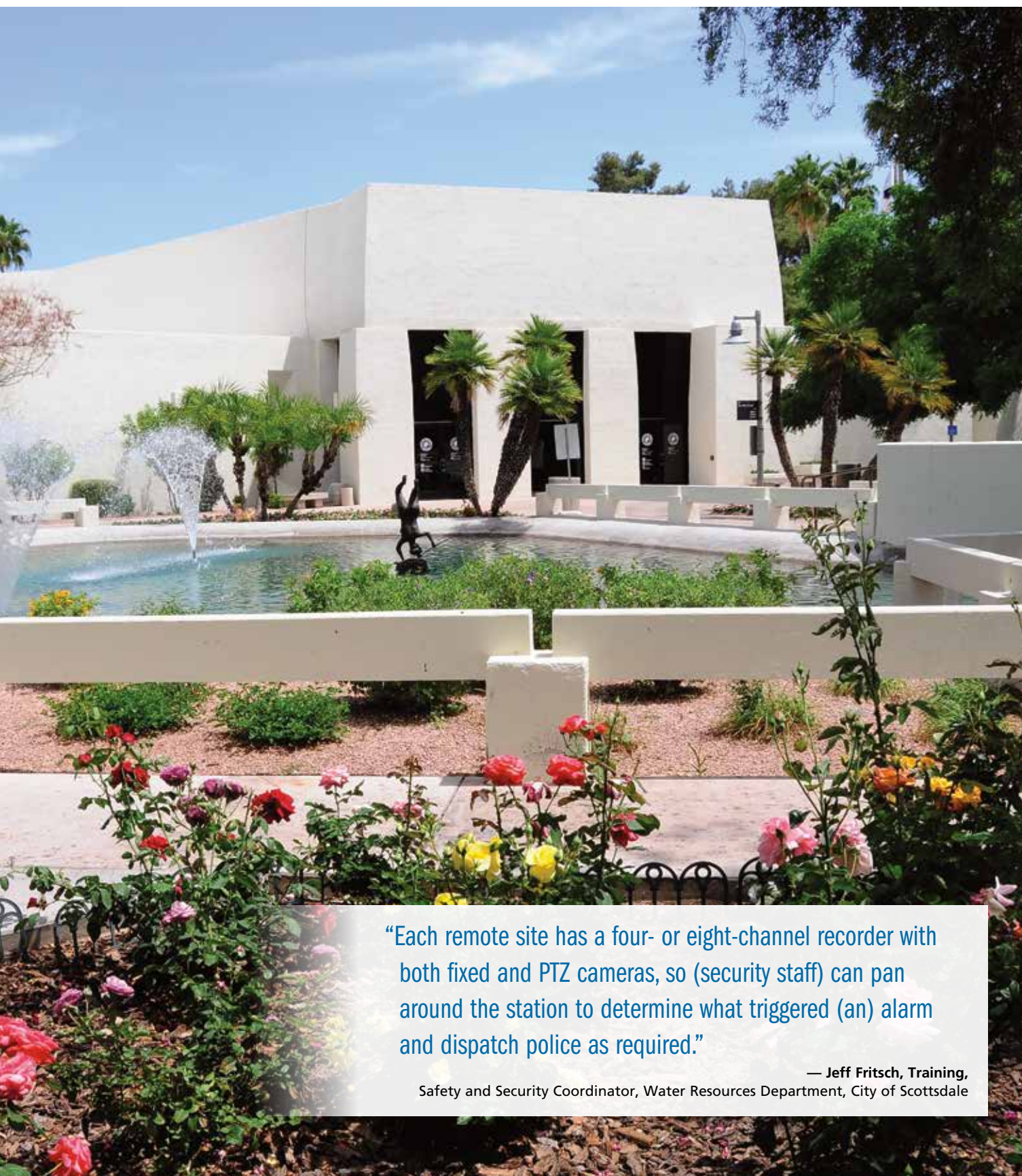
"Each remote site has a four- or eight-channel recorder with both fixed and PTZ cameras, so (security staff) can pan around the station to determine what triggered (an) alarm and dispatch police as required."

— Jeff Fritsch, Training,
Safety and Security Coordinator, Water Resources Department, City of Scottsdale

City of Scottsdale Municipal Security's 24/7 control center

surveillance systems in 2004, said Jeff Fritsch, the department's training, safety and security co-ordinator.

"We identified approximately 82 sites that needed to be protected by some type of security. That included water treatment plants, water reclamation facilities and water well sites.

"Scottsdale has a lot of levels to its landscape, so we do a lot of pumping of fresh as well as reclaimed water at pumping and sewer lift stations throughout the city," he explained. "We have access control and March Networks video recorders at most of these sites."

The main Water Resources campus and treatment center are connected via fiber to the municipal network, but a radio communication system provides wireless connectivity at the pumping and water well stations. Given the communication challenges at the remote sites, the city

required a video surveillance solution with robust performance monitoring and bandwidth-friendly video compression, said Fritsch.

Both were key requirements in the city's evaluation of video surveillance systems.

March Networks' advanced video compression gives the city the ability to transmit high quality video from its remote sites, while a health monitoring feature in the video management software alerts city staff to potential connectivity or system issues so they can be addressed before they can affect performance.

Video is monitored at Scottsdale Municipal Security's 24/7 control center, a secure facility with seven 40-inch overhead monitors displaying video from selected sites.

"If they get a motion or door contact alarm, they can pull up live video from the

site to see what's going on," said Fritsch. "Each remote site has a four- or eight-channel recorder with both fixed and PTZ cameras, so they can pan around the station to determine what triggered the alarm and dispatch police as required."

The Water Resources Department is now in the process of upgrading its video surveillance system with March Networks 8000 Series Hybrid Network Video Recorders (NVRs) and IP cameras. It's also moving to Firetide high capacity wireless technology to improve connectivity with its remote sites.

In addition, Scottsdale is using March Networks video surveillance systems at City Hall, its police and fire department administration building, the City Jail and 15 fire halls, said Lon Allen, Municipal Security Project Co-ordinator.

The Scottsdale City Jail, for example, has been equipped with a state-of-the-art,

The Scottsdale City Jail has been equipped with a state-of-the-art, server-based system with 68 IP cameras powered by March Networks Command Enterprise software.
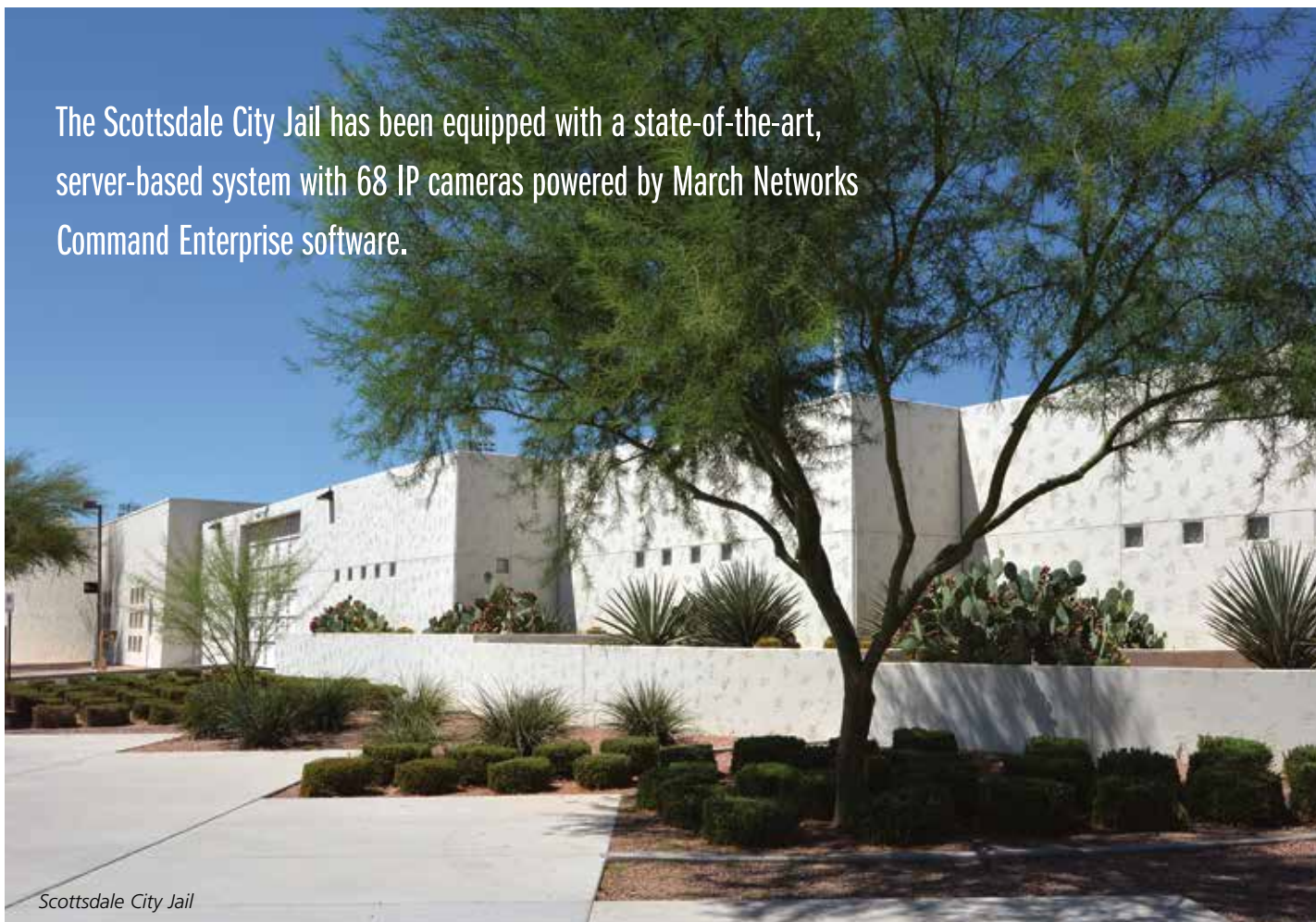
Scottsdale City Jail

server-based system with 68 IP cameras powered by March Networks Command Enterprise software. The browser-based client allows authorized jail staff to access live and archived video from any computer, eliminating the need for City IT staff to install, manage and update software on individual workstations.

Command Enterprise can be installed on commercial-off-the-shelf (COTS) servers and supports appliances running in VMware and other virtualized environments. It also allows users to access live video remotely — from any location — using their smartphone or tablet with March Networks Cloud.

The City Jail monitors its own cameras, but video from most other municipal sites is centrally monitored from Scottsdale's Municipal Security control center.

Using the March Networks software, system administrators are able to give Jeff Fritsch in Water Resources, security staff at City Hall and other municipal employees access to video from areas they oversee.

Ease of use, reliability, video quality, compression and storage are some of the key items that municipal security managers need to take into consideration when designing a video surveillance system, advises Allen.

In a world increasingly susceptible to unpredictable acts of violence and terror, a robust, state-of-the-art security system like the City of Scottsdale's is the best insurance for ensuring the safety of a city's water supply and the security of its citizens. ▼

Stanley Security

Stanley Security, a division of Stanley Black & Decker Inc., is a global leader in security monitoring, access control and video surveillance systems with offices in North and South America, Europe, Asia, the Middle East and Australia. Stanley designs, installs and maintains security systems for a wide range of customers, including schools, hospitals, governments, retailers, the financial sector and airports. It is the systems integrator for the City of Scottsdale.

www.stanleysecuritysolutions.com

Wisconsin School District Upgrades Security

Police Use March Networks Cloud to Access Video from 43 Schools and Support Buildings

School districts across the United States are taking a closer look of their security systems in the aftermath of several school shootings, including the December 14, 2012 tragedy at Sandy Hook Elementary School in Newtown, Connecticut. The Kenosha Unified School District serving 23,000 students in the City of Kenosha, Wisconsin, and nearby communities is a perfect example.

Nestled on the western shores of Lake Michigan 60 miles north of Chicago, Kenosha is a mid-sized city with a population of 100,000.

Prior to 2012, the Kenosha Unified School District (KUSD) was making do with a hodgepodge of video recorders and surveillance cameras in less than half of its 43 school and support buildings.

"We had been piecemealing it for years," observed Maintenance, Environmental and Safety Manager Kevin Christoun. "Each DVR was a standalone unit, so we had to go to the school to review video. We'd get whatever we could afford

because there was little budget. When funds were available, someone would go out and by a 16-channel DVR and pick up some inexpensive cameras. We had digital video recorders and cameras in 17 or 18 of our buildings, but they were all different."

"Often, people didn't know how to use the systems. A principal or a dean of students would pull video off a DVR and then forget to hit start. Months later, they'd complain that the system wasn't recording, so we'd go out there and discover that it hadn't been turned on. That happened all the time."

With events like the Sandy Hook disaster fresh in their minds, KUSD administrators went to the school board with a proposal to upgrade their video surveillance system.

"We told them we weren't going fast enough with technology," said Christoun. "It was really a no-brainer once we sat down and told them this is where we are and this is where we should be. A lot of people weren't even aware that we didn't have all of our buildings covered."

Today, KUSD has a state-of-the-art March Networks video surveillance solution with approximately 1,500 cameras covering all of its 43 buildings. The entire system is networked, allowing Christoun and his team to set recording parameters, manage access and review video from a central location. There are approximately one hundred 8000 Series Hybrid Network Video Recorders (NVRs) powered by March Networks Command Enterprise video management software.

Why March Networks? "Easy", said Christoun, "Among the mix of recorders we had prior to upgrading the system was a March Networks NVR. It was the one that we liked best and we used it to help guide our requirements for an RFP."

Ease of use was a key consideration.

"March Networks systems are very easy to use and navigate," said Christoun. "It's pretty much point and click. When you have police officers from three departments, principals and other administrators going into the system from time to time, it has to be intuitive. So ease of use was important. The other thing is that the March Networks system is pretty bullet proof."

Licensing fees were also an issue.

"We decided we didn't want to pay for annual licensing fees," said Christoun. "A lot of the vendors out there say 'we're really cheap.' There's a reason why they're cheap. Because depending on how many NVRs you have, you have to pay an annual licensing fee. Now they've got you. We didn't mind paying a little more up front because in the long run, you're better off." ▶

> "March Networks systems are very easy to use and navigate... When you have police officers from three departments, principals and other administrators going into the system from time to time, it has to be intuitive."
>
> **— Kevin Christoun,**
> Maintenance, Environmental and Safety Manager, Kenosha Unified School District

"March Networks doesn't charge an annual licensing fee, which was huge, especially for a school district with a fixed budget."

Parents love the system, the kids are too busy to pay any attention to it and the police are thrilled with it.

Its biggest effect to date has been as a deterrent.

"Once everyone knew we had a new surveillance system in place, the amount of vandalism dropped dramatically. From the standpoint of deterrence, it's great."

Adding immeasurably to the effectiveness of the solution is the fact that law enforcement officers with the three police departments serving the Kenosha area have secure access to all of the cameras on their laptops or tablets through the March Networks Cloud service.

"They can pull up video at the police station or from a cruiser parked in front of a school," said Christoun.

In the event of an incident in one of the schools, police officers can access the video system to locate an intruder and swiftly intervene to ensure the safety of students and staff, or stop a robbery or property damage after hours.

From his office, Christoun also has the ability to tie into a school's intercom and phone system to provide students and staff with details about an intruder's whereabouts and broadcast instructions for safely exiting the building, should that ever be necessary.

One task Christoun and his team had to tackle to help users, including police, was to develop a consistent naming protocol for the cameras.

"All of the cameras are uniformly identified, regardless of the school or building. We realized this would be important right from the beginning because without the consistent naming of cameras, there's a risk of confusion for users."

Breaking with the piecemeal approach of the past, Kenosha Unified School District also developed standards for cameras based on their location and the area they are covering.

"In the past, we bought whatever we could afford, so some of them were black and white, some of them were 320p. Now we have a standard

"(Police) can pull up video at the ... station or from a cruiser parked in front of a school."

— **Kevin Christoun,**
Maintenance, Environmental and Safety Manager,
Kenosha Unified School District

across the board for defined applications. It has made a huge difference in the quality of the video."

Christoun is able to choose from March Networks' own portfolio of high-definition cameras as well as from hundreds of March Networks-supported, third-party devices. Cameras range from analog devices in elementary school hallways, to 8 megapixel IP cameras in the 20,000 square-foot cafeteria of the district's largest high school.

KUSD purchased the system from March Networks certified provider Enterprise Systems Group of Little Chute, Wisconsin, and used in-house resources to do the installations.

March Networks was helpful with technical support.

"They were awesome," said Christoun. "The March Networks technical support guys are Johnny-on-the-spot. They were pretty good about getting us an answer or telling us when the next revision is coming out to fix a problem. We also get quarterly visits from the March Networks regional sales manager, and for the first four or five months, we had a tech out here a few times."

Christoun's advice to other school districts is "Do your research. Don't be afraid to ask vendors for trials. If a vendor really wants to sell you their system, they should give you a loaner so you can actually try it out."

"Also, talk to someone else who has the same system. The biggest thing is not what you're paying up front, but what you're paying in two or three years, and who's going to support it. Because if you don't have proper support, you have a video surveillance system you can't use." ▼

Enterprise Systems Group

Enterprise Systems Group, a March Networks certified provider, installs and services security, voice, audio-visual, cloud and data products to a broad range of businesses and organizations across the U.S. Midwest.


Kevin Christoun, Maintenance, Environmental and Safety Manager, Kenosha Unified School District, is able to keep an eye on 43 schools and support buildings from the comfort of his office.

"The video surveillance system we had before was past its prime and wasn't meeting our needs, so we sat down with our security systems integrator, Tyco, and went over all the options."

— **Frank Gutierrez,**
Facilities Manager Sirius
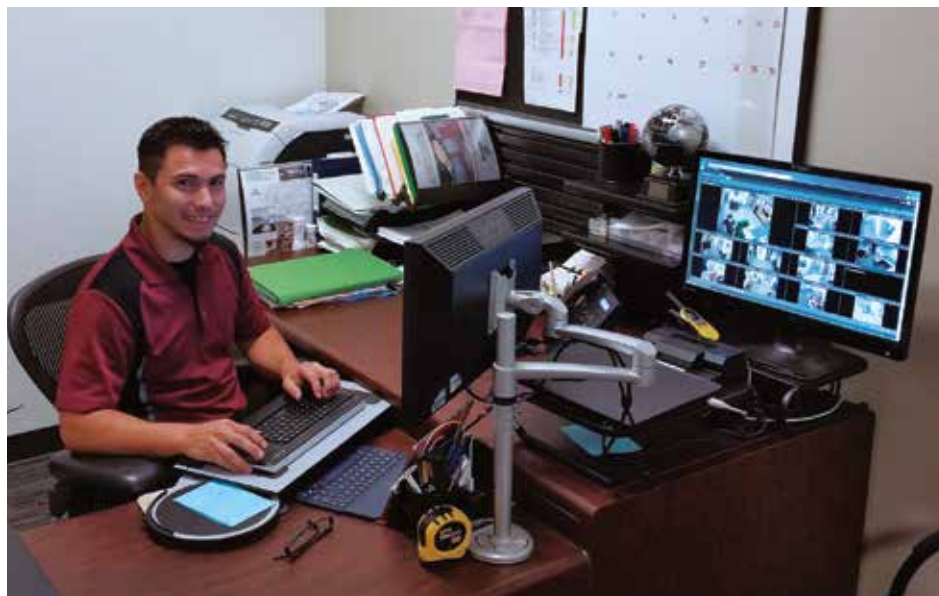
Physical Security a Priority for IT Services Company

Sirius Computer Solutions Selects March Networks Technology

When Sirius Computer Solutions presents its credentials and capabilities to a prospective client, security is right up there at the top of the list.

With more than 1,400 employees and 33 offices from New York to California, Sirius provides a wide range of IT solutions and services for over 5,000 active clients, all of whom put a priority on the security of their data.

Keeping hackers at bay is one means of defense, but no less important is the physical security of the organization's offices and data centers.

"When we present our capabilities to a new client, we make a point of highlighting the video surveillance, access control and biometric systems we have in our own offices and data centers," said Facilities Manager Chris Hubbs.

"It gives our clients assurance that Sirius is committed to protecting the safety, health, and wellbeing of all employees, clients, business partners and assets."

Sirius relies on March Networks video surveillance technology to protect employees and visitors at its offices across the U.S. The first system was deployed in 2012 when the company relocated its headquarters to 46,000 square feet of new office space in San Antonio, Texas.

"The video surveillance system we had before was past its prime and wasn't meeting our needs, so we sat down with our security systems integrator, Tyco, and went over all the options," recalled San Antonio Facilities Manager Frank Gutierrez.

"We sell a lot of March Networks systems in Texas," said Glenda Graves, the Tyco sales executive who supports Sirius. "It's what I lead with, so that's what I recommended."

Gutierrez was intent on continuing to use the analog cameras from the previous system, but was persuaded to go with CAT5 cabling in the new office space to accommodate IP cameras down the road.

Once he was familiar with the system, a decision was made to deploy it companywide. Currently, 14 of the company's 33 offices are equipped with March Networks 8000 Series Hybrid NVRs, Command Enterprise video management software, and two different IP cameras — the MegaPX WDR MicroDome Z and the CamPX MicroDome.

From his office in San Antonio, Gutierrez is able to keep an eye on the comings and goings at all offices currently equipped with March Networks systems. An overhead monitor is programmed to display live video from a selection of cameras both in San Antonio and across the country, offering a view of the lobby activity in each location.

Using the March Networks Cloud service, he's also able to view live or recorded video on his iPad or smartphone if he's on the road and called upon to investigate an issue.

Compatible with the Apple iOS and Android operating systems, March Networks Cloud is a hosted solution requiring no transcoding hardware installation, router port forwarding, firewall changes or software downloading, making it easy to set up and use.

Gutierrez is happy he took Tyco's advice about going with CAT5 cabling at the head office. After opting for IP cameras in 13 other offices and seeing the enhanced quality they provide, he decided to take advantage of the March Networks hybrid platform by adding several IP cameras at strategic locations in San Antonio. ▶

Just as important as cutting-edge video surveillance systems is the technical support that allows end-users to take full advantage of their capabilities.

Chris Hubbs, who is based in the company's Omaha, Nebraska office, offers the example of a camera on the third floor of the company's San Antonio office that was chewing up storage space on an NVR.

"The camera, set up to record on motion, was facing a window and recorded video every time a car went by," said Hubbs. "We try to retain six months of archived video, but after a few months, the NVR was close to capacity. We raised the issue with our March Networks sales engineer, Edwin Trainer, and he said, 'No problem. We can zone that out.' I had no idea that was possible. March Network's approach to services is very similar to how Sirius engineers deliver services to our clients, making sure the client is satisfied and comfortable with the capabilities of the technology being implemented. This type of high quality service is rare in our industry."

The combined technical support made for a smooth transition as the rollout of the new technology progressed, which is typical of how Tyco and March Networks do business.

"We are both very hands-on, so it makes for a successful relationship," said Tyco's Glenda Graves. "I can't say enough about the support we get from March Networks."

Access control and biometric systems at data centers and other secure areas within the company's offices restrict entry to authorized personnel, but video evidence is critical in the event of a security breach or other event requiring further investigation.

Gutierrez and Hubbs have received notifications for several events from the March Networks system. They were able to use the investigation tool to review the footage of each event, and in each case they were able to solve and seek closure to their investigation. ▼

"**March Networks' approach to service is very similar to how our engineers deliver service to our clients, making sure the client is satisfied and comfortable with the capabilities of the technology being implemented. This type of high quality service is rare in our industry.**"

— **Chris Hubbs**
Facilities Manager, Sirius Computer Solutions

Tyco Integrated Security

Tyco Integrated Security, a business unit of Tyco International Ltd., provides security solutions for the commercial, retail, industrial and government markets in North America. Headquartered in Boca Raton, Florida, and Mississauga, Ontario, Tyco Integrated Security is North America's leading commercial security systems integrator with 500,000 clients and 10,000 employees. Tyco specializes in video surveillance, access control and fire and burglar event monitoring.
www.tycois.com

Introducing GURU 2.0

Free Mobile App Helps Integrators Work More Efficiently and Reduces Service Costs

March Networks recently released a new version of its **industry-first GURU Smartphone Application**. GURU 2.0 features a completely redesigned, workflow-based interface to help systems integrators and technicians find the information they need faster than ever.

March Networks created GURU to help its certified partners save time and money in the field. The app, which is available as a free download from the App Store and Google Play, automates time-consuming tasks such as checking product warranty status and completing online return forms by scanning the unique QR codes on any current generation March Networks recorder to instantly pull up serial numbers and other product information. It also provides innovative utilities to help system integrators work more efficiently and resolve system issues onsite.

"Our service teams love using GURU," said Edward Ferranti, Service Manager at Portland Safe Inc., a March Networks certified provider. "It simplifies troubleshooting and puts product information at our fingertips. Plus it's free and works on the phones we already have. GURU is a great example of how March Networks listens to its integrators and is committed to helping us grow our business."

GURU 2.0 introduces new support capabilities. Troubleshooting steps have been expanded to include March Networks Command video management software issues and RideSafe GT Series Hybrid NVRs in addition to the existing IP cameras, 8000 and 4000 Series Hybrid NVRs. Troubleshooting the 8000 Series and RideSafe GT Series Hybrid NVRs has been enhanced with a new innovative smart symptom filtering system that quickly isolates potential issues.

GURU 2.0 expands wireless provisioning to include RideSafe GT Series Hybrid NVRs for technicians working in the transit industry. GURU can be used to wirelessly connect to any 8000 Series or RideSafe GT Series Hybrid NVR to adjust IP addresses, Domain Name System (DNS) and other system settings

There are also new training tutorials for March Networks Searchlight software, IP cameras, Command software and RideSafe GT Series recorders.

"With GURU, technicians no longer have to spend time booting up their laptop or calling for technical support," said Ru Wadasinghe, March Networks' Vice-President of Professional Services. "The app is a great way for our certified solution providers to access the technical tools and information they need on the go, and we're constantly working to add new capabilities that make it even more useful and convenient."

GURU is compatible with iPhone, iPad and Android devices. ▼

Three things to know when installing or upgrading a video surveillance system on a bus fleet or light rail system

by Dave Gorshkov

Installing a video surveillance system on a fleet of buses or light rail system can be a massive undertaking, especially if your transportation network is very large.

While onboard surveillance systems are now common-place in North America and around the world, most industry experts agree that not all systems are built the same. I frequently field questions from operators who are confused about what to install and why, given the many options on the market.

I advise them to first consider their main objectives for installing video. Are you trying to reduce false liability claims? Are you attempting to improve safety by discouraging criminal activity? Do you want to respond more quickly to emergencies? Or maybe you're hoping to address HR issues by monitoring employee performance? Maybe it's all of the above? It's important to think about why you want video surveillance and what your primary use will be, as this will guide your system design.

I also recommend reviewing the American Public Transportation Association's (APTA) technical standards for CCTV systems on transit vehicles. The recommendations are designed to promote best practices in the industry, and ensure the quality of images captured by mobile surveillance systems are of use to operators. After all, there's little sense in installing a surveillance system that doesn't work, or that delivers poor images that are of no use to police or any other investigator.

Here are three key takeaways that can help you maximize the benefits of your onboard surveillance system.

1. Know the Minimum Resolution You Need

Camera technology is constantly evolving and today there are a myriad of options for mobile video surveillance. But it's important to understand how the cameras you choose will affect your image quality.

While many transit agencies are still deploying analog cameras, many are upgrading to IP. Recent advancements in technology have improved IP camera lighting performance, so a good quality mobile IP camera with Infrared technology can now exceed the lighting performance of an analog camera. IP cameras also offer more flexibility in terms of system design and recording options.

APTA's CCTV standards recommend that transit operators use IP cameras with a minimum recording resolution of 1080p. Scenes with slow motion (for example, where someone is walking) should be recorded at 5 frames per second (fps) while scenes with fast motion (such as vehicular traffic) should be recorded at 30fps.

If you're still using analog cameras, your minimum resolution should be at least 4CIF/D1. However, you should expect lower image quality when you're using this resolution.

The images on the following page, taken on a bus, illustrate the differences in clarity between CIF, 4CIF, 720p, and 1080p.

If you're a public transportation authority, you may be required to supply evidential video to a court if an incident occurs on one of your vehicles. Evidential video must be high quality, and clear enough to be used in an investigation, hence the recommendation for 1080p.

If you're concerned about how this impacts your storage, remember IP cameras can record alternate streams of video — one in high resolution for evidential purposes and one in a lower resolution for operational purposes. Evidential video must be high resolution; however, operational video — or the video you use to monitor everyday operations — can be recorded at a lower resolution and compressed for transmission over a network.

| CIF | 4CIF | 720P | 1080P |

2. Consider the Minimum Storage Period You Require for Video

When determining your storage requirements, it's important to think again about why you're installing video surveillance. If your goal is security-related, you should learn your state and federal regulations for retaining surveillance video, and also consider any privacy laws that may apply.

In the U.S., APTA recommends that evidential video be recorded locally and retained on your vehicle for seven days. This allows sufficient time for an incident investigation to take place and for an operator to determine if there is a need to remove the high-resolution images from the vehicle for safekeeping. In order to retain this amount of video, ensure your mobile network video recorder (NVR) has enough terabytes of storage, or if you're on a network, you can use a Network Attached Storage (NAS) device.

A longer period, 31 days, is recommended for retaining video in fixed locations like stations, depots or control centers. Remember, all video used for evidential purposes must be untouched, unedited and contain a digital signature to verify that no video tampering has occurred.

It's important to balance your recording resolution with your recording duration. Otherwise, you risk depleting your storage capacity. Most systems today use H.264 compression technology to do this. In mobile IP video surveillance, low latency is important as delays in viewing images can present safety issues. Your system should ensure the period between I-frames (also known as key-frames) is no more than 10 per second.

3. Determine if You Need to Backhaul Video off Your Vehicles

In the video surveillance industry, the term "backhauling" refers to the digital transmission of video from your mobile recorder to your control center. It can be a convenient way for transportation agencies to view what's happening inside a vehicle, and it can also speed investigations since video is transported wirelessly over a network, rather than manually removed from an NVR's hard-drive.

As an operator installing or upgrading a surveillance system, you need to decide if the ability to backhaul video is a requirement for your system.

If it is, you'll need to decide what network to use, and consider the technical and financial implications involved. Constructing a private network can be costly. Using WiFi is less expensive, but can pose limitations since your fleet needs to be near WiFi hotspots in order to backhaul video. Whatever network you use, sufficient bandwidth is required to transmit large megapixel data. This is especially true if you're considering capturing additional vehicle data like GPS location or integrating your video with your fleet management system as many operators are now doing.

Often, it boils down to the amount of data you want to backhaul.

For operators using video for security and crime reduction, most solutions including March Networks RideSafe include an option to "tag" video of an incident, so it's stored in the NVR for safe removal. RideSafe also enables the automated extraction of that video over a WiFi or 4G network. This gives a transportation agency fast access to video evidence following an incident, while also safeguarding the original, high-resolution video on the NVR for investigative purposes.

As we've just learned, there are many things to consider when installing or upgrading video surveillance on your bus or light rail system, but being able to answer the above three questions can help you design the right kind of system for your agency's needs. Remember to always think about your main reason for installing video surveillance, and consult APTA's CCTV guidelines if you need more information on industry standards.

Dave Gorshkov, *CEng, FIET, is the chairman of APTA's Communications Sub-Committee Technical Standards Working Group and CEO of a UK-based technology focused business consultancy practice. He advises a number of US, UK and international-based rail and mass transit authorities, ministries of the interior (MOI) as well as major transportation systems companies and government transport agencies on various aspects of security technology including the latest generation of digital CCTV, intelligent video, Safe City architectures and wireless systems applications.*

Introducing the World's **FIRST** Self-Contained, HDR Surveillance Camera for ATMs

For most of us, ATMs offer a fast and convenient way to withdraw cash or deposit a check outside regular banking hours.

But for all their convenience, ATMs can pose some major security headaches for banks and credit unions. The machines are a target for criminals looking to make a quick buck. Crimes range from vandalism to armed robbery of ATM customers, to theft of the actual machines themselves; other non-violent offences like ATM skimming have seen unprecedented growth in recent years, particularly in the U.S.

Financial institutions need a way to rapidly investigate these crimes, with clear surveillance images offering the level of detail necessary for forensic investigations.

March Networks' new **MegaPX ATM Camera** provides banks and credit unions with that exact capability.

Delivering incredibly sharp images in 3MP resolution, the MegaPX ATM Camera is the industry's first completely self-contained IP ATM camera, purpose-built to work inside bank machines.

While other manufacturers' covert cameras come in two separate parts — the sensor unit and the main unit with the connectors and encoder — March Networks' MegaPX ATM Camera has been designed with its sensor, processor and encoder all in one for easier installation. Its compact design — it's just 2.2(H) x 2.3(W) x 2.7(D) inches in size — allows for fast integration into any ATM.

The first ATM camera with High Dynamic Range

In designing the MegaPX ATM Camera, March Networks considered the unique challenges that banks and credit unions face with ATM surveillance. Chief among these is the ability to see ATM customers under bright backlight conditions. Because bank machines are often situated outside, sunlight can interfere with image quality. Lighting conditions inside a bank lobby can be equally challenging, with outside glare from windows. A good ATM camera also has to be able to capture images in virtual darkness, since bank machines are used at night.

The MegaPX ATM Camera was specially designed to perform in difficult lighting conditions by incorporating both a low-light mode, and High Dynamic Range (HDR) technology.

HDR extends the dynamic range of a camera, enabling it to balance out the brightest areas of a scene with the darkest areas of a scene.

A typical surveillance camera has difficulty capturing images with both brightly lit and dark areas, such as a person standing at an ATM with sunlight behind them. A regular camera has a limited dynamic range and once it exceeds that range, the image quality is degraded with overexposed, washed out white areas or underexposed dark areas with no image detail.

With its HDR technology, the MegaPX ATM Camera captures both a high exposure frame and a low exposure frame and combines them in real-time into one single image with the best dynamic range possible. The result is a higher quality, better exposed image with more detail, ideal for banks and credit unions that need to identify suspects' facial features.

The MegaPX ATM Camera also captures a wider field of view than most ATM cameras. Its 2.8mm standard lens captures a full 3-foot vertical view of customers, one additional foot more than similar cameras. Investigators don't just see a headshot, but a full view of a patron's upper body just above the waistline, which could provide critical wardrobe details.

The camera also has an optional 3.7mm pinhole lens that's perfect for more covert surveillance.

No-Shift Design for Added Reliability

In addition to addressing lighting challenges, many financial institutions need an ATM camera that's durable enough to withstand the regular jarring of the cash vaulting process, which can sometimes cause a covert camera to shift or tilt, distorting its field of view.

To address this, the MegaPX ATM Camera's mounting brackets include a robust locking mechanism that ensures the camera stays in place even during daily door slams. This provides more reliable coverage and reduces the need for on-site adjustments. Further, the camera's long and short mounting brackets mean it fits any ATM's size and dimension, delivering the best field of view and viewing angle every time.

The MegaPX ATM Camera is compliant with ONVIF's S profile, and works with the majority of recorders, including March Networks 8000 Series Hybrid NVRs.

As an added bonus, each camera also contains a QR code that, when scanned with March Networks' free GURU Smartphone App, provides technicians and installers with product-specific information, troubleshooting advice, warranty status and more. ▼

Typical ATM camera

ATM camera with HDR

Pros and Cons of Cloud-Based Video Surveillance

The following is a Q&A with Dan Cremins, March Networks' Global Leader, Product Management, on cloud technology and its application to video surveillance.

More and more companies are taking advantage of cloud technology to reduce IT costs and streamline application management. How relevant is cloud technology to video surveillance?

Cloud technology has really taken off and delivers exceptional value to end users for a wide range of applications, but before applying cloud technology to video surveillance, companies need to ask themselves what issues they are trying to solve. This is important because if we're talking about moving video entirely to the cloud for capture and archiving, much of what the cloud has to offer is already provided by conventional on-premises video surveillance solutions — specifically, centralized system management, efficient distribution of software updates, and scalability and redundancy for business continuity. Furthermore, anyone contemplating cloud-based video surveillance has to think carefully about their bandwidth and storage requirements, which may well be prohibitively expensive for multi-site customers using megapixel cameras.

In what circumstances is cloud technology applicable to video surveillance?

Video surveillance as a Service (VSaaS) is gaining traction in the industry, but it isn't for everyone. Video surveillance has some unique requirements that set it apart from other types of enterprise cloud applications. Video — especially high-definition video — is a bandwidth hog, so the applicability of cloud technology often depends on the scope of a customer's video surveillance deployment — specifically, the number of locations and cameras. Cloud technology probably isn't ideal for customers such as financial institutions and retailers with multiple locations and cameras, but could be advantageous for customers with smaller deployments.

What are some of those advantages?

Business analytics represent a particularly compelling opportunity for leveraging the cloud. For example, sending locally stored video clips for analysis by cloud-based license plate or facial recognition analytics, which require a high degree of computer resources to process, can help companies reduce their internal infrastructure and management requirements. The cloud can also enable simultaneous access to live and recorded video from multiple devices, whereas mobile access through a local network typically limits the video stream to a single device. The benefit here is that security professionals can keep an eye on their physical assets, while colleagues in marketing or operations are using the same video for their own purposes.

What specifically should customers with multiple locations and cameras consider before contemplating cloud-based video storage?

Bandwidth is key, especially with the proliferation of new megapixel IP cameras. Realistically, most enterprises simply don't have the bandwidth capacity required to upload video captured by multiple IP cameras to the cloud. Even if they employ buffering, which can schedule streaming to off-peak hours, few organizations have the required bandwidth in every location — especially those with hundreds or thousands of locations.

Even if an organization does have enterprise-wide high-speed, high-capacity upload connectivity, it can't dedicate all of its network resources to video surveillance. In fact, most financial institutions and retailers, for example, throttle the network capacity allocated to video surveillance to between 100 – 200kb/s to ensure adequate network resources for financial transactions and other business-critical data.

Can you offer some examples of the volume of data that would have to be transmitted to the cloud and the bandwidth that would be required to accommodate it?

Sure, let's take the example of a single location of a national retailer and assume 16 analog cameras capturing video at an average rate of 10 frames per second at a 4 CIF resolution (704 x 480). A location such as this would need a total upload speed of roughly 7 Mb/s. If a fraud investigator is simultaneously reviewing video captured by four of the location's cameras, there would be a requirement for a further 1 Mb/s to download that video from the cloud. That's a significant amount of bandwidth for one location.

If the same location upgrades to 16 high-definition IP cameras capturing 1080p video at a rate of 10 images per second, it would need an astounding 32 Mb/s to upload all of the video and roughly another 14 Mb/s to download and review video from four cameras.

What are the implications of storing all this data?

Using the latter example, if the organization retains video for 30 days, it would require approximately 9 TB of storage for the one location. That's equivalent to around 1,800 high-definition feature length movies. The bandwidth and storage costs for the transmission and storage of this volume of data would likely be prohibitive for most mid- to large-size enterprises with hundreds of locations.

What about access? Is that another consideration?

Absolutely. Relying on a third party to upload or download video means any outage can cut you off from your video assets. Uploads may fail, data may be lost and information may be unavailable until the service comes back online. When video is stored on site, there's always the comfort of having local access and control.

Do you see cloud technology evolving to the point where it would be a viable option for customers with larger deployments?

Advances in video compression, faster bandwidth service and cost reductions will be necessary to make cloud-based solutions more appealing to larger, multi-site enterprises. If these challenges can be overcome, we'll likely see more enterprises embracing cloud-based technology as a means of reducing spending on in-house technology infrastructure and providing improved access to live and archived video via mobile devices. ▼

A CHECKLIST
FOR VIDEO STORAGE IN THE CLOUD

Before deciding to move your video surveillance system into the cloud, ask yourself and/or your prospective service provider the following:

- ✔ What issues are we looking to solve by moving video surveillance to the cloud?
- ✔ Does the solution offer the same level of functionality as our existing video surveillance system?
- ✔ Are there any limits on the amount of data that our organization can upload/download each month? If so, what are the penalties for going over the limit?
- ✔ Do we currently set internal limits on how much bandwidth we allot to video transmission over our corporate network? If so, how will those limits be affected by a cloud-based solution?
- ✔ How much storage is available per month? How much does it cost?
- ✔ How long can our video be stored in the cloud?
- ✔ Where is the video actually stored? If it's in another country, do our policies allow that?
- ✔ Are any backup mechanisms in place to safeguard the video stored in the cloud?
- ✔ What network security standards are in place to protect our data?
- ✔ What happens to our video recordings if Internet access goes down? How can we access our archived video if Internet access goes down?
- ✔ Does the cloud solution provide mobile/remote access to our recordings?
- ✔ Are business analytics or other applications included in the solution?

"Realistically, most enterprises simply don't have the bandwidth capacity required to upload video captured by multiple IP cameras to the cloud."

— **Dan Cremins**
Global Leader,
Product Management

Who's New?

Geoff Stoliker joins March Networks as a Channel Account Manager for the Pacific Northwest and Rocky Mountain regions. A 17-year security industry veteran with extensive experience in video surveillance, Geoff boasts a strong background in distribution, market development and sales management, and brings a diverse set of skills to his new role. Prior to joining March Networks, Geoff was a Regional Sales Director with Arecont Vision. He resides in southern Oregon and enjoys travel and cooking.

Jerry Brown is March Networks' new Great Lakes Channel Account Manager. Prior to joining the company, Jerry served as senior territory representative covering Illinois, Wisconsin and Northern Indiana for SVC Marketing. During Jerry's eight years with SVC he was responsible for major enterprise accounts and gained extensive knowledge of video technology, access control and video analytics. Prior to joining SVC Marketing, he was employed by Midwest Time Recorder, one of the largest independent time and attendance software companies in the Midwest.

Christopher Chan is March Networks' newest addition to its North American Sales Engineering team. Chris has 19 years of CCTV experience in applications engineering and product management roles with Wells Fargo Alarms Services, Intercon, Guardall and Panasonic. Chris has also worked as a product manager for audio/video processing equipment within the broadcast industry. He has vast knowledge and experience in video and has been involved in the design of many large-scale systems for government buildings, police stations, casinos, museums and prisons. Chris is based in Toronto, Ontario.

Dale Loyd joins March Networks' North American sales team as a Sales Engineer. During his 17-year career in the security industry, Dale has served as a training manager, account manager and sales engineer with companies including Northern Computers, Honeywell and Tyco. A graduate of the University of Wisconsin (Madison), Dale is based in Wisconsin and spends his spare time reading technical manuals, biking, fishing and camping with his wife and sons.

Eugene Chay March Networks welcomes Eugene Chay as a Regional Sales Manager with the Asia Pacific sales team. Based in Singapore, Eugene has 12 years of experience in electronic security providing end users with full turnkey solutions for critical infrastructure, including airports and city surveillance systems. Prior to joining March Networks, he served as a senior sales manager with TJ Systems, a March Networks certified solution provider. Eugene has a diploma in management studies from the Singapore Institute of Management and is an avid golfer.

Dave Bryant March Networks welcomes Dave Bryant as Sales Engineer for the U.S. Rockies Region. Dave has worked in the security industry for 25 years in a variety of roles, including management, technical support and commercial field service support for sales and Department of Defense contractors, all while keeping his focus on the customer and ensuring their experience is second-to-none. Dave enjoys fishing, hockey, running ultra-marathons and working with Wounded Warriors outreach programs.

David Blakeley joins March Networks as a Sales Engineer with the Transportation sales team. Dave has worked in the public transportation sector for 25 years with Dallas Area Rapid Transit and the Port Authority of Allegheny County serving Pittsburgh, Pennsylvania. He has worked in fleet maintenance technical support and technical training positions. As Project Coordinator for the Port Authority, he oversaw bus procurement projects and served as network administrator for the mobile video security system.

TECHTIP

March Networks GURU:
A Technician's Best Friend

Q *I understand that March Networks has released a smartphone app to help technicians access product information and troubleshoot issues in the field. How exactly does it work?*

A We love sharing information on our smartphone app — the first of its kind in the industry and the most robust app out there today for video surveillance system technicians.

We originally released GURU in 2012, and this past summer we introduced GURU 2.0. GURU is a free app available for download from the App Store or Google Play for iPhones, iPads and Android handheld devices. With GURU, your technicians can access advanced diagnostic information and support tools in the field without having to pore through manuals or call for technical support. Everything you need is in the palm of your hands, and with GURU 2.0's new, workflow-based interface, it's even easier to find the information you're looking for.

To use GURU, simply scroll through a list of products to find the camera, recorder or software you are working on, then click the troubleshooting icon for advice on how to easily correct common issues. You can use the app's new smart symptom filtering to quickly diagnose a problem with an 8000 Series Hybrid NVR or a RideSafe GT Series Hybrid Transit NVR. You just insert a wireless adapter into the NVR's USB port and make the wireless connection. GURU takes over by instantly narrowing down the list of possible issues based on health monitoring alerts. GURU's graphical display LED utility also speeds 8000 and RideSafe GT Series troubleshooting by allowing you to pinpoint faults based on the color of the LED lights displayed on the recorder.

GURU also goes beyond diagnostics. You can use it to check product warranty status by selecting the warranty status icon and keying in the product's serial number or scanning the product's QR code.

If the product is under warranty and needs to be replaced, you can use GURU to initiate an express Return Material Authorization (RMA). Again, simply scan the product QR code and process the RMA right from your smartphone. You can also check the shipment status of the replacement product to see exactly where it is in the shipping process.

GURU offers a number of other timesaving tools. For example, you can wirelessly provision common elements of an NVR such as IP address or the Domain Name System settings.

There's also a handy System Design Tool that allows you to calculate bandwidth and storage requirements. Just select the cameras you're using and the amount of time you need to retain video. The tool does the rest. Or use the IP Camera Selector and Comparison Tool to find the right camera for your installation.

If you're a visual learner, GURU has an extensive library of video tutorials, allowing you to watch as we set up and mount a recorder, replace parts, or install and configure cameras.

Using GURU's Knowledge Base, you can search for known product issues by product name or key word to find out if an issue can be addressed or if there's a workaround you can use.

For mobile transit deployments, fleet operators can use GURU to track video assets as they are shared from person to person following an incident. The app helps them report the incident the moment it occurs and file all case information, including date, time, images, GPS location and recorder and caddy serial numbers, right from their phone.

System integrators and technicians know that time is of the essence when it comes to solving customer issues. Using GURU, technicians can quickly diagnose and address issues and move on to the next call. The hundreds of technicians who have been using it love it. You will too. ▼

COUNTERFEITING
CASH HARVESTING
ATM SKIMMING
CASH TRAPPING
FRAUD
ROBBERY

Just 2.2 x 2.3 x 2.7 inches

This is the world's first self-contained HDR camera built specifically for ATMs. It is purpose-built to function within the unique environment of an ATM. Now you can always get the right video to enhance security, improve fraud and loss protection and solve cases.

- Easy to install
- Crystal clear video
- Extreme lighting capabilities
- Tinted glass correction
- Won't shift after install
- Works with most recorders via ONVIF

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