

MARCH NETWORKS

news

SEPTEMBER 2017

**Charlotte Russe
uses video for
loss prevention
and store oversight**

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Technologies to Watch

During a recent media interview, I was asked which of the following technologies I thought would have the most significant impact on our industry in the next five years: Artificial Intelligence, computer vision, cloud storage or cybersecurity.

Unfortunately, there is no simple answer to this question. With the rapid pace of technological change and the increased pressure on companies to become more efficient, secure and operationally aware, there is no doubt that all of these areas will profoundly impact our industry and fundamentally change the way products are developed and services are provided.

Artificial Intelligence

Artificial Intelligence, or AI, is rapidly transforming many industries and fundamentally changing how people interact with data. The concept of AI has been around since the 1950s, but it has only been recently that advancements in computing power and data networks have enabled the development of applications that can leverage the power of “big data” analytics.

The key behind AI is self-learning algorithms that, over time, get better at identifying certain targeted behaviors or

transactions and reducing false positives. The impact on security and investigation departments will be significant, as an AI platform can be programmed to automatically detect both established and unknown fraudulent activities. This will reduce the time that investigators spend gathering data and allow more time for data analysis. The net effect will be improved detection rates and quicker investigations.

Computer Vision

Similarly, advancements in computer vision have been significant over the past few years. Industries focused on autonomous vehicles, social networking platforms and authentication technologies for mobile devices are driving the need for enhanced object recognition and biometrics using minimal computing power. As a result, concepts such as object tracking and face recognition are finally becoming a reality and opening up new applications in both security and video-based business intelligence. Security applications using object recognition will greatly enhance the monitoring of live and recorded video, rather than relying solely on a guard to watch multiple monitors simultaneously.

We are not too far off from the day when smart cameras can self monitor a facility, or marketing departments can use data generated from cameras to better evaluate the impact of an advertising campaign on its shoppers.

Cloud Storage

Cloud storage is another significant trend in technology today and is being embraced in some form by corporations around the world. Corporate CIOs are increasingly adopting centralized storage models and have either begun moving corporate data into a public

or private cloud, or are planning to do so in the near future. While we have yet to see the large-scale deployment of video to the cloud for security purposes, as corporations continue to upgrade their networks to accommodate the increased network traffic and the cost of bandwidth continues to drop, we believe that centralized storage for video will become a faster growing trend.

Searchlight for QSR

Data is often described as the “new oil”. In this edition of March Networks News, we are proud to introduce you to Searchlight for QSR — an even more comprehensive video and data analytics platform that combines our new 8724 V tribrid recording solution with scalable cloud storage and data analytics. Searchlight for QSR gives QSR owners a complete view of the business in real time from the comfort of a mobile device or desktop. The complete solution will be offered as a subscription service, allowing business owners to minimize the upfront cost associated with capital equipment spend. We are especially excited about this new offering and hope you will enjoy reading the article on page 20 authored by Douglas Wong.

As usual, the team has again put together some great stories highlighting how our customers are using March Networks solutions. In this edition, we take you as far away as Norway to read how Torp Sandefjord Airport uses Command Professional to secure its facilities. You will also read how Quik-E Food Stores, a multisite convenience store chain in Lynchburg, Virginia uses our 8000 Series recorders and Searchlight for Retail software to detect theft and fraud.

Please join me in thanking everyone who worked on this edition 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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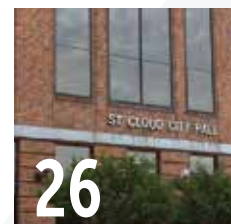
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charlotte russe



"When we install a March Networks system in a store,
we know we're going to get a significant drop in shrinkage."

— Christopher Perry, Loss Prevention Operations Manager, Charlotte Russe

Video Solution a Perfect Fit for U.S. Clothing Retailer

Christopher Perry, Loss Prevention Operations Manager with U.S. clothing retailer Charlotte Russe, remembers the sinking feeling he used to get when he'd log in to a video surveillance system in search of video evidence only to discover that the system was down.

"There's nothing worse than having an incident in a store, going to pull video and discovering it's not there," said Perry. "Fortunately, that hasn't happened once since we began deploying March Networks video surveillance systems."

A women's clothing retailer with 560 stores in 45 states, Charlotte Russe began searching for a new video surveillance solution in 2014 to replace a collection of aging standalone systems that couldn't always be relied on to provide the video evidence the retailer required.

"I used March Networks where I was previously employed and always found it to be bullet-proof, so when our security systems integrator, Short Circuit, recommended a March Networks solution, I knew we were on the right track," said Perry.

March Networks 8508 Hybrid NVRs were ideal "because when you have as many older analog cameras in place as we have, you want a recorder that can accommodate both IP and analog cameras," said Perry. Other requirements included 30 days of storage, recording on motion and the ability to review video in the field and from the company's headquarters in San Diego and San Francisco.

"Short Circuit did a demo for us and we were impressed with both the value and the performance of the system," said Perry.

Charlotte Russe began rolling out its new video solution in October 2014 and currently has 112 of its stores across the country equipped with 8508 NVRs powered by March Networks Command™ Enterprise video management software. The upgraded system also includes several hundred third-party IP cameras.

The retailer is deploying the March Networks solution in additional stores as budgets are allocated, with special attention paid to locations with higher than average shrinkage, said Perry.

"When we install a March Networks system in a store, we know we're going to get a significant drop in shrinkage. We find that we're usually able to pay for a system after one or two inventories. It could be the deterrent effect of our public view monitors on shoplifting or a reduction in internal fraud."

One of the reasons for selecting March Networks was the opportunity to take advantage of the company's advanced Searchlight for Retail software. The software integrates video with point-of-sale transactions, analytics and RFID data in powerful reporting dashboards. It helps retailers investigate losses faster, gather strong case evidence and benefit from a wide range of business intelligence tools to improve customer service, compliance, workforce management, operations and more.

"We're just in the process of gearing up for Searchlight," said Perry. "We're very excited about getting it up and running."

Sixteen people currently use the March Networks solution at Charlotte Russe, including the entire security team, a few district managers and one regional





vice president. In addition, approximately 100 managers can also access live and recorded video captured in their own stores.

“We only recently began providing access to our district managers and, so far, we’ve had very positive feedback,” said Perry. “Instead of getting in their cars and driving to a location, they can simply log in to the March Networks software and view video from a store on their laptop.”

Security staff at Charlotte Russe headquarters perform regular audits to review video of refunds and other potential risks, then email details about

any irregularities along with video clips to regional loss prevention managers and district managers for follow-up.

“One nice thing we like about the March Networks solution is that the file format of the video clips is easy to use once we download them out of Command,” said Perry. “We can send a video clip off to the HR team, for example, and they can view it without any instructions because it is so user-friendly.”


Perry also appreciates that finding a needed video clip is always a quick process. ▶



Armando Diaz, Corporate Investigator (left) and Christopher Perry.

“Instead of getting in their cars and driving to a location, they can simply log in to the March Networks software and view video from a store on their laptop.”

— **Christopher Perry**,
Loss Prevention Operations Manager,
Charlotte Russe



“Our old systems were standalone, so when you logged in to a recorder, there was often a time variance,” complained Perry. “It could be 10 minutes. It could be an hour. The March Networks systems are all connected through our network back to the server, so the time always matches the point-of-sale system.”

Charlotte Russe uses its March Networks solution primarily to review archived video, but Perry will also go into the system from time to time “to have a look” or pull up video from a store to point something out during a meeting.

“For example, I can program the system to display live camera views of all the cash wraps in a region. I just hit one button and they all pop up.”

Instead of that ‘sinking feeling’ he used to get after discovering that a legacy recorder was down and video evidence wasn’t available, Perry now gets emails from the March Networks Command software, proactively alerting him to potential health issues such as a failing hard drive or a camera that’s lost network connectivity, allowing him to take remedial action or arrange for maintenance by Short Circuit.

“Our security systems integrator is fantastic,” said Perry. “The thing that sets Short Circuit apart is the questions they ask. They truly want to understand what your needs are to an impressive level of detail. When you see the final product, you realize it’s exactly what you wanted and you appreciate all the care they’ve taken up front.”

“I’ve also been impressed with the relationship Short Circuit has with March Networks. Not all integrators and manufacturers work together as effectively to address customer issues.”

Doug Taylor, Key Account Manager with Short Circuit, is equally complimentary about Charlotte Russe.

“If we rated our customers on a scale of one to 10, Charlotte Russe would be a 10,” said Taylor. “They’re a phenomenal customer.” ▼



SHORT CIRCUIT

Short Circuit was founded in 1988 as a CCTV equipment repair company, providing warranty service for manufacturers. Today it installs, services and repairs video surveillance equipment for 83 national retail organizations in more than 75,000 locations throughout the U.S., Canada and Puerto Rico. Short Circuit has access to all major equipment brands and is one of only a few March Networks Platinum Certified Solution Partners. shortcircuitinc.com

THE CHALLENGE

Charlotte Russe required a video surveillance solution able to support both analog and IP cameras to help deter shoplifting and provide evidence of point-of-sale fraud. Equally important, it needed a solution that was highly reliable and easy to use.

THE SOLUTION

Security systems integrator Short Circuit recommended a March Networks intelligent video solution, including 8508 Hybrid NVRs, March Networks Command video management software and Searchlight for Retail software for advanced loss prevention and business intelligence capabilities.

THE RESULT

Charlotte Russe estimates that the cost of each new March Networks system it deploys is offset by reduced shrink after only one or two inventories. The solution has delivered the reliability and ease-of-use the retailer was looking for, and will enable future business insights that will help improve the organization's overall performance.



C-Store Uses Video to Protect Profits and Recoup Losses

TODD BURGESS HAS AN EASY ANSWER

when asked why he's used a March Networks video solution in his Quik-E Food convenience stores for more than 15 years.

"It's simple. The March Networks system is constantly saving us money."

In his role as Vice President of Quik-E Food Stores, Burgess oversees all the networking and IT requirements for the Lynchburg, Virginia business, which includes 13 convenience stores and gas stations, six car washes, a laundromat

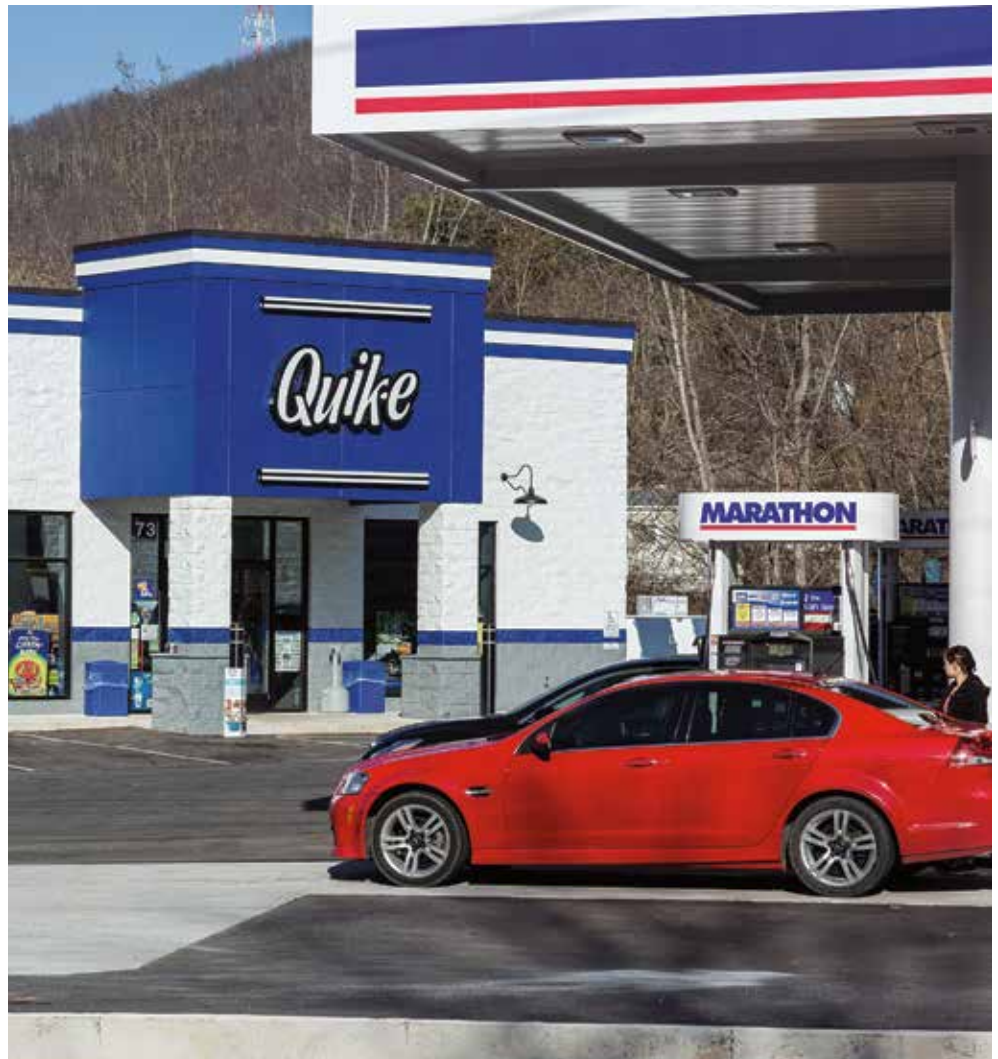
and a craft beer pub called The Filling Station known for its unique combination of 'growlers, grub and gas'.

While many things about the family-owned business have changed since its founding in 1973, the need to keep a close eye on each location's inventory hasn't. Like every retail organization, Quik-E can cite numerous examples of theft, fraud and inventory errors that have cost the business thousands of dollars in lost revenue.

Finding those incidents and stopping

"It's simple. The March Networks system is constantly saving us money."

– Todd Burgess,
Vice President, Quik-E Food Stores



them quickly can directly impact Quik-E's profitability, and that's where its March Networks intelligent video solution really proves its worth.

"I can't tell you how many thefts I've caught with the help of our March Networks video system," said Burgess. "I had a former employee just finish paying me back \$13,000 they owed us in stolen goods, and we recently caught another employee who was stealing probably \$50 worth of cigarettes each day.

"And just this morning I was reviewing video of a weekly delivery with one of our managers," continued Burgess. "We were able to confirm that we'd been charged for \$77 worth of gloves that we didn't actually receive. The video showed the delivery guy come into the store and put everything down. Two boxes of gloves is easy to spot, so it was obvious that that portion of the delivery was missing."

Over the years, Quik-E Food Stores has upgraded its March Networks solution ▶



Todd Burgess, Vice President, Quik-E Food Stores





to take advantage of better performance and new software capabilities. The March Networks video recorders it first installed more than a decade ago have been slowly replaced by new generation 8000 Series Hybrid NVRs, able to support both analog and IP cameras or a full complement of IP-only video.

Burgess has also overseen the transition from older Visual Intelligence software to March Networks Command Enterprise software working with Integrated Technology Group (ITG), the retailer's longtime systems integrator and March Networks certified partner. That's in addition

to moving the organization from office servers to a hosted networking solution and switching from an existing point-of-sale (POS) system to a new Gilbarco Passport POS solution.

"We've been proactive about upgrading our IT infrastructure over the last few years, and our video system has always come

back online, except in one instance where we couldn't get the cameras connected again in a couple of locations," said Burgess. "March Networks Tech Support was wonderful. They managed to diagnose the issue, which wasn't related to the video products in the end. They were just a big help."

"I think it's one of the best video surveillance systems on the market. March Networks has been good to me over the years and I'm a very happy customer."

– Todd Burgess, Vice President, Quik-E Food Stores



Quik-E is also using March Networks Searchlight™ for Retail, a software application that integrates surveillance video with the retailer's POS transaction data to provide powerful search and investigation tools. Burgess uses the Searchlight software regularly to check for any unusual or suspect transactions and review the data when an incident occurs.

"I use Searchlight primarily to look for voids and cancellations, or high dollar value transactions," said Burgess. "We actually just used it to help catch a manager who probably stole thousands of dollars from us. I knew I was short in inventory, so I pulled

up the video and transaction data to see if things were being rung up. It was clear they were not and we had the evidence to prove it. Now we'll use that evidence to hopefully recoup our losses."

Ultimately, Burgess says that he's a satisfied March Networks customer and he won't be looking for another video solution anytime soon.

"I think it's one of the best video surveillance systems on the market. March Networks has been good to me over the years and I'm a very happy customer." ▼

THE CHALLENGE

Quik-E Food Stores, a thriving, family-owned convenience store business in Virginia, needed a video surveillance solution that could keep pace with its growth and evolving video and infrastructure requirements.

THE SOLUTION

A longtime March Networks customer, the retailer continues to upgrade its video solution to keep pace with its needs. Most recently, it has deployed new 8000 Series Hybrid NVRs, migrated to powerful March Networks Command Enterprise software, and is using Searchlight for Retail application software integrated with its POS solution for advanced loss prevention.

THE RESULT

Quik-E has used its March Networks solution numerous times to prove incidents of internal theft and delivery discrepancies. Not only does the intelligent video solution help the retailer find losses faster, the video and data evidence plays a critical role in recouping some of those losses.

INTEGRATED TECHNOLOGY GROUP

Integrated Technology Group is a Virginia-based technology company specializing in security and access control, IT products and services, IP telephony, building automation and structured cabling. ITG serves a broad range of customers in the financial, health-care, retail and commercial industrial sectors. www.itgroupva.com



Functional, Reliable VMS a Standout for Norwegian Airport



AIRPORTS AROUND THE WORLD know how important it is to have a robust, reliable security system. Senior management at Torp Sandefjord Airport in Norway were well aware of the threats and security risks when they performed a review of their video surveillance technology in 2014.

“Since 1999, Torp Sandefjord Airport has used a wide range of video systems, CCTV devices, thermal sensors and software,” said Eivind Nielsen, IKT-consultant with Sandefjord Lufthavn AS, the company that owns and operates the airport. “Throughout this period, Torp experienced challenges with alarms, stability and playback functionality.

“The airport has expanded significantly in recent years and the regulatory requirements for monitoring have increased simultaneously,” added Nielsen. “When we expanded our terminal in 2013-2014, we tested a March Networks video management system on one dedicated server and found it to be far superior to competing solutions both in terms of functionality and stability, so in the summer of 2015, we switched to March Networks on all of our servers and haven’t had any issues at all.”

The VMS system was acquired from and installed by Focus Security, a leading systems integrator and March Networks certified partner based in Sandefjord.

Torp Sandefjord Airport is located seven kilometres northeast of the municipality of Sandefjord, a mid-sized city with a population of 62,000 in southeastern Norway. A mere 110 kilometres south of Oslo, the country’s capital, the airport is an important hub for several carriers, including Ryanair, KLM Cityhopper, Wizzair, Widerøe and Norwegian Air Shuttle with direct flights to more than 40 destinations.

The airport serves close to two million passengers annually and offers an expedited connection to Oslo via an integrated rail service. ►

The March Networks server-based system is powered by Command Professional software and records video from more than 100 cameras, including 30 March Networks IP cameras.

Each Command Professional system can support up to 128 video channels and features a customizable user interface, advanced search and investigation tools, and remote access to video via March Networks Cloud. Command's advanced search features, including motion histograms, video thumbnails and Smart Search functionality, enable security staff to quickly find what they're looking for.

Archived video from IP cameras can fill up hard drives in a hurry, but Nielsen and his colleagues were surprised to find that March Networks' advanced compression technology gave the airport four times the storage capacity compared with their previous video surveillance system.

Torp Sandefjord Airport is pleased with its March Networks video surveillance system.

"Security staff now have a reliable tool and are confident that the video surveillance system works properly," said Nielsen. "It is used every day to assist us in detecting any violations, thefts or other events." ▼

THE CHALLENGE

A review of Torp Sandefjord Airport's video surveillance system in 2014 revealed several shortcomings, including issues with alarms, stability and playback functionality. Given the current risks faced by airports worldwide, a search was undertaken for a more reliable video surveillance system.

THE SOLUTION

Following a trial of March Networks technology in 2015, Torp Sandefjord Airport acquired an advanced March Networks server-based video surveillance solution and March Networks IP cameras.

THE RESULT

Torp Sandefjord Airport is now confident in its video surveillance solution, which delivers the rapid search capability, live monitoring and high reliability it requires to respond quickly to potential threats, ensuring improved safety and security for airport staff and passengers.





“We tested a March Networks video management system on one dedicated server and found it to be far superior to competing solutions both in terms of functionality and stability.”

— Eivind Nielsen
IKT-consultant, Sandefjord Lufthavn AS

Banking on Customer Service

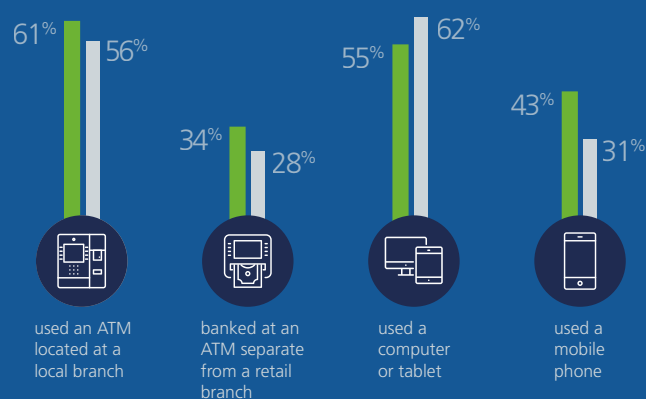
Focus on the customer experience is paying off for banks and credit unions

Brick and mortar banking still reigns

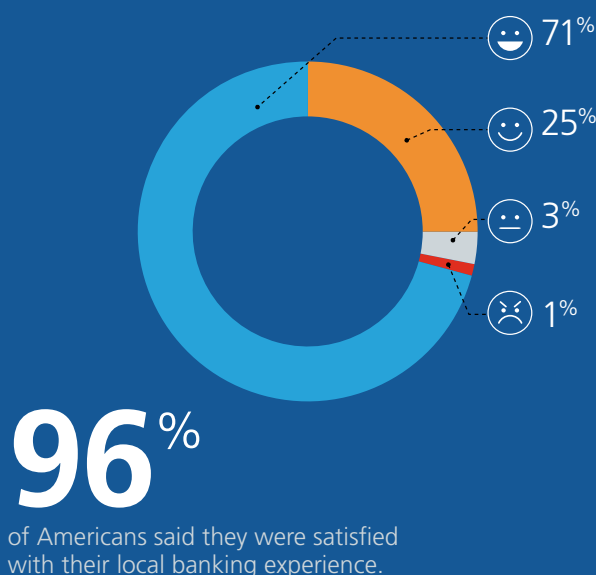
U.S. consumers have more options than ever when it comes to personal banking. A majority, however, are still turning to their local bank branch or ATM to conduct some transactions each year.



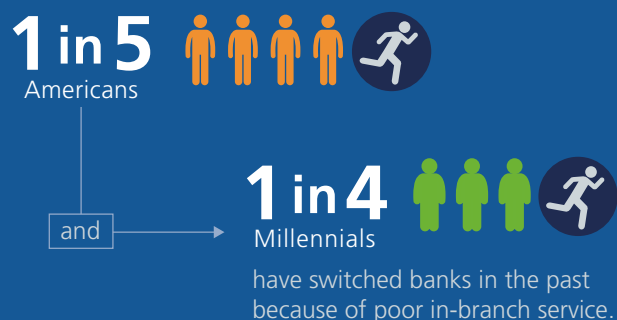
In comparison, Millennials (aged 18-34) also continue to bank at a retail branch or ATM, and are much more likely to use mobile apps for personal banking.



Banks are doing a good job serving customers...



...but woe to the bank that takes its eye off the ball



Other reasons consumers left their bank in 2016 include:



March Networks joined forces with Ipsos Research earlier this year to survey U.S. consumers about their banking habits and expectations. Below are the results, clearly demonstrating that customer service has never been more important when it comes to retention and winning new business.

48%

of banking consumers think waiting more than **5 minutes** for service is unreasonable.

Interestingly, close to **60%** of Americans said they didn't mind how long it took to complete the transaction once they were with a teller.



Millennials, however, seem to be the most patient when it comes to waiting in line, with

45%

 saying **6 to 10 minutes** was reasonable.

compared with

37%

 of consumers aged 35-54

32%

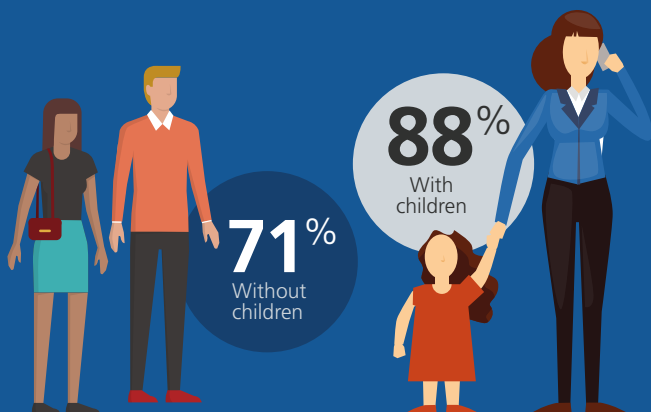
 of consumers aged 55+

Presentation is important!

Americans like their banks to be clean and tidy, and will consider making a switch if their local branch doesn't meet expectations.

Based on presentation:

74%

 would be inclined to switch banks.
And for consumers living in households with children, that percentage jumps even higher.

Banks get good reviews when it comes to responding to fraudulent activity...

Of the 15% of Americans that experienced fraudulent bank account activity in 2016,



86%

said they were satisfied with how their bank handled the incident.

Banks have an opportunity, however, to be more proactive when it comes to notifying customers about potential fraud.

60%

 of Americans noticed a fraudulent transaction before their bank, leaving plenty of room for banks to get in front of these incidents before their customers contact them.

New Cloud-based Service Combines Enterprise Video with Retail Data Analytics in Convenient Mobile App



Searchlight for QSR powered by 360iQ provides QSRs and fast casual businesses with real-time business intelligence

by Douglas Wong

Franchise owners and managers can access the information they need at any time from their smartphone, tablet or any web-enabled device. It's the smarter, easier way to manage multiple QSR locations.

SOME OF THE HARDEST WORKING PEOPLE I KNOW ARE IN THE RESTAURANT BUSINESS.

They work long hours, often at a hectic pace, and face stiff competition. The job of fast casual and quick service restaurant (QSR) owners is particularly challenging because they also deal with high staff turnover rates, food losses and sadly, employee theft. All of this results in very tight profit margins.

It's the reason why so many fast casual and QSR owners are turning to technology for help. They want innovative ways to optimize productivity, reduce losses and grow their bottom line.

And that's just what our new QSR solution can help them do.

March Networks Searchlight for QSR powered by 360iQ combines our industry-leading enterprise video solutions with cloud-based retail data analytics from EZUniverse®, a leader in operational and business intelligence technology for the QSR market. The new service — born out of a strategic partnership between March Networks and EZUniverse — helps QSR and fast casual owners get a complete overview of their business so they can make more informed, profit-driven choices.

By combining surveillance video with point-of-sale (POS) transaction data, Searchlight for QSR delivers valuable insights into a business' operations. Users can see live and recorded video from every one of their locations, as well as sales and productivity numbers, information on best-selling products, labor reports and other operational data in real time.

And because the solution is cloud-based, franchise owners and managers can access the information they need at any time from their smartphone, tablet or any web-enabled device. It's the smarter, easier way to manage multiple QSR locations.

Driving profits with real-time sales data

Almost all restaurant managers maintain an intense focus on sales. They want to know when sales are up, when they're down, and what specifically is driving the changes. Searchlight for QSR lets franchise owners and managers track and analyze sales performance closely by delivering live sales data from all their locations. For someone who manages 50 or 100 locations, this is an amazing time-saving feature. No more waiting for your finance department to deliver a monthly budget report. It's all right there at your fingertips! You can see total sales in real time, monitor sales by the hour, or compare numbers to the previous week to track and monitor progress.

Searchlight for QSR's customizable dashboards make it very easy to identify trends, and pinpoint issues before they escalate into more serious problems. For example, perhaps there's a decline in sales at a particular location. With Searchlight, you can easily compare total customer counts among all of your stores to see that Store #45 served 250 customers on Monday, while Store #46 served only 100.

With a few clicks of your mouse, you can determine when this downward trend began, and use video to help investigate the cause.

Rapidly respond to issues

Sales information is a good indicator of success, but restaurant managers face other issues too, like customer complaints, health and safety issues, and personnel problems. All of these can be costly if not handled correctly. Searchlight's integrated video and transaction data can be invaluable in these situations, especially if there's a dispute, because it can prove what took place.

Did a customer slip and fall in the lobby? Or maybe there's been a complaint about the quality of your food? Perhaps you're concerned about how an employee is handling cash transactions? You can use video to investigate. With Searchlight for QSR, you can see all areas of your operation, from the lobby to the drive-thru, in real time. You can also search video by date and time to see if food is being prepared correctly and if health and safety standards are being followed. Searchlight's loss prevention reports also make it easy to keep an eye on all POS transactions. You can quickly review all discounts, voids and sales by product type, and even view by employee, to identify any anomalies.

You can also set up regular email alerts to stay on top of areas of concern. Perhaps I'm still monitoring Store #46, which is continuing to see its profits decline. I can create an alert so that every time there's a suspicious transaction, like a series of voids or discounts, I'll be notified by email or by an alert within the software user interface.

Again, I can evaluate an individual store's performance against my enterprise-wide data, and more easily maintain operational consistency across all of my sites. ►



Save time with Searchlight's Snapshot and Incident Reports

Maintaining compliance and consistency can really be a challenge for QSRs, especially large franchises with many locations. But if you're operating a restaurant with a recognizable brand, customers expect the same quality of food and service from each location.

Searchlight's optional Snapshot Reports can help you maintain high operational standards across all your restaurants, providing detail on pre-defined areas of interest involving compliance, protocol and service. Trained March Networks auditors will review surveillance video from your locations and report on the results, providing you with integrated data and video snapshots to support their conclusions. With a Searchlight Snapshot Report, you can evaluate:

- instances of theft;
- speed of service;
- employee conduct;
- safety and security compliance; and
- performance analysis.

Snapshot Reports are delivered weekly for each location, along with one review each month. They are a fast and convenient way for owners and managers to monitor their business and identify areas that need improvement.

If there's a particular concern, owners can request a more detailed, step-by-step analysis with an Incident Report and our auditors will deliver a comprehensive account of the issue with video, receipts, and a detailed timeline.



Tailored to the QSR market

The business intelligence that Searchlight for QSR uniquely delivers gives added peace of mind to restaurant owners and managers. They can't be in all places at once, but they can relax knowing they have the right systems and applications in place to help manage their business more effectively — and improve their bottom line.

Consider this statistic: an independent study by a major North American fast food chain found that using the 360iQ-powered solution helped increase profits by \$700 per month, per store.

It's savings like this that highlight the real benefit of Searchlight for QSR, and it's one of the reasons why I'm so excited to start offering this solution. And because it's easy to get started — there's no upfront capital costs, just one affordable monthly fee — I'm confident that many franchise owners will want to take advantage of this offer. ▼

To learn more about March Networks
Searchlight for QSR powered by 360iQ visit
marchnetworks.com/searchlight-for-qsr

Douglas Wong is March Networks' Vertical Software Applications Product Manager



What's New in Transit?

Innovative Incident Search enables bus, light rail and passenger rail operators to find event evidence quickly using integrated HD video and vehicle metadata

FINDING EVIDENCE OF REPORTED INCIDENTS on buses or light/passenger rail vehicles can be a time-consuming task for transit operators, who often get only approximate information on where and when the incident happened. Imagine being asked to produce recorded video following a complaint about a bus nearly colliding with a cyclist. All you know is that the incident occurred on either Tuesday or Wednesday of last week, around 3 or 4 pm, and involved either the 20002 or 20077 bus. With just those search parameters to guide you, how long would it take to sift through hours of archived video to find the right video clip? Potentially days and not without a fair bit of frustration.

It's everyday challenges like this that motivate our teams at March Networks to build innovative products and solutions for bus, light rail and passenger rail operators.

Our new Incident Search capability — now available as an option in March Networks Command for Transit video management software — is a great example.

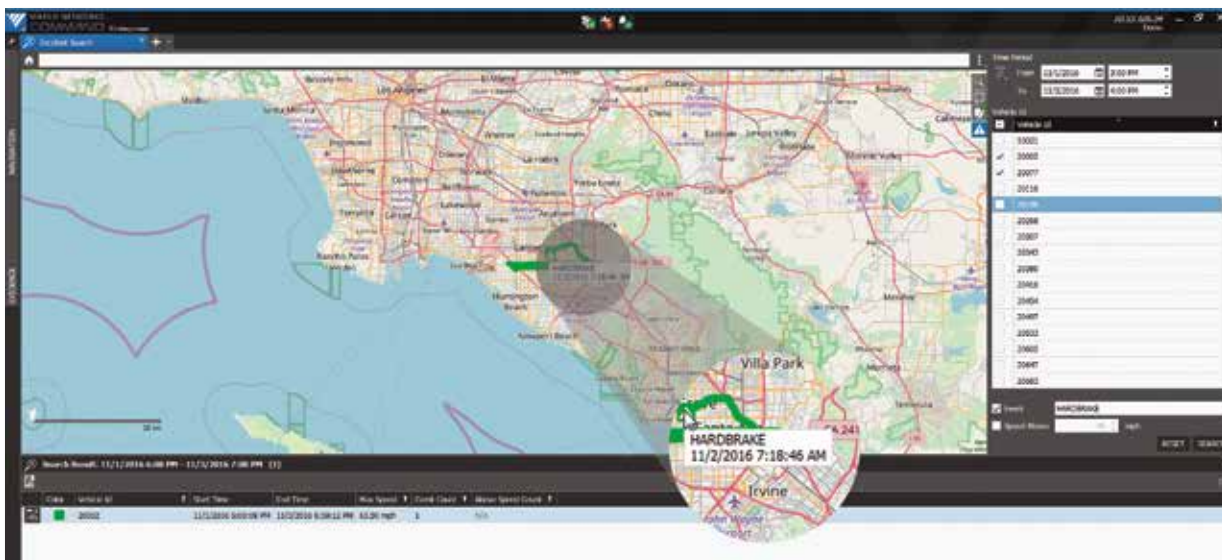
Incident Search integrates high-definition (HD) surveillance video with Computer Aided Dispatch (CAD) and Automated Vehicle Location (AVL) metadata to dramatically reduce the time needed to investigate reported incidents and share accurate evidence. It provides fleet operators with a visual overview of what's happening on all of their routes, complete with details on recorded events such as speed, hardbrakes, door malfunctions or impacts.

Using Incident Search, a transit investigator could quickly find the reported near-miss with the cyclist by setting the specified date and time parameters, selecting both the bus routes and then selecting 'hardbrake' as the likely event

(assuming the bus probably slammed on its brakes to thankfully avoid the cyclist).

As you can see in the accompanying screenshot, Incident Search will immediately return any instances of hardbrake events captured on those bus routes during the set time period. In less than a minute, the likely video clip is identified and all the investigator needs to do next is schedule the video clip to download automatically next time the bus enters a wireless hotspot.

Transit agencies can also use Incident Search more proactively, to analyze and identify possible issues such as a bus route where the speed limit is being exceeded regularly, or a rail car with multiple door malfunctions. This unique operational intelligence allows transit operators to further investigate the cause of such incidents using recorded video, and address them before a more serious problem occurs.



Also New to Our Transportation Portfolio

March Networks also recently introduced five new mobile IP cameras and a high-performance, all-IP video recording platform to its product portfolio.

New Mobile IP Cameras

The megapixel surveillance cameras are purpose-built to withstand demanding onboard environments and capture consistently clear video in near darkness, bright daylight and the abrupt lighting transitions that occur when vehicles enter and exit tunnels and underpasses.

They include the Mobile ME4 IR MicDome; the Mobile HDR Forward Facing camera; the Mobile HDR Wedge; and two 360-degree cameras, the Evolution 05 Mini Panel Mount and the Evolution 05 Mini Outdoor, available through March Networks via a strategic partnership with 360-degree technology leader Oncam®.

All of the new IP cameras are fully integrated with March Networks RideSafe™ video recorders and easily managed with March Networks Command for Transit software. They are ideal for transit operators ready to upgrade from analog to HD surveillance video, as well as those seeking highly-reliable cameras certified to withstand the wide temperature ranges, humidity, shock, vibration and other

environmental pressures common on mobile vehicles.

Compact 4/6-Channel Mobile Recorders

Our newly launched March Networks RideSafe MT Series IP Recorders provide bus fleets with sharp megapixel video evidence, automated wireless downloading, Power over Ethernet, and innovative search and investigation capabilities, all while maintaining the exceptional reliability and ease of service customers have come to expect from March Networks.

Available in 4 and 6-channel models, the compact IP recorders are a perfect fit for mid-sized vehicles and paratransit fleets ready to move to all-IP video capture. The recorders are also easily managed from any networked location using the Command software.

Continuing our commitment to intelligent video solutions that extend beyond traditional security applications, the RideSafe MT Series IP Recorders also integrate with CAD and AVL data. The integration powers search capabilities including Incident Search, enabling fleet operators to investigate complaints, liability claims and other events quickly and cost-effectively and arm themselves with compelling video evidence. ▼

A true enterprise-class offering, March Networks transportation solutions provide bus, light rail and passenger rail agencies with comprehensive oversight across their entire operation – including on transit vehicles, and in stations, depots and park-and-rides. It enables operators to maintain the highest security for passengers and employees, respond quickly to emergency situations, and resolve liability claims faster and more cost-effectively with integrated vehicle metadata and robust case management.



Big City Security Helps Preserve Small Town Charm



AS COMMUNITY GATHERING PLACES GO, EASTMAN PARK IN ST. CLOUD, MINNESOTA, has it all: inviting green space, splash pads, a band shelter, and picturesque lakeside views.

With beautiful Lake George located at its center, Eastman Park is a favorite spot for locals and visitors alike. It's the place to be in the summertime, when as many as 10,000 people gather on weekday evenings for music and activities.

From the municipality's perspective, such a popular public space requires robust physical security to help maintain its safe and welcoming atmosphere. That's why Eastman Park was one of the first publicly accessible locations in St. Cloud to deploy a March Networks video surveillance system.

"It's our version of Central Park," joked City of St. Cloud IT Director Micah Myers.

According to Myers, security integrator Marco Technologies was instrumental in bringing the system to the park. Marco has deep roots in the Midwest, and plays an active role in the St. Cloud community, a city of just over 67,000 located along the Mississippi River, 70 miles from Minneapolis.

The City of St. Cloud is the eighth largest city in the state. It boasts big city amenities — like first-rate medical facilities, a college, and a university — while still maintaining its small town charm.

The security of public facilities plays an important role in any municipality's growth,

and in his 21 years with the city, Myers has helped oversee the installation of March Networks video surveillance in locations including St. Cloud's city hall, public library, wastewater treatment plant, YMCA and aquatics facility, seniors center, law enforcement center and municipal airport.

The solution is a critical component of the city's integrated safety and security program, serving as both a visible deterrent and a way to go back and see what's transpired when a rare incident does occur.

"If something happens, there's a level of comfort there that we can go back and get the video," Myers says.

The City of St. Cloud is using March Networks 8000 Series Hybrid Network Video Recorders (NVRs) for on-premises video recording. Known for their durability and proven reliability, the 8000 Series recorders incorporate an embedded Linux operating system, internal battery backup and hard drive mirroring. They provide the city with worry-free video recording and ample internal storage to easily maintain video for several weeks.

When an incident occurs, anyone on Myers' team of four IT technicians and two help desk personnel can access the system to locate video and supply the files to authorized city staff or law enforcement.

Because St. Cloud also uses March Networks Command video management software, finding the required video



evidence is easy. Command's intuitive client software includes a timeline bar, motion histograms and other time-saving features that simplify the otherwise tedious task of sorting through archived video.

"I'm very satisfied with the Command software," said Myers. "I use the timeline bar to quickly narrow down my search and ►

The City of St. Cloud uses March Networks video surveillance in multiple locations, including its city hall, public library, wastewater treatment plant, YMCA and aquatics facility, seniors center, law enforcement center and municipal airport.



adjust the date to get exactly the video clip I need. It's really nice to have that feature."

Command's customizable user interface also enables system administrators to restrict access to video based on each users' level of permission. For example, in Myers case, he can create different views for each member of his team, as well as a separate view for law enforcement where needed.

In addition, the software allows the team to remotely monitor multiple locations simply by toggling between cameras at different city sites.

"I can slide over and see which remote location I'm looking at," said Myers. "I can see it all in one view or I can call up the individual location."

When Myers received an early morning call recently about a fire alarm at city hall, he was able to review the video to determine what had happened.

"It was a false alarm, so we used the video to see when the alarms tripped. The software's motion histograms made it very easy to see when the camera started recording."

Video has helped the municipality investigate other incidents as well. A shooting near the public library captured on video helped police identify the suspect, as well as a vehicle wanted in connection with the incident.

Myers is confident that both Marco and March Networks will continue to play a key role in the security of St. Cloud.

"Our March Networks video solution has been extremely reliable and provides us with the features we need to work effectively in the system. Marco has also been consistent player and an excellent partner." ▼

"Our March Networks video solution has been extremely reliable and provides us with the features we need to work effectively in the system."

— Micah Myers
IT Director, City of St. Cloud

MARCO TECHNOLOGIES

Marco Technologies is one of the top five technology providers in the U.S., serving customers nationally with core offices in Minnesota, Wisconsin, North Dakota, South Dakota, Iowa, Illinois and Nebraska. Marco Technologies helps organizations of all sizes make the most of their voice, data, video and print technology. For more information, contact Jeremy Kirt at jeremyk@marconet.com or visit www.marconet.com.

THE CHALLENGE

The City of St. Cloud required a highly-reliable video surveillance solution for multiple public facilities, as well as a centralized video management capability. The solution had to be easy to use and allow different views for each user, based on permission levels.

THE SOLUTION

Security systems integrator Marco Technologies recommended a March Networks intelligent video solution, including 8000 Series Hybrid NVRs and March Networks Command video management software for customized user management and access levels.

THE RESULT

The March Networks solution helps the City of St. Cloud effectively maintain security and investigate incidents at its library, city hall, seniors center, law enforcement center, key recreational areas, municipal airport and other public facilities. The solution has delivered the reliability and ease-of-use the city was looking for, with customized views and different user level access.



Three Facts about Our Video Authentication

QUESTION

We are a March Networks certified partner and one of our customers is asking how they can prove that video from their 8000 Series Hybrid NVR has not been altered. How does March Networks authenticate video from its recorders?

ANSWER

As product manager for March Networks' recording platforms, I'm often asked whether we watermark our surveillance video to ensure its authentication. Watermarking is a process commonly used in photography to show ownership of a photo by superimposing a name, message or symbol overtop of the image. This allows a photographer to share a draft version of the file without fear it will be stolen and shared without their credit. It's a way for the original creator to prove ownership of the file.

In the video surveillance industry, manufacturers use what could be described as a digital watermarking process to verify the authenticity of video, but I agree with you that a better term for this process is simply 'video authentication'.

Why it's important

Video authentication is important because it underscores the whole purpose of having a video surveillance system; it's what lets you say with absolute certainty that a particular event happened exactly as it was recorded and depicted in the video.

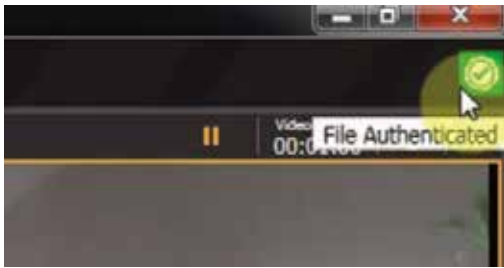
A decade or so ago, in the age of analog CCTV, the process for handling video evidence was quite manual. A person might physically pull a tape from a recorder and put it into an envelope for safe keeping.

But in the digital age — where having multiple copies of a video file is the norm — it's essential that video surveillance files be secure, so we can have confidence in their authenticity.

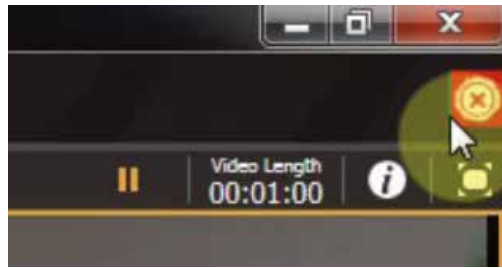
Without some form of proof that a video clip is authentic, video surveillance would be of little use to businesses, law enforcement and the



*Ken Maughan is
March Networks
Recording Platforms
Product Manager.*



Video File Authenticated



Video File Not Authenticated

judiciary. For that reason, most manufacturers, including March Networks, accurately timestamp each frame of video and also embed security features that can detect whether anyone has tampered with the file.

Here are three facts that will help you understand more about March Networks' video authentication process:

Digital Signature – Before any video is exported from a March Networks recorder, a secure hash algorithm (specifically SHA-256) is applied to the contents of the file, ensuring that any file editing will be detected. Applying a secure hash to a file ensures the integrity of data. In March Networks video files, the secure hash provides an anti-tamper function, preventing edited video from being authenticated and rendering it unsuitable for court purposes.

Authenticating with the Command Player

– Presently, there is no standard method for authenticating video in the surveillance industry. Each manufacturer does it differently. As such, there are no standard players (i.e. Windows Media Player) that are capable of validating the authenticity of video surveillance files. March Networks has a video playback tool called the Command Player, which can authenticate our video right in the tool. With video loaded in the player, you simply click a button to see if the file is authentic. The below images illustrate this function.

The Command Player enables third-party organizations to review March Networks video without our licensed client software. The Player can be downloaded from our website, or exported along with the video clip being sent to a third-party. For example, if you are a police officer

or lawyer working with a business to investigate a crime captured on a March Networks recorder, the person or business supplying you with the video evidence can include the Command Player along with the video file so you will be able to review the clip.

Using a Third-Party Player – If you want to playback March Networks video in a third-party application like Windows Media Player, you should export video from your Command Client into an MP4 file format. But — and this is important — if you are viewing March Networks video with a third-party player, you will not see detailed time information, which is key for a criminal investigation, nor will you be able to authenticate the video. For situations like these, March Networks does provide a Command Authentication Tool, which can be used outside of the third-party player to confirm that the exported video file has not been tampered with.

As a global leader in IP video surveillance, March Networks takes pride in keeping its video secure. We go to great lengths to ensure that no one can alter video from our recorders, and if someone tries, our viewing software will detect it.

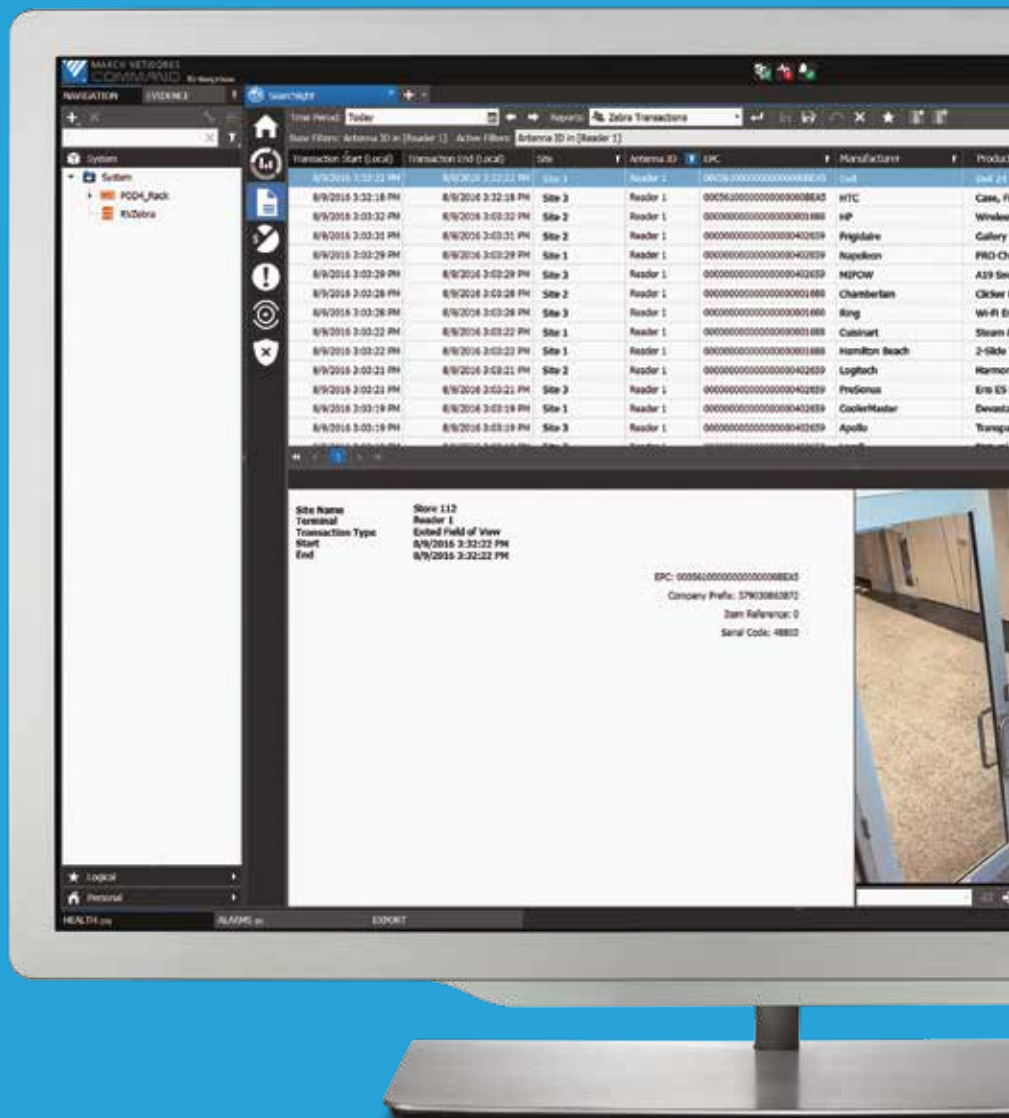
We also recognize that video evidence must be viewed by many different organizations, and not everyone owns our licensed software. That's why we've created a very secure — yet flexible — authentication system that allows video playback in third-party applications, with the ability to authenticate it using our proprietary tools.

To learn more about using our Command Player and Authentication Tool, visit marchnetworks.com. ▼

Video authentication is important because it lets you say with absolute certainty that a particular event happened exactly as it was recorded.

Why the Searchlight-RFID Solution is a Strong Selling Point for Our Business

by Andrew Montgomery



Andrew Montgomery is
Director of Technology
at Midwest Security Systems,
a longtime March Networks certified
partner in Omaha, Nebraska.
Visit midwestsecurityomaha.com
for more information.

IN MY DIRECTOR OF TECHNOLOGY
ROLE at Midwest Security Systems
in Omaha, Nebraska, I'm always on the
lookout for new products and solutions that
can enhance our video surveillance offering
to customers.

As a family-owned and operated security systems integrator, Midwest Security Systems' goal is to deliver reliable and innovative asset protection and access control services. To that end, I try to stay on top of technology trends so that we're always offering state-of-the-art security products and solutions.

Every so often, I come across a product or feature that really impresses me, and that was certainly the case with March Networks' integrated Searchlight and RFID solution.

We first saw the Searchlight-RFID solution at the ASIS Seminar and Exhibits in Orlando, Florida. We knew almost immediately that it was something we wanted to offer our customers.

Watching the demo and seeing how items could be tracked from one location to another was a pretty exciting moment. The solution, which combines surveillance video with data from Zebra Technologies



Becoming a Zebra Technologies partner

If you don't know a lot about RFID, it can be an intimidating subject. There's a lot of information out there, and many different types of RFID applications.

Because we really wanted to maximize the opportunity we had to offer the integrated solution, we decided to sign on as a partner with Zebra Technologies and learn more. We flew to one of Zebra's locations in Rockville, Maryland, and participated in an intense, two-day training course.

It was a comprehensive program with a lot of detailed technical information. In the end, it left us feeling very well equipped to implement the Searchlight-RFID solution.

Follow the trail

Prior to our certification, we had learned that one of our biggest customers — a bank with multiple locations — was interested in using RFID technology, but they had questions about how to leverage the data.

This particular customer had been using March Networks cameras and recorders for some time, and they loved the products. Because we were now Zebra-certified, we initiated a new discussion with them on how they could integrate RFID data with their video using the Searchlight-RFID solution. They were very interested in learning more. They had recently had some expensive items go missing, and they wanted to use the solution for asset tracking.

They're now using Searchlight and RFID-tagged access cards to identify employees as they enter and exit the buildings, and they've also tagged laptop bags and some of their storage room equipment.

Thus far, they've been very happy with the results. Using the solution, they can see exactly where these items travelled. Because the RFID data is integrated with their video surveillance, it gives them that added piece of verification. They can pull up the video and follow the trail. Their investigations are exceptionally quick. Going forward, they plan to add fixed RFID tags to other items, like some expensive paintings.

For as much as it does, Searchlight is surprisingly easy to use. You'd expect it to be hard, but it's not, and that's another great feature of this solution.

A strong selling point

Offering the March Networks Searchlight-RFID solution is a big differentiator for our business.

Anybody can offer video, but combining it with RFID data is unique, and a strong selling point for Midwest Security Systems. It allows us to access a lot of verticals that we weren't considering before, like manufacturing.

With integrated Searchlight and RFID, we can present a solution that solves a lot of problems, from loss prevention and asset protection to access control and inventory management. It's a solution that the customer really can't get anywhere else. ▼

Award-Winning Solution

Our integrated Searchlight and RFID solution was recently recognized by the Security Industry Association (SIA), winning the Best New Product in the Loss Prevention and Article Surveillance category at ISC West 2017.

Jeff Corral, March Networks' Integrations Business Development Manager, was honored to accept the award at the show from SIA Information Services Director Frank McDonough.



RFID readers, would allow our customers to search for RFID-tagged items more quickly and efficiently. They'd simply enter a product type, serial number or Electronic Product Code into their software, and then click to access video showing when and how that item entered or left their location.

Because we are a longtime March Networks certified partner, we were familiar with Searchlight's loss prevention and business intelligence capabilities, but integrating RFID data into the software was totally new. We reached out to March Networks to learn more.

New March Networks Command Center

March Networks will launch its new video display and alarm management solution at this year's ASIS International Seminar and Exhibits in Dallas, Texas.

March Networks Command Center is a virtual matrix that combines video display and control with exceptional alarm monitoring and management for any video surveillance environment. The software-based solution provides organizations with greater visibility across all of their locations, making it easy for operators to respond to alarms quickly and trigger escalation procedures efficiently when required.

Integrated with March Networks Command Enterprise video management software, Command Center delivers the following key features:

- **Immediate Visual Awareness** – can decode as many as 32 video streams per display from multiple locations so operators can see exactly what's happening across their organization.
- **Process Guidance** – guides operators through alarm and event handling efficiently using a series of built-in questions and instructions.
- **Rules Engine and Intelligent Workflow** – automates alarm handling and consults an operator when necessary.

- **Alarm Resolution Form** – delivers a consistent user interface for resolving alarms and capturing operators' notes. Logs all activity during the resolution of the alarm.
- **Alarm Search and Auditing** – provides quick, comprehensive searches on alarm history, along with reports on individual alarm entries.
- **Simple and Cost Effective Design** – runs on commercial-off-the-shelf (COTS) servers and workstations and can support multiple display monitors on a single workstation, eliminating the need to integrate specialized and costly video wall display hardware.
- **Single Virtual Matrix** – decodes all types of standard video codecs, such as H.264, MPEG-4 and M-JPEG, simultaneously on a single virtual matrix view.
- **Flexible and Scalable** – simply add more PC workstations when new display monitors are needed. Command Center can decode and display potentially hundreds of video streams.

To learn more about our Command Center solution, contact your March Networks certified partner or visit our website: www.marchnetworks.com.

Supporting the Engineers of Tomorrow

Software and computer engineers play an important role at March Networks, helping us innovate, design and deliver our intelligent IP video solutions to customers.

In recognition of these contributions, and in an effort to support the engineers of tomorrow, March Networks has established a series of new engineering scholarships at three post-secondary institutions in Ottawa, where our company is headquartered.

The scholarships established with Carleton University's Faculty of Engineering, the University of Ottawa's Faculty of Engineering, and the Applied Arts and Technology program at Algonquin College will support a number of students pursuing degrees in computer science, computer engineering, software engineering and other related disciplines.

The first scholarships will be awarded this fall and will help hardworking students further their education in these important fields.

Learning and collaboration

In keeping with this commitment to advanced learning, March Networks is also engaging in a number of community events that foster learning, collaboration and innovation.

Members of March Networks' senior Research & Development (R&D) team participated in this year's Innovation Expo at

Carleton University, where students showcased projects involving engineering, architecture and IT. Ted Bushnik, March Networks' Global Vice President, R&D, and Fred Plante, the company's Director of Software Development, helped select the Expo's winning engineering project and presented the team with a March Networks Industry Choice award — a \$500 prize to help bring the project to life.

IEEE Lunch and Learns

Our company also joined in Carleton's CUHacking day, where engineering students compete over a 24-hour period to come up with a hardware or software project, and Discover Technata, a career and technology fair in Ottawa. We also continue to support monthly IEEE Ottawa lunch and learn events, where guest speakers share information on topics of interest to the engineering profession and broader technology sector.

"We're proud to support these educational initiatives and, in particular, students who are pursuing an education in engineering, a field that directly impacts our work in IP video surveillance," said Peter Strom, March Networks President and CEO. "We look forward to seeing the excellent contributions these students will make in the future, and will continue to positively engage with our local community." ▼



March Networks' Ted Bushnik, Global VP of R&D (right), and Fred Plante, Director of Software Development (left), present the Industry Choice award to students Ali Ba Wazir, Arjun Birdi, Jonathan Goldnau-Vogt and Maytham Sabbagh at the Carleton University Innovation Expo earlier this year. The students' research project was called Shifty, an automatic bicycle transmission system.

March Networks News is published biannually by March Networks Corporation. To subscribe to eNews, please visit us online at marchnetworks.com. We welcome your comments by email at newsletter@marchnetworks.com.

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Printed in Canada. 060-3323-00-A



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