

A MARCH NETWORKS WHITEPAPER

Networked Video Security for Banks and Credit Unions

Fight Fraud and Lower Costs with Intelligent Video Surveillance

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Executive Summary

Video security has evolved rapidly over the past decade. As most security and fraud detection experts will recognize, physical security budgets for financial institutions were traditionally allocated to the purchase, operation and maintenance of CCTV surveillance equipment alone. When digital surveillance systems became the industry standard, budgets had to be expanded to include IT infrastructure costs such as user and management PCs, network equipment, and increased bandwidth and storage.

Working with many of the world's leading banks and credit unions, March Networks® has developed networked video security solutions that considerably broaden the standard range of applications to assist those groups fighting some of the most damaging banking exposures today — the fraud investigation and loss prevention teams.

These video-based solutions provide customers with real returns on investment. Safeguarding assets, reducing risk and increasing profitability are all part of the equation. This paper discusses the comprehensive view banks and credit unions will want to consider in order to compile a full competitive assessment, including all equipment and infrastructure costs, as well as fraud investigation expenses versus recoveries, and more.

Introduction

March Networks solutions provide banks and credit unions with important and often unique returns. Specific budgets will vary by financial institution size and structure, however system enhancements can reduce costs and aid recoveries by 50 percent or more. Thousands of dollars may be saved per retail branch, and can double or even triple a fraud team's cost effectiveness and success rate.

The details outlined in Table 1 are expanded on in the following pages. The product comparisons are intentionally generic but representative. The benefits are those experienced across the more than 450 satisfied financial customers already using March Networks solutions. These institutions have increased the quality of their video surveillance, enhanced protection of their customers, members, employees and assets, and dramatically improved the productivity and cost-per-investigation of their fraud teams.

Table 1 - Value of March Networks Financial Solutions

Security Investment	Features / Benefits	Return on Investment (ROI)
Fraud Defenses	<ul style="list-style-type: none"> • Advanced video/data search • Forensic video/data analytics • Integrated case management • Compelling evidence 	<ul style="list-style-type: none"> → 40%+ improvement in investigator efficiency → faster identification of crimes and fewer losses → reduced investigation time and costs → successful prosecutions and increased recoveries
Physical Security	<ul style="list-style-type: none"> • Advanced hybrid recorders • Bank-centric IP cameras • Task-oriented software • Unmatched reliability 	<ul style="list-style-type: none"> → market-leading performance and scalability → megapixel video for marginally more cost than analog → enhanced user productivity → lowest cost of ownership by up to 70% less
IT and Infrastructure	<ul style="list-style-type: none"> • Network-centric design • Advanced encryption • Embedded Linux OS • Unmatched central management 	<ul style="list-style-type: none"> → efficient local and remote operation → tamper-proof video capture and transmission → highest protection against hacking and viruses → optimized resources, budgets and video availability
System Maintenance	<ul style="list-style-type: none"> • Full remote programming • User and software controls • Sophisticated health monitoring • Innovative dock and lock station 	<ul style="list-style-type: none"> → unmatched enterprise management → mass configuration of recorders from single desktop → no loss of video → annual maintenance costs reduced by up to 75%

Fraud and Loss Prevention Costs

The U.S. Secret Service estimates that the financial industry is losing more than a billion dollars annually to incidents of ATM skimming. Add to this all incidents of bank card and check fraud, perpetrated by individuals and organized crime rings, and the problem is staggering – affecting banks and credit unions alike, as well as their customers and members.

Losses can range from several hundred dollars to many thousands in a single fraud incident. Depending on the amount and bank specific policies, customer accounts may simply be credited for disputed transactions, leaving the bank to absorb the losses, legitimate or not. In many cases, disputes below a certain threshold are not referred to an investigation team due to the time and cost of correlating the necessary video and data evidence. Increasing investigator workloads also strain their responsiveness, just when speed of detection and resolution are critical in order to stem losses more rapidly and protect customer loyalty.

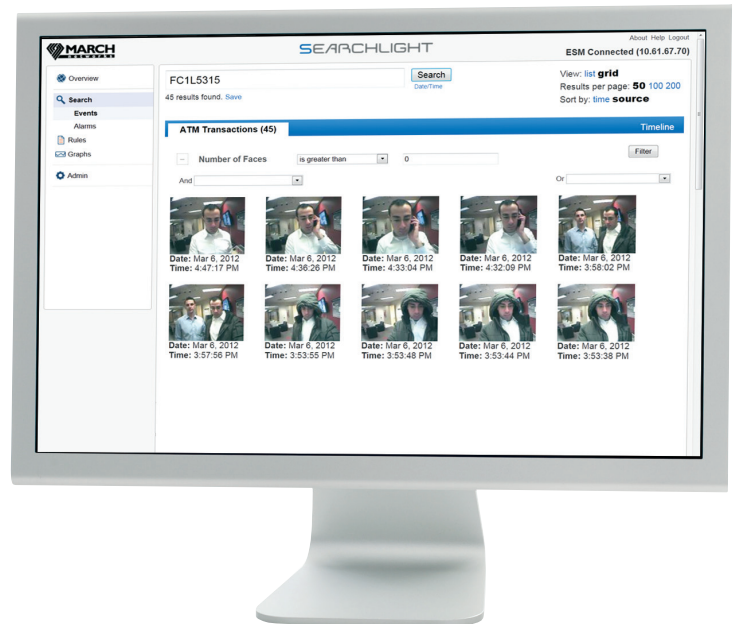
Experienced criminals can install a bank-card skimming system – a card reader and pin-hole camera, readily available over the Internet – in 60 seconds or less. Valuable card data is extracted wirelessly and dozens of bank cards are fraudulently replicated, enabling cash to be harvested from the accounts of unsuspecting customers. Such sophisticated criminal activity calls for equally tough defenses.

March Networks provides some of the most advanced surveillance and detection tools to help customers in this fight, including Searchlight Skimming Detection and License Plate Tracker – powerful applications that enable fraud investigators to tackle more cases in less time.

Searchlight software leverages March Networks' video analytics and Financial Transaction Investigation (FTI) database to add a level of intelligence that video or data alone cannot provide. It scours ATM data and video records in parallel and, using a customizable rules engine, alerts investigators to potential skimmer installation or cash harvesting incidents. Violations are emailed automatically to fraud team members, and correlated video and data evidence, that might otherwise take hours or days to collect, is available in minutes in a simple, organized dashboard complete with thumbnail images that allow investigators to quickly review each potential incident and drill down where needed to get more detail.

March Networks Searchlight applications provide robust, advanced software tools that help detect, investigate and resolve fraud swiftly and cost effectively.

Searchlight's Image Tracker feature uses facial detection analytics to add a photo image to each record, while an integrated color detection analytic allows searches based on the color of a suspect's clothes or vehicle. License plate numbers offer a valuable search dimension to the database and can be detected using standard cameras at minimal cost. Records are saved separately on the server, and can be stored there almost indefinitely enabling investigators to link fraudulent transactions with past occurrences.



In spite of the prevalence of electronic banking, check fraud is still an area of considerable concern. However, by creating rules that fulfill internal policy guidelines, the March Networks system can ensure that check fraud is quickly detected and dealt with. For example, checks from other banks that exceed a certain amount, which generally require additional signing authority, would be flagged, an image saved with the transaction, and the data forwarded to the internal auditor for review.

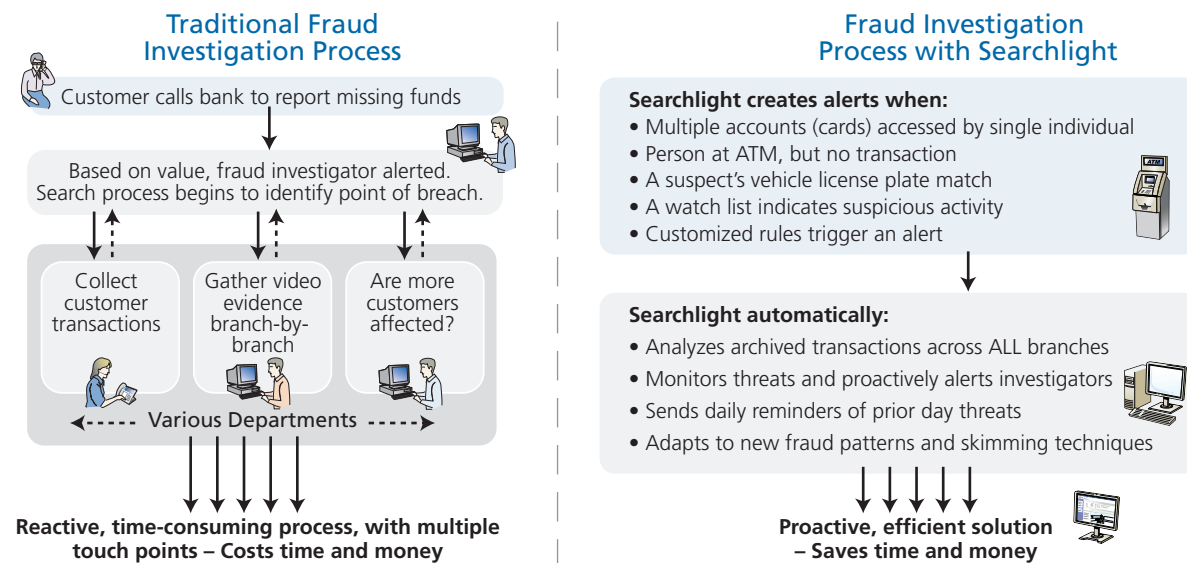


Figure 1: A System that Saves Time and Money

Investigation costs vary enormously depending on the circumstances; however a comparison between traditional methods and the video intelligence applications reveals distinct advantages as outlined in Figure 1. Savings over traditional methods can be as high as 50 to 70% based upon the use of automated alerts, “watch lists” complete with correlated video and data, versus the fully manual processing of files and surveillance video.

More importantly, fast forensic analysis leads to rapid identification of fraudsters, a reduction in losses and client litigation, and consequently improves customer confidence and loyalty in their financial institution. Based upon direct feedback from some of the larger financial institutions, Figure 2 provides a graphical overview of the immense time savings that’s possible when using sophisticated software tools to conduct successful investigations.

“Before we had the March Networks system, our fraud investigators would first have to access our mainframe and pull reports of each suspicious transaction, one at a time. Then we would access our NVRs and search for video one location at a time. This would take at least 15 minutes for each search. Now, we simply type in an account number and a date range, and obtain all the information we need from all locations, within seconds. This has allowed us to nearly triple our fraud recoveries, and the team is very proud of that ...”

— Investigation Director,
Major U.S. Financial Institution

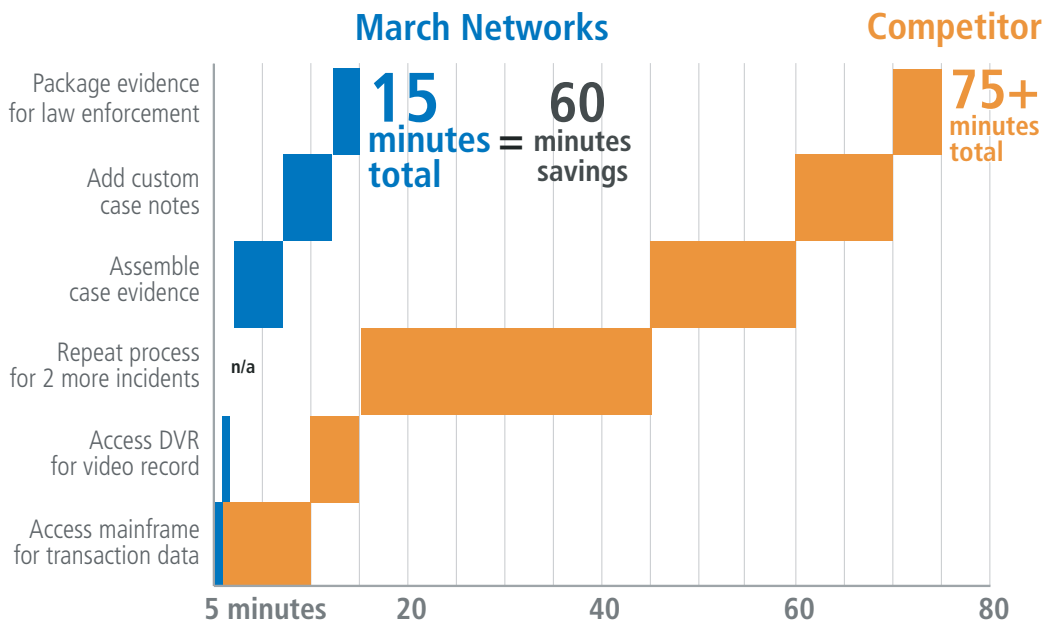


Figure 2: Average Incident Investigation Time/Cost (3 incident example)

Physical Security Costs

From installation to expansion to ongoing maintenance, March Networks hybrid surveillance systems are among the most reliable, scalable and cost-effective systems in the industry. Banks and credit unions can save or avoid significant costs per retail branch annually. For example, one major U.S. financial institution has deployed more than 800 March Networks hybrid network video recorders (NVRs), and in four years has had to repair only two of them. Others have extended their storage capabilities by weeks or even months without a reduction in video quality or the expense of external archiving. Some have cut maintenance costs by thousands of dollars annually.

One major U.S. financial institution has deployed more than 800 March Networks hybrid network video recorders (NVRs), and in four years has had to repair only two of them.

March Networks has added further applications to enhance the user experience and reduce costs further still. An online System Design Tool allows users to quickly estimate their storage and bandwidth requirements, while an industry-first GURU smartphone application saves installers and technicians time and money in the field. GURU, which is available as a free download for Apple and Android mobile devices, frees partners from typically time-consuming tasks by automating product warranty and RMA shipment status lookups, and providing an interactive LED utility for immediate NVR diagnostics. When used in conjunction with QR codes on the front panel of the company's 8000 Series Hybrid NVRs, GURU's one-touch express RMA completely streamlines repair processing requests.



Figure 3: GURU Smartphone App

March Networks 8000 Series Hybrid NVRs are the industry's highest performance recorders, delivering crystal clear video and unparalleled reliability. Together with a suite of advanced software tools, fraud investigators can rapidly zero in on critical forensic evidence, assemble case files and compile sophisticated watch lists.



FEATURES

- 16 and 32-channel models
- Fully hybrid NVR supporting both analog and IP video streams, or up to 32 all IP channels
- Multi-level H.264 encoding
- Embedded Linux OS
- Docking station option for faster installation and maintenance
- Optional video analytics enabled on the recorder

Table 2 - Physical Security Costs and Savings

Security Investment	Typical System	March Networks Financial Solution	Benefit / ROI
Video Recording Platform	<ul style="list-style-type: none"> • 16-camera analog recorder costs \$7,000 - \$9,000 per retail branch • Video storage <ul style="list-style-type: none"> ▫ 30 – 60 day typical storage ▫ Compromise on video quality to extend retention ▫ Add extra capacity externally for \$5,000+ 	<ul style="list-style-type: none"> • Best-in-class 32-camera hybrid recorder costs \$8,000 - \$9,000 • High-capacity internal archiving <ul style="list-style-type: none"> ▫ Costs \$9,000 - \$10,000 ▫ 2.0TB standard/12.0TB optional, 150+ days retention ▫ Internal disk mirroring for reliability 	<ul style="list-style-type: none"> • Market-leading scalability, reliability and performance without added cost • Save \$5,000 or more by avoiding external storage • Set longer retention standards; optionally increase video quality • Install 32-camera hybrid recorder at sizable cost savings
Surveillance Cameras	<ul style="list-style-type: none"> • Analog video capture <ul style="list-style-type: none"> ▫ Cost effective, proven cameras ▫ Limited resolution and zoom clarity • IP video capture <ul style="list-style-type: none"> ▫ Limited support in current DVR ▫ Costly at \$750+ per camera 	<ul style="list-style-type: none"> • Complete analog support <ul style="list-style-type: none"> ▫ Higher frame rates available ▫ Retain analog and add IP cameras • Innovative IP camera family <ul style="list-style-type: none"> ▫ HD, WDR units for \$550 - \$750 ▫ Megapixel zoom clarity ▫ Same interface for analog and IP 	<ul style="list-style-type: none"> • Keep existing investment in analog cameras; leverage latest technologies • Add HD video selectively
System Operation	<ul style="list-style-type: none"> • Video search and retrieval <ul style="list-style-type: none"> ▫ Time and effort required to find relevant video and provide to law enforcement ▫ Live video monitoring when needed 	<ul style="list-style-type: none"> • Task-oriented software with time-saving, user-friendly features <ul style="list-style-type: none"> ▫ Motion histograms; integrated calendar; JPEG previews ▫ Local or remote video control; live viewing; evidence export ▫ One-button/all camera download for panic scenarios ▫ Integrated case management with multiple clips/notes per file 	<ul style="list-style-type: none"> • User efficiency even when under duress • Advanced performance without costly network infrastructure

IT and Infrastructure Costs

Digital surveillance systems add IT resource and infrastructure costs to overall security budgets. The quantity and type of network equipment, bandwidth usage, maintenance and other items required by surveillance systems varies considerably. March Networks is a leader in optimizing system configurations and minimizing the resulting costs for its customers. Here are some examples of how this is achieved.

Network / Equipment Utilization

March Networks systems are especially user-friendly, with features and capabilities that enable them to adapt to almost any customer IT environment without compromising performance.

- As part of the rapid video search process, March Networks Investigator software provides users with a series of thumbnails evenly spaced across the video timeline, providing highly efficient previews of all video instead of forcing full reviews to find desired clips. Video search efficiency is significantly increased and network requirements are reduced.
- Authorized users can access and play video from any March Networks recorder on the network without the need to download the video to their desktop. Only required evidence clips are downloaded, once again reducing network traffic.
- The 8000 Series Hybrid NVRs support optimized H.264 video compression, allowing the capture and storage of higher quality video without increasing bandwidth and storage requirements.
- Once the required video evidence is pinpointed, March Networks recorders offer robust bandwidth throttling controls that ensure downloads adapt to the network infrastructure available including links with speeds as low as 56 kbps, often found in remote locations. Settings can be varied automatically by time and day to accommodate changing network traffic patterns, or a preset change can be triggered by an event. For example, pressing a 'hold-up' or panic button will temporarily provide maximum bandwidth to investigators in order to help generate time-sensitive evidence. There is no need for a separate video network, and operation is highly efficient without straining the IT budget.



System and Network Security

March Networks places considerable emphasis on system and network security. Our recorders use a robust Linux operating system, embedded in flash memory. They are impervious to hacking attempts, worms, viruses and other malware that plague Windows-based systems, and eliminate the need to install firewall software on these platforms.

Because the operating system does not reside on the hard drives, a hard drive fault will not result in system failure. The NVR will continue recording to the other drives — up to four high-capacity drives per device. Better still, a disc mirroring feature protects the video data, and if a drive does fail, it is field replaceable in a matter of minutes.

Our recorders and software have been subjected to “ethical hacks” by prospective customer IT teams in an effort to test their defenses. The hackers have never succeeded in compromising our systems.

Advanced encryption in our video transmission streams, and tamper-proof seals on all exported video evidence provide additional security. March Networks recorders and software have been subjected to “ethical hacks” by prospective customer IT teams in an effort to test their defenses. The hackers have never succeeded in compromising our systems, and those users are among the many on our list of satisfied customers. They are convinced that March Networks recorders offer them the highest protection against hacking, viruses and video loss, at no added cost.

System Maintenance

Where IT teams are responsible for the programming and maintenance of the video surveillance infrastructure, staff will benefit from the features highlighted earlier under Physical Security Costs. March Networks leads the industry in cost-effective, enterprise-class system management and maintenance capabilities. A single, centrally located workstation can program, control and administer any number of dispersed recorders and their associated user community. System health is not merely checked once a day, but is monitored automatically and continuously, in near real-time. Rapid detection and notification of any problems in network connections, system components or cameras ensures a near fault-free video system.

Table 3 summarizes those areas where specific features can lead to savings in maintenance costs. Such features provide a tangible return on investment by optimizing the efforts of support staff, minimizing system outages, and preventing loss of video data.

“In nearly 4 years of supporting March Networks systems, we have only had to change one hard drive. That’s it! I have never worked with a product as bullet-proof as that.”

— Lead Technician,
Canadian Security Integrator

Table 3 - System Maintenance Costs and Savings

Typical System	March Networks Financial Solution	Benefit / ROI
System administration and health checks <ul style="list-style-type: none">• Hourly staff rate to ensure programming compliance and video availability per branch System reliability and servicing <ul style="list-style-type: none">• Outsourced hourly-rate or annual service fees to ensure fault-free operation	The leading central management and health monitoring software <ul style="list-style-type: none">• Full remote programming• Automatically monitor systems, network and cameras• User and software controls Designed for maximum up-time <ul style="list-style-type: none">• Sophisticated health monitoring• Back-up battery for reliability• Innovative dock and lock station	Unmatched enterprise control <ul style="list-style-type: none">• Manage 1000’s of recorders from single desktop, in near real-time• Warning of any potential issues• No loss of video; annual maintenance costs reduced by up to 75%

Conclusions

Financial institutions have no shortage of choices in selecting a video surveillance system. When forward-thinking banks and credit unions examine the multi-layered costs and benefits, a clear leader emerges. The March Networks hybrid IP/analog video surveillance system is finely tuned to the needs of financial institutions of all sizes, and proven in leading banks worldwide including:

- 6 of the top 10 U.S. banks;
- 5 of the 7 largest banks in Mexico;
- The majority of Canada's top financial institutions; and
- Leading banks across Europe, the Middle East and Asia Pacific.

Superior recording, storage, cameras and value-added applications and management are significant features that make them stand out from the crowd. And they do so with the highest reliability and investment protection, together with the lowest cost-of-ownership in the industry.

About March Networks

March Networks®, an independent subsidiary of Infinova®, is a leading provider of intelligent IP video solutions. For more than a decade, the company has helped some of the world's largest commercial and government organizations transition from traditional CCTV to advanced surveillance technologies used for security, loss prevention, risk mitigation and operational efficiency. Its highly scalable and easy to use Command™ video management platform incorporates a web-based client interface to enable rapid system deployment and complete system control. It is complemented by the company's portfolio of high-definition IP cameras, encoders, video analytics and hybrid recorders, as well as outstanding professional and managed services. March Networks systems are delivered through an extensive distribution and partner network in more than 50 countries. For more information, please visit www.marchnetworks.com.

"Ranked the #1 supplier of video surveillance equipment in the Americas banking market"

— As ranked by IMS Research

North America1 800 563 5564
Latin America.+1 613 591 8181
Europe.+39 0362 17935
Asia, Hong Kong+852 2795 6540
Asia Pacific.+61 1300 089 419
Middle East and Africa+971 4 326 5911

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