VUNETRIX

Addressing the Challenges and Complexities Facing Physical Security Networks

CHAPTERS

INTRODUCTION

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Today's organization confront the daunting task of safeguarding many valuable resources: data, equipment, employees, customers, the public, facilities, systems and company assets.

In many ways, a perfect storm is brewing in the physical security space. Today, owners and administrators of IP-based physical security systems face ever-growing resource demands and experience significant management and support challenges. Converging threats and burdensome complexity menace organizations that are simply unprepared to face such threats. Those that fail to use proper monitoring and security controls could face steep civil—and even criminal penalties—as well as loss of trust from the public, stakeholders and partners.

While IT professionals often focus on headline-grabbing cyber threats, Security professionals must control access to facilities and ensure access and maintenance of high-value video. The rise in IP-based physical security devices creates more severe vulnerabilities than before. Consequently, device and system failures happen daily in most organizations.

The dizzying pace at which organizations adopt emerging technologies continuously generates new challenges. Meanwhile, Security professionals must safeguard overly cumbersome infrastructures with fewer resources: money, people and monitoring tools have dwindled over the years. Today's IT and Security professionals can access a rich array of solutions—including IP video surveillance, video recording and storage, and Internet-connected control points—to protect against threats. However, implementing physical security systems and expanding responsibilities of Security professionals outpace the ability of resources to respond to and control threats.

This gap allows preventable security breaches and failures to occur, exposing organizations to both known and unknown threats. Today's Security professionals require a tool for holistic management of the physical security infrastructure across all stages: assess, plan, implement, monitor, manage, comply and replace. Every organization needs a deliberate, organized approach to physical security infrastructure management that addresses the gap without adding more people to the payroll.

What is Physical Security Network Monitoring?

Physical Security Network Monitoring (PSNM) provides comprehensive, continuous monitoring of the mission critical devices on a physical security network.

By capturing and compiling device-generated data as well as setting up performance reports and alerts, Security professionals can use PSNM to create actionable intelligence. Simply put, PSNM helps Security professionals understand device data so they can translate it into actionable business intelligence.

What does this mean?

For PSMN to work well, teams must first understand how the physical security network ought to perform. After establishing the "normal" operating standard, managers can set device thresholds, allowing the system to send warnings about limit breaches or "abnormal" behavior. These alerts provide context or business intelligence about real-time anomalies in the system.

The Result? Vunetrix alerts you before risks compound and valuable data disappears.

Security and IT professionals agree that a holistic PSNM solution must contain these five operational functions for integrated control.

1   Provide continuous real-time monitoring

Even in the best-secured surveillance system, maintaining compliance and ensuring system health and performance require instantaneous device and sensor reports as well as alerts to eliminate lapses in security coverage. A PSNM tool should do that.

2   Transform data into answers

Data without context is counterproductive. An active PSNM tool should always check and be "aware of" the network: it should automate scans, detect anomalies and convey the right information to the right people fast.

3   Empower Security professionals

A powerful PSNM tool should help Security professionals troubleshoot the health and performance of field devices using trending, historical and comprehensive data. This requirement enables security teams to identify imminent system failures quickly and respond immediately.

What is Physical Security Network Monitoring?

**4** **Improve security infrastructure management**

PSNM should lower the cost of operating a physical security network through intelligent inventory planning and data insights about each device. These insights should include performance metrics like estimated lifespan. PSNM should provide valuable insights for inventory planning and capital expenditures.

5 **Provide instant insights**

PSNM should offer real-time insights with a unified view across security system devices and assets. Features like pre-set filters should let you quickly assess and diagnose operational issues. As a result, teams can move from reactive to proactive by instantly detecting patterns, trends and anomalies in the system.

About Vunetrix
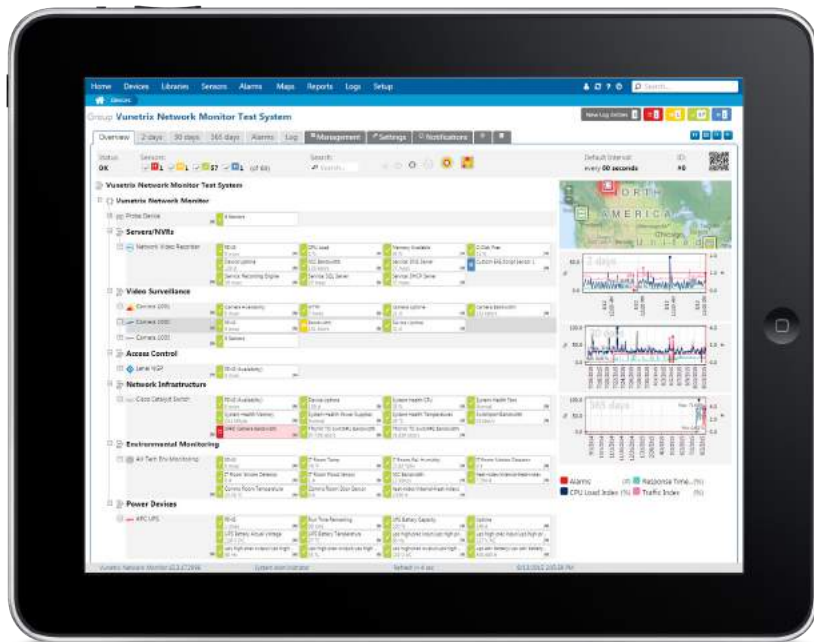
Vunetrix is the PSNM platform of choice for Security professionals worldwide. We have more experience in monitoring the health of physical security systems than any other company out there today.

As subject matter experts, we leverage our knowledge of IP-based surveillance and access control systems to build a tool that makes your job easier, straight out-of-the-box.

Vunetrix helps Security professionals turn device-generated data into valuable insights. The tool gives you a real-time understanding of what is happening across your physical security network so you can prevent failures and make informed decisions.
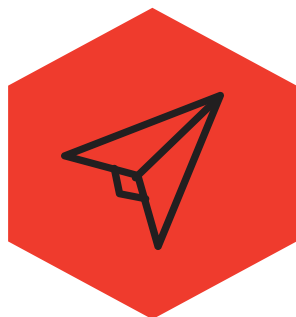
With Vunetrix, companies can deploy state-of-the-art physical security solutions that are both innovative and cost-effective. Vunetrix helps you prevent incidents, optimize your security officers' time and reduce costs all at once. The system is always monitoring, both itself and your network.
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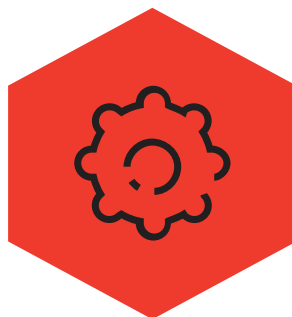
Like alerts for when a car's tires need air or fuel levels are low, Vunetrix delivers a real-time dashboard for your active management of your security network. Or, as our clients tell us, Vunetrix is the "heartbeat monitor on our physical security backbone."

WHAT MAKES VUNETRIX DIFFERENT FROM THE OTHER PHYSICAL SECURITY MONITORING SOLUTIONS?

The answer is simple: Vunetrix allows you to view your multi-vendor infrastructure through a "single pane of glass."

With Vunetrix

Why Choose Vunetrix?

If your company is like most, guards monitor your system, but the security environment lacks automation. It's nearly impossible for a physical security team to comprehensively monitor their infrastructure without massive man-hours. Even then, assuring in real-time that all mission critical devices are functioning as designed is never possible without networking monitoring.

Vunetrix gives your physical security team the assurance that all devices are on and performing well.

Vunetrix is both product and Integrator agnostic: regardless of your network device manufacturers, the software you use, or your favorite Integrator, the Vunetrix tool will integrate into your system and instantly report meaningful data.

Vunetrix gives holistic, real-time visibility into mission-critical security devices in one simple-to-use interface. Imagine the time and money saved when you can monitor and manage your entire physical security infrastructure through a "single pane of glass."

Real-time security monitoring

When you deploy Vunetrix to monitor your physical security network, the system reports performance issues and security concerns instantly. The system also notifies you in real-time if any of the devices on your network behaves "abnormally."

WITH VUNETRIX YOU CAN:

- Identify anomalies before they become critical
- Respond proactively to device behavior
- Troubleshoot anomalies
- Prioritize vulnerabilities
- Reduce risk
- Maintain and report compliance
- Budget accurately

Smart technology and customized alerts safeguard your environment with unprecedented efficiency.

Safeguard Your Environment: The Context Approach

The Context Approach
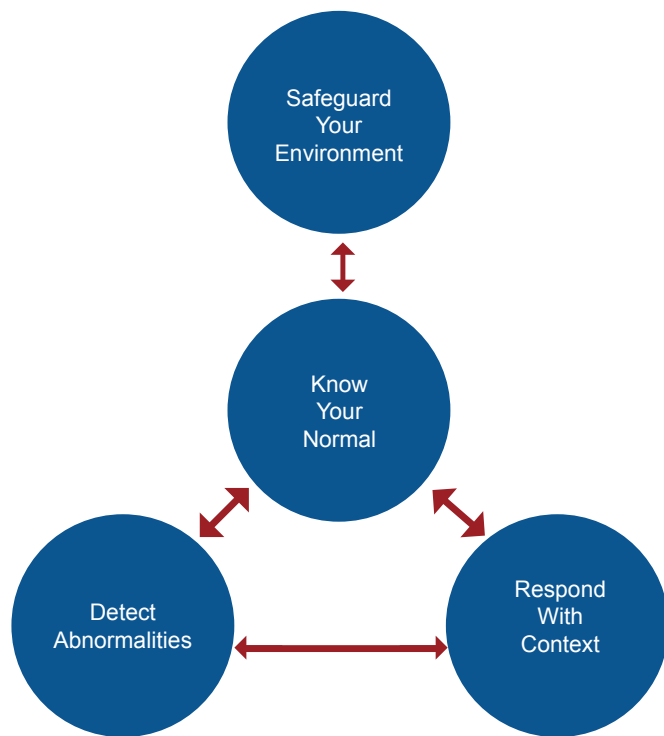
"Know Your Normal"

Safeguarding your environment begins with understanding how your physical security network should behave. At Vunetrix, we call this "Know Your Normal."

Companies need to establish "normal," set thresholds and then receive notifications when systems breach thresholds.

Providing context around the physical security network's "normal" operating behaviors allows Vunetrix to set data thresholds for each device, i.e. your "normal."

DETECT ANOMALIES

When a device behaves abnormally, Vunetrix detects this anomaly. For example, if a device emits too much or too little data, Vunetrix sends an alert.

KEY ALERTS

- Device data traffic throughput
- Hard drive failure
- CPU
- Critical service failure
- Memory failure
- Bandwidth
- On/off status
- Inactive VMS services
- Temperature changes
- Device website access
- System-wide power failure
- Backup power runtime
- Access control

RESPOND WITH CONTEXT.

Not every alert is equal. Vunetrix provides organizations with alert context, empowering better decision-making.

WITH VUENTRIX ON BOARD, COMPANIES KNOW:

- Where a problem exists
- The nature of the problem
- How to respond

Alerts can be customized and individualized per operational duties. Incident identification gives Security professionals the opportunity to intervene before the loss of valuable data and the breach or compromise of their environment.

AREAS OF EXPERTISE

OUR AREAS OF EXPERTISE

- Video Reliability
- After Hours Loss Prevention
- Intercom Voice Quality Monitoring
- Life and Safety Device Controls
- Power Device Uptime and Stability

Key Benefits

Vunetrix offers key benefits to address vexing physical security network issues for those who manage them. In this section, we give particular attention to our areas of expertise and what sets us apart.

Physical security network infrastructure consists of a complex system of bandwidth- and data-consuming devices, such as high-resolution video processors. Understanding how these systems currently and should operate requires a unique skill set and specialized knowledge.

At Vunetrix, physical security subject matter experts manage and monitor a customer's security backbones for optimal performance.

We ensure that your physical security network functions as designed.

Video Reliability
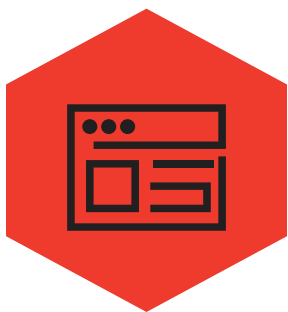
CHALLENGE:MISSING VIDEO

Internet protocol (IP) video surveillance is a smart investment for companies who want to mitigate their risk and reduce their liability. The problem lies in the reliability of the monitoring infrastructure. Despite investment size, device quality, and team performance, missing video continues to thwart physical security teams.

WHY IS THIS HAPPENING?

First, IP-based security video requires a lot of bandwidth and storage capacity and creates complex configurations with a large number of variables. Second, IT monitoring tools often neither monitor video behavior nor detect many of the causes of missing video.

SOLUTION:VUNETRIX

Vunetrix technology is always on, informing you right away if part or all of the surveillance system might or has failed. Vunetrix continuously alerts you of real-time issues so that you can respond proactively and immediately.

AFTER HOURS LOSS PREVENTION

CHALLENGE: UNAPPROVED ENTRY, BREAK-IN, AND THEFT

WHY IS THIS HAPPENING?

SOLUTION:VUNETRIX

Organized crime rings and criminally-minded individuals actively seek ways to access and steal product as well as financial and sensitive data before security teams notice and stop them.

In many circumstances, burglars or robbers cut infrastructure power supplies, disabling the alarm and closed-captioned television (CCTV) systems. Neutralizing the entire security system allows unlimited time to breach safes and empty an entire store.

Vunetrix is always on, notifying your security team the instant any physical security device goes offline. Immediate notification allows you to dispatch local law enforcement immediately. To date, Vunetrix has facilitated more than six arrests, saving hundreds of thousands of dollars of inventory loss and facility damage. The gangs responsible for these break-ins now realize that our clients are not viable victims.

Intercom Voice Quality Monitoring
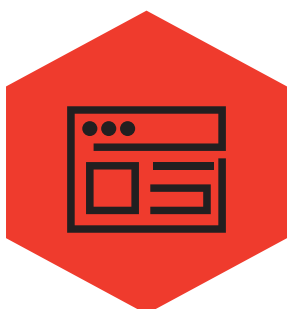
CHALLENGE: SLOW OR LOST DATA PACKETS

Intercoms do not have to fail outright to cause serious safety issues. Network congestion can delay, garble, or even lose voice packets, making transmissions difficult to understand. If you cannot understand the person on the other end of the line, your security system is at risk

WHY IS THIS HAPPENING?

Today, many intercom systems are IP-based, connecting to the Internet and working on a SIP (Session Initiation Protocol) system. SIP, a communication protocol, controls how packets of voice data move across the Internet. Since SIP stations share the same communication network as data and surveillance, the system itself can overload. This real-time interference delays the delivery of voice packets. Sometimes voice packets are missing altogether.

SOLUTION:VUNETRIX

Because Vunetrix is always on and logging data, our technology immediately notifies your security team when communication delays or failures occur. Our tool also delivers trending information that can identify issues with the network and all connected devices. Vunetrix enables companies to manage their intercoms systems proactively and to assure that optimal conditions exist for the transmission of voice packets.

LIFE AND SAFETY DEVICE CONTROLS
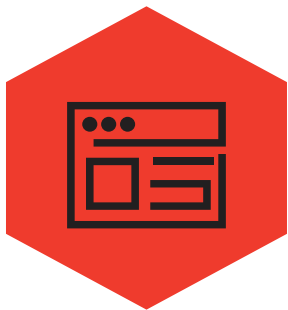
CHALLENGE: CONTROL PANEL MALFUNCTION OR FAILURES

Life and safety devices protect people from life-threatening situations. For instance, most hospitals provide panic buttons for their patients. If there is an emergency, a patient can just press a button and notify personnel that they are having a problem. If these devices malfunction, patients cannot communicate when there is an issue and can be seriously—even fatally—injured.

WHY IS THIS HAPPENING?

A central control panel monitors and manages each panic device. Panel stability and control require constant monitoring to ensure that they function as designed. However, control panels can be made vulnerable in several ways: the flow of power can drop, or a component can fail. Worse yet, malicious tampering can take the entire system offline. All of these failure points put your clients and patients at risk.

SOLUTION:VUNETRIX

With Vunetrix, our technology is always on, logging and available to report right away if the control panel loses power or has been compromised. We assure that you can continuously monitor control panels, ensuring the reliability of all your life and safety devices. Vunetrix sends real-time alerts of any system anomalies or failures, allowing your security team to respond immediately to life-threatening situations.

Power Device Uptime and Stability

Challenge: Power Fluctuations or Failures

Modern Uninterruptible Power Supplies (UPSs) incorporate line conditioning to ensure delivery of clean, uninterrupted power to mission-critical security devices. Some feature fire alarms, intrusion video, access control, and intercoms to enhance security and stability. In older buildings or finicky power areas, you need a UPS with line conditioning to assure you do not damage the equipment from power surges. However, line conditioning alone does not guarantee that your UPS will perform during power fluctuations. Even in areas with newer buildings and modern grids, power surges and losses can disrupt your UPS and other devices.

WHY IS THIS HAPPENING?

The number of security system devices varies over time. As you connect new components, they draw incremental power, straining the entire system. Also, end devices are infamous for their sensitivity to power fluctuations, which can cause equipment to operate in unexpected ways. For example, a thermostat that draws too much power can cause other HVAC components to behave abnormally. Erratic behavior occurs because the power flow is too low to operate essential components like zone dampers. As a result, large power spikes can deliver dirty, interrupted flows of power. Power surges or drops in voltage damage electronic equipment with undue wear and tear and can cause a system-wide power outage, leaving areas of your security environment unprotected or inaccessible.

SOLUTION: VUNETRIX

Since Vunetrix is always on, our technology is constantly logging and available to report the status of your power supply. Our tool assures that the system and your UPS devices deliver clean, uninterrupted power to all mission-critical security equipment. Vunetrix also monitors the battery capacity of power devices. If UPS battery run-times fall below sufficient levels or if the system experiences any power fluctuations or outages, Vunetrix alerts your security team in real-time, empowering them to respond instantly.

SURVEILLANCE SYSTEM MONITORING BENEFITS

UPTIME:

Vunetrix ensures that surveillance cameras are online and functioning normally.

DELIVERY:

Vunetrix confirms that video streams are actually sending data. Vunetrix warns if and when networks are behaving abnormally and could potentially fail or have already failed.
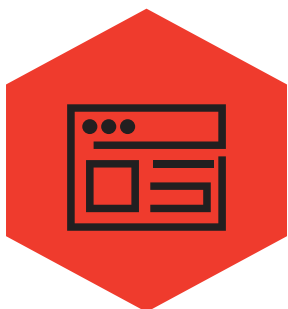
COMPLIANCE:

Vunetrix stores real-time and historical data about the performance of your surveillance system. Your team can access performance and compliance reports on demand as well as review daily, monthly, quarterly, and yearly summaries.

Additional Benefits
Improved Security and Efficiency

Vunetrix automates time-consuming tasks and delivers real-time, holistic visibility to your mission-critical devices. With the correct alerts, your security team can expect to use fewer resources to ensure their companies' security system is operational and functioning with optimal performance.

Critical Infrastructure Protection and Compliance

Use Vunetrix software to monitor security systems, guarantee uptime and streamline compliance reporting in real-time. Our tool helps companies ensure and report compliance as defined by industry mandates and regulations.

Rapid Troubleshooting

Having all the data on a single dashboard provides you with instant visibility to assess and diagnose operational issues. Vunetrix provides the answers for quick and effective responses.

Business Analytics

The Vunetrix tool drives better business and physical security infrastructure decisions for your company's capacity planning and system performance. Your security team always knows when devices approach the end of their life cycles and need replacing.

Business Case for Vunetrix

Vunetrix addresses every performance metric for your physical security system during its entire life cycle, enabling companies to lower operation costs.

OPERATIONAL EFFICIENCY

Vunetrix uses the sensor and device produced data to generate insights into operations, availability and capacity. Vunetrix signals when devices connected to the physical security infrastructure might fail before the loss of valuable data.

Reduce camera downtime
Eliminate lost video
Keep systems online
Know when systems fail

CRITICAL INFRASTRUCTURE PROTECTION AND COMPLIANCE

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BUSINESS ANALYTICS

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Conclusion

Vunetrix makes the invisible visible.

Vunetrix provides Security professionals with real-time visibility into the mission critical devices and services on their physical security network.

Our technology integrates with the diverse manufacturers connected to the physical security backbone and delivers them into a single dashboard.

WITH VUNETRIX, PHYSICAL SECURITY TEAMS CAN:

- **Prevent failures**
- **Optimize performance**
- **Manage existing investments**
- **Maintain compliance**
- **Safeguard environments**

Best of all, our tool has proven to build a bridge between IT and Physical Security teams. Vunetrix provides everyone with information to have meaningful conversations relevant to their environment.

Vunetrix

Always On. Always Vigilant.

VUNETRIX

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