WHAT IS THE DIFFERENCE BETWEEN CLASSIC REMOTE VIDEO SURVEILLANCE AND AI-BASED VIDEO SURVEILLANCE WITH ONLINE RECEPTION SERVICE?

[This guide is intended for business executives to serve as a compass through the maze of various types of remote video surveillance services.]

Both services operate using signals from Network Video Recorders (NVR), but the fundamental difference between them lies in video management and incident handling. However, to fully understand the practical significance of these differences, it is essential to be familiar with the capabilities of Network Video Recorders and the technical competencies and technological preparedness of remote surveillance service providers.

WHAT CAN A NETWORK VIDEO RECORDER (NVR) DO?

Network video recorders (e.g., Hikvision) record and store images from connected IP cameras. Their client software enables remote access to cameras, continuous live viewing, playback, and configuration.

WHAT IS A NETWORK VIDEO RECORDER NOT CAPABLE OF?

Most network video recorders do not have client software suitable for comprehensive video management and interactive incident handling. The former facilitates simultaneous access to multiple sites with different types and brands of video recorders, while the latter supports professional evaluation of incoming alarm footage by dispatchers, as well as the documented execution of related tasks, interventions, and notifications.

Video management and **incident handling** have become essential parts of dispatcher-based video surveillance services.

Therefore, remote surveillance service providers must ensure their systems can:

- Receive alarm signals from various types of video systems through a unified software platform (multi-domain management),
- Display these signals uniformly,
- Evaluate incident-related video footage according to predefined protocols,
- Initiate remote local interventions (e.g., warning unauthorized individuals via outdoor loudspeakers),
- Notify clients, patrol services, authorities, or maintenance personnel either manually (phone call) or automatically (SMS, email, push notifications),
- Professionally document all interventions (linked to the corresponding video footage), • Professionally complete related tasks (e.g., creating reports and analyses).

HOW DOES CLASSIC REMOTE VIDEO SURVEILLANCE SERVICE WORK?

The advent of digital network videos has generated market demand for remote video surveillance services, as replacing manned guarding can achieve significant cost savings. Remote surveillance providers see video surveillance as a new market opportunity, but their technical infrastructure is not prepared to receive and professionally handle alarm images from various video systems.

The technical challenge lies in the fact that their surveillance software is not capable of supporting simultaneous access to video recorders of various types and brands across multiple sites, nor can it provide interactive incident management. This includes the professional evaluation of incoming alarm images by dispatchers, as well as the documented execution of related tasks, interventions, and notifications.

For this reason, dispatchers monitor live feeds from individual recorders through the proprietary client software associated with the video system, using broadband internet at remote surveillance centers. Since the client software from the recorders comes from various manufacturers, each operates independently, resulting in the walls of the surveillance rooms being covered with video walls composed of monitors. These video walls display live images from hundreds of cameras, allowing dispatchers to respond to alarms without having to wait for connections to video servers and for camera feeds to load. This type of operational approach not only places significant demands on the resources of remote surveillance providers but also carries numerous operational risks, making the quality of service provided to clients unpredictable.

BENEFITS

THE SERVICE IS BUILT ON THE ORIGINAL CLIENT SOFTWARE OF DIGITAL NETWORK VIDEO

Once the client program is set up in the remote surveillance center, the service can be immediately started.

THE SERVICE FEE IS EQUIVALENT TO THE MONITORING FEE OF ALARM SYSTEMS

The operation and effectiveness of the service are fully equivalent to the reactive monitoring of alarm systems, thus its quality and price are also equivalent.

DISADVANTAGES

Requires the parallel operation and expert handling of heterogeneous software inventory by dispatchers.	Handling 5-6 different types of client software increases the possibility of errors by dispatchers.
Demands continuous monitoring of live feeds on video walls.	Monitoring hundreds of cameras is not only monotonous but also extremely exhausting, which increases the likelihood of dispatcher errors.
Simultaneous handling of alarms from multiple video servers requires the intervention of multiple dispatchers at the same time.	If one dispatcher manages simultaneous alarms, switching between different client software also increases the potential for errors.
In the absence of AI analytics, the number of unnecessary alarms significantly increases.	After a while, dispatchers may start to take frequent false alarms less seriously, which can lead to oversight and errors.
During alarms, the client software of various network video recorders does not include dispatcher duties, evaluation tasks, protocol-based handling of notifications, nor their professional documentation.	The intervention measures related to incident events are managed by the surveillance software, which is not connected to the individual video system client software. Therefore, the administration of actions taken in response to alarm events lacks video recordings of the incidents, hindering retrospective verification of dispatchers' work and significantly complicating the investigation of any customer complaints.

HOW DOES AI-BASED VIDEO SURVEILLANCE AND ONLINE RECEPTION SERVICE WORK?

Born from the shortcomings and risks of traditional video surveillance services, the idea of developing a new AI-based video surveillance and online reception service emerged. This new, preventative service differs from its reactive predecessor in that the dispatcher responsible for monitoring can intervene in onsite events in real time from a distance, making the protection much more effective and significantly improving security.

In reactive video surveillance, there is no interaction between the perpetrator on site and the dispatcher. Upon an alarm, the dispatcher immediately notifies the patrol service, which then begins on-site action upon arrival. In cases of burglary or damage, they also notify the relevant authorities and the client. Many providers still offer this type of reactive video surveillance service today, whose operation and effectiveness are entirely equivalent to that of alarm system monitoring. Therefore, its quality and price are also equivalent.

In preventive, AI-based video surveillance, the dispatcher first issues a verbal warning through an outdoor loudspeaker to the person deemed suspicious to deter them from proceeding with their actions. If the warning does not lead to compliance, then the patrol service is notified. However, in most cases, the live verbal warning has a significant deterrent effect, which minimally reduces the number of intrusions and related call-outs.

Preventive, AI-based video surveillance significantly reduces the incidence of crime and thereby elevates the level of property security. Targeted monitoring by AI and live verbal communication through loudspeakers enable more effective interventions than what could ever be expected from an on-site security guard.

BENEFITS

INTEGRATION WITH AI-BASED VIDEO SYSTEM

The incident management system can seamlessly integrate with the AI-based video surveillance system, which utilizes various types of cameras and sensors. This integration allows the surveillance system to immediately receive data and alerts generated by the AI from the monitoring network.

REAL-TIME ALERT MANAGEMENT

The surveillance system can automatically handle alerts when the AI detects unusual events such as intrusions, fire, or equipment failures. Alerts are immediately sent to dispatchers who respond swiftly to the situation. Alerts include:

- The type of event
- The precise location of the event
- Related video footage and data
- Client-specific details about the equipment or site

CLIENT-SPECIFIC PARAMETERS

Since the dispatch center serves various clients, the surveillance system provides the ability to create custom settings for each client. This includes:

- Client-specific alert protocols and event management processes
- Management of alert thresholds and priorities related to various technical equipment
- Client preferences regarding response times and handling methods

AUTOMATED AND MANUAL INCIDENT MANAGEMENT PROCESSES

The surveillance system supports both automated and manual interventions flexibly. Automatic interventions may include:

- Automatic notifications to the client or on-site security personnel
- Alert forwarding to technical teams or external service providers

In addition, dispatchers have the option to intervene manually during an alert, such as:

- Camera and device control for further investigation of the situation
- Remote intervention using the loudspeaker system and gate intercom

CENTRAL EVENT LOG AND AUDITING

The surveillance system maintains a detailed event log of every alert and incident, including:

- The time, source, and type of the alert
- The timeline of the dispatcher's interventions

- Recording of all related communications and actions
- Logging of client notifications and feedback

This ensures auditability and aids in resolving legal or technical disputes, as well as improving service quality.

SCALABILITY AND MULTI-TENANCY (SUPPORT FOR MULTIPLE USERS SIMULTANEOUSLY)

Thanks to its scalability, the surveillance system can manage multiple clients and locations simultaneously without decreasing the speed or effectiveness of incident management. Multi-tenancy allows each client to have isolated data and settings within the surveillance system.

COMMUNICATION AND REPORTING

The surveillance system features built-in communication tools that allow dispatchers to easily interact with on-site personnel or potential offenders through an outdoor loudspeaker installed at the facility. It also includes automatic report generation features that regularly produce reports on alerts and their management for clients.

AI-SUPPORTED ANALYTICS AND FORECASTING

The surveillance system can collect and analyze data generated by AI. This helps in forecasting and identifying long-term patterns, thus preventing future problems and optimizing security.

MOBILE AND WEB-BASED ACCESS

The surveillance system provides access for dispatchers and response teams from anywhere, making mobile and web-based access crucial. This enhances efficiency and responsiveness.

FLEXIBILITY IN HANDLING VARIOUS INDUSTRIAL STANDARDS AND PROTOCOLS

The surveillance system is compatible with industrial standards used by various technical equipment and systems (e.g., Video Management APIs, SCADA, IoT devices). This allows it to adapt to client-specific solutions built on different technologies.

DISADVANTAGES

SERVICE IMPLEMENTATION REQUIRES EQUIPMENT PURCHASE

Introducing video surveillance involves acquiring and setting up an AI-based digital network video recorder (e.g., https://www.luxriot.com/) and outdoor loudspeakers (e.g., https://www.axis.com/products/axis-c1310-e-mk-ii). Implementing the online reception service requires purchasing and installing a GSM-based infocommunication terminal (e.g., https://www.mohanet.com/imachine-classic#alarm).

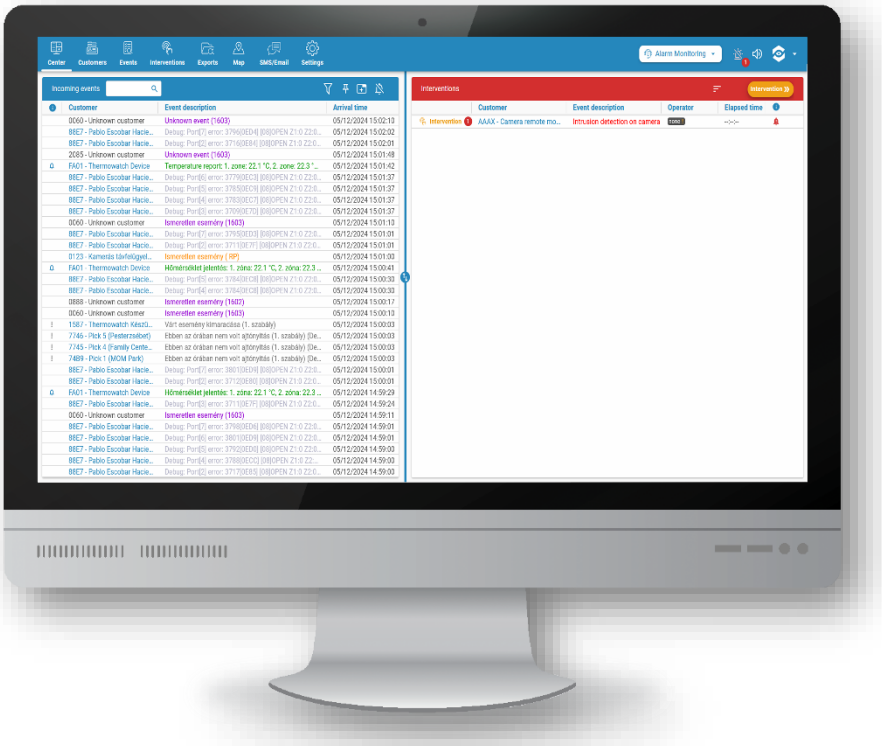
SERVICE FEE IS SIGNIFICANTLY HIGHER COMPARED TO ALARM SYSTEM MONITORING

With the introduction of the AI-based, preventive video surveillance system, the client significantly increases operational efficiency and security. A dispatcher continuously available at the facility monitors its specific needs and technological environment, and with interactive intervention, prevents the occurrence of incidents with negative outcomes. The service represents a much higher added value compared to alarm system monitoring, hence its higher fee, yet it still costs only a third of what manned guarding would, which offers significantly less in terms of security, quality, and efficiency.

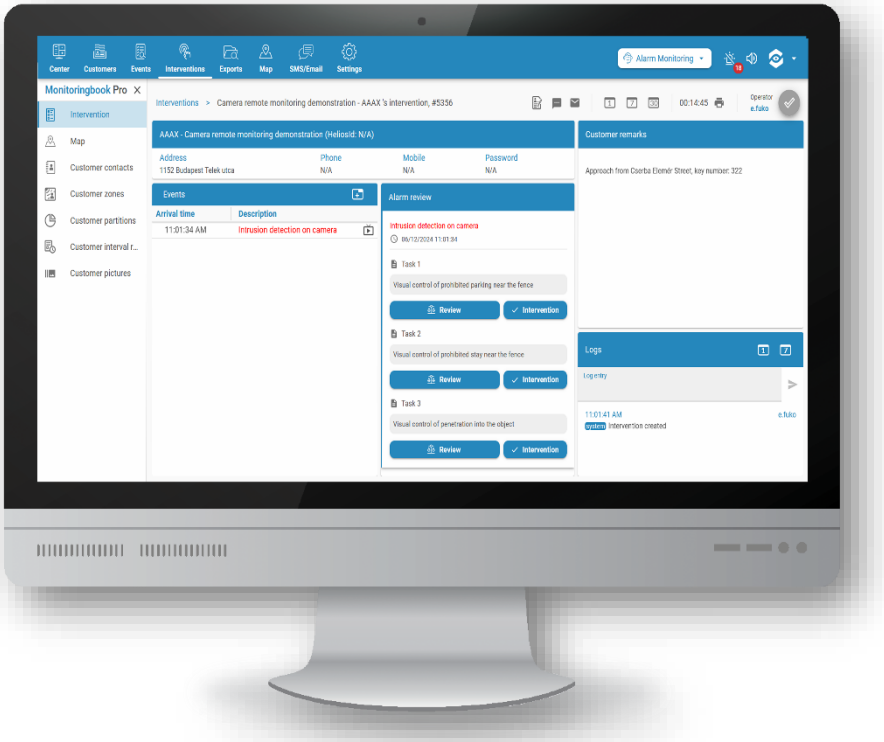
When introducing video surveillance, it is recommended that the client always evaluates whether the chosen remote surveillance provider's technical preparedness and system are suitable for fully servicing and supporting the aforementioned needs. This can be achieved through in-depth interviews using technical questions, as well as by reviewing the dispatcher center's software, where the provider can demonstrate the entire process of dispatcher intervention in practice, allowing the client to validate the responses received from the provider.

DISPATCHER ACTION PROCESS IN AI-BASED VIDEO SURVEILLANCE

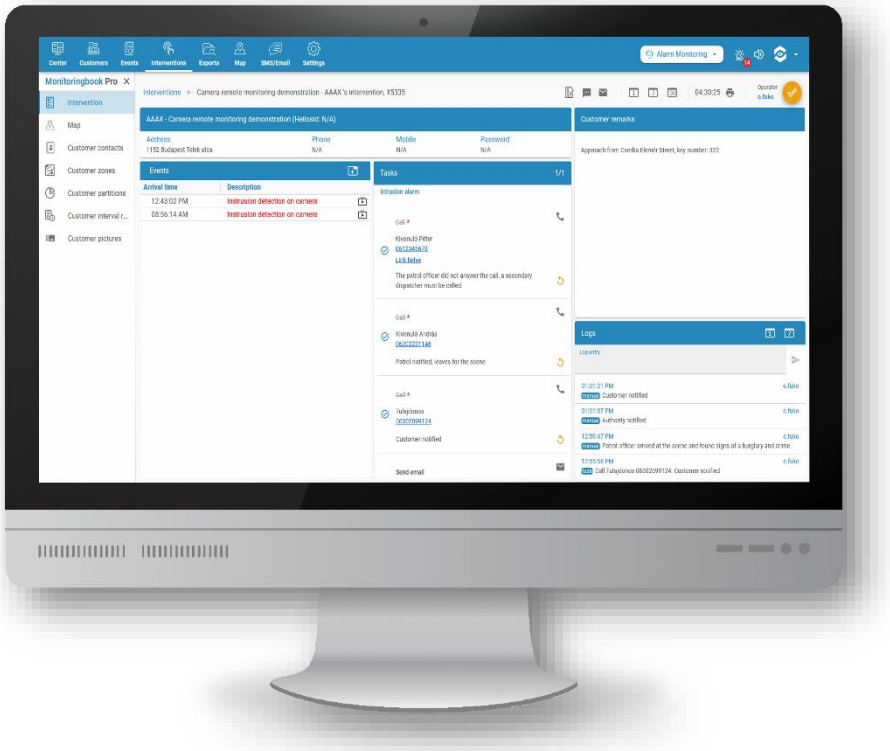
1. An alert is received from an AI-based network video recorder into the MONITORINGBOOK remote surveillance software.



2. The dispatcher opens the action worksheet associated with the alert in the MONITORINGBOOK remote surveillance software and begins evaluating the alert based on the prescribed tasks and instructions.



3. The dispatcher remotely plays back the video recording of the alert event saved in the AI-based video recorder (left camera view) to visually verify and validate the triggering event, while simultaneously monitoring the live feed from the same camera (right camera view).



4. Following the evaluation of the alert event, the dispatcher immediately begins professional management of the incident. Specifically, by pressing a button in the MONITORINGBOOK remote surveillance software, the dispatcher establishes a voice connection with the outdoor loudspeaker installed at the site and then verbally instructs the perpetrator to immediately leave the premises. Since the perpetrator has already entered the area, the protocol requires that the patrol service be notified as well. Upon arriving at the site, the patrol service conducts a thorough inspection of the premises and reports the results back to the dispatcher, who then records the outcome on the action worksheet and can subsequently close it.