Milestone XProtect® Recording Server
Feature Brief

Scalable high-performing video recording software

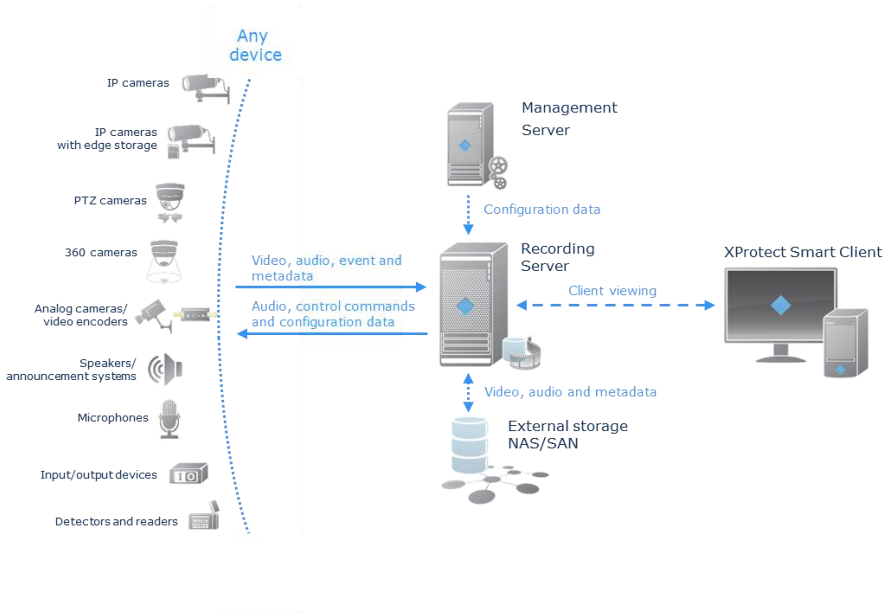
- VMS industry's highest performance with documented recording rate of minimum 3.1 Gbit/s

The recording server is the central system component of Milestone XProtect video management software solutions.

It manages all communication toward cameras, video encoders, audio devices and other security peripherals such as detectors and input/output devices. As a part of this, the recording server handles all video, audio, metadata and event streams for both live viewing and recording. Recorded video is stored in the video database with the option to extend the storage with internal or external archives.

Open Platform – supporting almost any device

As the number one VMS vendor worldwide (IHS Global Inc. June 2016), Milestone supports the widest range of cameras and other surveillance and security peripherals in the market. This ensures that partners and end customers always can build the video surveillance solution that meets their functionality needs and budget requirements.



Key benefits

- Select almost any camera to fit surveillance needs and budget
- Keep server hardware cost to a minimum because Milestone's recording server can record more cameras per recording server than any other VMS vendor
- Reduce cost of long-term video storage

Key features

- Open platform with support for more than 6,000 IP cameras, encoders and other security devices from over 150 manufacturers
- High-performance video recording with documented recording rate of at least 3.1 Gbit/s
- Multistage storage with archiving and grooming support
- Secure video storage with encryption and digital signing
- High-availability support with cold and hot standby failover servers
- RAM-based pre-buffer
- Supports camera-based edge storage, and Scalable Video Quality Recording™

Limitless and seamless scalability

The recording server in Milestone XProtect VMS provides full scalability in terms of number of devices connected to one recording server and the number of recording servers used in one system.

Only limited by available system resources such as CPU, RAM and disk performance, the recording server can be scaled seamlessly in terms of number of cameras connected to a single recording server. This makes it possible to optimize the use of available hardware resources by sizing the individual recording servers to match the server hardware configuration, providing the highest performance/cost ratio.

When the capacity of a single recording server is not enough, additional recording servers can be added to the system. Devices, storage, user rights and other system settings can be centrally managed across multiple recording servers, simplifying the daily operation.

Grow and optimize – during operation

The recording server offers a unique possibility to move individual, or multiple, devices between two recording servers, with maintained configuration and preserved access to live and recorded video. This makes it possible to grow an installation with additional cameras and other devices or optimize the load distribution in a system without interruption.

Designed for high-performance recording

The recording server is a high-performance native 64-bit Microsoft Windows® service. With a documented recording capacity of at least 3.1 Gbit/s, it is, for example, possible to record 700 cameras at 1080p with 4.4 Mbit/s per camera on a single recording server, outperforming other VMS systems in the market with more than 10 times better performance.

The core database is specifically designed for media storage, which optimized the disks' read/write operations. This enables the recording server to record video at a sustained rate of 3.1 Gbit/s or more, out of available disk resources.

Pre-buffer in RAM

To enable pre-event recording in conjunction with motion detection, alarms, etc., the recording server operates with a RAM based pre-buffer. This optimizes the use of the physical disk, which increases the overall recording performance and extends the lifetime of disk drives, keeping maintenance and disk replacement costs low.

Low TCO

- Highly efficient video recording server supports more cameras per recording server
- Move cameras between recording servers during operation to optimize system performance and enable seamless scaling
- Multistage storage enables storage of video on low-cost storage media
- Video grooming reduces cost of long-term video storage
- Centralized device management reduces costs of daily operation
- Separate device driver layer simplifies replacement of installed cameras with new camera models, in runtime without impact on other system components
- Optimum use of physical disk drives keeps maintenance and disk replacement costs to a minimum

Storage Partners

Milestone cooperates with leading storage manufacturers as a part of Milestone Solution Partner program.

For supported storage solutions please use Milestone Solution Finder:

Reduce the cost of long-term video storage

Milestone's unique multistage storage technology makes it possible to use optional internal or external video archives. This unlocks the possibility of using low-cost, high-density storage platforms such as network attached storage (NAS) technologies for long-term video storage.

To further reduce the costs of long-term video storage, multistage video storage offers the possibility of reducing the frame rate at each archiving step. Using this grooming capability it is possible to significantly reduce the cost of storage when operating with long video retention times.

Device drivers – the connecting glue

The recording server works with a layer of device drivers that normalize the communication between a specific camera or security device and the internal logic used in the recording server. Many devices have dedicated drivers developed for them, enabling a richer set of capabilities in the individual devices. Besides these dedicated drivers Milestone also provides a standard ONVIF driver and a Milestone universal driver for broader and more generic device connectivity.

The driver layer can be maintained and updated independently from the rest of the VMS system. This means that support for new devices can be added easily to an older system by just updating the device drivers in the recording server(s). The simple update of the device drivers also keeps the overall system maintenance cost to a minimum.

Scalable Video Quality Recording™ - SVQR

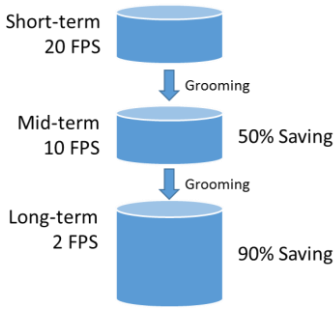
SVQR is a technology that fully explores the synergies between edge and central server-based storage, resulting in a more efficient and cheaper video storage. SVQR makes it possible to record high-quality video to edge storage, while a low-quality reference video stream can be recorded centrally in the recording servers. In the event of an incident or investigation, the initial assessment can be made using the centrally stored low-quality reference video, while the high-quality video can be retrieved from the edge when and as needed.

High-availability options

High-security installations require uninterrupted and continuous access to video. To address these needs the recording server can be configured to run as a failover recording server, which acts as a backup to one, or more, primary recording servers. There are two failover modes:

Grooming

Media grooming enables significant savings on storage cost when operating with long retention times:



Milestone supports

- More than 6,000 different cameras models
- More than 150 different vendors
- Any ONVIF compatible devices

For supported cameras and other surveillance devices, please visit the support section on Milestone's website:

Feature availability

The capabilities described in this brief are fully available in XProtect Corporate and XProtect Expert and partially in XProtect Professional+ and XProtect Express+. For details please refer to the specification sheets of the individual products.

- *Cold standby:* a cost-effective, high-availability configuration where one, or a group of recording servers, can act as a backup to several primary recording servers.
- *Hot standby:* offers one-to-one failover backup, where the primary and the failover recording servers are defined as a mated pair. This mode offers faster failover handling with minimal interruption in the recording capability and access to live video.

End-to-end-video security

In high-security installations it is critical to protect the integrity of stored video. To prevent undesired access and misuse of the recorded video it is possible to encrypt and password protect the recording.

To guarantee authenticity of the recordings, the recording server provides the option to digitally sign the recorded video. This digital signature also makes it possible to detect attempts to tamper with or manipulate the video recording.

Video motion detection speeds up investigations

The recording server offers a built-in *video motion detection* (VMD) function that can be used as a complement to any camera-hosted VMD. Besides providing standard motion triggered recording, the built-in VMD algorithm generates motion metadata. This motion metadata is the foundation for the XProtect Smart Client's Smart Search function.

Using the Smart Search function, it is possible to almost instantly locate all recorded sequences with motion in a selected area in the camera view. This function greatly speeds up investigations of, for example, lost or stolen objects.

Privacy protection and regulation compliance

Due to privacy or regulatory reasons, video surveillance may require the ability to hide certain regions of the camera view. Authorized personnel can apply individual privacy masks to the cameras in the system, which will be enforced consistently in live and playback video and in exported material.

Video encryption

The recording server offers two levels of video encryption (light/strong) which can be applied according to the specific security needs.

Self-adjusting VMD

The VMD in the recording server offers an optional automatic sensitivity control. This offers a number of advantages

- Eliminates the need for manual adjustment, both in conjunction with the initial setup, and when there are more permanent changes in the environmental conditions
- More robust and accurate analysis with less false detections, because the VMD adapts to changing light conditions

Milestone Systems is a global industry leader in open platform IP video management software, founded in 1998 and now operating as a standalone company in the Canon Group. Milestone technology is easy to manage, reliable and proven in thousands of customer installations, providing flexible choices in network hardware and integrations with other systems. Sold through partners in more than 100 countries, Milestone solutions help organizations to manage risks, protect people and assets, optimize processes and reduce costs.

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