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# Milestone Systems

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XProtect® Smart Client 2025 R2

User manual



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# Fundamentals

## Introduction

### XProtect Smart Client - Fundamentals

XProtect Smart Client - Fundamentals is a guide on how to use XProtect Smart Client to view and manage video and audio from connected devices.

#### **Subjects covered**

The purpose of this guide is to help you optimize your use of XProtect Smart Client to improve situational awareness and response times.

The guide covers key tasks such as the following:

- Browsing the user interface
- Configuring views
- Performing searches
- Managing incidents and alarms

The guide also addresses how to integrate extended functionality such as XProtect Access, XProtect Incident Manager, and XProtect Rapid REVIEW, for a more advanced work environment.

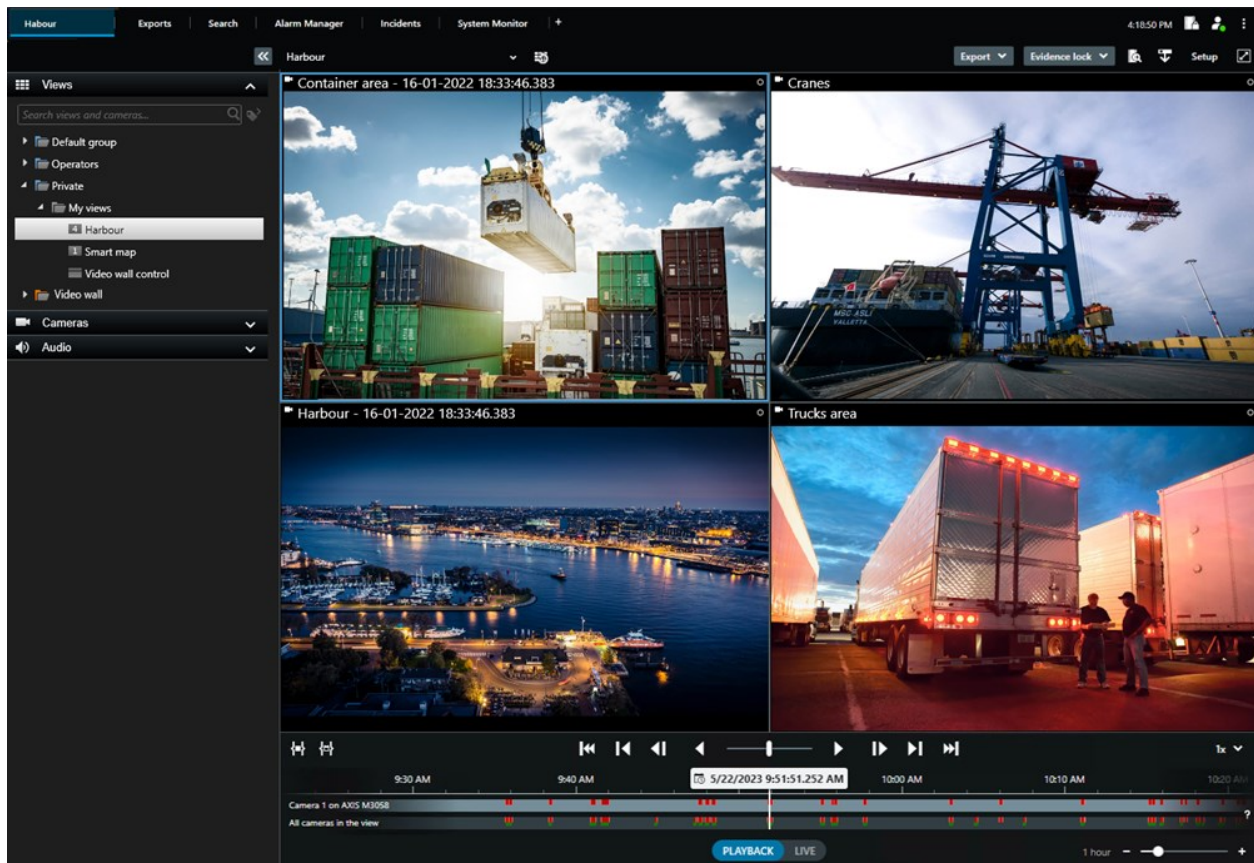
#### **Intended audience**

The intended audience for this guide includes security personnel, operators, and technical staff responsible for managing and operating XProtect Smart Client.

### What is XProtect Smart Client?

XProtect Smart Client is a desktop application with which you can view video and listen to audio from cameras and other devices connected to your XProtect VMS system. Through XProtect Smart Client, you can access live and recorded video, audio, and metadata, as well as control cameras and other connected devices. You can perform advanced searches to find video and audio data and supported metadata stored on the server.

XProtect Smart Client is available in multiple languages. Its adaptable user interface can be optimized for individual users' tasks and adjusted according to specific skills and authority levels.



## What's new?

### In XProtect Smart Client 2025 R2

Add timestamps and camera names on snapshots

- You can now choose to show timestamps and camera names on snapshots in the XProtect Smart Client. Enable each option under **Options**. These details will also appear on snapshots that you print or copy to the clipboard.

See [Application settings on page 327](#).

### In XProtect Smart Client 2025 R1

Additional settings for export of combined files in media player format

- Format and layout types for how the exported video is played. It is possible to include timestamps and camera names as overlays. See [Media player format settings—combined file on page 233](#).

Addition of text and images into the same view item

- Before, you could only add text or an image to a view item. Now, you can add both. See [Add a text and an image to a view on page 263](#).

Support for more flexible use of joystick buttons.

- If your device's manufacturer has configured buttons for key-sequence support and the action you have chosen for the button supports it, you can leave the parameter field empty in the Settings window. See [Button setup: Parameter on page 337](#).

Print-and-pin-posters

- We are introducing a new type of guide to our XProtect Smart Client users. A print-and-pin poster is a one-page poster designed for print that includes an infographic and a short step-by-step description. All print-and-pin posters include a QR code that enables you to watch a related eLearning video. Print-and-pin posters are available for viewing and searching for videos. In addition, we have created a series of export print-and-pin posters that show how to export in different scenarios and all export formats.

## In XProtect Smart Client 2024 R2

Restructuring of the user assistance

- The presentation of the user assistance has been restructured to better address the different roles and tasks that XProtect Smart Client users have. The restructuring continues for the next several releases. For this release, the sections **Viewing video and working with views** and **Creating views** have been expanded and focus on describing all the benefits and ways of solving tasks related to these goals.
- Smart maps are now available in all versions of Milestone XProtect VMS. You can only use Google Maps, Bing Maps, and CAD file overlays in some versions.
- The Map Migration Tool has been added to help the process of switching from the traditional maps functionality to smart maps. Use this tool for guided assistance to add overlays and devices.
- When you search for people in XProtect Smart Client, you can now search for, for example, the color of people's hair and clothes, the type of pattern on their clothes, types of facial hair, and more. When you search for vehicles, there have also been some updates to give you more search options, such as, type of vehicle.

XProtect Access

- The way you select to show or hide access request notifications has been updated.

## In XProtect Smart Client 2024 R1

Installation of the user assistance

- Previously, when you installed XProtect Smart Client, the user assistance was also installed and available after running the installer. With this update, the user assistance is no longer part of the software installation, but you can install the user assistance separately. See [Download and install the XProtect Smart Client user assistance](#).

Exporting video sequences

- When you export video sequences in media player format, you can now export the video sequences as an individual file (containing a single video sequence) or as a combined file (containing multiple, combined video sequences.)

The **Fundamentals** section has been updated with the following content:

- Important XProtect VMS concepts.
- Solving typical tasks.
- Learning how to use XProtect Smart Client.

New **Deploying and logging in** section

- All existing content about installing, upgrading, minimum requirements, licensing, logging in to XProtect Smart Client, and the initial customization of your XProtect Smart Client installation now exists in the new **Deploying and logging in** section.

### In XProtect Smart Client 2023 R3

Multiple views tabs:

- You can create as many tabs with views as you want in XProtect Smart Client's main window and in detached windows. Tabs with views are named after the selected view.

Restore windows and tabs at login:

- Improved functionality and descriptions. See [Restore windows and tabs when logging in on page 75](#) and [Define to restore windows and tabs when logging in on page 79](#).

Adding, deleting, or editing devices on smart map:

- You can add and enable output devices the same way as input devices. See [Devices on a smart map on page 289](#).

Adding, deleting, or editing custom overlays on smart map:

- In Shapefiles, you can add fill- and line colors to make your shapefiles look sharper. See [Make areas in shapefiles more visible \(smart map\) on page 288](#).

### In XProtect Smart Client 2023 R2

Redesign of the main timeline:

- Documentation about the main timeline has been updated to reflect the redesign. See also [The main timeline on page 57](#).
- To optimize the display for viewing video, two new features for hiding the main timeline during inactivity have been added. See [Hide the main timeline on page 98](#).
- The documentation for the different configuration options for the timelines has been updated. See [Configuration options for timelines on page 97](#).

Two new guides for specific audiences:

- A XProtect Smart Client getting started guide aimed at new users.
- A XProtect Smart Client – Player quick guide aimed at operators and authorities or other security professionals outside your organization who receive exported video in the XProtect Smart Client – Player format.

#### Privacy Masking:

- Adding and removing privacy masks now apply to all video sequences in exports from cameras you select in the **Export list**.

#### In XProtect Smart Client 2023 R1

A new **Views** tab replaces the **Live** and **Playback** tabs:

- On the **Views** tab, you can select to view video in live or playback mode with a new toggle switch.
- When in playback mode, the same features and functionalities are available as they were on the **Playback** tab.
- When in live mode, the same features and functionalities are available as they were on the **Live** tab.

The buttons for respectively **Export**, **Evidence lock**, and **Video restrictions** have been moved from the lower-right corner of the XProtect Smart Client to the workspace toolbar in the upper-right corner.

#### XProtect Incident Manager:

- To comply with GDPR or other applicable laws concerning personal data, administrators of XProtect Management Client can now define a retention time for incident projects.

#### In XProtect Smart Client 2022 R3

##### XProtect Incident Manager:

- The XProtect Incident Manager extension is now also compatible with XProtect Expert, XProtect Professional+, and XProtect Express+ version 2022 R3 or later.
- XProtect Incident Manager can now show more than 10,000 incident projects.

#### In XProtect Smart Client 2022 R2

##### XProtect Incident Manager:

- The first release of this extension.
- The XProtect Incident Manager extension is compatible with XProtect Corporate version 2022 R2 and later and with XProtect Smart Client version 2022 R2 and later.

#### XProtect LPR:

- On the **LPR** tab, you can now see the license plate style associated with an **LPR** event.

#### Bookmarks:



- When you enter a keyword to filter your search results for bookmarks, you can now decide where the system should search for the keyword: in all bookmark fields, in the **Headline** only, or in the **Description** only. See [Search for bookmarks on page 180](#).

#### In XProtect Smart Client 2022 R1

Export:

- Everything related to exporting video data now lives on a dedicated tab called **Exports**.

#### In XProtect Smart Client 2021 R2

Export:

- To increase security, the XProtect format is the default export format. To enable other export formats, please contact your system administrator.

New camera icons:

- New camera icons allow you to distinguish between fixed cameras and PTZ cameras.

Vertical scrolling of views and cameras:

- Use **Shift** in combination with the scroll-wheel to move the navigation area to the left or right.

Removed features:

- Camera navigator
- Simplified mode. This feature has also been removed in XProtect Smart Client – Player which is used to view video exports.

#### In XProtect Smart Client 2021 R1

Searching:

- Sort your search results by **Relevance**. See also [Search sorting options on page 192](#).
- Administrators can control the number of cameras that are allowed in one search.

Smart map:

- Use Milestone Map Service as the geographic background of your smart map. After you enable Milestone Map Service, there is no further setup you need to do. See [Enable Milestone Map Service on page 281](#).
- Get an overview of the different types of devices in a cluster. When you are zoomed out, click a cluster to see the types and number of devices within a specific area. See [Information shared by the cluster icon on page 120](#).
- Add different types of devices to your smart map. In addition to cameras, you can also use input devices, microphones, and elements added through the MIP SDK. See also [Devices on a smart map on page 120](#).

[page 289](#) .

- Improved zoom capability. Double-click a cluster to zoom in on grouped devices. See also [Zoom in and out on a smart map on page 123](#).

Security:

- Basic users can change their password, either on their own initiative or if an administrator enforces the need for change. See [Change password \(basic authentication only\) on page 78](#).

## Important XProtect VMS concepts

### Available functionality

#### About available functionality

Being able to log in and use XProtect Smart Client doesn't automatically give you access to the complete set of software features.

Why? Because what functionality in XProtect Smart Client is available for you depends on which:

- XProtect VMS product your organization has purchased
- XProtect extensions or other third-party solutions your organization has purchased
- User permissions your system administrator has given you
- Default values for XProtect Smart Client settings that your system administrator has defined for you or that you have defined yourself.

#### Your user permissions

XProtect Smart Client includes an extensive number of features. It is, among other things, the system administrator of your XProtect VMS system who controls if you have access to a given feature.

When the system administrator creates you as a user in the XProtect VMS system, you have, per default, no user permissions.

Usually, when you have no user permissions to a feature, all the user interface elements related to the feature are hidden in XProtect Smart Client. For example, if you don't have permission to export video, all **Export** buttons and the **Export** default tab are hidden.

The features each user can see and use in XProtect Smart Client can vary considerably, even within the same organization.

As an example, the following can be functionalities that the administrator does NOT grant you user permissions to:

- Log into XProtect Smart Client
- View alarms, live video, or recorded video
- Search for video
- Export video
- Enter setup mode
- Create shared views
- View video from specific cameras
- Apply bookmarks or evidence locks

User permissions can also vary depending on the time of day, day of the week, and a combination of multiple factors. An example can be that you can only view live video from a specific camera during work hours from Monday to Friday. Still, when you're at work, you can see all recorded video from the camera regardless of when the video was recorded.

With the video restriction feature, investigators can temporarily overrule your user permissions to the video from specific cameras for a certain time period.

### Your organization's XProtect products and extensions

The features available in XProtect Smart Client also depend on the XProtect VMS product, XProtect extensions, and third-party solutions your organization has purchased.

There are multiple XProtect VMS products. The top XProtect VMS product includes the complete list of features, while the remaining XProtect VMS products have fewer features.

If your organization has purchased one of the top XProtect VMS products, they include one or more XProtect extensions. The extensions add functionality to XProtect Smart Client. Similarly, your organization can also have purchased other XProtect extensions or third-party solutions that add additional functionality to your XProtect Smart Client.

If you're curious, ask your system administrator about which XProtect VMS product and extensions your organization has, and visit the [Product comparison chart](#) to see the functionality set included with your organization's purchases.

### Defined values of XProtect Smart Client settings

You can customize XProtect Smart Client in many ways.

Within the XProtect Smart Client settings, you can change parts of XProtect Smart Client's behavior and which functionality are available to you.

The system administrator might set default values for certain or all settings or delegate the configuration responsibility to you. You might have the right to modify the default values for specific settings, though in some cases, you're not allowed to make any changes.

You can change the settings anytime, but changing some settings may require you to restart XProtect Smart Client.

The settings you define are saved in your local user account on your computer.

Here are a few examples of XProtect Smart Client settings:

- Show/hide bounding boxes on video.
- Show/hide audio recordings on the timeline tracks in the main timeline.
- The default path for snapshots.
- Restore your views from last login.

You can find all XProtect Smart Client settings here:

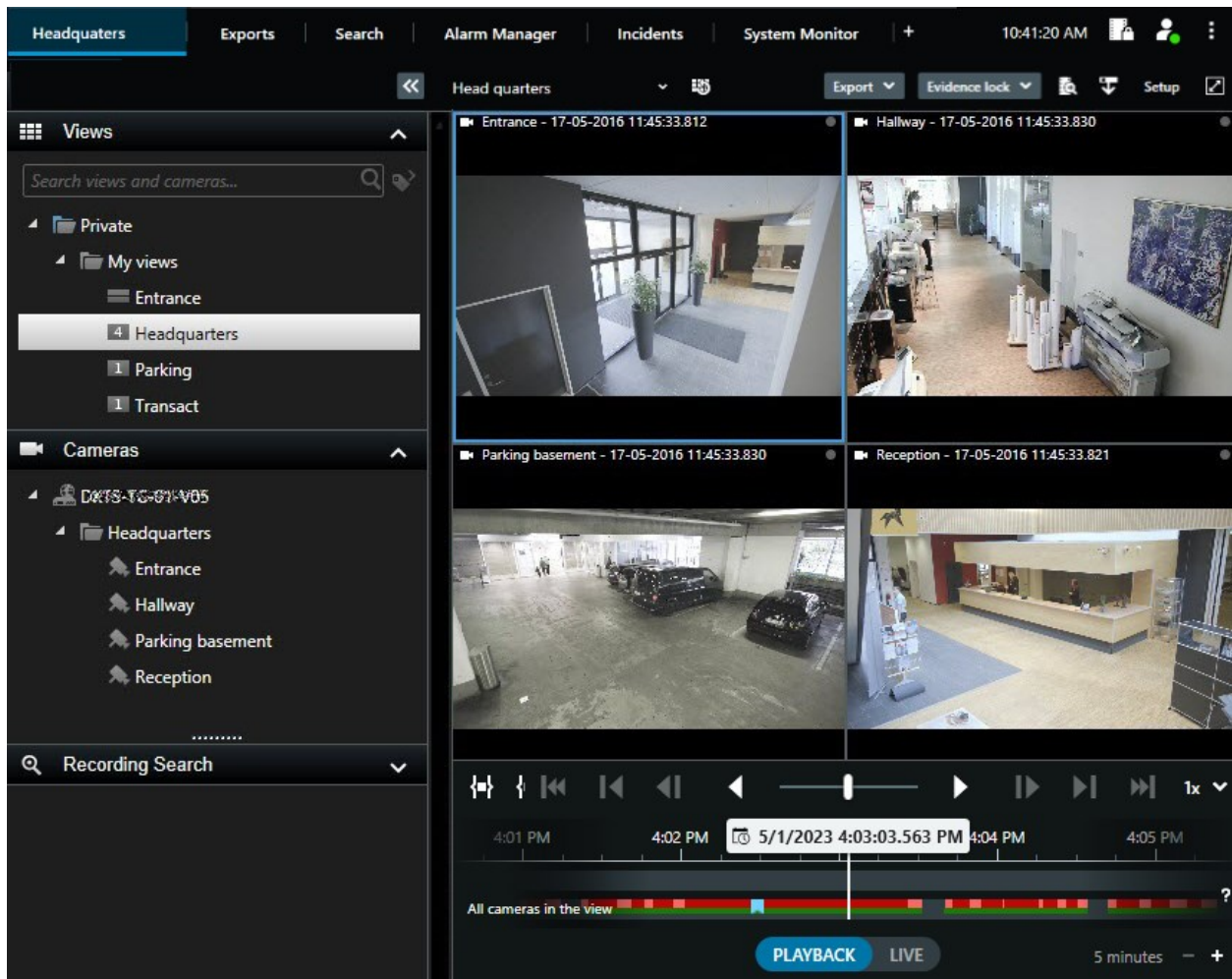
- On the global toolbar, select the **Settings and more** menu, and then select **Settings**.

## Views and view items

You view video in XProtect Smart Client by selecting and switching between views in live or playback mode.

Views resemble tables. In XProtect Smart Client, the cells in the table are called view items. A view can have from one to a hundred view items to display different content.

The content is often video from cameras, but it can also be maps, web pages, still images, text, hotspots, carousels, Matrix, or other types of content.



You can have as many views as you need and add the video from the same cameras or other content to as many views and view items as you want.

You can add the dewarped video from a fisheye camera to multiple view items to display different areas of the video in each view item. You can still move inside the video in a camera view item with digital zoom in both live and recorded video.

Views can be shared or private.

- Shared views: available to multiple users, typically created by system administrators or supervisors.
- Private views: available only to the user who created them.

You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to XProtect Smart Client.

You can also always drag new content from the default panes in to view items in an existing view. Your changes are, however, only temporary unless you have permission to edit the view and have entered setup mode first.

Creating views with content and video from cameras that cover different areas or for specific purposes or tasks is a good idea. For example, different views with all cameras covering:

- The reception area in building 1
- Parking area A
- All hallways in building 1
- All entrances to all your buildings
- The perimeter of your area

## Content in view items

View items often contain video from cameras, enabling you to see what is going on, but you can also add other types of content to view items:

Content types	Purposes and benefits
Alarms	Share a list of prioritized alarms so XProtect Smart Client users can focus on and respond to alarm-related incidents.
Cameras	Show live video feeds or recorded video from cameras.
Carousels	Shows the live video from each camera in a camera group in rotation so you're aware of what is happening in your area.
Hotspots	See video in higher quality in the hotspot view item by selecting a camera in one of the other view items in the same view.
Maps and Smart Maps	Access your cameras and devices on the XProtect VMS system through a geographical map. The map improves the situational awareness in your area.
Matrix	You and your colleagues can send live video streams to each other to improve awareness of and collaboration around incidents.
Static images	For example, share a snapshot of a suspect or a diagram of emergency exits.
Text	For example, send a message, share instructions, or post a work schedule for security personnel.
HTML pages	Provide links, online instructions, or show company web pages.


If your organization uses any of the XProtect extensions, you can also add content related to these extensions:

Content types	Purposes and benefits
Access Monitor	Requires XProtect Access. Add access monitors to your views, for example, for a specific door.
LPR	Requires XProtect LPR. Add LPR cameras to your views.
Smart Wall controls	Requires XProtect Smart Wall. Push video from cameras and other types of content to your video walls.
Transact	Requires XProtect Transact. You can add metadata from, for example, point-of-sales systems to your views.

## The live, playback, and setup modes

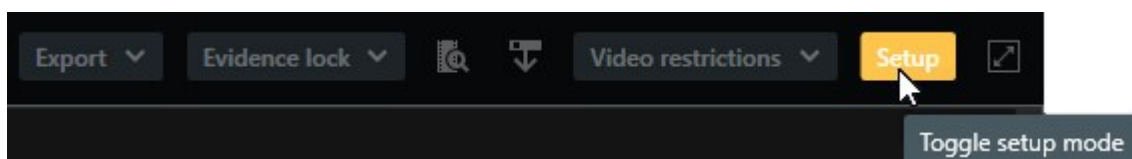
There are three modes in XProtect Smart Client:

- Live
- Playback
- Setup

The live and playback modes are for viewing live and recorded video. You switch between playback and live mode with the  switch on the main timeline.

You can create and edit private and shared views when you're in setup mode. You can also, for example, configure PTZ preset positions, PTZ patrolling profiles, and Maps or Smart Maps.

You enter setup mode by selecting **Setup** on the workspace toolbar.



## Rules

Your system administrator creates and defines rules that determine how XProtect Smart Client behaves.

Well-defined rules help you focus on what is important, reduce your workload, increase your situational awareness, improve your response times, and improve internal communication in case of incidents.

For example, some rules create events and alarms automatically when an incident occurs. Other rules you activate manually through, for example, overlay buttons inside camera view items.

Here are a few examples:

Rule example	Rule behavior example	Benefit examples for XProtect Smart Client users
Start recording when something happens and stop recording when nothing is going on	The XProtect VMS only saves relevant recordings, for example, 30 seconds before someone opens a gate and 30 seconds after the gate is closed again.	With less recorded video, it is easier to find relevant recordings.
Improve the quality of the video shown in a view item when something happens	The XProtect VMS shows the video of the most important incidents in a higher quality. For example, when someone opens a door, the video from the camera surveying the door is shown in higher quality than otherwise in your view.	It is easier to identify the person entering a building.
Trigger events and alarms when something happens	<p>The XProtect VMS notifies you when something specific happens. For example, when a car enters your area.</p> <p>How you're notified depends on the rule, but a few possible ways are:</p> <ul style="list-style-type: none"> <li>• Inside XProtect Smart Client: events and alarms in the alarms list, indications on maps, placing bookmarks, and many others.</li> <li>• Outside XProtect Smart Client: emails, text messages, activation of sirens, and many others.</li> </ul>	You and your colleagues are notified when something happens.
Temporarily move a PTZ camera to a specific position, zoom in on what is happening, and return the PTZ camera to its	<p>The XProtect VMS moves a PTZ camera to cover an area where an incident occurs while zooming in for you to see details better. The PTZ camera returns to its initial position and zoom level, giving you the overview again.</p> <p>An example:</p>	You and your colleagues are presented with the most relevant video and can react quickly.



original position after a specified time period.	<ul style="list-style-type: none"> <li>• A door opens, and the PTZ camera that usually surveys the entire reception area moves slightly and zooms somewhat into the area near the door.</li> <li>• The PTZ camera returns to its original position and zoom level after 30 seconds.</li> </ul>	
Share live video in Matrix view items when something happens	The XProtect VMS sends live video showing an incident into a view item with Matrix content in one or more shared views. For example, when someone breaches the perimeter of your area.	You and your colleagues are made aware of an critical incident and can react quickly if you need to.
Switch cameras between day and night mode based on the time of day	The XProtect VMS switches between cameras' day/night mode in a specific camera group to display the best video quality.	Ensures you and your colleagues have the best quality live and recorded video.

## Incidents, events, actions, and alarms

In XProtect VMS context, the terms incidents, events, actions, and alarms have different meanings, and they each play their part in rules.

Term	Explanation	Scenario
Incident	An incident is something that is happening in real life.	Someone opens a door. In this scenario, we call the door Door1.
Event	<p>In XProtect VMS, an event is when a rule is defined to recognize an incident. Then, the real-life incident becomes an event in the XProtect VMS.</p> <p>The source of events can, among others, come from motion in the video, external sensors, data received from other applications, and user input.</p>	The door sensor attached to Door1 registers that someone opens the door. A rule turns the registration into a Door1Opened event.

Action	<p>An action is when a rule in XProtect VMS is defined to use an event to make something happen in your XProtect VMS.</p> <p>The action can be to start recording, move a PTZ camera, share video from a camera as Matrix content, and much more.</p>	<p>When a rule registers the Door1Opened event, the rule triggers the XProtect VMS to start recording video from the camera near Door1 in a higher quality for two minutes.</p>
Alarm	<p>An alarm is when a rule in XProtect VMS is defined to use an event to notify relevant people that an incident has occurred.</p> <p>The notification can be through output devices, emails, text messages, and other means.</p>	<p>When a rule registers the Door1Opened event outside office hours, the rule activates a siren and sends a text message to the head of security.</p>

You can find all events and alarms in the alarms list in XProtect Smart Client.

## Bookmarks, evidence locks, and video restrictions

You can tag video sequences with bookmark, evidence lock, and video restriction tags.

### Bookmarks

You use bookmarks to improve the sharing of video sequences internally and externally.

- Internally, because you can add additional information about these tagged sequences and you and your colleagues can search for them. This means that more can, for example, help handle incidents and investigations.
- Externally, because you can easily export the tagged video sequences.

### Evidence locks

Tagging video sequences with evidence locks have the same benefits as bookmarks, but you also protect the tagged video sequences from being deleted for a defined duration.

Protecting video sequences from deletion is helpful if they are essential evidence in, for example, a court case or significant investigation, and you, therefore, need to keep these sequences longer than you usually would.

## Video restrictions

Investigators can tag video sequences with video restriction tags to restrict access to the video sequences for a defined duration. Both in live and recorded video.

Investigators typically apply video restriction tags if the video is privacy sensitive, related to a high-profile incident, or both.

The following examples demonstrate reasons to restrict access to video temporarily:

- Prevent leaks to the media about the details of an incident.
- Keep the investigation and details of an incident to a few key investigators.
- Allow the police to conduct a thorough investigation in peace.
- Protect the privacy of people in the video.

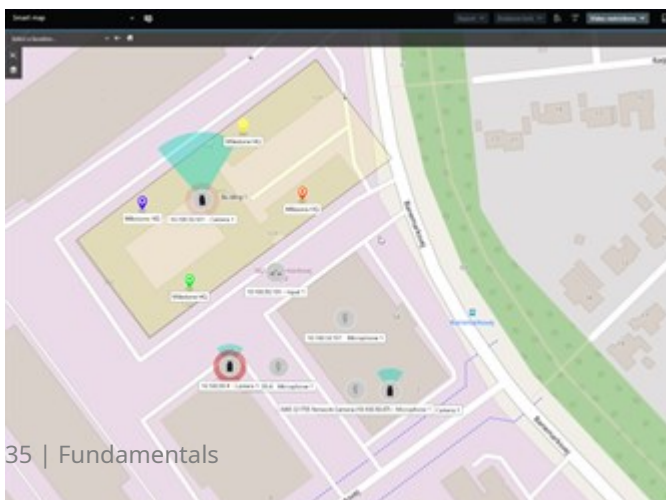
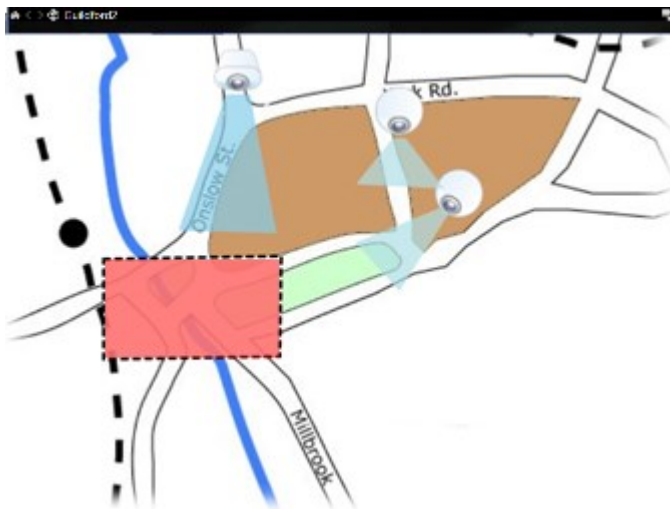
You can simultaneously apply video restrictions and evidence locks to the video sequences

## Maps and Smart Maps

There are two map features designed to improve your situational awareness: Maps and Smart Maps.

With both features, you can create a virtual representation of your areas of interest. You can place icons representing different cameras and other devices in the locations where they are mounted.

Examples of a map and a smart map, respectively:



You can interact with a camera or device by selecting the icon that represents them on the map. When a rule registers an event or triggers an alarm, the icon representing the related camera or device is highlighted, helping you identify where an incident has occurred.

The Smart Maps feature are more advanced than the Maps feature. With the Maps feature, you can only use still images to visualize your area and buildings.

Maps use still images to visualize your area and buildings, but Smart Maps can combine geographic information systems like Google Maps, Bing Maps, and OpenStreetMap with still images and CAD drawings. The extra functionality gives you a more accurate overview of your cameras across one or multiple locations.

## Bounding boxes

If you have cameras or integrations that can identify the whereabouts of objects and send metadata to your XProtect VMS, the XProtect VMS can place visual indicators called bounding boxes around the objects in the video.

The bounding boxes help you monitor the whereabouts of important objects for your organization and business.

A bounding box is a rectangular border that encloses an object in a camera image in XProtect Smart Client. The default color of the box is yellow, but your system administrator can have selected a different color.



If you can enter setup mode, you can select to show or hide bounding boxes from individual cameras. If you can't enter setup mode and you can see bounding boxes, your XProtect system administrators have enabled them for you.

## Privacy masks

Your system administrator can blur or cover areas in a camera's field of view to protect private or public areas, such as windows of a private residence. In XProtect Smart Client, the privacy masks are applied in live, playback, and exports.

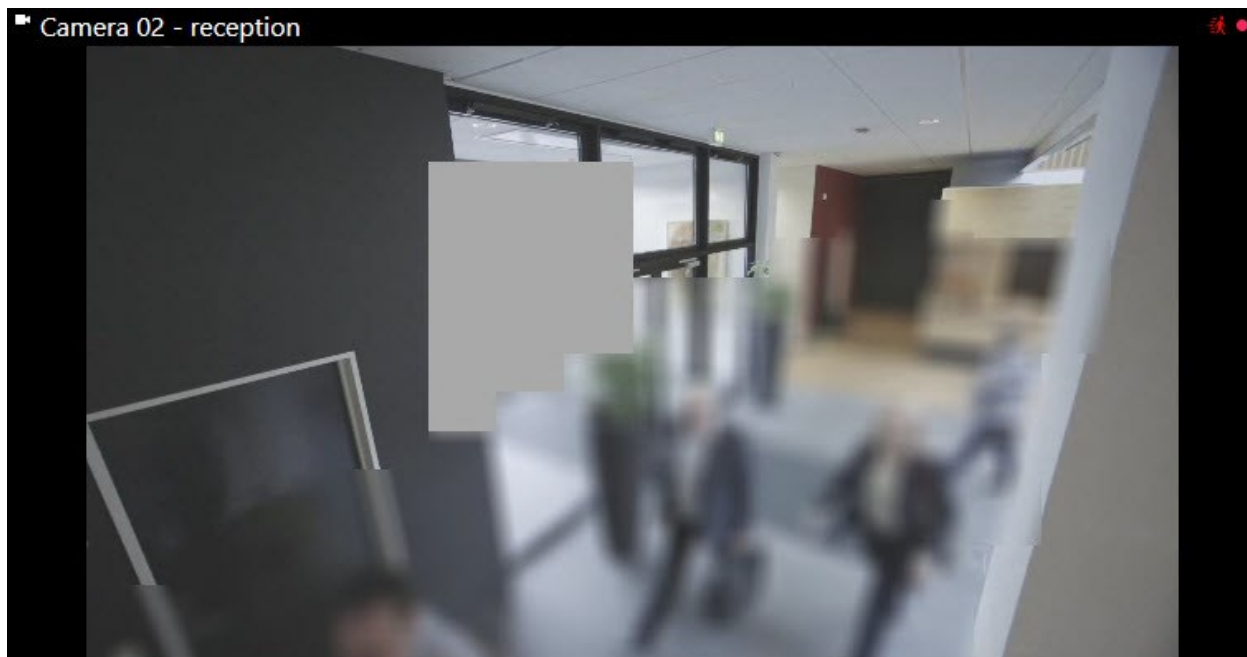
Privacy masks can be permanent or liftable. Permanent privacy masks have full solid coverage by default, while liftable masks have 50% blurring. Your system administrator defines if any of the types of privacy masks appear on your camera.

The following image shows five windows in an adjacent building covered by permanent privacy masks:



If your system administrator has defined privacy masks as liftable and you have the right user permissions, you can temporarily lift all privacy masks in XProtect Smart Client.

In this example, there are two types of privacy masks: the solid gray area is a permanent privacy mask and the blurred area is a liftable privacy mask.



When you export video, you can add more privacy masks to the exported video.

## Adaptive streaming and hardware acceleration

In XProtect Smart Client, there are two settings you can use to reduce the network load of sending video feeds and improve your computer's decoding capability and performance.

### Adaptive streaming and playback

Your system administrator can configure cameras to send multiple video streams to XProtect Smart Client in different resolutions, and that several of these video streams are recorded. If that is the case, you can in XProtect Smart Client define to switch between which stream is shown in a camera view item to achieve best video quality versus bandwidth balance.

So, adaptive streaming is used when multiple live video streams from the same camera can be shown in the same view item. Adaptive playback is the same, just for playing back recorded video. The method enables XProtect Smart Client to automatically select the video streams with the best match in resolution to the streams requested by the view items.

### Hardware acceleration

Hardware acceleration uses GPU resources to improve the decoding capability and performance of the computer running XProtect Smart Client. Hardware acceleration is beneficial when viewing multiple video streams with high frame rate and high resolution.



You can't use all GPU resources for hardware acceleration. If in doubt, ask your supervisor or system administrator.

## Solving typical tasks

### Viewing video and working with views

Some of the most fundamental tasks for a user of XProtect Smart Client include:

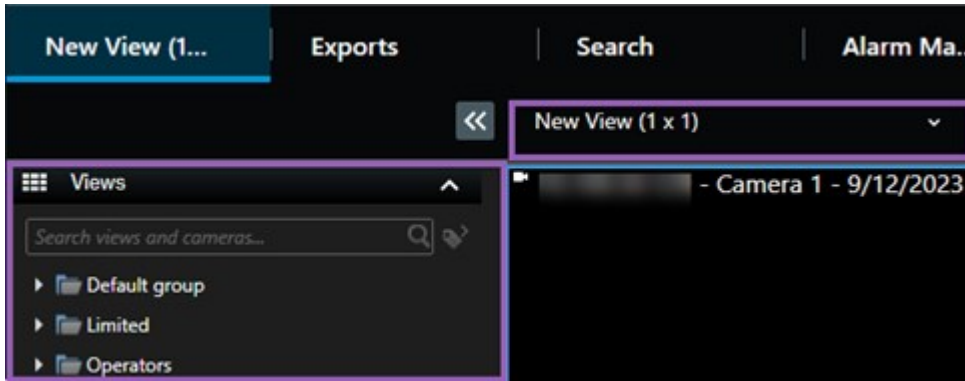
- Viewing video from cameras
- Listening to audio from microphones
- Accessing other data from devices added to your XProtect VMS system.

Here are a few ways you can do these tasks.

#### Selecting views

You view video and other content by selecting different views. If there is audio, you can hear it. You select views:

- From the **Views** pane.
- From the views selection list in the workspace toolbar.
- Through keyboard shortcuts if you have assigned keyboard shortcuts to your views.



### View items and content-related menus and overlay buttons

If you select a view item in a view, a menu related to the content in the view item is shown at the bottom of the view items.

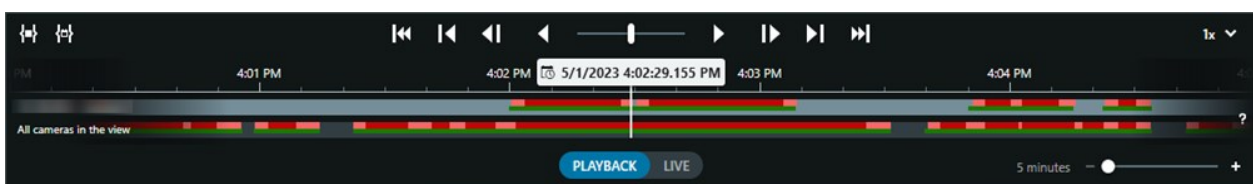


For example, overlay buttons can give you quick access to pan or zoom in the video.

To view details in the content of a view item, you can double-click the view item to maximize it.

### Navigating the video

On the main timeline, you can switch between viewing live and recorded video and go back and forth in the recorded video. You can also search for video or other content.



### Multiple windows and tabs

To view video from multiple views simultaneously, you can send views to detached windows. You can also have multiple views tabs in all your open windows.

To restore all your windows and tabs the next time you log into XProtect Smart Client, remember to enable the setting for restoring them.



## Navigating cameras

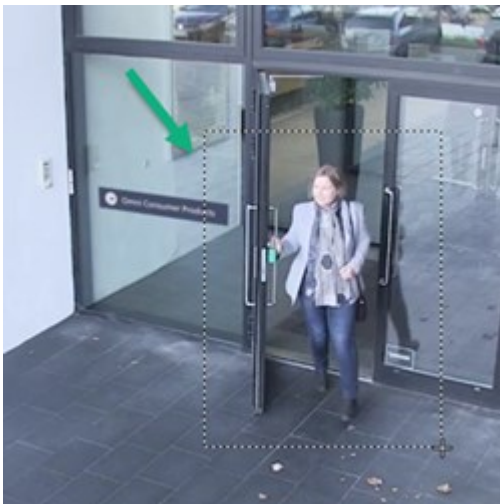
XProtect Smart Client has features for viewing live and recorded video, going back and forth in time in recorded video, zooming in on details in the video, and much more.

You can see and use different navigation features depending on several factors. They include:

- The type of camera
- The camera's capabilities
- If you're viewing video in live or playback mode
- Your user permissions

### Zoom in and out

In live and playback mode, you can digitally zoom in and out on the video from any supported camera.



You can only use optical zoom in live video if the selected camera has movable camera lenses. If you zoom in or out optically, this also affects what is recorded.

### PTZ (pan-tilt-zoom)

You can use digital PTZ in the video from any supported camera in live and playback mode.

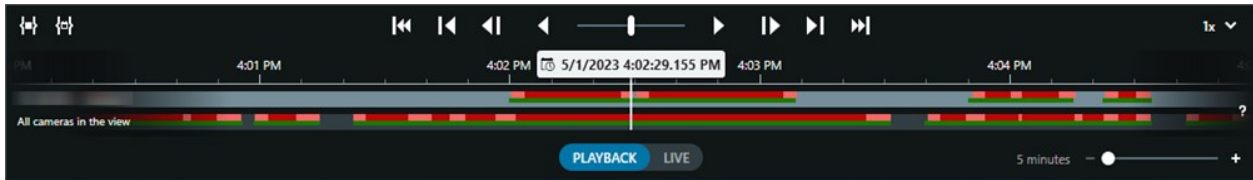
In live video, you can physically move (pan, tilt, and zoom) the view direction and focal length of a PTZ camera. If you move a PTZ camera, this also affects what is recorded.

You can add the dewarped video from a fisheye camera to multiple view items to display different areas of the video in each view item. You can still move inside the video in a camera view item with digital zoom in both live and recorded video.



## Time navigation

You can go back and forth in time in recorded video. To find video sequences, use the controls in the main timeline to change the time for all cameras' video in the view. You can also go back and forth in the recorded video displayed in a single camera view item. This is called independent playback.



## Patrolling

Through XProtect Smart Client and without leaving your office, you can manually patrol the buildings and areas you protect by turning the view angle of PTZ cameras in different directions and selecting different views.

If your system administrator has created rules for patrolling, you have dedicated views and view items set up for patrolling. The rule-based patrolling can include:

- PTZ cameras turning
- Cameras zooming in on areas
- The showing of video feeds from one camera after the other in carousel view items, for example, 20 seconds of video from each camera in a camera group.

## Improving your situational awareness

XProtect Smart Client has many built-in features that facilitate your awareness of what is happening in the buildings and areas you protect.

Which features are available to you depends on your organization's XProtect VMS product and possible extensions, as well as your user permissions.

## XProtect Access

With XProtect Access, you can integrate with access control systems and control who can enter your area and buildings from within XProtect Smart Client.

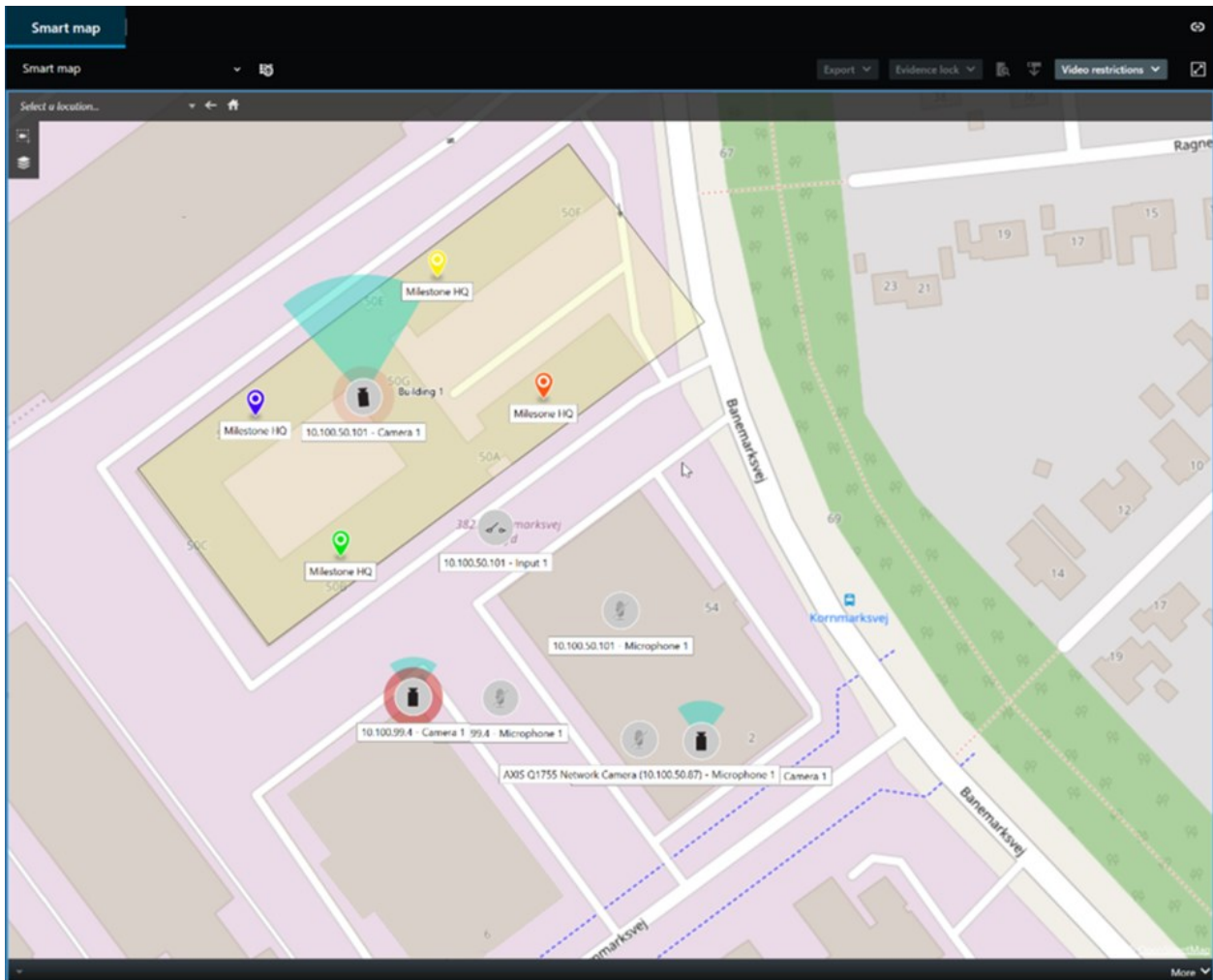
## XProtect LPR

XProtect LPR identifies and captures license plate information from vehicles and combines it with the corresponding video. You can compare recognized number plates with predefined lists and initiate automated actions through rules. For example, issuing parking charges and opening gates to allow registered cars to enter an area.

## Maps

With the two map features, Map and Smart Map, you can visualize the area and buildings you protect and the location of the cameras and other devices added to your XProtect VMS system.

Both map features can highlight cameras or devices when a rule creates an event or alarm associated with the camera or device. With this behavior, you instantly know where the incident has happened, enabling you to respond quickly and relevant to the situation.



## Patrolling

Through XProtect Smart Client and without leaving your office, you can manually patrol the buildings and areas you protect by turning the view angle of PTZ cameras in different directions and selecting different views.

If your system administrator has created rules for patrolling, you have dedicated views and view items set up for patrolling. The rule-based patrolling can include:

- PTZ cameras turning
- Cameras zooming in on areas
- The showing of video feeds from one camera after the other in carousel view items, for example, 20 seconds of video from each camera in a camera group.

## **Matrix**

The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

## **Hotspot**

The hotspot feature is a great situational awareness feature that, based on rules, can share live video of incidents with you.

Exactly when the shared video is shown in a hotspot view item depends entirely on the rules defined by your system administrator.

Compared with the Matrix features, the hotspot feature has the benefit that you can define that the view item with hotspot content shows the video in better quality than the video in the other view items. If you select a view with a large view item for the hotspot content, you and your colleagues can clearly see what is happening in the shared video.

## **Events and alarms**

Rules create events and alarms. This behavior makes you aware of ongoing incidents and enables you to respond more quickly and targeted to the incidents.

## **Sharing video**

### **About sharing video**

Collaboration is important but also by nature difficult. That's why XProtect Smart Client has several features that facilitate collaboration with your colleagues and security personnel inside or outside your organization.

Which sharing feature is best depends on who you want to share the video with, the scenario, and your preference.

### **Sharing video with colleagues inside your organization**

The following features are excellent choices for sharing video with your colleagues inside your organization

## **XProtect Smart Wall**

The XProtect Smart Wall extension is designed explicitly for fulfilling organizations' needs for sharing video. It is ideal for control centers with multiple operators.

## **XProtect Incident Manager**

Users of XProtect Incident Manager can besides video save all the incident information in incident projects. From the incident projects, they can track the status and activities of each incident. In this way, the users can manage incidents effectively and easily share strong incident evidence, both internally with colleagues and externally with authorities.

## **Matrix**

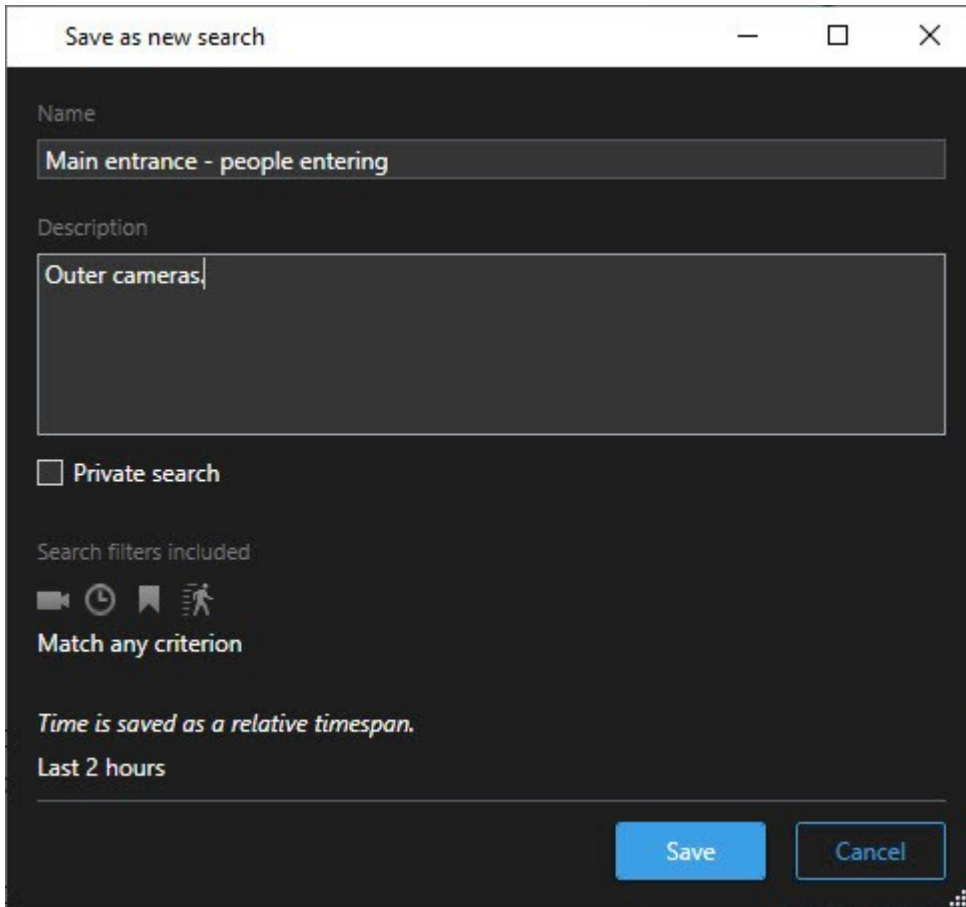
The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

## **Bookmarks, evidence locks, and search**

You can search for bookmarks and evidence locks. A search is faster and more precise than using the various controls in the main timeline. Your search also finds all video sequences that are tagged with the same bookmark or evidence lock.

To improve sharing and collaboration, you can save a search as a public search. A saved public search is available for your colleagues so they can easily find the tagged video sequences.



**Save as new search**

Name  
Main entrance - people entering

Description  
Outer cameras

☐ Private search

Search filters included  
[Video icon] [Clock icon] [Person icon]

Match any criterion

*Time is saved as a relative timespan.*  
Last 2 hours

Save Cancel

## Maps and alarms

Maps and alarms are both situational awareness and video sharing functionalities. However, sharing video is indirect because you have to select representations of cameras on the map or an alarm in the alarms list to view the video.

When a camera on the maps indicates that something has happened that needs your attention or an alarm appears on the alarms list, this is triggered by the rules defined by your system administrator.

### Sharing video with security personnel outside your organization

The best option for sharing video about incidents with people outside your organization is to make an export with the relevant video sequences.

If it is a severe incident that needs to go to court, you would generate the export with digital signatures and keep a copy of the export yourself to ensure that you have the video available after the defined retention time for all video in your XProtect VMS system. If your XProtect VMS product supports evidence locks, you can also apply evidence locks on the video showing the incident.

The XProtect Incident Manager extension is designed to fulfill organizations' needs for saving and exporting video and generating reports with the documented activities for each incident.

## Investigating and documenting incidents

### Investigation and documentation of incidents

XProtect Smart Client has many built-in features that facilitate the investigation and documentation of incidents. There are also XProtect extensions explicitly developed for these purposes.

The features available to you depend on the XProtect VMS product, possible extensions, and your user permissions.

Which feature is best depends on the scenario and your preferences.

#### **XProtect Rapid REVIEW**

XProtect extension that enables accelerated investigations. See [XProtect Rapid REVIEW on page 65](#).

#### **XProtect Incident Manager**

XProtect extension developed for capturing video evidence and documenting and managing incidents. See [XProtect Incident Manager on page 63](#).

### **Bookmarks, evidence locks, and searches**

You can tag the video sequences showing an incident with bookmarks and evidence locks.

You can search for bookmarks and evidence locks. A search is faster and more precise than using the various controls in the main timeline. Your search also finds all video sequences that are tagged with the same bookmark or evidence lock.

To improve sharing and collaboration, you can save a search as a public search. A saved public search is available for your colleagues so they can easily find the tagged video sequences.

When you tag video with evidence locks, the tagged video sequences are not deleted after the retention time defined for all video sequences in your XProtect VMS system.

### **Events, alarms, and the alarms list**

If you're viewing live video, keeping an eye on new events and alarms on the alarms list is a good idea. The events and alarms could be triggered by an incident you need to investigate. If you only view recorded video, open the alarms list a couple of times every day to check if there have been incidents that you need to investigate.

### **Export**

Save video outside the XProtect VMS system and share the exported video with others.

### Scenario: You discover an incident while watching live video



This example scenario only covers how to investigate and document incidents with built-in XProtect Smart Client features.

Let's say you discover an incident while watching live video or because an alarm is triggered. Let's also assume that you're not dispatched to deal with the incident on site. Then you would typically:

1. Call the security personnel handling with the situation on site.
2. Instantly start applying bookmarks to the relevant video sequences so you can easily share the video with colleagues and find the video sequences again through a search.
3. Continuously inform the security personnel on site about any developments in the incident.
4. Follow the cause or effect of the incident if it moves or spreads to new areas by switching to other view items or views, and add bookmarks to these video sequences, too.

When the incident has stopped, you would typically:

1. Search for your bookmarks.
2. Adjust the bookmarks' start and end times to ensure all video sequences covering the incident are included.
3. You would probably export the bookmarked video as documentation and share it with relevant security personnel inside or outside your organization.
4. As an alternative—or addition—to the export, you can apply evidence locks to the video sequences to ensure the video sequences are not deleted at the retention time defined for all video in your XProtect VMS system.
5. Gather testimonials from security personnel on site about how they experienced the incidents.

### Scenario: You discover an incident after it happened



This example scenario only covers how to investigate and document incidents with built-in XProtect Smart Client features.

Let's say you meet up at work and discover that someone has vandalized your windows by throwing paint on them. You know there was no paint when you left the day before.

In this scenario, you would typically:

1. Find the views with the cameras covering the areas with the vandalized windows.
2. In playback mode, use the features on the main timeline to browse the video from the time you left the day before. If you have set up an alarm that would have been triggered by the incident, you could also look at your list of alarms.
3. Find the video showing the time when the windows were vandalized and bookmark it. Also, now you know how the persons entered and left your area. Find the video showing their movement around your area and bookmark it too.
4. You would probably export the bookmarked video as documentation and share it with relevant security personnel inside or outside your organization.
5. As an alternative—or addition—to the export, you can apply evidence locks to the video sequences to ensure the video sequences are not deleted at the retention time defined for all video in your XProtect VMS system.

## Configuring XProtect Smart Client for all users

Your system administrator configures most of the XProtect VMS system, but there are still elements your XProtect Smart Client supervisor must configure for all users of XProtect Smart Client.

If you can enter setup mode and configure elements for all XProtect Smart Client users, you can define one or more of the following:

- Create and edit shared views
- Create view groups
- Add content to view items
- Define camera properties
  - Video buffering
  - Image quality
  - Frame rate
  - Title bar
- Define which video stream from a camera to show in a view item (adaptive streaming)
- Define carousels, hotspot, and Matrix content and their behavior
- Assign shortcut numbers to views
- Create web pages with links and scripts
- Create and edit maps
  - Place cameras and other devices on the maps
- Create overlay buttons
- Define XProtect Smart Wall controls



## Optimizing your computer's performance

There are a few elements that only the individual users of XProtect Smart Client can configure on their own computers with XProtect Smart Client.

### Keyboard shortcut keys

In XProtect Smart Client, you can define several keyboard shortcut keys that can help you complete tasks faster. Here are a few examples:

- Open a new tab
- Take a snapshot
- Lift/reapply privacy masks
- Close all detached windows
- Activate outputs
- Zoom in/out
- Go to a specific preset position
- Activate the different controls in the main timeline
- Select a specific view.

### Adaptive streaming and playback

If you enable the **Adaptive streaming** setting, you can reduce the network load when sending video streams across your network.

To check the status of the **Adaptive streaming** on your computer:

Open the **Settings and more** menu, select **Settings**, and then the **Advanced** tab to check if the **Adaptive streaming** setting is enabled on your computer. If not, enable it.



To use adaptive streaming in live video, your system administrator must have configured cameras to send at least two live video streams in different resolutions to the XProtect VMS system. To use adaptive playback, at least two video streams in different resolutions are recorded. Also, your XProtect Smart Client supervisors have defined views using multiple streams.

### Hardware acceleration

If you enable the **Hardware acceleration** setting, you can improve your computer's decoding capability and performance.

To check the setting for **Hardware acceleration** in your XProtect Smart Client:

Open the **Settings and more** menu, select **Settings**, and then the **Advanced** tab, to check if hardware acceleration is enabled on your computer. If not, enable it.



Hardware acceleration uses GPU resources. If your computer doesn't have GPU resources, you can't use hardware acceleration.



You can't use all GPU resources for hardware acceleration. If in doubt, ask your supervisor or system administrator.

## Complying with privacy data laws

Your system administrator must ensure that the XProtect VMS system complies with your country's privacy data laws. For example, how long is video saved in the XProtect VMS system, that users can only view video and data that they have a valid reason to access, and the application of privacy masks to cover, for example, the windows in a private residence.

But XProtect Smart Client users also play a part in keeping your organization compliant with the privacy data laws of your country.

### Exported content

Make sure that you:

- Protect the exported files.
  - When exporting, select to protect the exported files with a password.
  - Safely store the exported files so unauthorized persons can't access them.
- Only share exported content with persons or organizations with a legitimate purpose.
- Only keep exported content for as long as it serves a purpose.
- During an export, apply additional privacy masks on the video to prevent recipients of export from viewing areas in the video that are irrelevant or private.



You can only apply additional privacy masks when you export in the XProtect format.

### Evidence locks

Your system administrator has defined the durations for how long you can select to protect video and data with evidence locks.

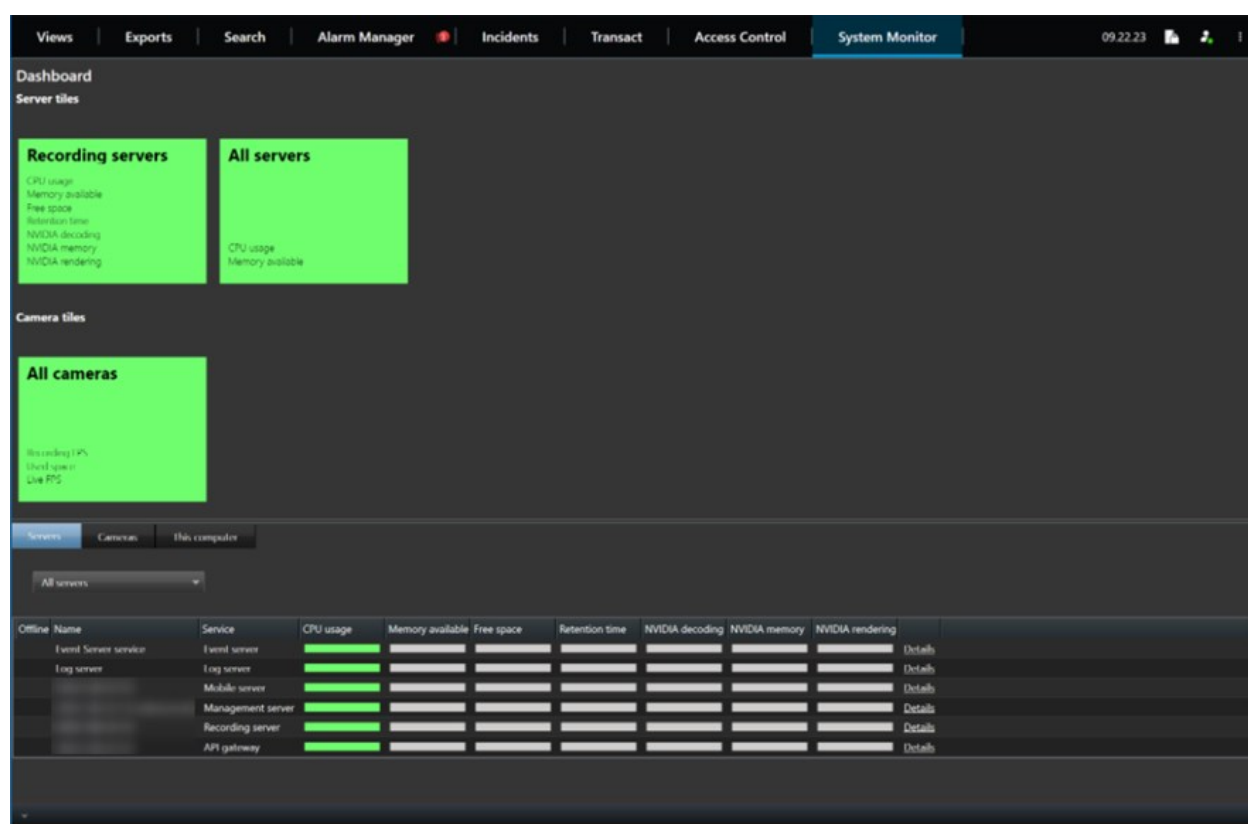
But you must make sure that you:

- Select an evidence lock duration corresponding to how long you foresee that you need to keep the video or data.
- Remove evidence locks from video or data if you no longer need them as evidence.

## Monitoring the health of your system

To know as soon as a camera or other component in your XProtect VMS system fails is essential for the uninterrupted protection of your areas and buildings.

On the **System Monitor** tab, you find a dashboard that displays the health of all your XProtect VMS system components. On the dashboard, you can instantly identify if, for example, a camera has stopped working and start rectifying the situation. You can also see if a component is overloaded, for example, if one of your recording servers is about to run out of disc space or memory.



By default, there are tiles representing all **Recording servers**, **All servers**, and **All cameras**. You can customize these default tiles' monitoring parameters and create new ones. For example, you can create tiles representing single servers, cameras, camera groups, or server groups.

## Understand the user interface

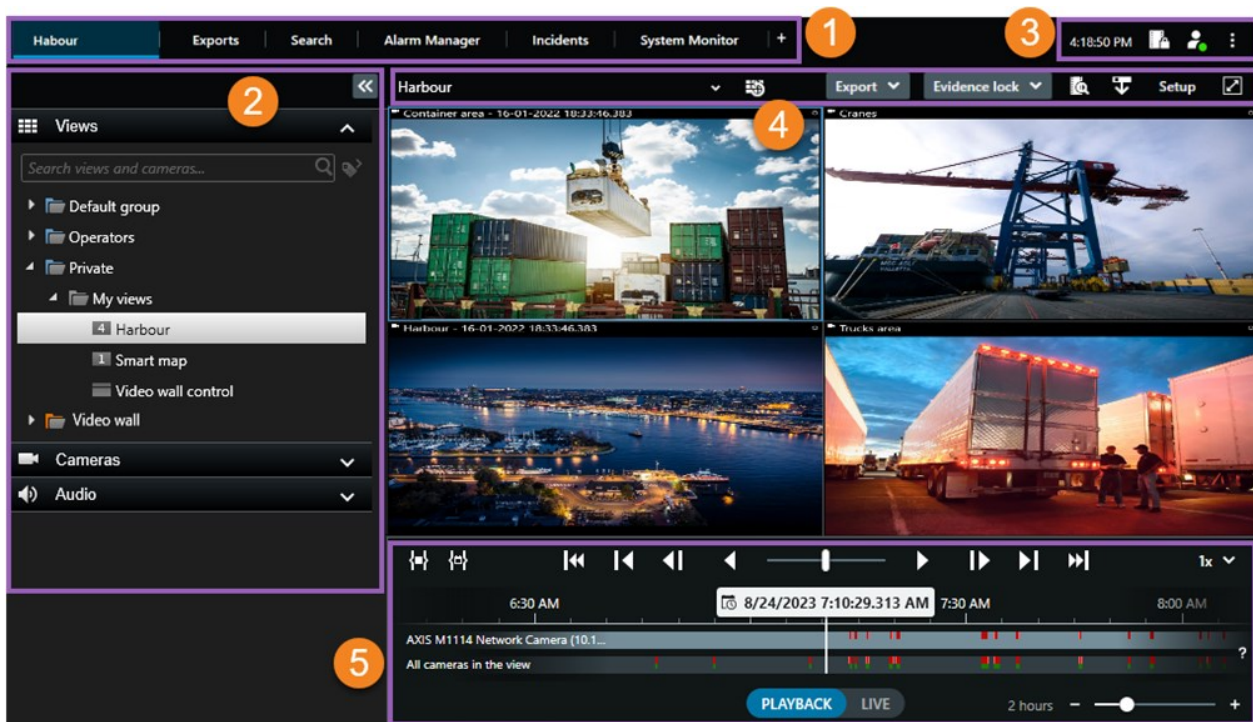
### User interface overview

XProtect Smart Client is a desktop application designed to help you manage and view video from the cameras that are connected to your XProtect VMS system.

References in our documentation made to the positioning of user interface elements presume that you're using XProtect Smart Client with a left-to-right language layout.

From the XProtect Smart Client desktop app, you have access to workspaces and features such as:

1. Default tabs like **Views**, **Exports**, **Search**, **Alarm Manager**, and **System Monitor**, located in the upper-left corner of the XProtect Smart Client.
2. Default panes for setting up views and cameras, located below the default tabs.
3. The global toolbar with access to **Evidence lock list**, **User profile**, and **Settings and more**, located in the upper-right corner.
4. The workspace toolbar with access to **Export**, **Evidence lock**, and **Setup**, located just below the global toolbar. The features in the workspace toolbar changes according to the selected tab.
5. Main timeline. The main timeline is available if you select the **Views** tab. It is located at the bottom of the window.



## Default tabs

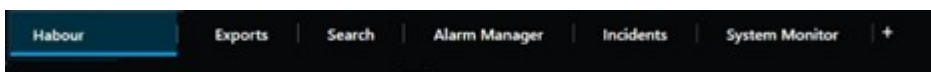
XProtect Smart Client comes with a set of default tabs for your daily tasks.

Some of the XProtect extensions have tabs that are specific to their functionality. See [Generally about extensions on page 62](#).

Some tabs may be custom-made through the MIP SDK and specific to your XProtect VMS system. This document doesn't cover functionality that depends on MIP SDK.



If you can't see some of the default tabs, you don't have the permissions required to access them.



### The main views tab

You can create as many tabs with views as you want in XProtect Smart Client's main window and in detached windows. Tabs with views are named after the selected view.

In live mode, you can view live video feeds, and work with audio, carousels, hotspots, Matrix, Smart Map, pan-tilt-zoom (PTZ) control, digital zoom, independent playback, and more.

In playback mode, you can investigate recorded video by playing it back. The [main timeline](#) gives you advanced features for browsing recorded video. You can also start searching from any camera or view, and document what you find by exporting evidence. To protect evidence from being deleted from the database, you can add evidence locks to your recorded video.

Additionally, you can:

- Listen to audio when connected to selected XProtect VMS systems
- If your XProtect VMS product supports Smart Map, you can access the cameras added to your XProtect VMS system in a geographical interface
- Use hotspots, digital zoom, or carousels, print images, and more

From live or playback mode, you can enter setup mode, where you can set up views for your cameras and other types of content.

### The Exports tab

When you want to export video data, you add the relevant sequences to the **Export list**. For each sequence in the **Export list**, you can change the time span by selecting **Start time** and **End time**. See also [Exporting video, audio, and still images on page 220](#).

You can choose which formats to use for the export, and for each format, you can change the **Export settings**. See also [Export formats on page 229](#).

After you select **Export**, you specify an **Export name** and an **Export destination**. Then, you can create the export.

The exports that you create are stored in the folder that you specified in the **Create export** window > **Export destination** field. See also [View exported video on page 226](#).

### The Search tab

On the **Search** tab you can search through all your recordings and apply filters to refine your search. For example, you can use filters to find vehicles, people, or recordings with motion detected in specific areas.

From the search results, multiple actions are available. See also [Actions available from search results](#).

### The Alarm Manager tab

On the **Alarm Manager** tab, you can view and respond to incidents or technical problems that have triggered an alarm. The tab displays an alarms list, an alarms preview, and any available maps.

### The System Monitor tab

The color-coded tiles on the **System Monitor** tab provide an overview of the current state of the computer running XProtect Smart Client, your system servers, cameras, and additional devices.

- Green: **Normal** state. Everything is running normally
- Yellow: **Warning** state. At least one monitoring parameter is above the defined value for the **Normal** state
- Red: **Critical** state. At least one monitoring parameter is above the defined value for the **Normal** and **Warning** state

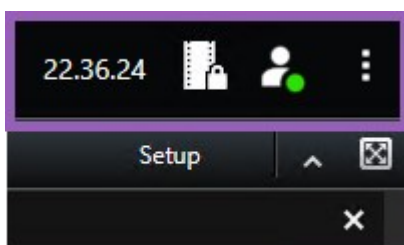
If a tile changes color and you want to identify the server or parameter that caused the change, select the tile. This opens an overview at the bottom of the screen. Select **Details** for information about why the state changed.



If a tile displays a warning sign, a data collector for one of your monitored servers or cameras may not be running. If you place your mouse above the tile, the system shows you when it last collected data for the relevant tile.

## Global toolbar

On the global toolbar, in the upper-right corner of the XProtect Smart Client, you have access to information about your XProtect Smart Client and how to change the settings. This includes:



## Time zone

Set up time zone. See [Show current time in title bar on page 328](#).

## Shortcut to evidence lock list

The **Evidence lock list** shows evidence locks you have created. You can sort, filter, and search the evidence locks list and see detailed information about each evidence lock. See also [View evidence locks on page 214](#).

## User menu

On your **User menu**, you can see your **Login information**, and you can log out from the XProtect Smart Client. See [Log in on page 74](#). **Login information** contains information about the status of the XProtect VMS servers that your XProtect Smart Client is connected to.



A red circle on the **User menu**  indicates that one or more servers are unavailable.

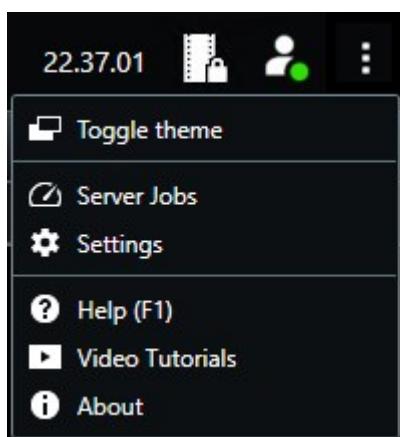
Select **Login information** to view the server status.

- Available servers are displayed in green.
- Unavailable servers are displayed in red. If servers are not available at the time you log in, you can't use cameras or features belonging to those servers. When you have viewed the status, the red button will stop flashing even if the server is still unavailable.

The number of servers you see reflects the number of servers retrievable from the XProtect VMS system at the time you logged in. Particularly if you connect to large hierarchies of servers, occasionally, more servers can become available after you log in. The server list is a static representation of server status. If a server is unavailable, it will display a reason in the **Status** field when you select it. To connect to the server, select **Load Server**. The server status for that server will then be updated. If a server continues to be unavailable for longer periods of time, contact your system administrator for advice.

## Settings and more window:

The **Settings and more** window covers:




- **Toggle theme**—you can switch the XProtect Smart Client theme to dark or light.
- **Server jobs**—depending on your user permissions to retrieve data from interconnected hardware devices or cameras that support edge storage, you can view the server jobs created for each data retrieval request for these devices. See [View all edge retrieval jobs on page 210](#).
- **Settings**—you can configure XProtect Smart Client settings and behavior, joysticks, keyboard shortcuts, language, and more. See also [The Settings window on page 327](#).
- **Help**—you can access the help system, play online video tutorials, or view version number and plug-in information.
- **Video tutorials**—opens the Milestone Learning Portal.
- **About**—information about the latest XProtect Smart Client plug-ins and versions.

## Workspace toolbar

On the workspace toolbar in XProtect Smart Client, you have access to several important features that help you perform your daily tasks. These features include:

Feature	Description
Select view	Shortcut to the <b>Views</b> pane to the left.
Reload view	Select <b>Reload view</b> to restore your original view.
Export	Export video evidence. See also <a href="#">Exporting video, audio, and still images on page 220</a> .



Feature	Description
<b>Evidence lock</b>	Create evidence lock to prevent evidence from being deleted. See also <a href="#">Evidence locks on page 211</a> .  View evidence locks on video sequences. See also <a href="#">View evidence locks on page 214</a> .
<b>Retrieve data</b>	Retrieve recordings from interconnected hardware devices or cameras that support edge storage.
<b>Setup</b>	Enter setup mode. See also <a href="#">Setup mode on page 265</a> .
<b>Toggle full screen mode</b> 	Toggle between full screen and a smaller window that you can adjust to the size you want.
<b>Lift privacy masks</b>	Users with sufficient user permissions can temporarily lift privacy masks. See also <a href="#">Lift and reapply privacy masks on page 114</a> .

## Timelines

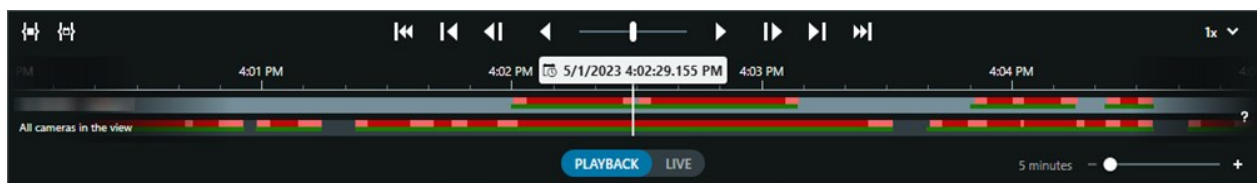
### Several timelines

There are several timelines in XProtect Smart Client that you can use for going back and forth in your recordings.

The main timeline has the most features, but other less feature-rich timelines are available in specific contexts.

The timelines can look slightly different, but they have much in common.

### The main timeline



The main timeline displays an overview of time periods with recordings from cameras and other devices in your current view. The main timeline is available on the views tabs and has various controls you can use to navigate your recordings during investigations or to select recording sequences for export, protection with evidence locks, addition of bookmarks, or other.

Select a views tab and switch to playback mode to show all the timeline controls.

You can adjust how your timelines look and behave. Select which recording types and other elements to show on the timeline tracks. For example, would you like to show recorded audio and bookmarks? You can also select how to play back gaps between recordings. You can also hide the main timeline during inactivity to free as much of the display for viewing video in XProtect Smart Client. See [Configuration options for timelines on page 97](#).

### The timeline tracks




- The upper timeline track shows the recording periods of the selected camera.
- The lower timeline track shows the recording periods of all the cameras in the view, including the selected camera.

If you have detached windows that are synced in time with the main window, recordings from cameras and devices in these windows are also shown on the lower timeline track.

### Color legend


On the timeline track, the different types of recordings have different colors. The most important colors to know are:

- Light-red indicates recordings
- Red indicates recordings with motion
- Light green indicates recordings with outgoing audio
- Green indicates recordings with incoming audio

For a legend of all the colors currently shown on the timeline tracks, select **Color codes legend**  to the right of the timeline tracks.



### Bookmarks

Timeline tracks show bookmarks with a blue bookmark icon . To view the bookmarked video, place your mouse over the icon.

### Additional markers

If additional data sources are available in your XProtect VMS system, incidents from these sources are shown as markers in colors other than blue. The incidents can appear as pop-ups in the timeline tracks.



### The vertical line

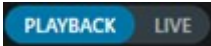

The vertical line shows the location of the playhead from where recordings are currently played back. This is called the main playback time, and the text above shows the exact date and time for the video currently played back. The main playback time applies to all the cameras in the view and any synchronized views unless you're viewing independent playback from some of the cameras. If there is no recorded video from one or more cameras in the view matching the main playback time, the last frame from the camera database before the main playback time is shown, but the frame is dimmed.



















### Navigating the recordings from the timeline

You can move through your recordings using the main timeline controls.

- Drag the timeline tracks left or right. Hold CTRL while dragging for slower movement.
- Use the timeline controls, mouse scroll wheel, or select the date above the playhead to go to a specific time.

### The timeline controls

Controls	Description
	Switch between playback or live mode.
	Go back and forth in the video in different speeds. The further you drag the control to the sides, the faster the playback speed.

Controls	Description
	Play backward  or forward  in time. When you select one of the play buttons, the button turns into a pause button  .
	Move to the frame just before  or after  the one currently viewed.
	Move to the start of the previous sequence  or the next sequence  .
	Move to the first sequence  or last sequence  in the database.
	<p>There are two ways of selecting a period of recordings for export, creation of evidence lock or other.</p> <p><b>Select start and end time in timeline</b> : Select to switch the timeline and the view into selection mode. Select which view items to include and drag the time selection brackets on the timeline tracks to change the start and end time for the video sequences you want to select.</p> <p><b>Select start and end time in calendar</b> : Select to specify the start and end date and time from a calendar. The timeline track jumps to the selected start time, and the time selection brackets surround the selected time period.</p>
	Change the playback speed.
	Specify the timespan of the timeline tracks. Alternative: use <b>CTRL</b> + scroll wheel.

**Watch a quick video tutorial?**



### The context-specific timelines

There are several timelines that help you investigate and navigate your recordings in specific contexts.

These context-specific timelines often only have one timeline track and a few to none of the controls available in the main timeline. But when they have timeline controls, they work the same way as the ones on the main timeline.

Timeline	Available from	Purpose	Learn more
Independent playback	All views tabs	While viewing live video, you can decide to view and go back and forth in the recordings from one of the cameras in your view.	<a href="#">View recorded video independently of the main timeline on page 173</a>
Bookmark	All views tabs	If a sequence of recordings has a bookmark, you can easily find and go to this sequence.	<a href="#">Bookmark window on page 156</a>
Search	The <b>Search</b> tab	If you have searched for something on the <b>Search</b> tab, the search timeline gives you an overview of recordings matching your search. You can select the different found recordings to view them.	<a href="#">The search timeline on the Search tab on page 185</a>
Export	The <b>Export</b> tab	If you have selected recordings for export, you can go back and forth in the selected recordings and change the start and end times of the export.	<a href="#">Exporting video, audio, and still images on page 220</a>

## Extensions

### Generally about extensions

Milestone has developed various extensions. Extensions are products that extend the XProtect VMS products' functionality with additional specialized functionality.

As XProtect is an open platform, third-party extensions can also be integrated with your XProtect VMS system and add functionality to XProtect Smart Client.



Available functionality depends on the system you are using. See the complete feature list, which is available on the product overview page on the Milestone website (<https://www.milestonesys.com/products/software/xprotect-comparison/>).

In XProtect Smart Client, access to functionality from extensions also depends on your user permissions.

### XProtect Access

XProtect Access integrates events from one or more access control systems with the features of the XProtect video management software. You can use XProtect Access with access control systems from vendors that offer a vendor-specific plug-in for XProtect Access.



If you have an **Access control** tab in XProtect Smart Client, you can access features from the XProtect Access extension.



The incidents registered by access control systems generate events in the XProtect VMS system.

- In live mode, you can monitor access control events in real time from the cameras associated with a door. In setup mode, you can customize your **Access monitor** view items with overlay buttons. In a map view item, you can drag access control units onto the map.
- On the **Access control** tab, you can view and investigate events, door states, or cardholders. You can search or filter on events and review any related footage. You can create a report of the events for exporting.
- When a person requests access and if your system is configured for it, a separate notification pops up with a list of related information next to the camera feed. You can trigger access control commands, such as locking and unlocking doors. Available commands depend on your system configuration.

## XProtect Hospital Assist

XProtect Hospital Assist is designed exclusively for hospital units caring for patients in need of 24/7 or situational observation.

This XProtect VMS extension is a dedicated solution to remotely monitor patients which allows the hospital to:

- Increase staff efficiency.
- React to incidents rapidly.
- Provide high-quality patient care.



If you have access to the XProtect Hospital Assist functionality, you can add sticky notes and enable privacy blur from a camera view item. In the **Alarm Manager** window, you can get notifications when a person falling is detected.

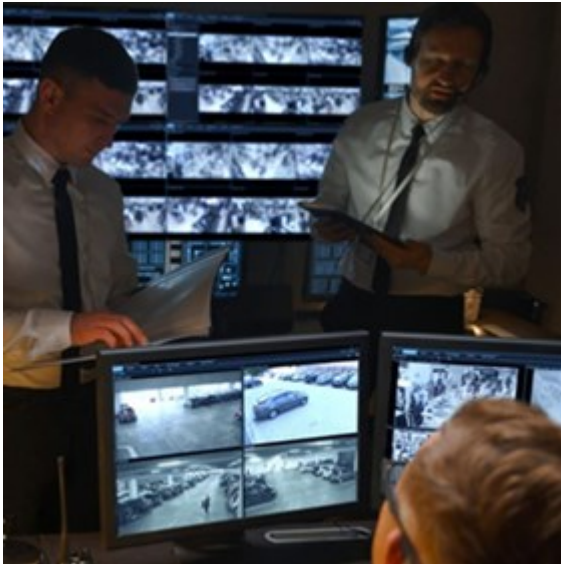


## XProtect Incident Manager

XProtect Incident Manager is an extension that enables organizations to document incidents and combine them with sequence evidence (video and, potentially, audio) from the XProtect VMS.



If you have access to XProtect Incident Manager functionality in XProtect Smart Client, you can start an incident project under the **MIP plug-ins** pane and find existing incident projects on the **Incidents** tab. The presence of an **Incidents** tab alone doesn't indicate if you have access to the functionality offered by the XProtect Incident Manager extension.



Users of XProtect Incident Manager can besides video save all the incident information in incident projects. From the incident projects, they can track the status and activities of each incident. In this way, the users can manage incidents effectively and easily share strong incident evidence, both internally with colleagues and externally with authorities.

XProtect Incident Manager helps organizations gain an overview and understanding of the incidents happening in the areas they survey. This knowledge enables the organizations to implement steps to minimize the chance that similar incidents happen in the future.

In XProtect Management Client, the administrators of an organization's XProtect VMS can define the available incident properties in XProtect Incident Manager to the organizations' needs. The operators of XProtect Smart Client start, save, and manage incident projects and add various information to the incident projects. This includes free text, incident properties that the administrators have defined, and sequences from the XProtect VMS. For full traceability, the XProtect VMS logs when administrators define and edit incident properties and when operators create and update the incident projects.

The XProtect Incident Manager extension is compatible with:

- XProtect Corporate version 2022 R2 and later
- XProtect Expert, XProtect Professional+, and XProtect Express+ version 2022 R3 or later
- XProtect Smart Client version 2022 R2 and later



## XProtect LPR

A Milestone extension that is designed for recognizing license plates in cameras' video feed.



If you have an **LPR** tab in XProtect Smart Client, you have access to features from the XProtect LPR extension.



On the **LPR** tab, you can investigate LPR events from all your LPR cameras and view the associated video recordings and license plate recognition data. Keep match lists updated and create reports.

The tab includes an LPR event list and an LPR camera preview. In the preview, you can view video associated with LPR event details. Below the preview, information about the license plate appears together with details from the match list and the license plate style that it is associated with.

You can filter the event list according to the period, country module, LPR camera, match list, or license plate style. Use the **Search registration number** field to search for a particular license plate registration number. By default, this list shows LPR events from the last hour.

You can specify and export a report of relevant events as PDF.

You can make updates to the existing match lists by using the **Match list** function.

## XProtect Rapid REVIEW

A Milestone extension designed for accelerated investigations.



If you have a **Rapid REVIEW** tab in XProtect Smart Client, you have access to functionality and features from the XProtect Rapid REVIEW extension.



With the features in the XProtect Rapid REVIEW extension, you can:

- Review hours of video in minutes with VIDEO SYNOPSIS®
- Quickly find objects of interest with robust multi-camera search capabilities based on:
  - Face recognition
  - Appearance similarity
  - Color and size
  - Speed, path, direction, and dwell time
- Quickly and effectively organize all video assets of an investigation
- Rapidly visualize activity level, dwell time, common paths and background changes

## XProtect Smart Wall

XProtect Smart Wall is an advanced extension that enables organizations to create video walls that meet their specific security demands. XProtect Smart Wall provides an overview of all the video data in the XProtect VMS system and supports any amount or combination of monitors.



If your organization has the XProtect Smart Wall extension, there is a video wall in your control room consisting of several physical displays. You can also send content to the video wall by selecting the camera's view item, then select **More** and **Send to Smart Wall**.



XProtect Smart Wall allows operators to view static video walls as defined by their system administrator with a fixed set of cameras and monitor layout. However, the video wall is also operator-driven in the sense that operators can control what is being displayed. This includes:

- Pushing cameras and other types of content to the video wall, for example images, text, alarms, and smart map
- Sending entire views to the monitors
- In the course of certain events, applying alternate presets

Finally, display changes can be controlled by rules that automatically change the presets based on specific events or time schedules.



See also the separate XProtect Smart Wall manual.

## XProtect Transact

XProtect Transact is an extension to Milestone's IP video surveillance solutions that lets you observe ongoing transactions and investigating transactions in the past. The transactions are linked with the digital surveillance video monitoring the transactions, for example to help you prove fraud or provide evidence against a perpetrator. There is a 1-to-1 relationship between the transaction lines and video images.



If you have a **Transact** tab in XProtect Smart Client, you have access to features from the XProtect Transact extension.



The transaction data may originate from different types of transaction sources, typically point of sales (PoS) systems or automated teller machines (ATM). When selecting a transaction line, a video still frame from each of the associated cameras is displayed in a preview area that allows you to review the recordings. Below the preview area, the transaction associated with the selected line is displayed as a receipt.

## Learning how to use XProtect Smart Client

### Access to user assistance

In the XProtect Smart Client interface, pressing **F1** takes you to the relevant topic in the XProtect Smart Client user assistance. The user assistance topics are tailored to assist you with the task you're currently working on.

From XProtect Smart Client 2024 R1, the user assistance is not installed with the software, but you can install it separately.

You don't need to install the user assistance if your computer with XProtect Smart Client has access to the internet, because pressing **F1** opens the Milestone Documentation portal with all the user assistance for all software from Milestone Systems.

If you don't have access to the internet and no installed user assistance, pressing **F1** displays a QR code and a URL which directs you to the Milestone Documentation portal.

## Additional help resources



If the XProtect Smart Client user assistance or the help resources on the Milestone Documentation portal don't provide the information you need, you can explore the self-help resources at <https://www.milestonesys.com/support/> or contact your reseller.

Milestone generally offers eLearning courses for all XProtect products. You can find the eLearning courses for XProtect Smart Client on the [XProtect Smart Client Training webpage](https://learn.milestonesys.com/tools/customer_portal/index.html) ([https://learn.milestonesys.com/tools/customer\\_portal/index.html](https://learn.milestonesys.com/tools/customer_portal/index.html)).

# Deploying and logging in

## XProtect Smart Client - Deploying and logging in

XProtect Smart Client – Deploying and logging in is a comprehensive guide on how to install, upgrade, and log into XProtect Smart Client.

### **Subject covered**

Use this guide to ensure a seamless deployment of and access to XProtect Smart Client.

The guide covers topics such as the following:

- System requirements
- Licensing
- Installation steps
- Upgrading procedures
- Troubleshooting common issues during installation and login

### **Intended audience**

The intended audience for this guide includes system administrators, IT professionals, and technical staff responsible for deploying, configuring, and maintaining XProtect Smart Client within their organizations.

## Licensing and system requirements

### Minimum system requirements

For information about the system requirements for the various VMS applications and system components, go to the Milestone website (<https://www.milestonesys.com/systemrequirements/>).

### **Verify if your computer meets the requirements**

View information about your system, for example the version of the operating system and DirectX, and the devices and drivers installed:

1. Open the **Start** menu and type **dxdiag**.
2. Select the **dxdiag** text to open the **DirectX Diagnostic Tool** window.



3. On the **System** tab, view the system information.

## Maximum number of displays

In the XProtect Smart Client, there is no limitation to how many displays you can attach to your computer.

The maximum number depends on your hardware (display adapters, etc.) and your Windows version.

## Licensing

If your organization has a license for an XProtect VMS product and perhaps XProtect extensions, you do not need any additional licenses to install and use XProtect Smart Client.

When your system administrators install the XProtect® VMS, they register and activate the licenses for your organization's XProtect VMS products and XProtect extensions.

## Installing and upgrading

### Install XProtect Smart Client

You download XProtect Smart Client from the web page on the management server of your XProtect VMS system and install it on your computer.



To ensure that you have access to all the new features and functions included in your XProtect VMS system, use the version of XProtect Smart Client that matches your XProtect VMS version. You can also use a newer version of XProtect Smart Client. It might offer some performance improvements. Ask your system administrator for advice.



1. Open your browser and enter the URL or IP address of the management server:
  - To install XProtect Smart Client on the management server: *http://localhost/installation*
  - To install XProtect Smart Client on a different computer than the one running the management server: *http://[IP\_address]/installation*. If you do not know the URL or IP address, contact your system administrator.
2. Optionally, change the language of the web page.
3. On the web page, find the XProtect Smart Client installer and select **All Languages**.
4. Run the downloaded XProtect Smart Client installer and follow the installation instructions.
5. If you don't have internet access and you want access to the XProtect Smart Client user assistance, you can download and install it.

## Upgrading XProtect Smart Client

In most cases, the process of upgrading XProtect Smart Client is similar to how you initially installed the software and user assistance.

For exceptions and explanations, see the following information:

### Message: New version available

When you log in and a message informs you that a new version of the XProtect Smart Client is available, your system administrator has updated the XProtect VMS system. Download and install the new version to ensure you have access to the new features and functions.

### Suggested installation path in the installer

When you upgrade, use the suggested installation path in the installer to keep your user settings. If you want to use another path, you have to remove the current installation of XProtect Smart Client and then install the newer version.

### Upgrading to a newer XProtect Smart Client version than the XProtect VMS version

You can install a version of XProtect Smart Client that is newer than the version of the XProtect VMS system, but the features and functions available to you will match those available on the XProtect VMS system. See [Verify the current version of XProtect Smart Client on page 72](#) and contact your supervisor or system administrator for advice.

## Verify the current version of XProtect Smart Client

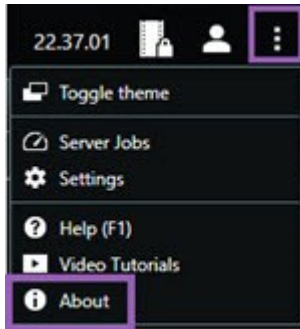
Knowing the version of your XProtect Smart Client and XProtect Smart Client plug-ins is important if you want to:



- Upgrade
- Verify the version is compatible with your XProtect VMS version
- Contact support

Steps:

1. On the global toolbar, select the **Settings and more** menu.
2. Select **About**.



## Troubleshooting: installation attempts

Here are error messages that might be shown when you try to install XProtect Smart Client.

**You cannot install Milestone XProtect Smart Client on this operating system. The OS is not supported.**

You have tried to install XProtect Smart Client on a computer that has a Windows operating system that is not supported by XProtect Smart Client. Upgrade your operating system and try again.

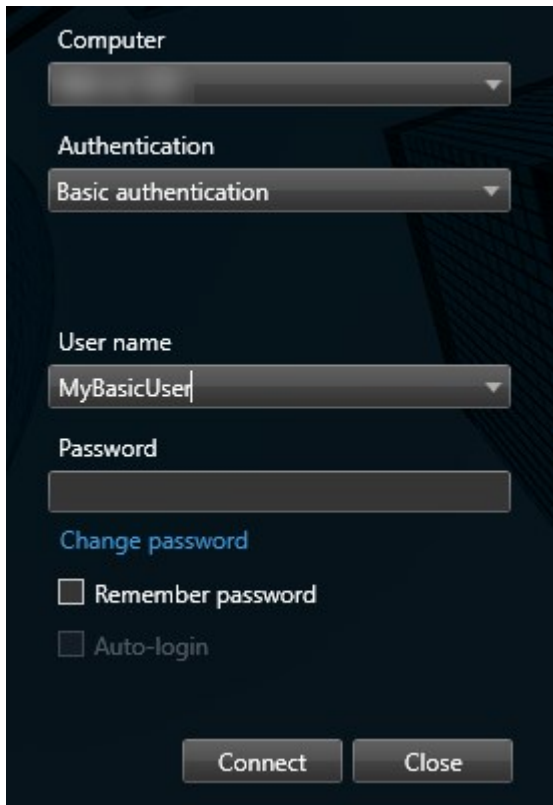
**A system error has occurred. This product can only be installed on 64-bit Windows installations.**

You have tried to install XProtect Smart Client on a computer with a Windows operating system that is not 64-bit. Upgrade your operating system and try again.

## Logging in and out

### Log in

1. Start XProtect Smart Client. The login window is displayed.

The image shows the login window of the XProtect Smart Client. It has a dark blue background with a subtle grid pattern. The window contains several fields and options: a 'Computer' dropdown menu, an 'Authentication' dropdown menu set to 'Basic authentication', a 'User name' dropdown menu with 'MyBasicUser' selected, and a 'Password' text field. Below these is a 'Change password' link in blue. There are two checkboxes: 'Remember password' and 'Auto-login', both of which are currently unchecked. At the bottom, there are two buttons: 'Connect' and 'Close'.

2. Specify the name or address of the management server that you want to connect to.
3. Select one of these authentication methods:
  - **Windows authentication (current user)**—log in using the Windows user credentials that match your current login.
  - **Windows authentication**—log in with Windows user credentials that are different from your currently used Windows user credentials.
  - **Basic authentication**—log in as a basic user. Your system administrator defines basic users in XProtect Management Client.
  - [Name of external IDP]—select this option to log in with an external IDP.
4. Select **Connect**.



How long it takes to log in depends on the complexity and configuration of your organization's XProtect VMS system.

A few additional steps and questions might appear depending on the configuration of your XProtect VMS system and product extensions.

## Possible additional login options

### Restore windows and tabs when logging in

To quickly get started with your tasks, you can restore all the windows and tabs left open when you last logged out of XProtect Smart Client.

- When logging in and the **Restore windows and tabs** window opens, select if you want to restore.

Perhaps your XProtect VMS system administrator has already configured that you're asked if you want to restore, but you can also define it yourself. See [Define to restore windows and tabs when logging in on page 79](#).

### Log in with authorization

When you log into the XProtect Smart Client, you might be asked for additional authorization for your login.

- In the login window, both you and your supervisor must enter your login credentials.

If in doubt about who can authorize you, contact your supervisor or system administrator.

### Log into access control systems

If your organization has an access control system, you can be asked for additional login credentials when you log into XProtect Smart Client.

- In the log in window for your access control system, enter your login credentials.

If you don't know your login credentials for your access control system, contact your supervisor or system administrator.

### Allow HTTP connections

If your XProtect VMS system doesn't have a certificate installed, you can't connect with the newest available security model in XProtect. The security model is based on the HTTPS network protocol.

- To allow HTTP connections, select **Remember my choice. Do not show this message again**.



If your XProtect Smart Client is connected to a XProtect VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

See also [No longer allow HTTP connections on page 81](#).

## Troubleshooting: login attempts

You might see the following messages and warnings when you log in to XProtect Smart Client.

**Your user permissions do not allow you to log in at this point in time. User permissions can vary depending on time of day, day of week, etc.**

You have tried to log in at a time when your user permissions don't allow you to log in.

How to fix: Wait until you're permitted to log in. Contact your system administrator if in doubt about your user permissions.

**You do not have access to any part of the application. Contact the system administrator.**

You currently have no access permissions to any part of the XProtect Smart Client.

How to fix: Contact your system administrator, who can change your access permissions if required.

**Application is not able to start, because two (or more) cameras are using the same name or ID...**

This error message only appears in a rare scenario where someone uses a backed-up, unchanged configuration from one XProtect VMS system on another XProtect VMS system. Result: different cameras try to use the same identity, and XProtect Smart Client users can't access the XProtect VMS system.

How to fix: Contact your system administrator.

**Authorization failed: You cannot authorize yourself.**

You have entered your own credentials in the **Authorized by** field.

How to fix: Contact a person with authorization permissions. This could be your supervisor or your system administrator. The person must enter their credentials to authorize your login.

**Authorization failed: You do not have permission to authorize.**

You have tried authorizing a user, but you don't have the user permission to do so.

How to fix: Ask your system administrator to check that you have the necessary permissions to authorize other users or ask someone with sufficient user permissions to authorize the user.

**Failed to connect. Check the server address.**

The management server of the XProtect VMS system is not at the specified server address.

How to fix: Verify that you have entered the correct server address. The *http://* or *https://* prefix and port number are required as part of the server address (example: *https://123.123.123.123:80*, where *:80* indicates the port number). Contact your system administrator if in doubt.

**Failed to connect. Check the user name and password.**

The XProtect VMS system can't recognize the specified user name and/or password.

How to fix: Verify your user name is correct and enter your password again. User names and passwords are case-sensitive. For example, there is a difference between **Amanda** and **amanda**.

### **Failed to connect. Maximum number of clients are already connected.**

The maximum number of clients allowed to connect to the XProtect VMS system simultaneously has been reached.

How to fix: Wait for a while before connecting again. If you urgently need access to the XProtect VMS system, contact your system administrator. Your system administrator can extend the number of simultaneously connected clients.

### **Connection using an old security model. You cannot connect to the web page using the newest security model.**

You try to log into XProtect VMS system that doesn't have a certificate installed.

How to fix: Contact your system administrator or select **Allow** to log in using HTTP. HTTP is a network protocol that operates without the use of a certificate.



If your XProtect Smart Client is connected to a XProtect VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

### **You no longer have permission to do this**

Your time-dependent user permissions no longer allow you to use a feature or functionality. Your user permissions can vary depending on time of day, day of week, etc. Therefore, you can likely use the feature or functionality at a later stage.

How to fix: Wait til later or contact your system administrator.

### **Due to system settings, your XProtect Smart Client session will expire within the next [...]**

Your permissions to use XProtect Smart Client can depend on time of day, day of week, etc.

When that is the case, you will typically see this message a number of minutes or seconds before your session will be closed. Your system administrator defines when the message is sent.

How to fix: Wait til later or contact your system administrator.

### **No user activity detected recently, your XProtect Smart Client session will expire within the next [...]**

The XProtect Smart Client closes for security reasons if you haven't used the application for a while. Typically, this message appears some minutes or seconds before the session closes. Your system administrator defines when the message is sent.

## **Log out**

- On the global toolbar, select the **User menu** and then **Log out**.

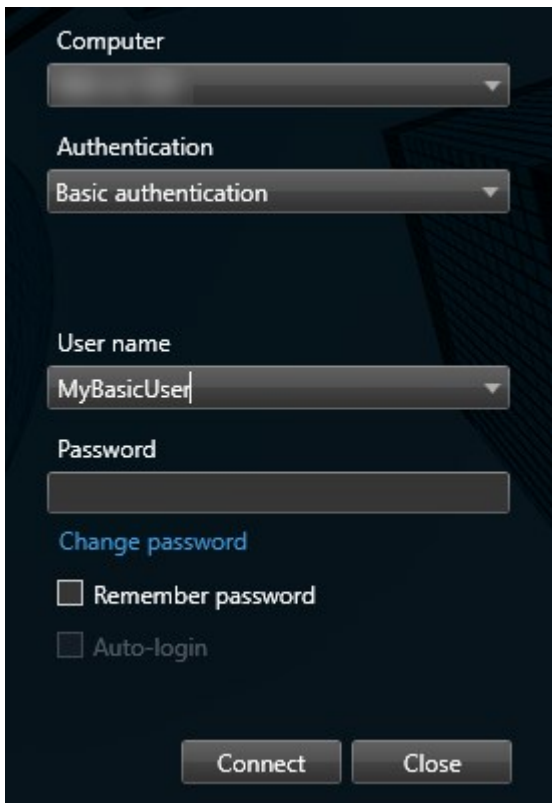
XProtect Smart Client restarts. The login window is shown so you can log in again.

## Change password (basic authentication only)

If you log in as a basic user (**Basic authentication**) and your XProtect VMS system uses version 2021 R1 or later, you can change your password.

If you choose a different authentication method, only your system administrator can change your password. Changing your password often increases the security of your XProtect VMS system.

1. Start XProtect Smart Client. The login window is displayed.
2. Specify your login information. In the **Authentication** list, select **Basic authentication**. A link with the text **Change password** appears.



3. Select **Change password**.
4. Follow the instructions and save your changes.
5. Log in to XProtect Smart Client using your new password.

## Customizing your XProtect Smart Client installation

### Defined values of XProtect Smart Client settings

You can customize XProtect Smart Client in many ways.

Within the XProtect Smart Client settings, you can change parts of XProtect Smart Client's behavior and which functionality are available to you.

The system administrator might set default values for certain or all settings or delegate the configuration responsibility to you. You might have the right to modify the default values for specific settings, though in some cases, you're not allowed to make any changes.

You can change the settings anytime, but changing some settings may require you to restart XProtect Smart Client.

The settings you define are saved in your local user account on your computer.

Here are a few examples of XProtect Smart Client settings:

- Show/hide bounding boxes on video.
- Show/hide audio recordings on the timeline tracks in the main timeline.
- The default path for snapshots.
- Restore your views from last login.

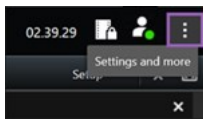
You can find all XProtect Smart Client settings here:

- On the global toolbar, select the **Settings and more** menu, and then select **Settings**.

## Change the language of XProtect Smart Client

XProtect Smart Client is available in several languages.

1. On the global toolbar, select the **Settings and more** button.



2. Select **Settings**.
3. On the **Language** tab, select the language you want to use.

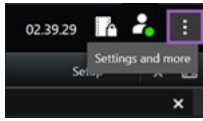
### Right-to-left languages

XProtect Smart Client supports certain right-to-left languages. If you use one of these languages, the user interface's layout also changes to right-to-left. Buttons, toolbars, and panes move to the opposite side of, for example, English. You can select to keep the layout left-to-right when you select to use a right-to-left language.

## Define to restore windows and tabs when logging in

You can define if you want to restore the windows and tabs left open when you last logged out of XProtect Smart Client. With everything restored when logged in, the workspace is arranged to your preferences.

1. On the global toolbar, select the **Settings and more** button.



2. Select **Settings**.
3. On the **Application** tab, open the dropdown menu for the **Restore windows and tabs** setting.
4. Select the option that suits you best:
  - **Last**: Always restore all windows and tabs you had open when you logged out of XProtect Smart Client.
  - **None**: Never restore the windows and tabs you had open when you logged out of XProtect Smart Client.
  - **Ask**: When logging in, you're asked if you want to restore your XProtect Smart Client windows and tabs from last session.

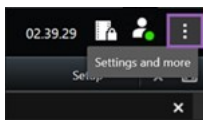
## Add a joystick for video and user interface navigation

Most joysticks work in XProtect Smart Client as soon as you connect them to the USB port on your computer.

For others, you must install their drivers and manually add them in XProtect Smart Client. This is also true if you connect your joystick to a serial port or through an IP address.

To add the joystick manually, do the following:

1. On the global toolbar, select the **Settings and more** button.



2. Select **Settings**.
3. On the **Joystick** tab, select **Add**.
4. Select the driver you have installed for your joystick and define the joystick's properties.



Depending on the driver, the property values might be prefilled, or you must enter them manually. You can only add the joystick if you enter the correct property values. Contact the joystick vendor if you need clarification on the property values.



5. Select **Add**.
6. On the **Joystick** tab, define the different axis movements, dead zone, and button settings for the joystick. See [Joystick settings on page 336](#).

## Change the sound of the sound notifications

Having different sound notifications on different computers with XProtect Smart Client can be useful. The sound file plays whenever events or motion are detected. You can change the sound file to have a different notification sound on each computer, but you need administrator rights to do so.

The sound file, called `Notification.wav`, is located in the XProtect Smart Client installation folder. Typically:  
`C:\Program Files\Milestone\XProtect Smart Client`.

- If you want to use another .wav file, simply name the file `Notification.wav` and copy it to the XProtect Smart Client installation folder.



Using different sound files for different cameras or distinguishing between event- and motion-detection is not supported.

## No longer allow HTTP connections

You can clear the setting that allows you to log in to an XProtect VMS system using a network protocol with a connection that use an older security model (HTTP). See [Allow HTTP connections on page 75](#).

1. On the global toolbar, select **User menu**.
2. Select **Login information**.
3. Select **Clear**.
4. Select **OK**.

## Learning how to use XProtect Smart Client

### Access to user assistance

In the XProtect Smart Client interface, pressing **F1** takes you to the relevant topic in the XProtect Smart Client user assistance. The user assistance topics are tailored to assist you with the task you're currently working on.

From XProtect Smart Client 2024 R1, the user assistance is not installed with the software, but you can install it separately.

You don't need to install the user assistance if your computer with XProtect Smart Client has access to the internet, because pressing **F1** opens the Milestone Documentation portal with all the user assistance for all software from Milestone Systems.

If you don't have access to the internet and no installed user assistance, pressing **F1** displays a QR code and a URL which directs you to the Milestone Documentation portal.

## Additional help resources



If the XProtect Smart Client user assistance or the help resources on the Milestone Documentation portal don't provide the information you need, you can explore the self-help resources at <https://www.milestonesys.com/support/> or contact your reseller.

Milestone generally offers eLearning courses for all XProtect products. You can find the eLearning courses for XProtect Smart Client on the [XProtect Smart Client Training webpage](https://learn.milestonesys.com/tools/customer_portal/index.html) ([https://learn.milestonesys.com/tools/customer\\_portal/index.html](https://learn.milestonesys.com/tools/customer_portal/index.html)).

# Viewing video and working with views

## XProtect Smart Client - Viewing video and working with views

XProtect Smart Client – Viewing video and working with views is a comprehensive guide on viewing and managing live and recorded video in XProtect Smart Client.

### Subjects covered

The guide provides instructions on how to work with the following aspects of live and recorded video:

- Opening and maximizing views
- Displaying video in full-screen mode
- Sending video to hotspots
- Working with carousel view items

The guide also addresses the use of advanced features such as digital zoom, PTZ controls, and different types of maps.

### Intended audience

The intended audience for this guide includes security personnel, operators, and technical staff responsible for managing and operating XProtect Smart Client within their organizations.

## Viewing video

### Viewing and recordings

You view video in XProtect Smart Client by selecting and switching between different views in live or playback mode.

If there are no views, you can create them. See [Private and shared views on page 244](#).

If a camera has a microphone or separate microphones are added, you can listen to live or recorded audio. If a camera has a speaker, you can broadcast audio.

Video from cameras is not always recorded. Typically, recording is triggered by motion, schedules, or events. Data from devices and audio from microphones are usually recorded continuously.

If you see bounding boxes in the video, a device associated with the camera is sending metadata to the system.

### Open a view and maximize a view item

To view live or recorded video, you select a view that contains the relevant video.

1. Select the main views tab.
2. On the **Views** pane, select the view containing the relevant video.

Alternatively, if the view has a shortcut number, you can select the view with \* + [shortcut number] + **Enter** on the numeric keypad. For example, to select a view with shortcut number 1, press \* + 1 + **Enter**.



Assigned numbers are shown in parentheses before the view names on the **Views** pane.

3. To maximize a view item to see the details in the content of the view item, select the view item and double-click or press Enter. To minimize, double-click or press Enter again.



See [Default keyboard shortcuts on page 99](#) and [Assign a shortcut number to a view on page 246](#).

#### Watch a quick video tutorial?



## Display a window in full-screen mode

You can hide your menus and controls by sending your view to full-screen mode to optimize your viewing interface.


- On the workspace toolbar, select **Toggle full screen mode** .
- To exit full-screen mode, move your mouse cursor to the top of the window and select **Toggle full screen mode** .

## Send video to a hotspot

If you have a hotspot view item, you can display magnified, higher quality video in it from another camera view.

- Select any camera view to show its video in the hotspot view item.



You can recognize a hotspot view item by the  icon in the title bar.

#### Watch a quick video tutorial?






## View video in carousel view items

In live mode, a carousel view item rotates between camera feeds at defined intervals. Carousel view times enables you to patrol and be aware of what is happening in areas of interest.

The timing of the carousel begins when you open the view. So, if you have two views with the same carousel view item open, you're watching two separate timings of the same carousel.





You can recognize a carousel view item by the  icon in the title bar.

1. Open a view that contains a carousel.
2. Do one of the following actions:
  - To continue to view the same video in the view item, on the camera toolbar, select **Start / stop carousel** . Select **Start / stop carousel**  again to start the carousel.



If you zoom in on the video in a carousel view item, the carousel automatically stops.

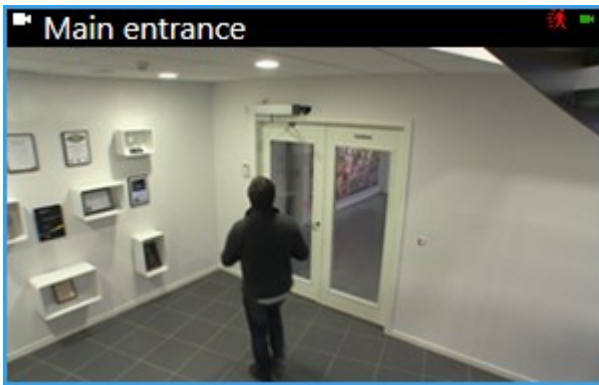
- To show video from the next or previous camera in the carousel view item, select **Previous camera**  or **Next camera** .








### Watch a quick video tutorial?



## View the status of live video

In live mode, at the top of each camera view item, camera indicators show the status of the video.




Indicator	Description
	<p>Motion is detected. The indicator is shown until you acknowledge that you have seen it by selecting the view item to reset the motion indicator.</p> <div>  <p>In the camera properties, you can add sound to notify you when there is motion.</p> </div>
	The server connection to the camera is lost.
	Video from the camera is being recorded.
	A connection to the camera is established. This icon is only relevant for live video.
	Playing back recorded video.
	No new images were received from the server for more than two seconds.

## View recorded video independently of the main timeline

If you want to review video in a view item, you can play back the video independently of the other video in the view. In playback mode, the playback is independent of the selected main timeline. In live mode, the playback is independent of the live video.




You can't use this feature for view items with hotspots, carousels, or Matrix content.

1. Select the view item and from the camera toolbar, select **Independent playback** .

The top bar for the view item with the camera turns yellow, and the independent playback timeline appears:



- In live mode, the video starts playing from 10 seconds before the time you selected **Independent playback**.
  - In playback mode, if playing, the video jumps 10 seconds in the opposite direction. If paused, the video remains paused at the current time.
2. To see the recorded video from another time, drag the independent playback timeline.
  3. To synchronize the recorded video from all cameras in your view to the independent playback time, select **Use the selected time on the playback timeline** .

Now, the video is synchronized to the time you initially selected for the independent playback in playback mode.

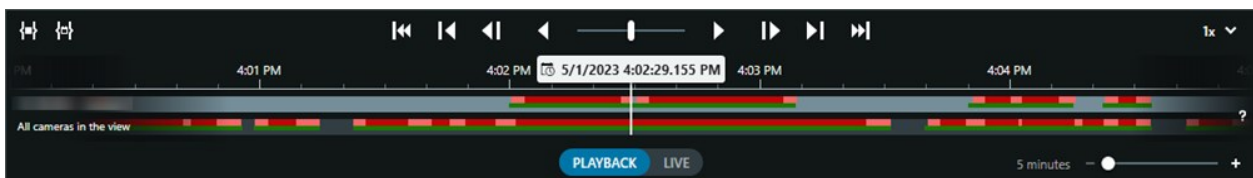
#### Watch a quick video tutorial?



## Go back and forth in time in recorded video

You can move through your recordings using the main timeline controls.

- Drag the timeline tracks left or right. Hold CTRL while dragging for slower movement.
- Use the timeline controls, mouse scroll wheel, or select the date above the playhead to go to a specific time.



See also [The main timeline on page 57](#).

#### Watch a quick video tutorial?



## Search for cameras and views

If you know the name of a view or a camera, or the characteristics or descriptions of a camera, you can search for them in all your views groups.

For example:

- Camera descriptions: Your system administrator has given all your outdoor cameras an **Outdoor** tag.
- Camera capabilities: PTZ, audio, input, and output.

Your search results include cameras and any views they are part of.

1. On the **Views** tab and in the **Search views and cameras** field, enter the text that you want to search for.



Alternatively, select  next to the search field to select one of the common search keywords.

2. From the search results, you can select:
  - A view to open the view.
  - One or more cameras to view the video in a temporary view. Select a camera or press **Ctrl** or **Shift** to select multiple cameras, and then press **Enter**.

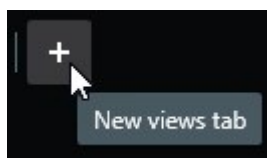
## Working with multiple open views

### Additional windows and views tabs

In addition to your main window, you can have several extra detached windows with open views. You can also have multiple views tabs open in both your main window and detached windows.

### Additional views tabs

All your windows have a main views tab, but you can open additional views tabs.

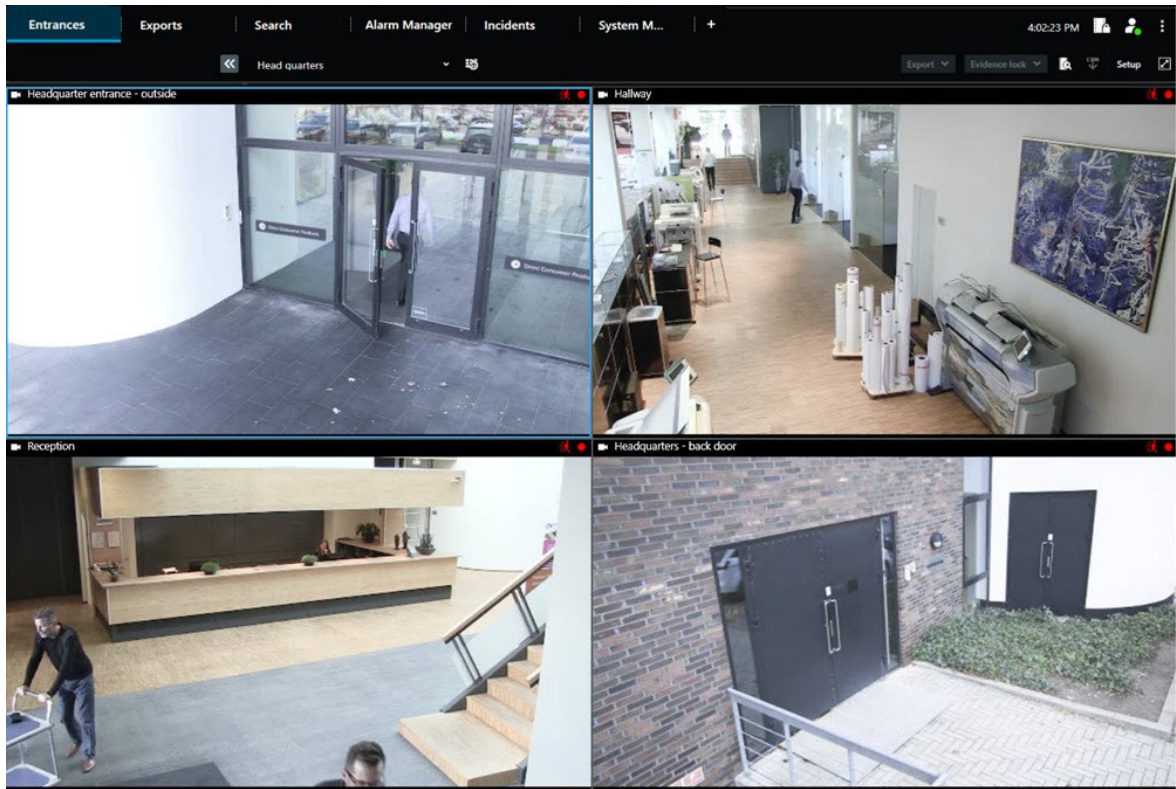




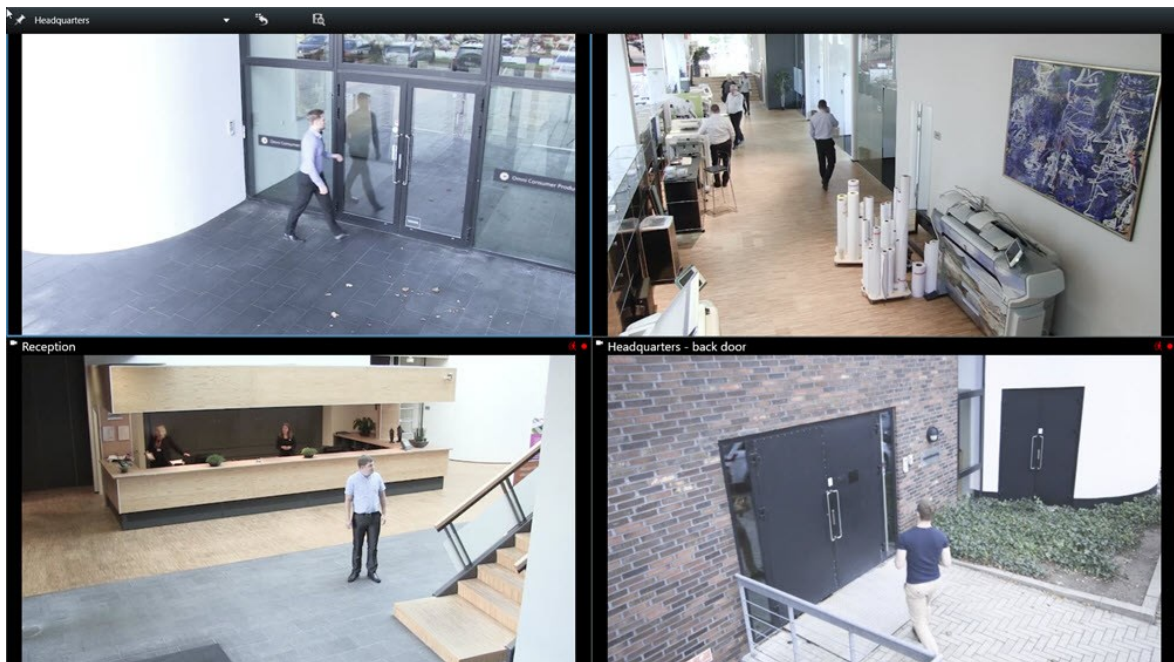
### **Detached windows**

You can send views to two types of detached windows: floating and display (primary, secondary, and so on).

- Floating window: A detached window with all tabs and controls visible.



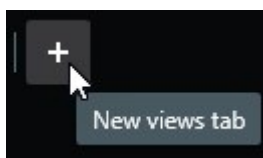
- Display window (primary, secondary, and so on): A full-screen window where all tabs and controls are hidden. To close this window, move your mouse cursor to the top of the window and show hidden buttons such as the **Close** button.



### Open an additional views tab

To switch between different views, you can open as many views tabs as needed in the main and detached windows.

1. On the default tabs, select **New views tab**.



2. Select the view that contains the relevant video. The name of the new views tab is now the name of the view you selected.
3. To close the additional views tab, select **Close tab**.





You can assign shortcut keys to the opening and closing of additional views tabs. On the **Settings and more** menu, select **Settings**. Select the **Keyboard** tab and, finally, the **Application** category. Now you can assign shortcut keys for the options **Close selected tab** and **Open a new views tab**.



You can't close the main tabs on the default menu, you can only close the additional tabs.

### Watch a quick video tutorial?



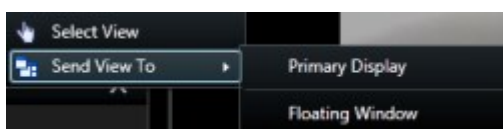
### Send a view to a detached window

If you have several monitors and want to view video from multiple views at the same time, you can send views to detached windows as a display window or a floating window.

You can open any number of detached windows and drag them to any monitor that is connected to your computer.



1. On the **Views** pane, right-click the view you want to send to a detached window.
2. Select **Send view to** and then the detached window to send the view to.



See also [Additional windows and views tabs on page 88](#).




When you log out of XProtect Smart Client, information about all open windows and tabs is stored on the local computer. To have your workspace arranged as you prefer as soon as you have logged in to XProtect Smart Client, you can define to restore all the windows and tabs. See [Define to restore windows and tabs when logging in on page 79](#).

#### Watch a quick video tutorial?



#### Sync the time in a detached window with the main window




If you're investigating an incident, you can ensure that a detached window displays video from the same time as that of the main window.

1. In the detached window, select **Sync time with the main views tab** .
2. The main timeline is now hidden in the detached windows.
3. In the main window, use the main timeline to go back and forth in the video in both the main window and in the detached window.

#### Select another open view and then a view item

If you have multiple views open, you can easily switch between them with the mouse or the keyboard. You can also combine the selection options. For example, select the view with your mouse and then select the view item with one of the keyboard options.

- Do one of the following.

	Select a view and then a view item.
	<p>If you have a view with a shortcut number, press * + [shortcut number] + <b>Enter</b> on the numeric keypad to select it.</p> <p>Select the relevant view item with the arrow keys 2, 4, 6, and 8 on the numeric keyboard.</p>
	<p>Press <b>Alt</b> and all open views are given a number.</p> <p>Press the number for the view you want to select and then all view items in the selected view is given a number.</p> <p>Press the number for the view item you want to select.</p>

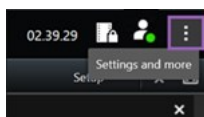


You can multitask by using keyboard shortcuts and your mouse or joystick at the same time. For example, you can move a PTZ camera with your joystick and open a view with a keyboard shortcut.

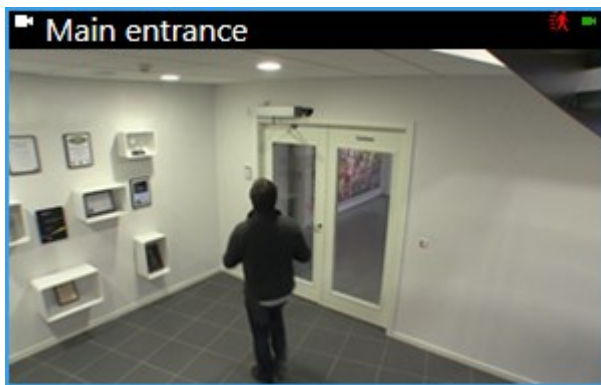
## Show/hide the camera title bar and camera indicators for all views

Knowing the status of the shown video is helpful. For example, is the video being recorded? But you might prefer not to show the camera indicators.

1. On the global toolbar, select **Settings and more**.



2. Select **Settings**.
3. On the **Application** tab and for the **Default for camera title bar** option, select **Show** or **Hide**.



If you choose not to display the title bar, you can't see the visual indicators for motion and events. As an alternative, you can use sound notification.

## The camera toolbar (camera view items)

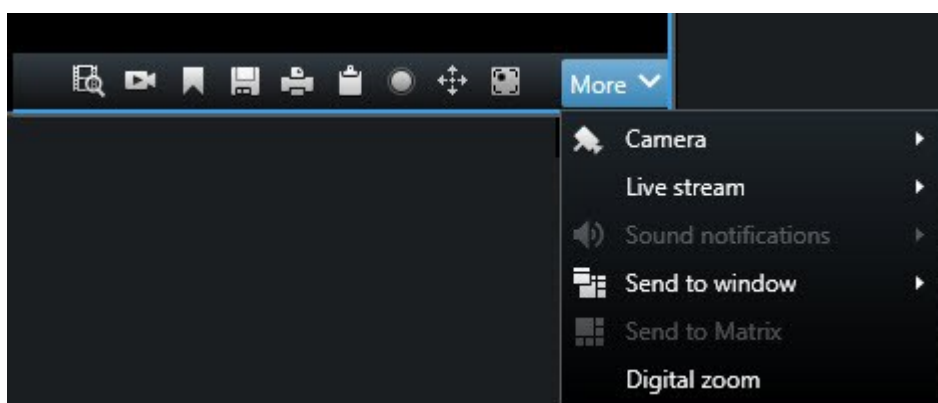
All camera view items have a camera toolbar. The camera toolbar is available in live and playback mode and appears when you place the cursor inside a camera view item.















If you want to temporarily hide the camera toolbar when you move your mouse between view items, press and hold the **CTRL** key.

The icons you see in the toolbar depend on:

- The products and features available to you.
- Whether you're viewing video in live or playback mode.
- The features available for the type of camera shown in the view item.



Feature	Description
	<a href="#">Go to a device on your smart map on page 125</a>
	<a href="#">Start search from cameras or views on page 189.</a>
	<a href="#">View recorded video independently of the main timeline on page 173.</a>
	<a href="#">Add or edit bookmarks on page 158.</a>
	<a href="#">Take a snapshot to share on page 142.</a>
	<a href="#">Print surveillance report from single cameras on page 227.</a>
	<a href="#">Copy images to clipboard on page 229.</a>
	<a href="#">Record video manually on page 142.</a>
	<a href="#">Pan, tilt, and zoom in live video on page 106.</a>
	Requires XProtect Incident Manager. Starts an incident project.
	Requires XProtect Hospital Assist. Blurs the video in the view item for a period of time.
	Requires XProtect Hospital Assist. Adds a sticky note to the camera view item.
<b>More &gt; Camera</b>	<a href="#">Replace video in a camera view item on page 102</a>
<b>More &gt; Send to window</b>	<a href="#">Send a camera view item to another open view on page 103</a>
<b>More &gt; Send to Smart</b>	Shares the camera stream by sending it to one of your video walls.




Feature	Description
Wall	
More > Send to Matrix	<a href="#">Send video to a Matrix view item on page 143</a>
More > Digital zoom	<a href="#">Zoom digitally in camera view items on page 104.</a>


### Watch a quick video tutorial?



## Minimize the camera toolbar

You can minimize the camera toolbar in a view item to give the video more focus.

1. Select a camera view item.
2. On the camera toolbar, select  to minimize.

To maximize the camera toolbar again, select .



If you want to temporarily hide the camera toolbar when you move your mouse between view items, press and hold the **CTRL** key.

## Change the time shown in the camera toolbar

The time zone that is defined server-side can differ from your current time zone or the time zone of your computer.

- To change the time shown in the camera toolbar, open the **Settings** window and go to **Advanced > Time zone**.

## Configuration options for timelines

You can customize the timelines to suit your needs.

- Choose which recording types and elements to show on the timeline tracks (for example, recorded audio, and bookmarks).
- Choose how to handle gaps between recordings.
- Hide the main timeline during inactivity to maximize your display for viewing video.

## Configure playback of gaps between recordings

You can adjust how the main timeline plays back gaps between recordings.

If, for example, all cameras in a view have no recordings in the same period, there is no need to play back the non-recordings at average speed. Therefore, the timeline is, by default, configured to skip the playback of gaps between recordings. If you want to change this behavior, you can.

1. On the global toolbar, select **Settings and more**, and then **Settings**.
2. In the **Settings** window, select **Timeline**.
3. Set the **Playback** option to either **Skip gaps** or **Do not skip gaps**.

## Configure what to show on the timeline tracks

For a clearer overview of your recordings, bookmarks, and markers, you can adjust what is shown on the timeline tracks:

1. On the global toolbar, select **Settings and more**, and then **Settings**.
2. In the **Settings** window, select **Timeline**.
3. Choose to show or hide recordings from different devices or sources. Each type of recording is color-coded on the timeline track:
  - **Incoming audio**
  - **Outgoing audio**
  - **Additional data** (metadata coming from other sources)
  - **Additional markers** (from other sources)
  - **Bookmarks**
  - **Motion indication** (recordings with motion)
  - **All cameras timeline** - (information about all recordings from all cameras in the view)

## Hide the main timeline

To expand your video display, you can hide the main timeline after a few seconds of inactivity.

How much of the main timeline is hidden depends on whether you view video in live or playback mode. In live mode, the entire main timeline is hidden. In playback mode, all but the timeline tracks are hidden. The main timeline is fully shown as soon as you interact with your computer again.

1. On the global toolbar, select **Settings and more**, and then **Settings**.
2. In the **Settings** window, select **Timeline**.
3. Choose when to hide the main timeline:
  - **Hide the timeline during inactivity** - for all views except Smart Wall views. Default value is never.
  - **Hide the timeline in Smart Wall views** - for Smart Wall views. Default value is after 5 seconds.

## Sound notifications

You can enable sound notifications for camera view items to alert you when special attention is needed such as motion detection or event triggers, even if you're not actively viewing live video. These notifications are only active for the views that are currently open and visible.

You and your system administrator can configure that a sound notification is played when:

- Motion is detected.
- Events happens.



XProtect Smart Client only plays sound notifications from selected, open, and visible views. If you minimize a window or maximize a camera view item, you won't receive sound notifications from the hidden view items.

## Mute sound notifications

In live mode, you can temporarily mute sound notifications from camera view items.

1. Select a camera view item.
2. On the camera toolbar, select **More > Sound notifications > Mute**.
3. To unmute, select **More > Sound notifications > Mute** again.



## Default keyboard shortcuts

XProtect Smart Client includes default keyboard shortcuts to help you move/swap view items, reset view items, open views, and move content between views. For example, you can use your joystick or mouse to move a PTZ camera and use a keyboard shortcut to send the camera view item to a hotspot or other view at the same time.



You can multitask by using keyboard shortcuts and your mouse or joystick at the same time. For example, you can move a PTZ camera with your joystick and open a view with a keyboard shortcut.

You can also assign custom shortcut key combinations for actions in XProtect Smart Client. See [Keyboard settings on page 338](#).

Keyboard keys	To do this
<b>Enter</b>	<a href="#">Open a view and maximize a view item on page 83</a> .
<b>Alt +[view number] + [view item number]</b>	<a href="#">Select another open view and then a view item on page 93</a> .
<b>/+Enter</b> (numeric keypad only)	Resets a view item to its default content. See <a href="#">Reset a view item or view on page 103</a> .
<b>/+/+Enter</b> (numeric keypad only)	Resets a view to its default content. See <a href="#">Reset a view item or view on page 103</a> .
<b>2, 4, 6, and 8</b> (arrow keys)  (numeric keypad only)	Select the view item next to the current one (right, left, above, or below).  <a href="#">Select another open view and then a view item on page 93</a> .
<b>/+&lt;camera shortcut number&gt; +Enter</b> (numeric keypad only)	<a href="#">Replace video in a camera view item on page 102</a> .  Requirement: Your system administrator has assigned a shortcut number to the camera.   Assigned numbers are shown in parentheses before the camera name on the <b>Views</b> pane.
<b>*+&lt;view shortcut number&gt; +Enter</b> (numeric keypad only)	<a href="#">Open a view and maximize a view item on page 83</a> .  Requirement: you have assigned a shortcut number to a view.   Assigned numbers are shown in parentheses before the view names on the <b>Views</b> pane.

## Troubleshooting: No video or bounding boxes

### Why is there no video?

There are several reasons why you may suddenly be unable to see video from cameras in XProtect Smart Client.

Possible causes include:

- Ongoing maintenance on a camera or the network.
- Network disruptions.
- Your system administrator has given you permission to view video only during certain hours.
- Your system administrator has revoked your permission to view video from a camera.
- Your system administrator has changed the configuration of your XProtect VMS.

**Cannot show bounding boxes. Check if your computer's system time is correct. If the system time is not the issue, contact your system administrator.**

This message appears when one or more camera view items can't show bounding boxes.

The bounding boxes and video are not synchronized.

If your computer's system time is not the issue, your system administrator need to ensure that the bounding box metadata and the video from the recording server are properly synchronized.

## Modifying views temporarily

### Private and shared views

Views can be shared or private.

- Shared views: available to multiple users, typically created by system administrators or supervisors.
- Private views: available only to the user who created them.

You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to XProtect Smart Client.

The **Views** pane contains:

- A **Private** folder: contains your private views, accessible from any computer when logged in. This can include an automatically generated default view with video from all your cameras.
- **Shared** folders: contain view groups with shared views. Protected folders have a padlock icon and cannot be modified by regular users.

## Changing views temporarily

You can temporarily change the cameras in a view to quickly see relevant video during an incident or investigation.

If you want to permanently change the content of a view and create new views, you must be in setup mode. See [Creating views on page 244](#).

### Watch a quick video tutorial?




## View another video stream from the same camera

You can temporarily view video in a higher resolution if a camera is set up to send multiple streams:

1. Select a camera view item.
2. On the camera toolbar, select **More**.
3. Select **Live stream** and then choose a stream.

## Replace video in a camera view item

If you have a view open, and something happens that is not in the view, you can temporarily replace video from one camera with another.

1. Select the camera view item to replace.
2. From the camera toolbar, select the relevant camera or use a numeric keypad shortcut, press **/+<camera shortcut number>+Enter**.
3. To restore the view, select **Reload view**  or press **/++Enter** on the numeric keypad.




If you want to change your view permanently, on the workspace toolbar, select **Setup**.

### Watch a quick video tutorial?



## Move/swap camera view items within a view

You can temporarily move camera view items within a view for easier comparison:


1. Select the camera view item to move.
2. Use the title bar to drag it to another camera view item.
3. To restore the view, select **Reload view**  or press **/+/+Enter** on the numeric keypad.



If you want to change your view permanently, on the workspace toolbar, select **Setup**.

## Send a camera view item to another open view

To view video of an incident from cameras in different views, you can temporarily send video from one view to another open view.

1. Select the camera view item to include in another view.
2. On the camera toolbar, select **More** and **Send to window**.
3. Select the open view and the view item to replace.
4. To restore the view, select **Reload view**  or press **/+/+Enter** on the numeric keypad.




If you want to change your view permanently, on the workspace toolbar, select **Setup**.

## Create a temporary view through search

You can quickly create a temporary view by searching for cameras.

1. On the **Views** tab, use the **Search views and cameras** field to search for cameras.



Additionally, you can select  next to the search field to use common search keywords.


2. Select a view from the search results.
3. Select one or more cameras (use **Ctrl** or **Shift** to select multiple cameras) and then press **Enter** to create the temporary view.

If you want to save your view, on the workspace toolbar, select **Setup**.

## Reset a view item or view

To restore temporarily changed content:

- **Reset a camera view item:** press **/+Enter**.

- **Reset all cameras in a view:** on the workspace, select **Reload view**  or press **/+/+Enter** on the numeric keypad.

## Panning, tilting, and zooming in video

### Differences between optical and digital zoom

Zooming capabilities vary depending on the type of camera you are using. Both fixed and pan-tilt-zoom (PTZ) cameras can zoom, but there are important distinctions between optical and digital zoom.

#### Optical zoom

With optical zoom, a camera's lens physically moves to provide the required angle of view without losing image quality. If you zoom in and out optically, it affects what is recorded.

When viewing live video from a PTZ camera, you typically use the PTZ camera's optical zoom features.

#### Digital zoom

Digital zoom simulates optical zoom, but the digitally zoomed portion has a lower quality than the original image.

With digital zoom, the required portion of an image is enlarged by cropping the image and then resizing it back to the pixel size of the original image—a process called interpolation.

### Zoom digitally in camera view items

You can zoom in digitally to see close-up details in both live and playback mode.

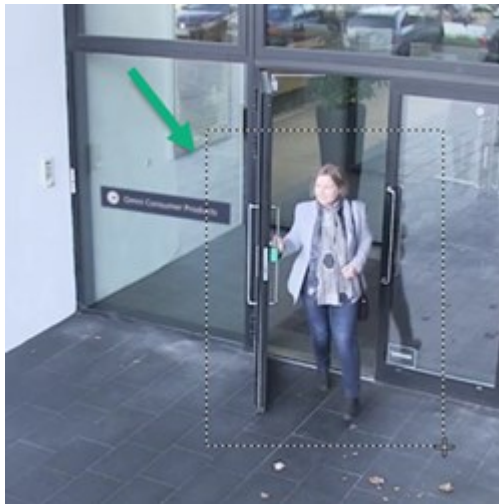
The process is the same for all camera types, but there are some key differences:

- **Digital Zoom:** Available for fixed and fisheye cameras, for all recorded videos.
- **PTZ Cameras:** When you zoom in on live video from a PTZ camera, the camera lens moves, changing the focal length and affecting what is recorded.

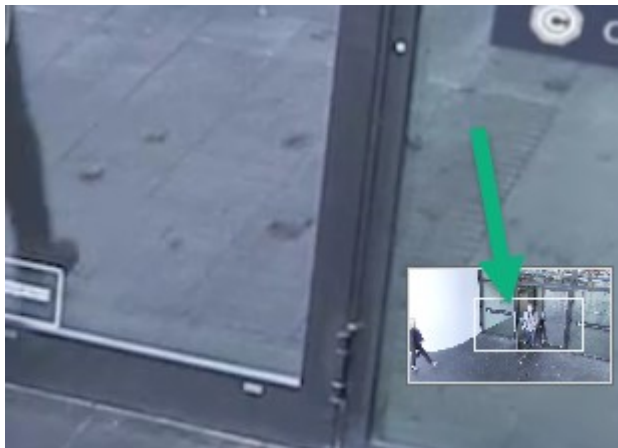
To zoom in:



1. Select the camera view item. If you can't zoom in video, on the camera toolbar, select **More** and then **Digital zoom**.
2. Zoom in on an area:
  - **Mouse wheel:** Scroll to zoom in or out.
  - **Click and drag:** If the cursor is crosshair-shaped, select a corner of the area you want to zoom in on, drag to the opposite corner, and release the button.
  - **Keyboard shortcut:** Press **SHIFT** and then hold and move the mouse to select a zoom level from a slider.



3. If you want to zoom in on another area, in the overview frame, use the directional PTZ navigation buttons to drag the zoom area frame or select a position outside the zoom area frame.



### Adjust the zoom

1. Use the directional PTZ buttons to shift the zoomed-in area.
2. In the overview frame, drag the zoom area or click outside the zoom area to reposition.

### Return to normal zoom

1. Press the mouse wheel or middle mouse button.
2. Scroll the mouse wheel to zoom out.
3. Click the Home icon on the PTZ navigation buttons.

**Watch a quick video tutorial?**



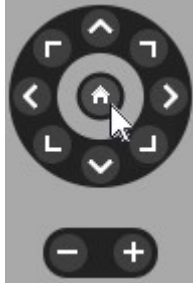
## **Pan, tilt, and zoom in live video**

You can pan, tilt, and zoom in live video to focus on specific areas.

While the methods for PTZ and fisheye cameras are similar, panning, tilting, and zooming in PTZ cameras physically moves the camera's direction or lenses, which affects both what you see and what is recorded.

1. In live mode, select the view item with video from the PTZ camera or fisheye camera.
2. Use these different methods to investigate:

- **PTZ Navigation Buttons:** Use these buttons to pan, zoom in or out, and tilt.



- **Virtual Joystick:** If the mouse cursor is a black arrow, click inside the view item and hold the left mouse button to pan/tilt the camera in the direction the arrow is pointing.



- **Click-to-Center:** If the mouse cursor is crosshair-shaped, click inside the view item to center the pan/tilt around where you selected. If the crosshair has a square, you can zoom in on an area with your mouse.




- **Preset Positions:** If you have defined a favorite position for a fisheye camera or PTZ preset positions for a PTZ camera, you can move the cameras to these positions. See [Pan, tilt, and zoom in video with favorite fisheye positions on page 110](#) and [Pan, tilt, and zoom in video with preset positions on page 109](#)

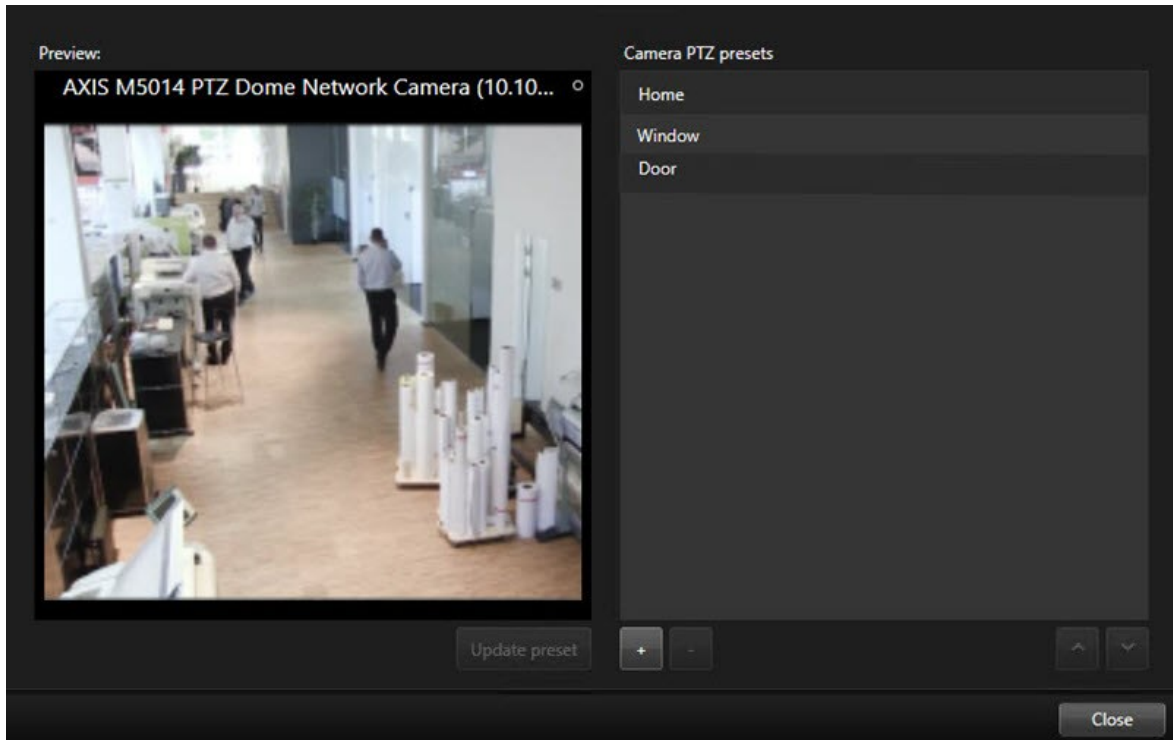
3. To return to the default position of your PTZ camera, select **Home**.


For all zoom options, see [Zoom digitally in camera view items on page 104](#).

## Define a preset position for a PTZ camera

If you frequently use the same pan, tilt, and zoom movements with your PTZ camera, you can save these positions as presets for quick access.


1. Select the camera view item with video from the PTZ camera.
2. On the camera toolbar, select the PTZ icon  to open the PTZ menu.
3. Select **Manage PTZ presets** to open the window.



4. Select the plus icon  to add a new preset position.
5. Select your preset position and give it a name.
6. Use the PTZ buttons to go to the relevant position and select **Update preset** to save.
7. If you want to sort your presets, use the up or down arrows to reorder the preset positions in the list.

## Edit a preset position for a PTZ camera


You can rename or change the preset positions for your PTZ camera:

1. Select the view item with the video from the PTZ camera.
2. On the camera toolbar, select the PTZ icon  to open the PTZ menu.
3. Select **Manage PTZ presets** and select the PTZ preset position you want to edit:
  - To edit the name, select it and enter a new one.
  - To change the camera position, use the PTZ buttons to go to the desired position and then select **Update preset** to save.
4. If you want to sort your presets, use the up or down arrows to reorder the preset positions in the list.
5. Select **Close** to exit the window.

## Pan, tilt, and zoom in video with preset positions

Preset positions enable you to quickly move a PTZ camera to commonly used directions and zoom levels.

To make the PTZ camera move to a preset position:

1. Select the view item with the video from the PTZ camera.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.
3. In the PTZ menu, select a preset position from the list to move the camera to the desired direction and zoom level.

The PTZ icon appears green until the camera reaches the preset position.

**Locked Preset Positions:** Your system administrator can lock preset positions, indicated by a padlock icon on the PTZ menu. Locked positions cannot be changed.


**Home Position:** Selecting the preset position “Home” will move the camera to its home preset position.

## Define a favorite fisheye position

You can save a frequently used direction and focal length as a favorite position for your fisheye camera.




For each fisheye camera, you can only save one favorite position at a time.

1. Select the view item with video from the fisheye camera.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.
3. Pan, tilt, and zoom in the video to go to the desired position.
4. Select **Save fisheye lens positions**.

## Pan, tilt, and zoom in video with favorite fisheye positions

You can quickly move to an often-used direction and focal level by selecting a defined favorite fisheye position.

1. Select the view item with video from the fisheye camera.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.
3. To go to the defined favorite fisheye position, select **Load fisheye lens positions**.

## Patrolling

### Patrolling


XProtect Smart Client includes various patrolling features for PTZ cameras, improving situational awareness in different scenarios:

- Rule-controlled patrolling.
  - [Stop and start a rule-based patrolling session on page 111](#)
  - [Pause rule-based or manual patrolling sessions on page 111](#)
- Manual patrolling, where you manually start patrolling by triggering a patrolling profile.
  - [Start and stop a manual patrolling session on page 110](#)
  - [Pause rule-based or manual patrolling sessions on page 111](#)
- Reserve PTZ sessions so only you can control a PTZ camera because of a critical incident or camera maintenance.
  - [Reserve and release a PTZ session on page 112](#)


### Start and stop a manual patrolling session

You can start a PTZ camera patrolling session manually if, for example, the rule-based patrolling doesn't screen an area of a room properly or there is no defined rule-based patrolling.

To start a manual patrolling session, your user must have a higher PTZ priority than the user or rule that's currently controlling the camera.

1. Select the view item with the PTZ camera that should start patrolling.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.
3. Below the **Manage PTZ presets** entry, find the patrolling profiles configured for this camera.

4. Select the wanted patrolling profile.

On the PTZ menu, all users can see that a patrolling profile is running when it has a checkmark .

5. To stop the manual patrolling, select the profile again.

The XProtect VMS resumes the camera's regular patrolling, and the camera is again available to other users.

## Stop and start a rule-based patrolling session

If your system administrator has defined a rule that makes a PTZ camera patrol, you can stop the rule-based patrolling if an incident occurs. For example, to keep or move the camera in a specific direction.

You can stop a patrolling session if you have a higher PTZ priority than the user or rule currently controlling the camera.

1. In live mode, select the view item with the relevant PTZ camera.

2. On the camera toolbar, select **PTZ**  to open the PTZ menu.

When the PTZ icon is red, the PTZ camera is patrolling, or another user is manually controlling the camera.

3. Select **Stop PTZ patrolling**.
4. Now, you can manually pan, tilt, zoom, or keep the PTZ camera in the current direction.
5. To resume the rule-based patrolling, select the **Stop PTZ patrolling** command again.

## Pause rule-based or manual patrolling sessions

If the system administrator has given you PTZ priority permissions, you can pause rule-based patrolling sessions or manual patrolling sessions started by other users.

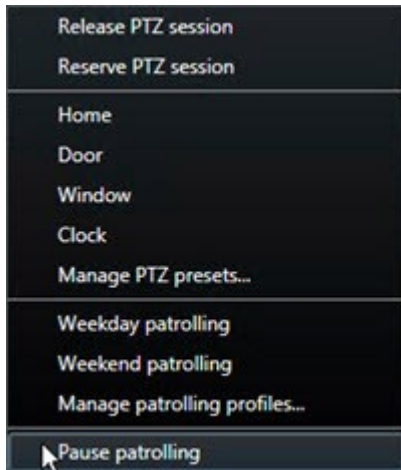
You can pause a patrolling session if you have a higher PTZ priority than the user or rule currently controlling the camera.

1. In live mode, select the view item with the relevant PTZ camera.

2. On the camera toolbar, select **PTZ**  to open the PTZ menu.

When the PTZ icon is red, the PTZ camera is patrolling, or another user is manually controlling the camera.

3. Select **Pause patrolling**.



The PTZ icon turns green for you and red for all other XProtect Smart Client users.



Patrolling is no longer paused if you pan, tilt, or zoom with the camera.

4. To resume the rule-based patrolling again or free the camera so other users can control it, select **Pause patrolling**.

## Reserve and release a PTZ session

If a PTZ camera needs maintenance or an incident occurs that requires you to have complete control over the PTZ camera, you can reserve the right to control it for a duration your system administrator has defined.


When you reserve a PTZ session, no other users can control the camera, including those who have higher PTZ priority permissions. You can then release the PTZ session when you no longer need it to let other users control the camera, or to resume the regular rule-based patrolling. If you forget to, the reservation ends after a duration of time your system administrator has defined.



You can't reserve a PTZ session if a user with a higher priority than yours is already controlling the camera or if another user has already reserved the camera.




### To reserve a PTZ session:

1. In live mode, select the camera view item with video from the PTZ camera to reserve.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.
3. Select **Reserve PTZ session**. If you have started a manual patrolling, it automatically stops.

You have now reserved the PTZ camera, and a timer shows the remaining time of the reserved PTZ session.

### To release a PTZ session:

1. In live mode, select the view item with the PTZ camera you reserved.
2. On the camera toolbar, select **PTZ**  to open the PTZ menu.

The green color of the icon indicates that you're currently controlling the PTZ camera.

3. On the menu, select **Release PTZ session**.

## Lifting privacy masks

### Privacy masking

Your system administrator can blur or cover areas in a camera's field of view to protect private or public areas, such as windows of a private residence. In XProtect Smart Client, the privacy masks are applied in live, playback, and exports.

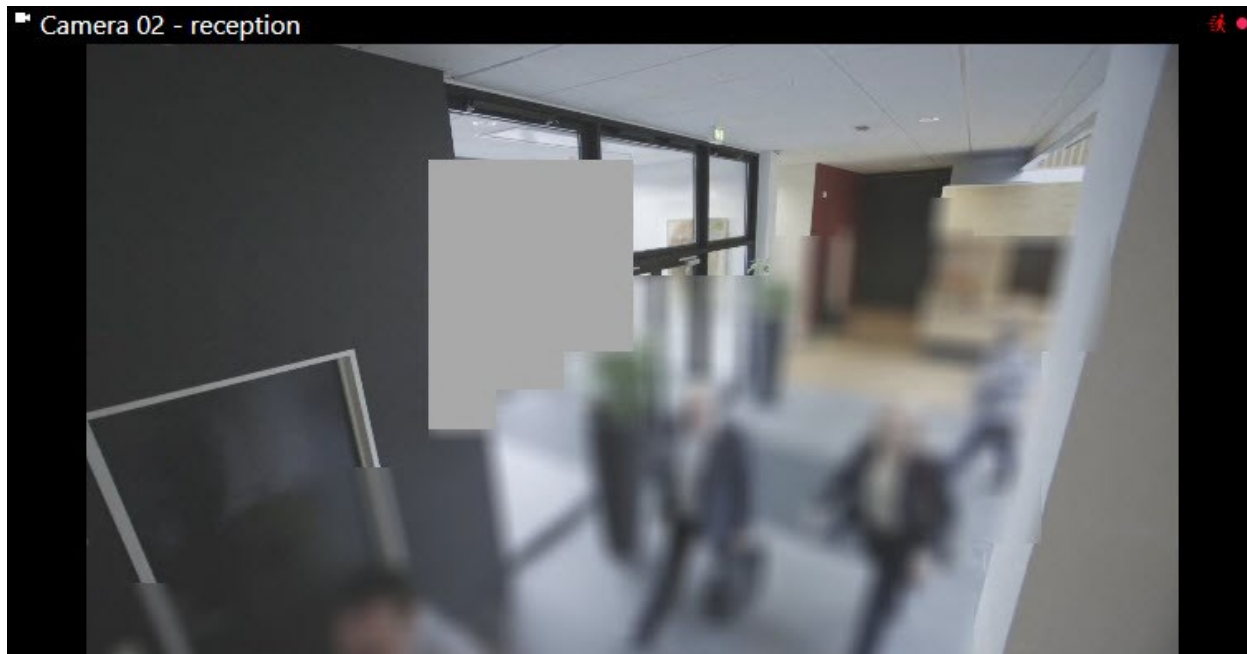
Privacy masks can be permanent or liftable. Permanent privacy masks have full solid coverage by default, while liftable masks have 50% blurring. Your system administrator defines if any of the types of privacy masks appear on your camera.

The following image shows five windows in an adjacent building covered by permanent privacy masks:



If your system administrator has defined privacy masks as liftable and you have the right user permissions, you can temporarily lift all privacy masks in XProtect Smart Client.

In this example, there are two types of privacy masks: the solid gray area is a permanent privacy mask and the blurred area is a liftable privacy mask.



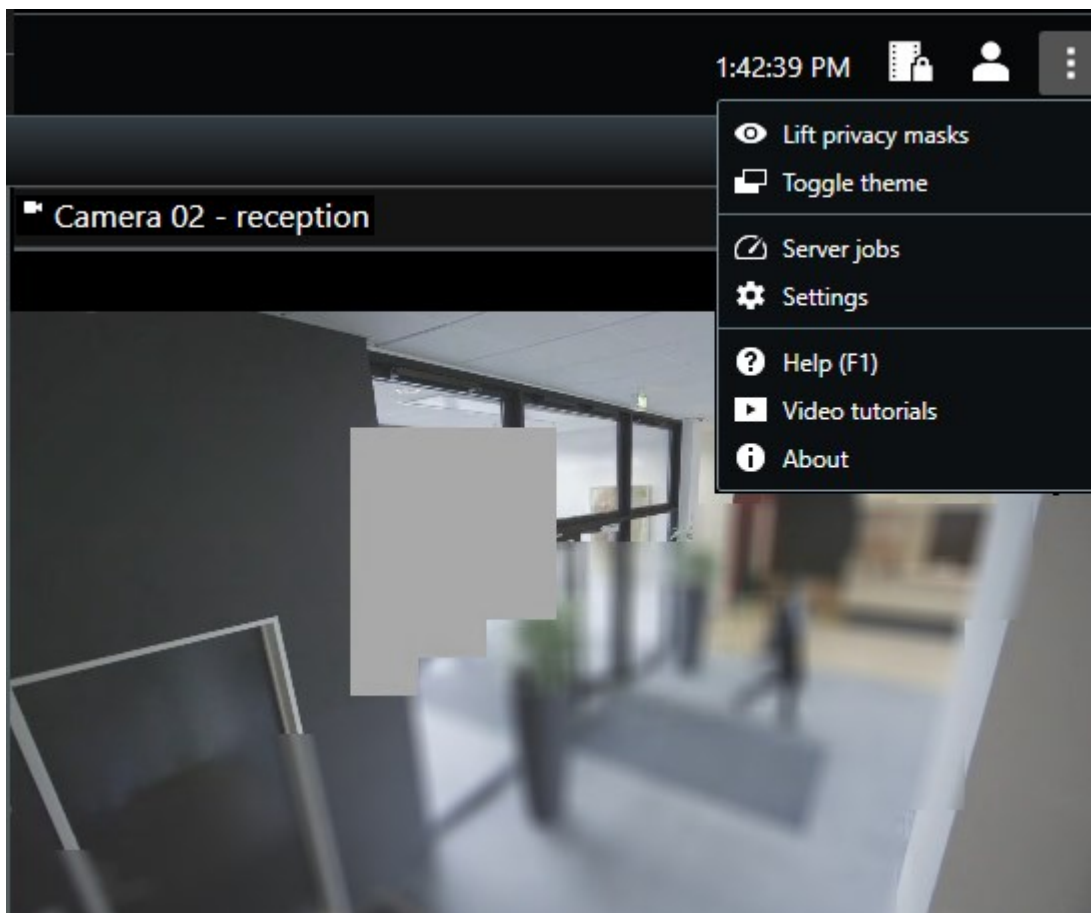
When you export video, you can add more privacy masks to the exported video.

See also [Add privacy masks to recordings during export on page 225](#).

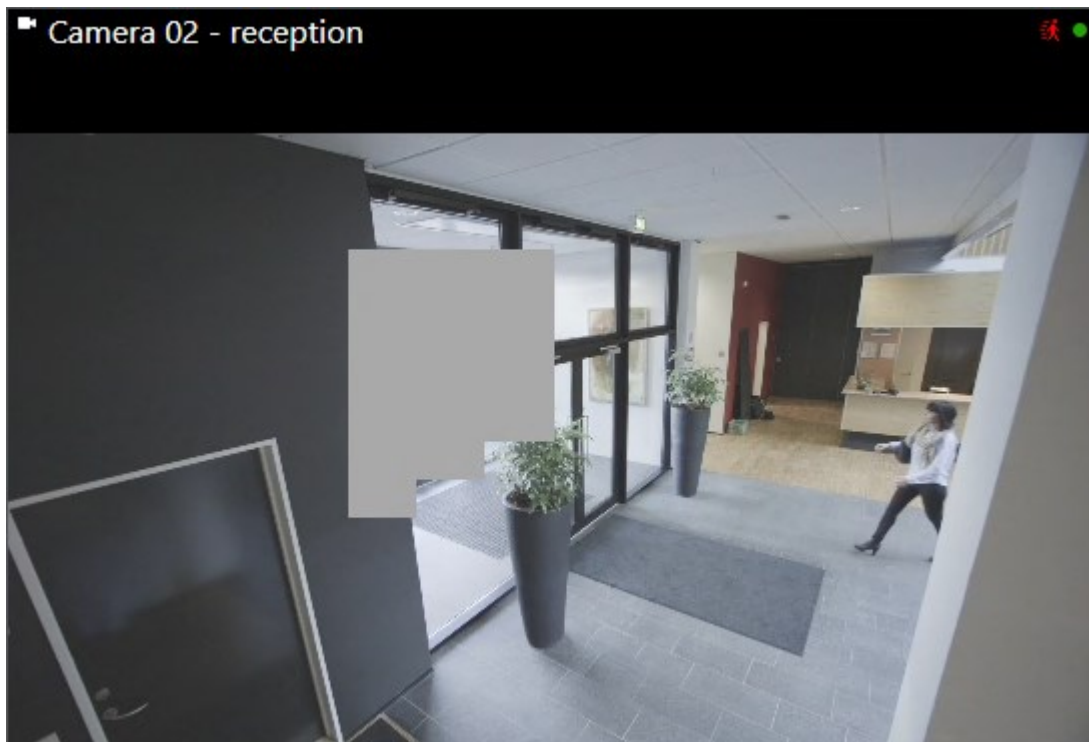
## Lift and reapply privacy masks

In some situations, you might need to review an area that's covered by a privacy mask. You cannot lift liftable privacy masks if you haven't been given the permissions to do so.

1. On the global toolbar, select **Settings and more** and **Lift privacy masks**.



If you have the right permissions, the liftable privacy masks now disappear. Permanent privacy masks still cover their areas.



If you don't have sufficient user permissions, you'll see a window that asks you to contact a supervisor.

Contact a supervisor that has the rights to authorize you to temporarily lift privacy masks for all cameras.

User currently logged in: 5/5

**Authentication**

Windows authentication ▼

Domain: [redacted]

**Authorized by**

[redacted]

**Password**

[redacted]

Authorize Cancel

2. To reapply the liftable privacy masks, select **Settings and more** and **Apply privacy masks**.

If you forget to reapply privacy masks, they are reapplied automatically after a duration defined by your system administrator. The default duration is 30 minutes.

**Watch a quick video tutorial?**



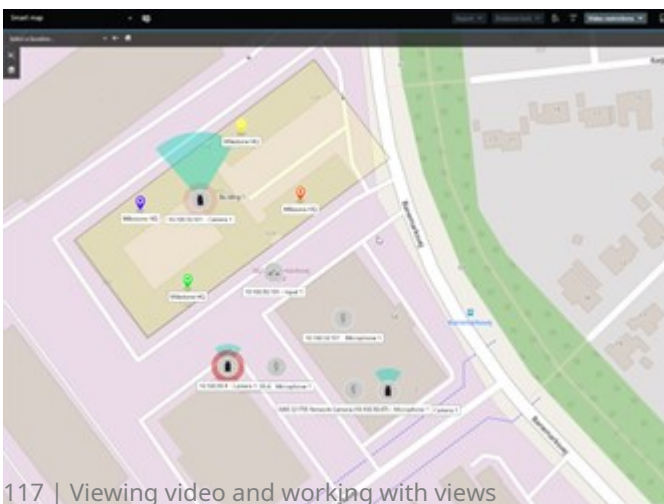
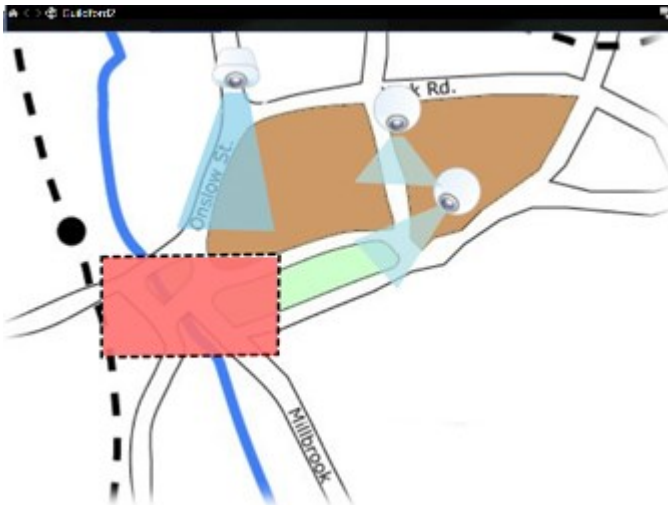
## Getting a geographical overview with maps

### Maps and Smart Maps

There are two map features designed to improve your situational awareness: Maps and Smart Maps.

With both features, you can create a virtual representation of your areas of interest. You can place icons representing different cameras and other devices in the locations where they are mounted.

Examples of a map and a smart map, respectively:



You can interact with a camera or device by selecting the icon that represents them on the map. When a rule registers an event or triggers an alarm, the icon representing the related camera or device is highlighted, helping you identify where an incident has occurred.

The Smart Maps feature are more advanced than the Maps feature. With the Maps feature, you can only use still images to visualize your area and buildings.

Maps use still images to visualize your area and buildings, but Smart Maps can combine geographic information systems like Google Maps, Bing Maps, and OpenStreetMap with still images and CAD drawings. The extra functionality gives you a more accurate overview of your cameras across one or multiple locations.

## Working with Smart Maps

### Smart Maps

Smart Maps in Milestone XProtect VMS display an interactive, real-time view of your organization's locations. Smart Maps display cameras, alarms, access control units, and other items on a digital map of your locations to make it easier for you to monitor and respond to incidents.

You can use a smart map to:

- Get an advanced overview of your locations: with all security items mapped out on the smart map, you can quickly identify and address potential issues.
- Get visual feedback right away: when an alarm is triggered, the smart map shows the exact location, allowing you to quickly assess and respond to the situation.
- Navigate to items efficiently: access live camera feeds by selecting icons on the smart map. Navigate between different areas without searching through lists.
- Control security devices and access control units directly on the smart map: adjust cameras, acknowledge alarms, lock or unlock access control units, and carry out other tasks directly from the map interface.
- Monitor locations from a central view: manage multiple locations from a single map. Smart maps combine your security operations across locations into one view to help you carry out your work more efficiently.

On smart maps, you can zoom out to see all of your locations in multiple cities, regions, countries, and continents, and quickly go to each location to view video from the associated cameras.

Example: on a smart map, you can review footage from cameras at your facilities in one place, then zoom out, pan across the world with a single drag of the mouse, and then zoom in on the cameras in your facilities in a different geographic location.

Smart Maps can connect with online services, such as Milestone Map service, Google Maps, or Bing Maps, that contain the physical locations that your organization protects.



Most Smart Map functionality is available in all versions of Milestone XProtect VMS. Note that support for Google Maps, Bing Maps, and CAD file overlays is available in XProtect® Corporate and XProtect Expert only.

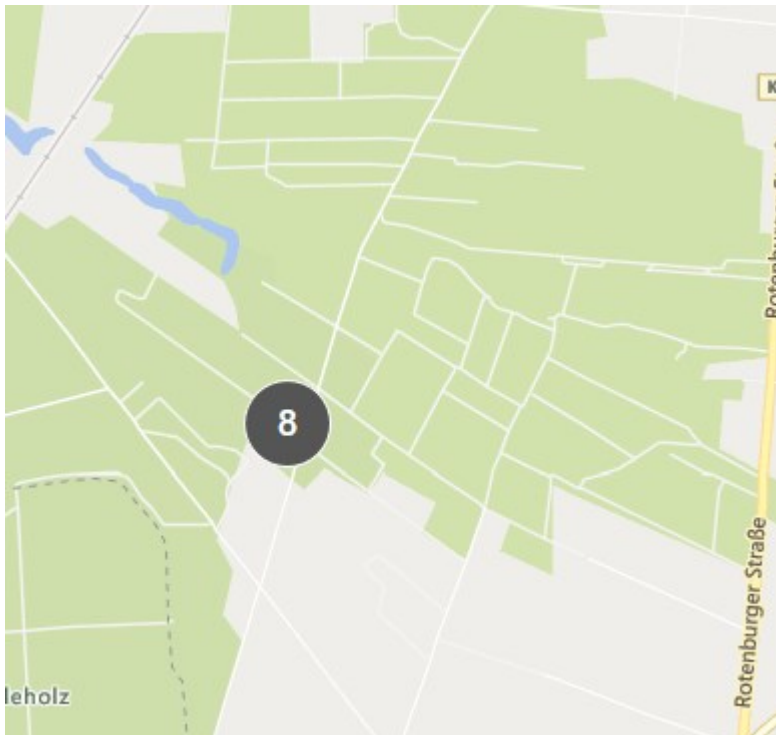
## Presentation of devices and alarms on a smart map

### How items look on a smart map

How items appear on a smart map change based on how close they are to each other and how much you zoom in or out. Their appearance also depend on the number of items you've selected.

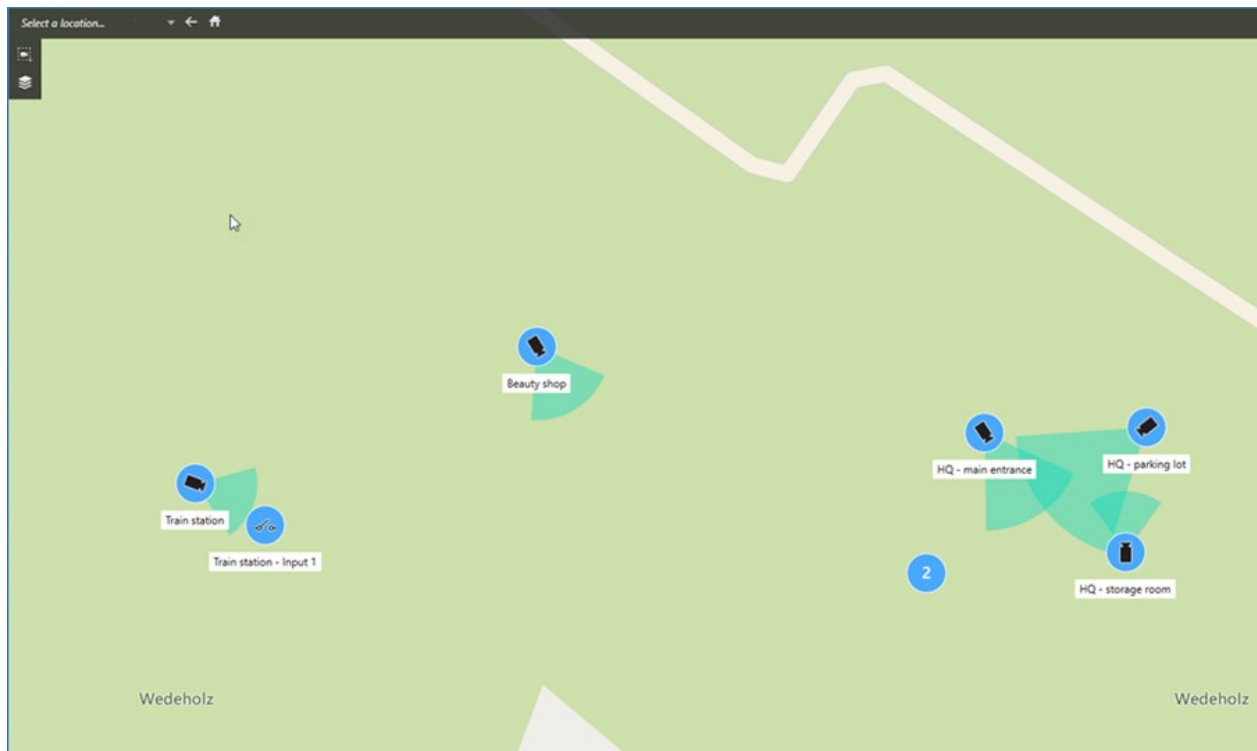
### Items near each other relative to the zoom level

When cameras, access control units, and other devices are close to each other, and you zoom out, the items are grouped in clusters and displayed visually as circular icons. The cluster icon includes information about the number of items inside that cluster.



### Items far from each other relative to the zoom level

When you zoom in, for example, by double-clicking the cluster, you can see the individual items and any sub-clusters.



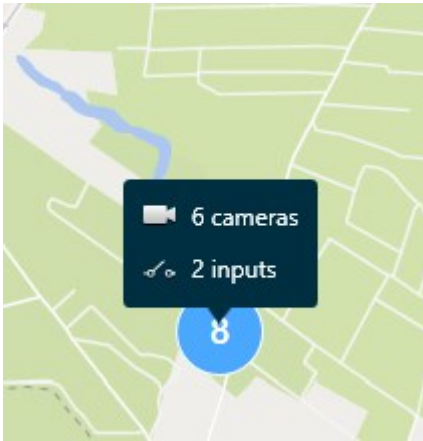
### Information shared by the cluster icon

If a cluster contains different types of items, for example, cameras, input devices, and microphones, the cluster icon shows the number of items. If a cluster contains only one type of item, the cluster shows both the type of item and the number of item.



Click the cluster icon to get an overview of the different types of items in that cluster.

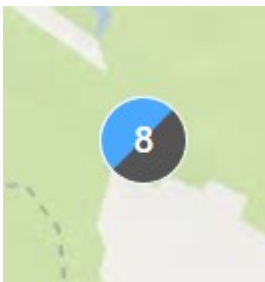




### The look of selected items and clusters

When you select items and clusters on smart maps, they turn blue. You can select any combination and number of items and clusters.

If you see a cluster icon that looks this way, only some of the items inside the cluster are selected:

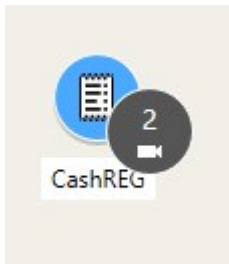


### MIP element clusters




MIP elements don't cluster with any other type of device. They only cluster with MIP elements of the same type.

- Example 1: If an area has two cameras and one MIP element, the cluster looks as shown in the image below:



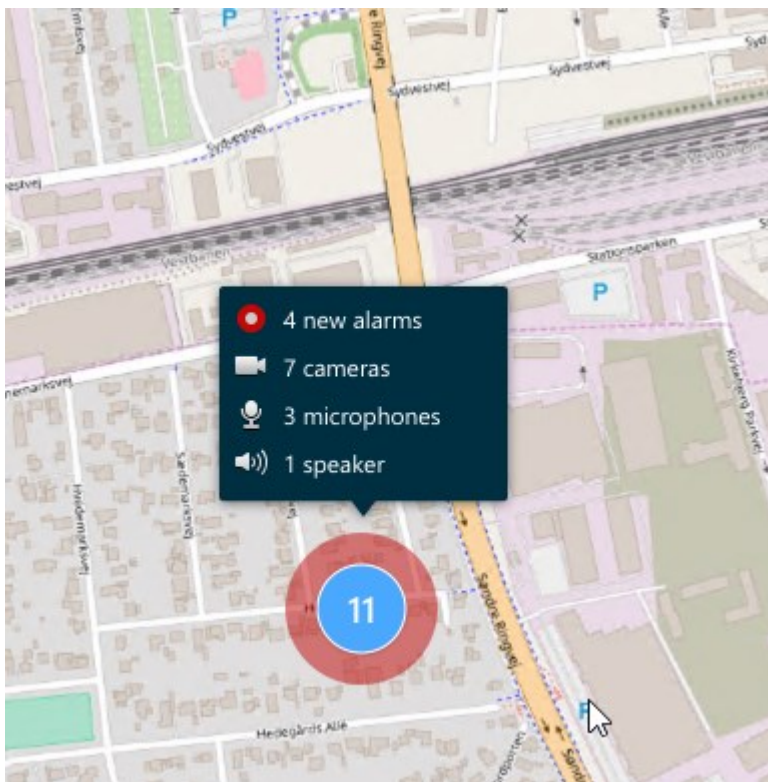
- Example 2: If an area has two MIP elements of different types, no cluster appears.

MIP elements have their own layer that you can turn on or off by selecting  **Show or hide layers and custom overlays** in the smart map toolbar.

### How alarms look on a smart map




If you have got the right permissions, you can see alarms on smart maps.

If a device triggers an alarm and the device is added to your smart map, the alarm will appear as a red circle around the device or the icon for the cluster with the device inside.



The icons below show how alarms appear on a smart map, depending on whether the device triggered the alarm or if the alarm is only related to the device that triggered it.

The examples show a camera icon, but the principle is the same for all devices and clusters.

Icon	Description
	This is a source camera: the camera that triggered the alarm.
	This is a related camera: a camera associated with the selected source camera, which triggered the alarm.  This icon appears when you have selected the source camera.
	This is both a source camera and a related camera: This camera triggered an alarm, and the camera is also associated with another source camera with an alarm.  This icon appears when you have selected the other source camera.

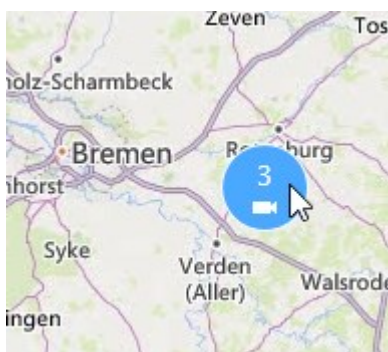
## Movements on smart maps

### Zoom in and out on a smart map

You can zoom in on the smart map to see all cameras, access control units, and other items in a location. You can also zoom out from one location to get an overview of all your locations and then zoom in on a different location.

When you have selected a smart map, you can zoom these ways:

- Use the scroll wheel on your mouse.
- If you have clusters, double-click cluster or right-click it and select **Zoom to**. The smart map zooms to a level where all the items or sub-clusters within the cluster are visible.



- Press and hold the **SHIFT** key and drag the pointer to select an area on the smart map. The map zooms in and centers on your selection.

You can experience limits on how much you can zoom in on a map if you're using one of the following services:



- Bing Maps
- Google Maps
- Milestone Map Service
- OpenStreetMap

If you exceed the zoom limitation, the smart map can't display the geographic background. Other layers with devices and shapefile images are still displayed.

### Go to a defined location on a smart map

To quickly access specific areas, you can jump to defined locations on a smart map.

1. Select the view that contains the smart map.
2. In the upper-left corner of the view, open the **Select a location** list. If you have already selected a location, the location is displayed in the list.



3. Select a location in the list to go to that location on the smart map.

### Go back to previous locations on a smart map

When you move from one location on the smart map to another, XProtect Smart Client keeps a history of your visits. The history records locations that you both pan/zoom to and also click on. It does not record locations if you only pan or zoom to them.

When you backtrack, the location you just left is removed from the history. It includes only forward movements and is cleared when you select another view.

- Select  **Back** to go back to the previous location. Click multiple times to go further back.




### Go to a device on your smart map


If your system administrator has specified the device's GPS location, you can go to the place on the smart map where the device is and view it in its geographic context. This is useful if, for example, you forgot the location of a device or if you want to check nearby devices.

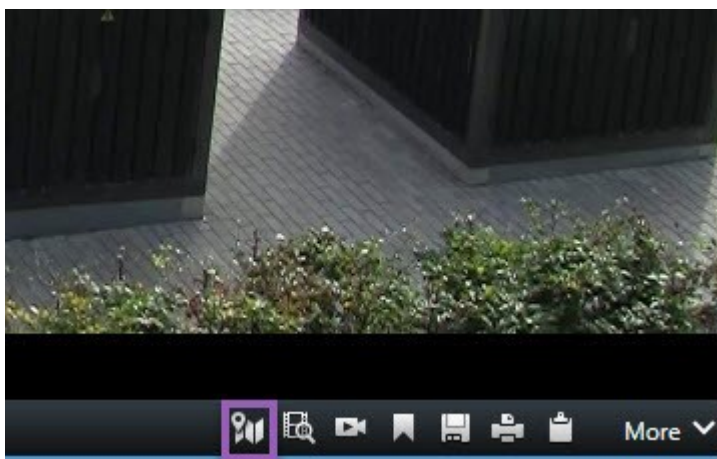
You can go to the device in two ways.

From the **Views** pane:

1. Open the **Views** pane.
2. Search for the device. If the device exists, it's shown in the search results.
3. Place your mouse over the device to go to it.
4. Select  to go to the device. The smart map opens in a floating window.



From the camera toolbar:

1. Select the view and the view item that contains the camera to go to on the smart map.
2. From the camera toolbar, select  to go to the camera.



### Go to a custom overlay on your smart map

If your smart maps have custom overlays, for example, CAD drawings of buildings, you can quickly go to them.

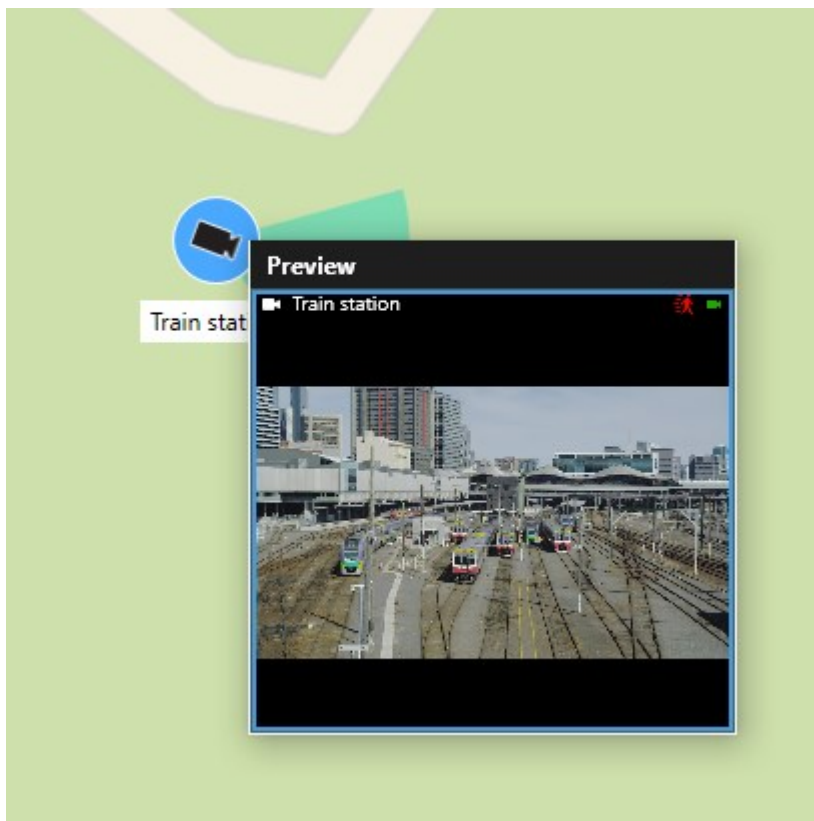
1. On the smart map, select **Show or hide layers and custom overlays** . A window opens.
2. Go to the **Custom overlays** section.
3. Select  next to the overlay you're looking for to go to the location on the smart map.

## Viewing video and listening to audio from your smart maps

### Preview live video from one camera

You can preview video from a single camera on a smart map. The live video is displayed in a preview window. To view recorded video from the camera, you can start independent playback or send the video to a new floating window.


1. Select the smart map and find the camera to view video from.
2. Double-click the camera, or right-click and select **Live preview**. The live video feed is displayed in the **Preview** window.



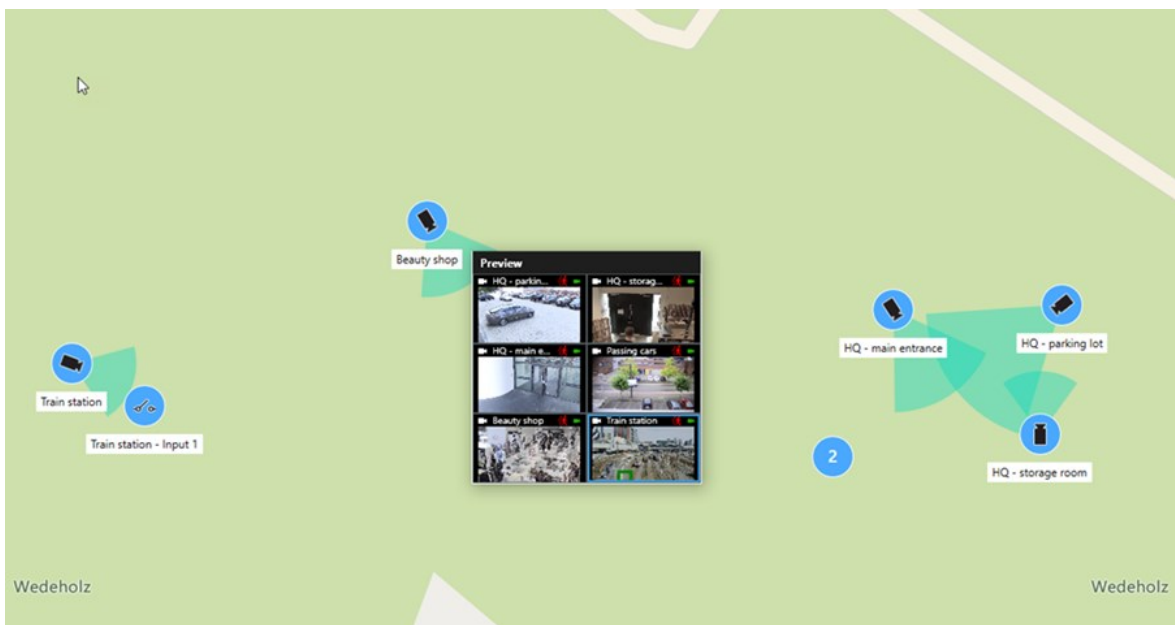
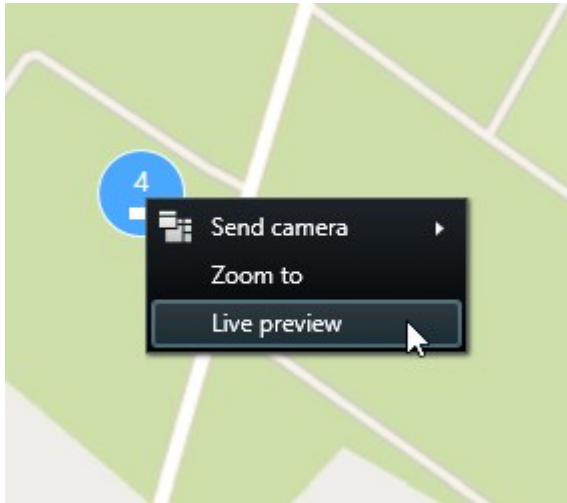
3. To play back and investigate the video in more detail:
  - In the **Preview** window, select **Independent playback**.
  - Or, in the **Preview** window, select **More, Send to window**, and then **New floating window**.

### Preview live video from multiple cameras

You can preview live video from up to 25 cameras on a smart map at the same time. To view the recorded video, you can send it to a new floating window.

1. Select the smart map and find the cameras to view video from.
2. Select the cameras using one or more of these methods:
  - Press and hold the **CTRL** key at the same time as you select the cameras.
  - In the toolbar, first click the **Select multiple cameras** icon , then select and drag to select the cameras within an area.
  - Double-click a cluster icon to zoom in and select the devices and potential sub-clusters inside the cluster.
  - Select at least one cluster to select all cameras in the clusters in one go.

3. Right-click any of the selected cameras or clusters and select **Live preview**, or press **Enter**.



4. To play back and investigate the video in more detail:
  - In the **Preview** window, select **Independent playback**.
  - Or, in the **Preview** window, select **More, Send to window**, and then **New floating window**.

#### View video from a view with both hotspot and smart map

If you have a view with both a smart map and a hotspot view item, you can watch the video from cameras on the smart map in the hotspot view item. Each time you select a camera on the smart map, its video is shown in the hotspot view item. This method is quicker and easier than previewing the video or viewing the video in another view that has a hotspot.



1. Open the view with the smart map and the hotspot view item.
2. Find the cameras on the smart map.
3. Select the cameras to view video from. When you select a camera, its video is displayed in the hotspot view item.

### View video in any view with a hotspot but no smart map

If you have a view with a hotspot view item, you can view the video from cameras on a smart map in the hotspot view item, even if they are in different views.

When you select a camera on the smart map in one view, its video is displayed in the hotspot view of another view.

1. On the **Views** pane, right-click the view with the hotspot.
2. Select **Send view to** and select a display option, for example, **Floating window**.
3. Arrange the views with the hotspot and the smart map on your monitor or monitors so you can see both.
4. Find the cameras on the smart map.
5. Select the cameras. When you select a camera, its video is displayed in the hotspot view item.

### Listen to audio from your smart map

If any microphones are added to your smart map, you can listen to audio from one microphone at a time in live mode.

1. Select your smart map.
2. Find the microphone on the map.
3. Double-click the microphone to mute or unmute it.

You can also right-click the microphone and select **Mute microphone** or **Unmute**.

## Hiding and showing layers

### Layers on a smart map

A smart map has multiple layers. Each layer contains different elements.


You can hide the elements on a smart map layer. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

Layer	Elements
-------	----------

<b>System elements</b>	Cameras, access control units, and other devices. Links and locations.
<b>Custom overlays</b>	Bitmap images, CAD drawings, and shapefiles.
<b>Geographic backgrounds</b>	<p>The basic world map or one of the following services:</p> <ul style="list-style-type: none"> <li>• Bing Maps</li> <li>• Google Maps</li> <li>• Milestone Map Service</li> <li>• OpenStreetMap</li> </ul>

### Show or hide layers on a smart map

You can show or hide layers on your smart map, including the geographical background. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

1. Select your smart map.
2. On the toolbar, select  **Show or hide layers and custom overlays**.
3. To show or hide the layers with **System elements** and **Custom overlays**, select or clear the check boxes.



Hiding the **System elements** layer mutes all microphones until you show the layer again. Manually muted microphones remain muted.

4. To hide the **Geographic background** layer, select **None**.

The geo-references still apply to the smart map even if the geographic background layer is hidden.

### Troubleshooting: Smart Maps

#### I don't see any devices on my smart map

If you don't see any cameras or other devices on your smart map, the system elements layer is likely hidden. To enable it, see [Show or hide layers on a smart map on page 285](#).

#### My device doesn't appear on the smart map

If one or more devices should appear on the smart map, but don't, then it's likely that the devices haven't been geographically positioned.

To resolve this issue, either:

- Drag the devices onto the smart map from the device hierarchy. You can only do this action if device editing is enabled on your user profile.
- Or ask your system administrator to specify the geo-coordinates in the device properties in XProtect Management Client

## Working with Maps

### Maps

With a map, you get a physical overview of your XProtect VMS system. You can instantly see the cameras and other devices added to the map and the direction in which the cameras are pointing. You can use maps for navigation. Maps can be grouped into hierarchies so that you can drill down through hot zones, from overview perspectives to detailed perspectives, for example, from city level to street level, or from building level to room level.

You can view recorded video from cameras in a preview window when you move your mouse over a camera icon on the map. The status information in playback mode is **not** based on recorded data, but retrieved from the elements' current status, as displayed in live mode.

An example of a map with camera elements and hot zone:



### How a map looks

Maps are still images on which elements representing cameras and other devices in your XProtect VMS system are added. Maps do not have to be geographical maps, although they often are. Depending on your organization's needs, photos and other kinds of image files can also be used as maps.



Maps are not the same as a smart map. See [Differences between maps and smart maps](#) on page 278.

On maps you can see the status of your devices. The status visualization graphically displays the status of elements added to a map. When a map is fully operational and in the normal state, there is no status visualization.






An example of a map with fully operational devices and a hot zone:



An example of a map with not fully operational devices and with status visualization:



The **Status visualization** window lets you define the visual appearance of maps' status indication.

Indicator	Description
	<b>Attention needed</b> - when an element requires attention, but is still working; for instance when a server is running out of disk space. Note that the device in question is not necessarily included on the map. The default display color is yellow.
	<b>Not operational</b> - when there is an error on the element, for example if a server can't connect to a microphone or speaker. The default display color is orange.
	<b>Alarms</b> - when an element has an alarm attached to it. The default display color is red.
	<b>Disabled/status unknown</b> - when an element has been disabled on the surveillance server, or when it is not possible to obtain status information from a server. The default color is purple.
	<b>Ignore status</b> - when an element has a status that does not need attention, for example, if you're already aware of what the issue is. The default color is blue.

The status of a map mirrors the status of all elements on the map. Up to four names of affected servers can be listed in the map title bar. In cases where an unavailable server causes disabled elements on the map, but the server itself is not included on the map, the map is displayed in the **not operational** state, even though the map only contains **disabled** elements. If the unavailable server is included on the map, the map is simply displayed with the **disabled/status unknown**. Status information is also available in the **Map overview**.

### View video and start recording from a map

You can preview video from a single camera on a map. The live video is displayed in a preview window and you can send it to a floating window.

1. Place your mouse pointer over a camera on a map to see a live preview from the camera.
2. Select the title bar of the preview window to keep the window open as a separate floating window.

To start recording, right-click the required camera and select **Start recording for # minutes**. Particular user permissions may be required to use this feature.


A **fixed camera** is displayed on the map with an associated view zone that shows the camera's angle of view.

A **PTZ camera** is displayed on the map with any PTZ preset positions defined for the camera on the surveillance system. The presets are illustrated as colored angles that radiate from the PTZ camera icon. Each angle represents a particular preset. Note that the angles are very likely to need adjustment to match the

camera's preset angles. To adjust an angle, simply drag it to a suitable size and position. If a camera has more than 25 presets, no angles are initially displayed since the angles would be too small to be useful. In such cases, you can add required angles individually by dragging the presets from the required camera from the **Element selector** window onto the map. To go to one of a PTZ camera's presets, simply select the preset on the map. This works in the floating preview window, on the map itself, as well as in hotspot positions. See [Add a hotspot to a view on page 252](#). Alternatively, right-click the camera, select **PTZ presets**, then select the required preset.

### View recorded video from cameras on a map

You can view recorded video from cameras in a preview window when you move your mouse over a camera icon on the map. The status information in playback mode is retrieved from the camera's current live status.

- You can use digital zoom and PTZ controls from the camera preview if the camera supports this. In the preview window, either select the More button and select digital zoom or use the PTZ (see [Pan, tilt, and zoom in live video on page 106](#)) controls that appear. If you have PTZ preset positions set up for a particular camera, you can activate the preset position by selecting the preset in the preview.
- To view all the cameras (a maximum of 25 in one view) on a map simultaneously in a floating window, click the **Send all cameras to floating window** icon at the top of the map title bar: 



If you have more than 25 cameras on a map that you send to a floating window, it will not always be the same cameras you see.

### How elements interact with maps

You can use map elements to interact with the actual devices in the following ways:

#### Cameras

Place your mouse cursor over a camera on a map to see a live preview from the camera. Select the title bar of the preview to display it as a separate floating window. You can resize the floating window by pulling its corners. To start recording, right-click the required camera and select **Start recording for # minutes**. Particular user permissions may be required to use this feature.

A **fixed camera** is displayed on the map with an associated view zone that shows the camera's angle of view. Note that the angle on the map is very likely to need adjustment to match the camera's angle of view. To adjust the angle, simply drag it to a suitable size and position.

A **PTZ camera** is displayed on the map with any PTZ preset positions defined for the camera on the XProtect VMS system. The presets are illustrated as colored angles that radiate from the PTZ camera icon. Each angle represents a particular preset. Note that the angles are very likely to need adjustment to match the camera's preset angles. To adjust an angle, simply drag it to a suitable size and position. If a camera has more than 25 presets, no angles are initially displayed since the angles would be too small to be useful. In such cases, you can add required angles individually by dragging the presets from the required camera from the **Element selector** window onto the map. To go to one of a PTZ camera's presets, simply select the preset on the map.

This works in the floating preview window, on the map itself, as well as in hotspot view items. See [Add a hotspot to a view on page 252](#). Alternatively, right-click the camera, select **PTZ presets**, then select the required preset.

### Microphones

Place your mouse over a microphone; press and hold the left mouse button to listen to incoming audio from a microphone, or right-click the microphone and select **Listen to microphone**. You can't use microphones in map views in playback mode.

### Speakers

Place your mouse over a speaker; press and hold the left mouse button to talk through the speaker. You can't use speakers in map views in playback mode.

### Events

Select an event on the map (see [Alarms on page 145](#)) to activate it, or right-click the event and select **Activate event**. When left-clicking an event, the mouse cursor briefly changes to a lightning symbol to indicate that the event is being activated.

### Alarms

Select an alarm on the map (see [Alarms on page 145](#)) to view it, or right-click the alarm and select **Activate Alarm**. Right-click to acknowledge the alarm.

### Output

Select an output on the map to activate it, or right-click the output and select **Activate output**. When you select an output, the mouse cursor briefly changes to a lightning symbol to indicate that the output is being activated.

### Hot zones

A hot zone is usually colored, so it is easy to recognize. Select a hot zone to go to the sub-map associated with the hot zone, or right-click the required hot zone and select **Go to sub-map**.

If the hot zone appears with a dotted outline, no map is associated with the hot zone.



On some XProtect VMS systems, maps from several different servers may be in a map hierarchy. This can mean that when you select a hot zone, the sub-map is unavailable because its server is unavailable. Servers can become unavailable because of scheduled maintenance or network problems. Contact your system administrator if the problem persists.



A hot zone can point to a map that you don't have access permissions to and the XProtect Smart Client will inform you about this. Because user permissions can be time-based, you might not be able to access a map that you could previously. This can be because you don't have access during certain hours of the day or certain days of the week. Contact your system administrator if in doubt about your user permissions.


## Plug-ins

Plug-in elements are available only if used on XProtect VMS system. Examples of plug-in elements: access control systems, fire detection systems, etc.

## Interconnected hardware

Because interconnected hardware that is part of a Milestone Interconnect system is offline at times, you can often see error statuses on the interconnected hardware element on a map.

## Understand the map hierarchy on your maps

The **Map overview** window provides you with an overview of the map hierarchy set up in the XProtect Smart Client. To open the **Map overview** window, right-click the map and select **Map overview** or select the icon  on the map title bar.

A plus sign (+) next to a map indicates that the map could have one or more sub-maps attached to it as hot zones. Selecting a map in the **Map overview** immediately displays the selected map in the view.



Content in the **Map overview** may take some time to load if you're connected to a very large XProtect VMS system with many maps.



If you're connected to a XProtect VMS system that supports Milestone Federated Architecture, you can only add maps from the XProtect VMS system server you logged in to. Milestone Federated Architecture is a system setup with related but physically separate XProtect VMS systems. Such a setup can be relevant for, for example, chains of shops with many separate—but related—XProtect VMS systems.




See the XProtect Comparison Chart on <https://www.milestonesys.com/products/software/xprotect-comparison/> for information about which XProtect VMS products support Milestone Federated Architecture.

## Send cameras from a map to a floating window

To view all the cameras (a maximum of 25 in one view) on a map simultaneously in a floating window:



1. In live or playback mode, select the map that contains the cameras you want to view in a floating window.
2. At the top of the map title bar, select **Send all cameras to floating window** .

The floating window displays a maximum of 25 cameras in the view.



If you send more than 25 cameras on a map to a floating window, it will not always be the same cameras you see.

### View status details on maps

Status details are available for cameras (for example, resolution, image size, and bit-rate) and servers (for example, CPU usage, memory, network usage).

- To display status details, right-click the required element and select **Status details**. Status details are displayed in a separate, floating window



If you see an error message saying that the event server has insufficient access permissions to the recording servers, you will not be able to view status details from recording servers. The error message relates to the Event Server service, which handles map-related communication on the XProtect VMS system. The Event Server service is managed on the XProtect VMS system server. Contact your system administrator, who will be able to handle the issue.

### Navigate a map

If the map is larger than the view area in the XProtect Smart Client, or if you have zoomed in on the map, you can pan the map to see otherwise hidden areas. Click the map anywhere outside of added elements, and the map centers on the clicked spot. Pan the map by selecting and dragging the map in any direction.

- To use the zoom function on a map, right-click the map and select **Zoom in** or **Zoom out** as required. Or use the **Zoom to standard size** function to zoom back to normal size.



Alternatively, use your mouse's scroll wheel to zoom; scroll up to zoom in, scroll down to zoom out.

If **Auto maximize map** is enabled and your map position in the view is part of a view with several view positions, the map is automatically maximized to full screen after a period of time as defined in setup mode in the **Properties** pane. To revert to the original view, double-click the map anywhere outside of any added elements.

## Listening to and broadcasting audio

### Audio

XProtect Smart Client supports both incoming and outgoing audio.

- Incoming audio is the audio coming from microphones attached to cameras. It is always recorded, even when no video is being recorded.
- Outgoing audio is the audio you broadcast through speakers. It is only recorded if your XProtect VMS product supports two-way audio. Recording outgoing audio is essential if you need to prove that an operator gave specific instructions through the speakers.

Depending on your user permissions and your XProtect VMS product, you can:

- Listen to live audio from microphones attached to cameras in live mode.
- Use speakers connected to cameras to talk to audiences in live mode.
- Listen to recorded audio from cameras with microphones, speakers, or both in playback mode.

### Listen to audio

On the main views tab, when you select a camera view item in live or playback mode, you also select its microphone, and you can listen to its audio.

- Select a camera view item in a view to listen to the audio.

You can also listen to recorded audio independently of the selected camera view item.

- On the **Audio** pane, select a microphone to listen to the audio from the microphone.

### Audio and maps

If your views contain maps with microphones, you can listen to audio by selecting the relevant microphone element.

- Select the microphone element and hold the mouse button for as long as you want to listen.



If you can't hear audio from a camera's microphone, check if your computer's speaker is muted. On the **Audio** pane, clear the **Mute** check box. If the issue continues, the speaker might be disabled—contact your system administrator. Other XProtect Smart Client users generally can't hear broadcasts through speakers, but they might if microphones are nearby.

## Broadcasting audio

### Broadcasting

If you need to communicate with people standing close to speakers, you can broadcast audio to them. When you select a camera view in live mode, the system also selects the corresponding speaker, letting you broadcast the audio through it.

The **Audio** pane and **Level meter** display the broadcast volume. If the volume level is low, move closer to the microphone, and check the microphone connection and setup if you don't see the volume level.

Depending on your XProtect VMS product, your system might be able to record the outgoing audio. If a microphone is near a speaker, it might pick up and record the broadcast.

### Broadcast audio to one speaker

You can talk or broadcast audio to people near a speaker attached to a camera.

1. On the **Audio** pane, select a speaker to broadcast audio to.
2. Select and hold down **Talk** for as long time as you want to talk. If the **Talk** button is disabled, your computer doesn't have a speaker installed, or the speaker is disabled. If the list displays **No speaker sources**, no speakers attached to cameras are available.

Alternatively, if the camera view item has an overlay button for broadcasting audio, select the overlay button. If the **Speakers** list is unavailable on the **Audio** pane, your XProtect VMS system doesn't support two-way audio.



If the **Microphones** list shows **Missing hardware on local PC**, your computer either doesn't have a microphone installed or it is disabled. If it shows **No microphone sources**, no microphones are attached to the cameras.

### Audio and maps

If your views contain maps with speakers, you can broadcast audio by selecting the relevant speaker element.

- Select the speaker element and hold down the mouse button for as long time as you want to talk or broadcast audio.

### Broadcast audio to multiple speakers

You can talk or broadcast audio to people near multiple speakers attached to a camera.

1. On the **Audio** pane, in the **Speakers** list, select **All speakers**.
2. Select and hold down **Talk** for as long as you want to talk.



If you've selected **List only devices from current view** on the **Audio** pane, some devices might not be shown.



If the **Microphones** list shows **Missing hardware on local PC**, your computer either doesn't have a microphone installed or it is disabled. If it shows **No microphone sources**, no microphones are attached to the cameras.

## Lock to selected audio devices

When you select a camera view item in a view, the audio devices attached to the camera are also selected. You can listen to audio from the camera and broadcast audio to it.

In some situations, you might want to listen to and broadcast audio from one specific camera while viewing video from other views and cameras.

Example: You need to listen and talk to a crime victim through the microphone and speaker attached to camera A. At the same time, you need to view video from cameras X, Y, and Z in other views to follow the criminal's whereabouts.

1. On the **Audio** pane, select the relevant microphone and speaker.
2. Select **Lock to selected audio devices**.
3. Remember to clear **Lock to selected audio devices** again when the incident is solved.

## Only list audio devices associated with open views

If your XProtect VMS system contains large numbers of microphones and speakers, the lists for the microphone and speaker on the **Audio** pane might be long. The number of audio devices can make it difficult to find the audio devices you're looking for.

To avoid this scenario, you can limit the lists to only show devices that contain microphones and speakers relevant to the currently opened views.

- On the **Audio** pane, select **List only devices from current view**.

## Adjust the audio volume

There are no options to change the audio volume in XProtect Smart Client, but you can adjust them elsewhere:

- The audio settings in Windows.
- The recording volume on the microphone or through the camera device's configuration interface.
- The output volume on the speaker or through the camera device's configuration interface.

Contact your system administrator if you're having trouble with the audio volume.



The **Level meter** on the **Audio** pane shows the input volume (what you broadcast) and gives an idea of the output volume (audio from the speaker).

## Audio settings overview

When you view live or recorded video, you have the following audio settings on the **Audio** pane:

Name	Description
Microphones	<a href="#">Listen to audio on page 138</a>
Mute	Select to mute either microphones or speakers.
Speakers	Select the speaker to broadcast audio to.
Talk	<a href="#">Broadcast audio to one speaker on page 139</a> <a href="#">Broadcast audio to multiple speakers on page 139</a>
Level meter	<a href="#">Adjust the audio volume on page 140</a>
Lock to selected audio devices	<a href="#">Lock to selected audio devices on page 140</a>
List only devices from current view	<a href="#">Only list audio devices associated with open views on page 140</a>

## Gathering and sharing evidence

### Contributing to investigations and solution of incidents

When you view live or recorded videos, you can play a key role in securing evidence for investigators and sharing information with colleagues when incidents occur. Even if your system administrator has set up the XProtect VMS to record automatically, you might need to manually start recording to capture evidence in certain cases.

You can share views showing the incident, the camera name, bookmark the incident, or send video to a video wall or a Matrix view item.


## Record video manually


Recording live video can be useful when you spot something interesting. You can start recording from multiple cameras at the same time, but you must select each camera individually.

1. Select the view item with the video you want to record.
2. On the camera toolbar, select one of the following options:

- **Start recording for # minute(s)/second(s)** 

When it's started, the recording continues for several minutes. Your system administrator has defined how many minutes. You can't stop the recording manually.


- **Start manual recording** 

When it's started, recording continues for several minutes or seconds, as determined by your system administrator, or until you select **Stop manual recording** .

## Take a snapshot to share

When you view live or recorded video, or search for video, you can take an instant snapshot to share.

In live or playback mode:

- Select a camera, hotspot, or carousel view item, then on the camera toolbar, select **Create snapshot** .


On the **Search** tab:

- Search and select a search result, then on the blue bar at the bottom, select **Create snapshot**.

Share the snapshot. Privacy masks in video are also displayed in snapshots.

## Bookmark video

If you have the right user permissions, you can add bookmarks to live video so your colleagues can search for the bookmarked video.

1. Select a camera view item, and from the camera toolbar, select **Add bookmark** .

Alternatively, on the **Search** tab, select one or more search results and select the **Bookmark** icon in the blue bar at the bottom of the **Search** tab.

2. Optionally, give the bookmark a name and a description to help your colleagues find the right video.
3. Select **OK**.

4. Inform your colleagues that you have added bookmarks to video sequences related to the incident. They can search for bookmarks you have created, the bookmark ID, or text in the name and description. Ensure you share the necessary information so your colleagues can quickly find the video showing the incident

#### Watch a quick video tutorial?




## Sending video to shared views with Matrix view items

### Viewing Matrix content

The Matrix feature is useful for sharing live video streams when you discover an incident. You and your colleagues can send live video streams to each other through shared views with Matrix view items.

If your system administrator has defined rules, these can also trigger sharing of video when events occur.

You can recognize a Matrix view item by the  icon in the title bar. If your view contains multiple Matrix items, the primary item shows the first received video stream. The next streams are shown in the primary item, which then pushed the previous streams to secondary items.

In playback mode, Matrix items display the last sent video.

### Send video to a Matrix view item

When you see an ongoing incident that requires the assistance of your colleagues, you can send video from a camera to views with Matrix view items so they can instantly see what is going on.

1. Select the camera view item with the video to share.
2. On the camera toolbar, select **More > Send to Matrix**.
3. From the list, select the relevant Matrix recipient.
4. When you're done, you can notify your colleagues to make sure they see the Matrix-shared video.

## Reacting to incidents

### XProtect Smart Client - Reacting to incidents

XProtect Smart Client – Reacting to incidents provides a comprehensive guide on how to manage and respond to security incidents and mitigate potential incidents from XProtect Smart Client.

#### Subjects covered

Use this guide to manage and maintain alarms to handle and respond to potential security threats.

The guide covers tasks such as the following:

- Working with alarms and events
- Using the **Alarm Manager**
- Viewing and editing alarm details
- Acknowledging and closing alarms
- Generating alarm reports

#### Intended audience

The intended audience for this guide includes security personnel, operators, and technical staff responsible for managing and operating XProtect Smart Client within their organizations.

## Working with alarms and events

### Events and alarms

In XProtect, events and alarms are core features that enable you to monitor cameras and other devices in the system and to respond to security incidents in XProtect Smart Client.

- Events refer to specific incidents detected by the VMS, such as motion detection, camera tampering, or system status changes. These events are typically generated by connected devices like cameras, sensors, or the VMS itself. Each event is logged with relevant details, such as the time, location, and type of incident.
- Alarms are triggered responses to predefined events. When a particular event meets the criteria set within the XProtect VMS, an alarm is activated. You can configure alarms to prompt various actions, such as notifying security personnel, initiating recording, or triggering automated system responses like locking doors or turning on lights. When an incident triggers an alarm, a map or smart map can be displayed to give you geographical awareness of where the incident has taken place. You can receive desktop and sound notifications in Windows that appear whenever an alarm is triggered. For availability of maps, smart maps, and desktop notifications in your XProtect Smart Client setup, consult your system administrator.



Together, events and alarms provide you with a strong framework within your VMS for identifying, analyzing, and responding to potential security threats. You can use maps, smart maps, and Windows notifications for quick response to alarms.

## Alarms




This feature is only available in certain XProtect VMS systems. For more information, see the product comparison chart:

<https://www.milestonesys.com/products/software/xprotect-comparison/>

On the XProtect VMS server, virtually any kind of incident or technical problem - events - can be set up to trigger an alarm. Alarms and events can all be viewed on the **Alarm Manager** tab, which provides a central overview of your VMS incidents, status, and possible technical problems.

You cannot set up alarm triggers yourself in the XProtect Smart Client. Your system administrator sets up alarm triggers when they configure the XProtect VMS system. The **Alarm Manager** tab is either displayed or hidden depending on the settings defined by your system administrator.

The **Alarm Manager** tab provides a dedicated view for your alarm or event handling. The tab itself displays the number of active alarms. More than nine alarms are shown with a . The **Alarm Manager** tab includes an alarm list, an alarm preview for previewing video associated with individual alarms or events, and possibly also a map that displays the geographical location of the camera associated with the alarm.

## The relationship between events and alarms



This feature is only available in certain XProtect VMS systems. For more information, see the product comparison chart:

<https://www.milestonesys.com/products/software/xprotect-comparison/>

Incidents or technical problems that occur in your XProtect system are known as events. The term event refers to any occurrence or activity captured by the surveillance system that may require user attention or action. For example, if you have motion detection enabled on your cameras, and something or someone moves, motion is detected and the VMS is informed. This is an event.


To respond to events, your system administrator sets up alarms in XProtect. When an event is detected, an alarm is triggered and displayed in XProtect Smart Client.

So, when the motion detection event is activated, a corresponding alarm is triggered and shown in XProtect Smart Client to indicate that motion was detected.

You can view alarms and events on the **Alarm Manager** tab, which provides a central overview of your incidents, statuses, and possible technical problems. Users of XProtect Smart Client cannot set up alarm triggers directly. The system administrators can set up alarm triggers when they configure the XProtect VMS system.




Your system administrator defines whether to display or hide the **Alarm Manager** tab.

The **Alarm Manager** tab provides users with a dedicated view for alarm or event handling. The tab itself displays the number of active alarms. When more than nine alarms have been triggered, they are indicated with a notification button that says (9+) .

The **Alarm Manager** tab also includes an alarm list, an alarm preview for previewing video associated with individual alarms or events, and possibly also a map that displays the geographical location of the camera associated with the alarm.

## Using the Alarm list

The **Alarm List** displays incoming alarms. The most recent alarms are displayed at the top of the list. The alarm list can display several different types of alarms, including those triggered by MIP plug-in and analytic events coming from, for example, access control or license plate recognition.

Alarms or events with associated video are displayed with an icon that indicates there is video attached (.

- To preview a still image from the time of the alarm or event, place your mouse over the icon.
- To preview recorded video from the camera or cameras associated with the alarm or event, select the alarm or event in the list.
- To stop a repeating alarm sound, select the alarm associated with the sound in the list.

In the alarm list, you can:

- decide how you want the list to appear
- filter the columns
- drag the columns to different positions
- right-click to show or hide certain columns.



The event list does not display system- or user-generated events, such as motion detection or archive failure.

The list is updated every three (3) seconds.

Priority Level	Priority Name	ID	State Level	State Name	Time	Source	Name	Owner	Message
25	Kelloraukoma (4)	451545	1	New	15.26.17 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451544	1	New	15.25.43 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451543	1	New	15.24.04 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451542	1	New	15.21.37 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451541	1	New	15.21.28 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451540	1	New	15.20.25 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451539	1	New	15.19.42 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451538	1	New	15.19.33 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451537	1	New	15.18.49 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451536	1	New	15.16.03 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451535	1	New	15.15.00 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451534	1	New	15.14.35 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451533	1	New	15.14.29 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451532	1	New	15.12.09 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451531	1	New	15.10.53 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451530	1	New	15.08.22 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451529	1	New	15.07.30 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected
25	Kelloraukoma (4)	451528	1	New	15.04.20 13-01-2012	Per4KE (ID 190.53.23)	Alarm Motion	Rasarus C	Motion Detected



To see a list of events, enter setup mode and select **Event** in the **Properties** pane. See also [Alarm list settings on page 259](#).

## Servers in alarm list

On the left-hand side of the alarm list, you can view the event servers that the alarms originate from.

Many XProtect VMS systems only have a single event server, but some systems consist of several event servers in a hierarchy. All the event servers you have access to are listed, and you can filter alarms by event servers.

## Alarm states

Alarms can be in one of the following states:

**New, In progress, On hold, or Closed.**

You can see the state of each alarm in the **Alarm List**, in the **State Name** column. Use the **Filters** pane to filter according to certain criteria. Initially, all alarms are in the **New** state, but its state is updated when an alarm is being handled.

## Filter alarms

There are several ways you can filter the alarm list, so it displays just the alarms or events that you are interested in.

1. In the toolbar of the alarm list, click the **Custom (filter applied)** or **No filter** text. The text may be different, depending on the filter you've selected.

Time	Priority Level	State Level	State Name	Message	Source	Owner	ID
15:49:11 25-10-2016	1	4	In progress	Event Type1	Door 96		96
15:49:11 25-10-2016	1	4	In progress	Event Type1	Door 95		95
15:49:11 25-10-2016	1	4	In progress	Event Type1	Door 92		92
15:49:11 25-10-2016	2	4	In progress	Event Type1	Door 86	Administr	86

2. Enter the filter criteria on any of the columns you want to filter on. For example, if you enter a user ID in the **ID** field, the list only displays alarms assigned to that particular user.
3. You can combine filters, for example **State name** and **Owner** (assigned to).
4. To return to the unfiltered alarm list, click the **Clear filter** button.
5. To sort the content of the alarm list, click the title of the column.



If your alarm handling views contain map content, you can also filter the alarm list by right-clicking an element (camera, event server, or similar) on the map, then selecting **Show alarms**. This makes the alarm list show only alarms from the selected element.

## FAQ: alarms

### **I see an alarm desktop notification, but it disappears before I can respond. How do I find it again?**

Go to the **Alarm Manager** tab and look in the alarm list. If you do not see the alarm, it may have been filtered out. Try changing the filter settings.



If the alarm list is configured to show events instead of alarms, click the **Setup** button. In the **Properties** pane on your left-hand side, select **Alarm** in the **Data Source** list and click **Setup** again.

### **Why do I not receive any desktop notifications when new alarms occur in my XProtect VMS system?**

Desktop notifications for alarms must be enabled by your system administrator in XProtect Management Client. Otherwise, you will not receive any.

### **Will I receive multiple desktop notifications if multiple alarms occur within a few seconds?**


A desktop notification stays on the screen for 15 seconds. If multiple alarms occur consecutively within a few seconds, you will still only see one desktop notification. When you click the desktop notification, the most recent alarm opens in the alarm window. To view the previous alarms, go to the alarm list.

## Responding to alarms

### Viewing and editing details of an alarm

There are different ways you can respond to alarms.

- You can go to any view where you have added the **Alarm List** and double-click an alarm. The alarm opens in a separate window, where you can preview the alarm incident and its associated live video.
- Depending on how your XProtect VMS system is configured, you might also receive alarm desktop notifications. Such notifications stay on your screen for 15 seconds. When you click a notification, it takes you directly to the **Alarm Manager** tab and opens the alarm window.
- You can also respond to the alarm by changing the fields in the table below:

Field	Description
<b>State</b>	The state of the alarm indicates if someone has take care of the event. You can change the state of the alarm. Typically, you would change the state from <b>New</b> to <b>In progress</b> , and then later to <b>On hold</b> or <b>Closed</b> .
<b>Priority</b>	Change the priority of the alarm.
<b>Assigned to</b>	Assign the alarm to a user in your organization, including yourself. The person you assign the alarm to becomes the owner of the alarm, and will appear in <b>Owner</b> column of the alarm list.
<b>Comment</b>	<p>Write comments and remarks that are added to the <b>Activities</b> section. Comments typically relate to the actions you have taken. For example, "Suspect detained by Security", "Suspect handed over to police," or "False alarm."</p> <p>The <b>Comment</b> field appears at the bottom of the window.</p>
<b>Activities</b>	<p>The activities summarize how you have handled the alarm. The <b>Activities</b> section automatically includes:</p> <ul style="list-style-type: none"> <li>• any changes you or your colleagues make to alarm state or priority</li> <li>• any reassigning of alarms between users</li> <li>• any comments added.</li> </ul> <div>  <p>Depending on the configuration of the XProtect VMS server, the alarm can contain instructions about what to do when receiving the alarm. The instructions are defined on the server-side as part of the alarm definition. When that is the case, the activities are automatically displayed when you edit the alarm.</p> </div>
<b>Print</b>	Print a report that contains information about the alarm, such as the alarm history and a still image from the time of the alarm, if an image is available.

### Acknowledge alarms

When you have received an alarm, you can acknowledge the alarm to indicate that you are going to take care of it. In a system with many users, acknowledging the alarm makes it easier for all users to see who is handling what. You can only acknowledge new alarms.

1. In the alarm list, right-click the alarm and select **Acknowledge**. The alarm state changes to **In progress**.
2. To acknowledge multiple alarms at the same time, press and hold down the **CTRL** key, and then select the alarms you want to acknowledge.
3. Double-click an alarm to edit the details of the alarm, for example assigning the alarm to someone and adding instructions.

### Disable all new alarms on selected event types

If an event is triggering false alarms, you might want to disable all new alarms on this type of event for some time.

For example, if there is a lot of movement around a camera and the movement is causing several false alarms, you can disable alarms on motion detection for this camera for 10 minutes. This way, false alarms won't disturb you, and you can focus on the alarms that need your attention. Disabling alarms affects all operators who are connected to the XProtect VMS system that you are also connected to.

You can disable all new alarms using the **Alarm Manager** or a map.

1. Using the **Alarm Manager**: in the alarm list, right-click an alarm and select **Disable all new alarms**.

Using a map: right-click an alarm and select **Disable all new alarms > Disable**.

The **Disable all new alarms** window appears.

2. In the **Events that will not trigger alarms** list **1**, select which event types should not trigger alarms.
3. Specify until when or for how long the selected event types should not trigger alarms **2**.
4. Optionally, add a comment about why you are disabling alarms on the selected event types **3**.

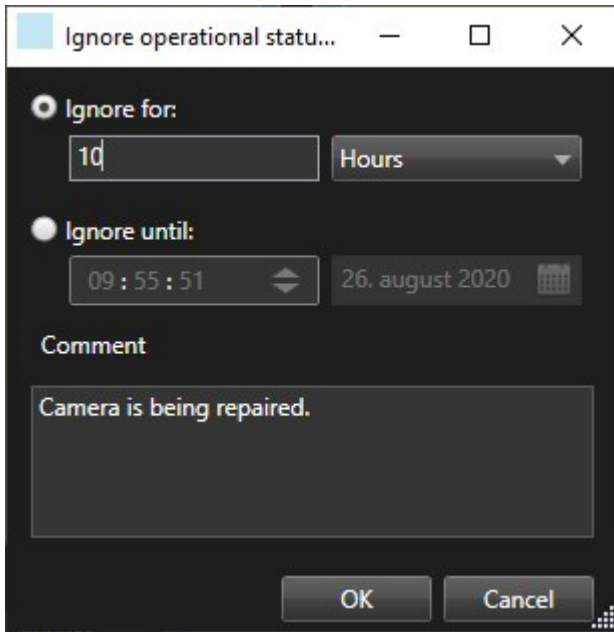
If you right-click an event, an overview of disabled events appears, and you can see which event is disabled and what the time-out of that event is.



You disable alarms per event server. If an event server fails and another event server takes over, any alarms disabled on the failed event server will again appear as alarms.

### Ignore alarms on maps

On a map, you can ignore an alarm for an element for a duration of time. For example, if a camera is being repaired and therefore disconnected, you might want to ignore the error showing up on the map during the repair. When you ignore an alarm on a map, this does not remove the alarm from the alarm list, just the map.



### Close alarms

After acknowledging an alarm, typically you assign it to someone who investigates what is going on. During that time, the alarm will be in the state **In progress**. After handling the alarm, you can close it.

To close an alarm, in the **Alarm List**, do one of either:

- Right-click the alarm and select **Close**.
- Double-click the alarm, and in the **State** list, select **Closed**.

### Print alarm reports

You can print a report with information about the alarm, including the alarm history and, if available, a still image from the time of the alarm. However, you cannot use this feature if you have selected multiple alarms in the alarm list. To comply with GDPR rules, by default, the name of the report creator is not shown in the printed report, while the name of the person who printed the report is. To display all names connected to the report, select the **Display names** button.

1. In the alarm list, right-click the alarm.
2. Select **Print**. A window appears.
3. To add a note, enter the text in the **Note** field.
4. Click the **Print** button.

### Get statistics on alarms


Get statistical data about the alarms triggered in your XProtect VMS system over the:



- **Last 24 hours**
- **Last 7 days**
- **Last 30 days**
- **Last 6 months**
- **Last year**

The **Alarm Report** window shows two graphs that display the number of alarms filtered by categories, for example **Priority** or **State**, allowing you to compare the two graphs side by side.

Steps:

1. In the **Alarm List**, click the **Reports** button. A window appears.
2. Above the graphs, select the timespan, for example **Last 24 hours**.
3. In the **Select report** list, select one of these categories:
  - **Category**
  - **State**
  - **Priority**
  - **Reasons for closing**
  - **Site**
  - **Response time**
4. For each graph, select a sub-filter. For example if you selected **State**, you can select **New** in the first graph and **In progress** in the second. The graphs are populated.
5. To print the graphs as a PDF report, click .

## Alarms on smart maps

If a device triggers an alarm and the device is added to your smart map, the alarm will appear as a red circle around the device or the icon for the cluster with the device inside.

## Alarms on maps

If your alarm handling view contains one or more map positions, you can view alarms on the maps too. Maps display alarms based on the geographical location of the camera, event server or other device triggering the alarms, so you can instantly see where the alarm originates from. You can right-click and acknowledge, disable, or suppress the alarm directly from the map.

Camera elements display video in thumbnail format when you move your mouse over it. When used together with alarms, the graphical elements on maps display red circles around them if alarms occur. For example, if

an alarm associated with a particular camera occurs, the graphical element representing that camera will immediately get a red circle around it, and you can then click the camera element and not only view video from the camera, but also handle the alarm through a menu that appears.



If red is not an ideal color for signifying alarms on your maps, you can change this color.

Now, say the camera which has an alarm associated with it, is located on a street level map, but you are viewing a city level map. How will you then notice the alarm? No problem, thanks to hot zones—graphical representations linking different map hierarchy levels together. If an alarm is detected on the street level map, the hot zone on the city level map will then turn red, indicating that there is an alarm on a lower level map—even if there are map levels in between.

To return to an alarm list mode where you can see alarms from more than just the one element, click the required event server, priority or state in the alarm list.

For more information about smart map icons, see [How alarms look on a smart map on page 122](#).

## Events

An event in XProtect VMS is a predefined incident that can be set up to trigger an alarm. Events are either predefined system incidents or user-defined events, for example analytics events or generic events. Events are not necessarily linked to an alarm, but they can be.

Typically, events are activated automatically and in the background, for example, through detected motion or by data from other applications. You can also manually activate events. The VMS uses events to trigger actions, such as starting or stopping recording, changing video settings, activating output, or combinations of actions.

When you activate an event from your XProtect Smart Client, it automatically triggers actions on the VMS system, for example recording on a particular camera with a particular frame rate for a particular period of time. Your system administrator determines what happens when you manually activate an event.

## Manually activate events

You can manually activate an event. There is no confirmation when you have activated an event. The list of events you can select is grouped by event server, and the camera or device that the event is associated with.

- In live mode, expand the **Event** pane, then click **Activate**.



Global events appear under the relevant event server. If an event server is listed with a red icon, it is unavailable and you cannot activate events on it.

## Adding bookmarks

### Bookmarks

Bookmarks allow you to quickly find or share relevant video sequences with other users of the system.

Detailed bookmarks make it easier to find the bookmarks after creating them. You can give detailed bookmarks a name and description. Both properties are searchable, making them easier to find. You can also change the default time span for detailed bookmarks.



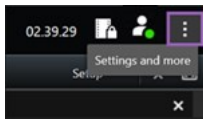
This feature is only available in certain XProtect VMS systems. For more information, see the product comparison chart:

<https://www.milestonesys.com/products/software/xprotect-comparison/>

### Enable detailed bookmarks

To efficiently manage and search for your bookmarks, you can enable a setting that allows you to give your bookmarks a name and a description and to change the default time span for bookmarks.

1. On the global toolbar, select **Settings and more**  and then **Settings** .



2. Select the **Functions** tab.
3. To enable detailed bookmarks for live video, locate the row with the **Bookmark** function in **Live** mode and change the setting to **Add bookmark details**.
4. To enable detailed bookmarks for recorded video, locate the row with the **Bookmark** function in **Playback** mode and change the setting to **Add bookmark details**.
5. Click **Close** to save the changes.

### Adding bookmarks

You can add bookmarks to video sequences in live or recorded video. When you bookmark a sequence, the bookmark is saved with an ID and information about the user who created it. You can give your bookmarks a heading and a description. Bookmarks are searchable, so operators can easily find them later.

You can find and edit bookmarked video sequences by using:

- The search functionality on the **Search** tab.
- The main timeline in playback mode.



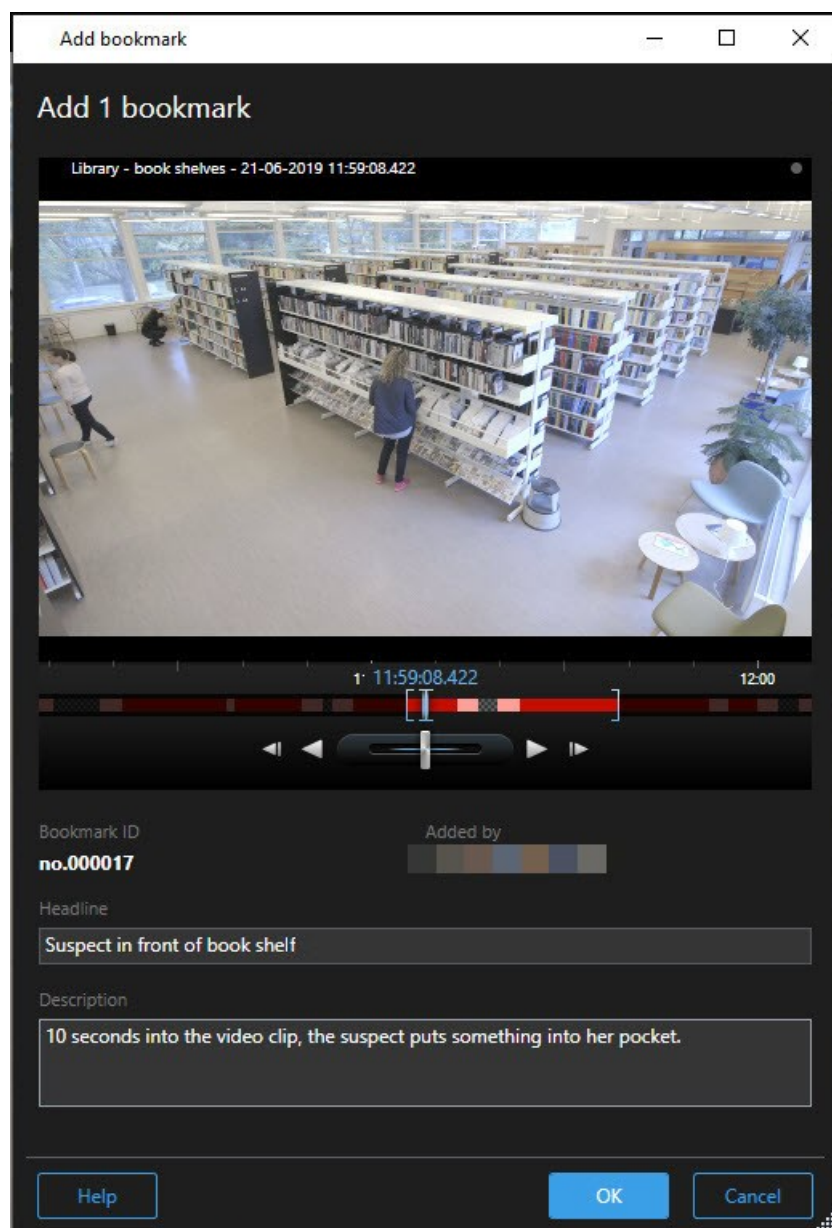
The ability to add and view bookmarks depends on your user permissions.

## Bookmark window

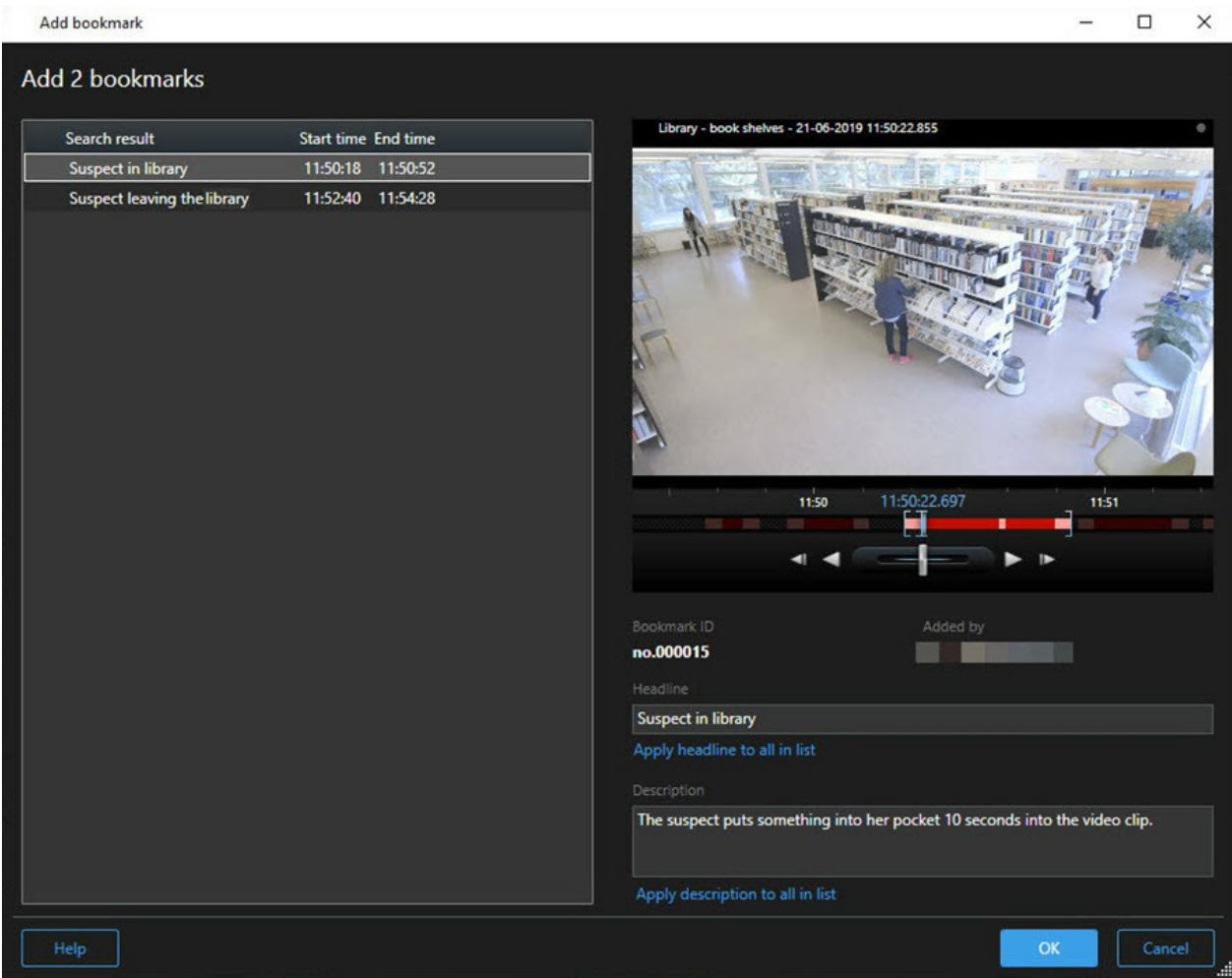
The **Bookmark** window appears only when you have enabled detailed bookmarks. See [Enable detailed bookmarks on page 155](#).

The layout of the bookmark window changes depending on where you are in XProtect Smart Client, and if you are adding one or multiple bookmarks. Click below to see images of the window.

### Single bookmark






Multiple bookmarks



Fields in the **Bookmark** window.

Name	Description
Bookmark ID	A number that automatically is assigned to the bookmark.
Added by	The person who created the bookmark.
The bookmark timeline	The time selection brackets shows the start and end time of the bookmarked sequence. To change the start and end time, drag the brackets.

Name	Description
	
Headline	Specify a headline containing a maximum of 50 characters.
Apply headline to all in list	<div>  Only visible if you are creating multiple bookmarks. </div> <p>Click the text to use the same headline for all bookmarks.</p>
Description	Lets you specify a description.
Apply description to all in list	<div>  Only visible if you are creating multiple bookmarks. </div> <p>Click the text to use the same description for all bookmarks.</p>


## Add or edit bookmarks

You can add bookmarks to live and recorded video. If you have enabled detailed bookmarks, you can give the bookmark a name and a description. You can even adjust the time span. Later, you can find and edit the bookmark details.

### Requirements:

Detailed bookmarks must be enabled. For more information, see [Enable detailed bookmarks on page 155](#).

Steps:

1. Select the required camera in the view.
2. Click the bookmark icon . With details enabled, the **Bookmark** window appears where you can add a detailed description of the incident.
3. Enter a name for the bookmark.
4. The default length of a bookmarked sequence is determined on the surveillance system server, but you

can change this by dragging the start and end time brackets.

5. (optional) Describe the incident.
6. Click **OK**.



To find and edit the bookmark later, go to the **Search** tab and search for bookmarks. See [Search for bookmarks on page 180](#).

#### Watch a quick video tutorial?





## Delete bookmarks

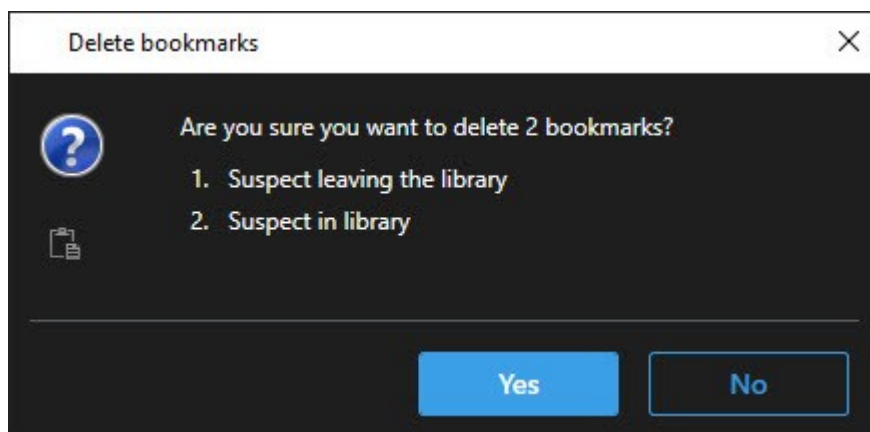
You can delete bookmarks created by yourself or others. If you delete a bookmark, it is removed from the database, and you can no longer find it.

### Requirements

You must have the user permission to delete bookmarks. This user permission is controlled by your system administrator.

Steps:

1. On the **Search** tab, find the bookmarks that you want to delete.
2. In the search results, hover over each of these bookmarks and select the blue check box .
3. In the blue action bar, click  and select **Delete bookmark**. A window appears.



4. Click **Yes** to delete the bookmarks.



There may be restrictions in your system preventing you from deleting certain bookmarks. In that case, you will be notified.

## Find or export bookmarked video

After creating bookmarks, you can find the bookmarks again on the **Search** tab. Suppose you want to find an incident that you bookmarked within the last six hours on camera 1, then you would set the duration to **Last 6 hours**, select camera 1, and add the **Bookmarks** search criterion. See also [Search for bookmarks on page 180](#).

You can also export the bookmarked video. See also [Actions available from search results on page 186](#).

### Watch a quick video tutorial?



## FAQ: bookmarks

### How do I find bookmarked incidents?

Go to the **Search** tab, set a timespan, select the cameras that may have recorded the incident, and then click **Search for > Bookmarks**.

### I cannot find a particular bookmark. Why?



There may be several reasons why you cannot find the bookmark:

- Your user permissions do not allow you to view the bookmark.
- The bookmark has been deleted by a user with permissions to delete bookmarks.
- The bookmarked video no longer exists in the database.

#### Can I bookmark my search results?

Yes. When you have performed a search that returns a list of search results, you can bookmark any of these search results. See [Bookmark search results on page 196](#).

## Restricting access to videos

### Video restrictions

You can restrict access to selected live video and audio streams as well as recorded video and audio sequences to prevent unauthorized operators from viewing sensitive material.

With the video restrictions functionality, you can limit access to video sequences (video, audio and device metadata) to only operators that are authorized to view restricted videos.

Live streams and recorded videos can both be restricted, and restrictions can be removed by operators authorized to do so when general access to the video material needs to be restored.

Restricted material can still be deleted and if you also want to prevent automatic or manual deletion of the restricted videos, you must apply evidence locks to the sequences as well.



Depending on your user rights, you may be able to create, view, edit, and remove video restrictions.

### Video restrictions and different sites

Video restrictions can be created on any cameras you can access, including cameras located on different sites.

If you have selected multiple cameras located on different sites and then create a video restriction on the selection, multiple restrictions will be created for the selected cameras, usually one per site for playback restrictions and multiple restrictions per site for live restrictions. The actual number of live restrictions will depend on the number of associated devices.

This means applying a restriction on multiple cameras on multiple sites will result in more than one restriction being created and displayed in the **Video restrictions list**. Each restriction displayed in the **Video Restrictions list** can be edited, maintained, and removed as a separate restriction.

#### Example of video restrictions created on multiple sites

An XProtect installation spans three sites:

- Site A: Contains three cameras, each with a microphone, a speaker, and metadata resulting in 12 available devices.
- Site B: Contains two cameras, each with a microphone, a speaker, and metadata resulting in 8 available devices.
- Site C: Contains only one camera with a microphone, a speaker, and metadata resulting in 4 available devices.

### Playback restrictions created

If a user with access to all devices across all the three sites creates a playback restriction on all cameras for all sites, three playback restrictions will be created. Each playback restriction contains the respective devices (camera, microphone, speaker, and metadata) for each site.

### Live restrictions created

If a user with access to all devices across all the three sites creates a live restriction on all cameras, 24 live restrictions will be created - one for each device on the site:

- 12 live restrictions for site A (12 devices)
- 8 live restrictions for site B (8 devices)
- 4 live restrictions for site C (4 devices)

The created restrictions are not linked to each other and each restriction can be edited, maintained and removed separately.



You cannot create live and playback restrictions at the same time. Instead you must create one restriction type first and then the other.

The created restrictions are not linked and each restriction can be edited, maintained and removed separately.

## Video restrictions and Evidence locks

Video restrictions and evidence locks both prevent actions from being performed on video material by unauthorized users but there are significant differences.

Video restrictions prevent video or audio sequences from being viewed by unauthorized operators while evidence locks prevent video or audio sequences from being manually or automatically deleted.

When you create an evidence lock, you can also create a video restriction on the same video sequence as you are applying an evidence lock on by selecting the **Create playback video restriction** check box.

However, when you create a video restriction, you cannot also create an evidence lock at the same time. Instead, you must manually create the evidence lock on the same video sequence you created a video restriction on.

Once created, evidence locks and video restrictions must be edited, maintained and removed individually. There is no connection between a video sequence that has been restricted and any evidence locks applied to the same video sequence.

## Creating restrictions on live or recorded video

You can create restrictions on a live stream or recorded footage to prevent the content from being viewed by unauthorized operators. When creating a live restriction, all cameras in the current view will be selected to be included in the restriction by default. You can remove any cameras you do not want to include during restriction creation process but not after the live restriction has been created.

If you are creating a video restriction on recorded footage (playback restriction), you can remove the cameras from the playback restriction by editing the restriction.

When creating live restrictions for multiple cameras, one live restriction will be created per camera. When you create playback restriction for multiple cameras, only one restriction will be created, covering all the selected cameras.

For live video restrictions, the **Headline** field will contain the camera name and be disabled for user input. The **Description** and **Interval end** fields will also be empty and disabled for user input. As long as the live restriction is in effect, recorded footage of the live stream is also covered by the live restriction for the defined time interval. In effect, creating a live video restriction also creates a playback restriction on the same video sequence. When the live restriction is removed, you can select to maintain the playback restriction or you can remove the playback restriction as well.

If you want the playback restricted video to also be evidence locked, you must manually create an evidence lock on the video sequence.

### Create a live restriction

1. In **Live** mode, select the camera view you want to restrict access to and click **Video restrictions > Create** to open **Create live restriction**. All cameras in the selected view are added by default to the restriction.
2. In the **Create live restriction** dialog > **Interval start** field, set the start time of the restriction. The default value of the restriction start time is 5 minutes back.
3. If necessary, in the right half of the **Create live restriction** dialog, click **Add camera** and select additional cameras to add to the restriction. You can also remove any cameras that should not be restricted.
4. Click **Create live restriction** to open the **Create live restriction** dialog. When the restriction has been created, click **Close** to close the dialog.  
You can click **Details** to get a more detailed overview of the creation process.

### Create a playback restriction

Recorded video or audio footage can be restricted to prevent the content from being viewed by unauthorized operators.

You must define a start and end time for the restriction you want to create.

1. In **Playback** mode, select the cameras you want to restrict access to and in the main timeline, select the start and end time for the interval you want to create a restriction for. You can select **Set start and end time on timeline** to select start and end times from the timeline tracks or **Set start and end time in calendar**.
2. In the toolbar, click **Video restrictions > Create** to open the **Create playback restriction** dialog.
3. In the **Create playback restriction** dialog:
  1. In the **Headline** field, enter a headline for the restriction. A short, unique headline will enable other operators to locate the restriction faster.
  2. In the **Description** field, enter a description of the restriction.
  3. In the **Interval start** and **Interval end** fields, make sure the defined restriction interval is appropriate for the sequence you want to restrict. You can also enter new interval start and end times. If the start and end times are identical, the interval start will automatically be adjusted back by 5 minutes.
  4. In the right half of the **Create playback restriction** dialog, click **Add camera** and select additional cameras to add to the restriction.
4. Click the **Create restriction** button to open the **Create playback restriction** dialog.
5. In the **Create playback restriction** dialog, click **Create restriction** to confirm your choice.
6. When the restriction has been created, click **Close** to close the dialog.  
You can click **Details** to get a more detailed overview of the creation process.

Once the restriction is created, you can add additional cameras by opening the restriction in the **Video restrictions list** and editing the restriction settings.

### Creating new restrictions on cameras that already contain restrictions

Since restrictions can be applied to individual cameras, cameras in the current view, and in camera groups, it is quite possible that new restrictions might be created on cameras that already contain restrictions.

### Live restrictions

If a new live restriction is created on a camera that already contains a live restriction, the start time of the existing live restriction will be updated if the start time of the new live restriction is earlier than the start time of the existing live restriction.

If the start time of the new live restriction is the same or later than the start time of the existing live restriction, then the start time of the existing live restriction will not be changed.

### Playback restrictions

Creating a new playback restriction on a camera that already contains a playback restriction will result in two playback restrictions for the same camera.

The scenarios described above only apply to creating new restrictions on cameras that already contain restrictions. You can always edit existing restrictions to change interval times as well as add or remove cameras.

## View restricted video

Operators assigned permissions to view restricted video or audio, can view the material normally. When displayed, the footage will contain a warning that the material is currently restricted.

Operators not assigned permissions to view restricted video or audio will not be able to view the footage and the camera containing the material will be marked as restricted in the user interface.

Restricted videos can be viewed in the **Live** or **Playback** mode by opening the camera view directly and playing the video material.

You can also open a camera view from the **Video restrictions list** if you are assigned sufficient user permissions to access the list.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.
2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to view.
3. Select the restrictions you want to view and click **View**.  
Some restrictions may contain multiple cameras and you can only view 100 cameras at the same time.

## Editing video restrictions

You can edit existing video restrictions, depending on your user rights, for example changing the restriction start and end times, adding additional cameras, and updating the restriction heading and description.

You can only edit the restriction settings for the restricted video. Any evidence lock settings created on the restricted video must be edited separately.

You can only edit or remove restrictions on cameras located on the site you are currently logged on to.

### Edit one or more live restrictions

You can only change the restriction start time for live restrictions.

You can access the **Video restrictions list** from either **Live** or **Playback** mode.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.
2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to edit.
3. Select the restrictions you want to edit and click **Edit** to open the **Edit live restriction** dialog.
4. In the **Edit live restriction** dialog, update the **Interval start** field and click **Save changes** to display the progress of the updates in the **Edit live restriction** dialog.
5. When the changes have been updated in the **Edit live restriction** dialog, click **Close** to close the dialog.  
You can click **Details** to get a more detailed overview of the update.

### Edit one or more playback restrictions

You can update all settings of multiple playback restrictions – changing the headline, description, interval start and end times as well as adding additional cameras to the restrictions.

You can access the **Video restrictions list** from either **Live** or **Playback** mode.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.
2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to edit.
3. Select the restrictions you want to edit and click **Edit** to open the **Edit playback restriction** dialog.
4. In the **Edit playback restriction** dialog, update any relevant restriction settings and click **Save changes** to display the progress of the updates in the **Edit playback restriction** dialog.
5. When the changes have been updated in the **Edit playback restriction** dialog, click **Close** to close the dialog.

You can click **Details** get a more detailed overview of the update.

### Removing video restrictions

When a restriction is removed, the underlying video material (live and recorded) becomes available again for viewing by operators as usual.

You can only edit or remove restrictions on cameras located on the site you are currently logged on to.

Removing a restriction will not change the status of any applied evidence locks on the same video sequence. If a video sequence has been locked, the evidence lock on the video must still be deleted if the video is to be deleted.

### Remove playback restrictions

You cannot remove multiple playback restrictions at the same time. You must select and remove one playback restriction at a time.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.
2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to remove.  
Live restrictions are displayed at the top of the list and each live restriction is marked with a green LIVE icon.  
Playback restrictions are displayed under the live restrictions.
3. Select the playback restriction you want to remove and click **Remove** to open the **Remove playback restriction** dialog.
4. In the **Remove playback restriction** dialog, click **Remove restrictions** to remove the selected playback restriction and open the **Delete playback restriction** dialog.
5. In the **Delete playback restriction** dialog, click **Close** when the removal process is done.  
Click **Details** to get a more detailed overview of the removal status.

## Remove live restriction

You can select and remove multiple live restrictions, but you cannot mix restriction types – that is select both playback and live restrictions for removal at the same time.

When a restriction on a live stream is removed, the recorded footage of the same video sequence can be restricted by default. An operator can choose not to keep restrictions on the recorded footage when removing restrictions on the live video stream.

During the creation process of a playback restriction of a restricted live stream, you will not be able to add additional or remove existing cameras. You can however, edit the playback restriction after the restriction has been created and then remove or add additional cameras.

1. In **Live** or **Playback** mode, click **Video restrictions** > **View** to open the **Video restrictions list** dialog.
2. In the **Video restrictions list**, use the filters and search field to locate the restrictions you want to remove.  
Live restrictions are displayed at the top of the list and each live restriction is marked with a green LIVE icon.
3. Select the live restrictions you want to remove and click **Remove** to open the **Remove live restrictions** dialog.
4. In the **Remove live restriction** dialog, select **Create restriction on recorded footage** to create a playback restriction on the live restriction you are removing.  
Clear the **Create restriction on recorded footage** check box if you do not want to create a playback restriction to replace the live restriction you are removing.
5. Click **Remove live restriction** to remove the selected live restriction and open the **Remove live restriction** dialog.
6. In the **Remove live restriction** dialog, click **Close** when the removal process is done. Click **Details** for a detailed overview of the removal status.

## Exporting restricted videos

Only operators that have been assigned viewing rights to restricted footage can access the material and export the footage.

## The Video restrictions list

### The Video restrictions list

The **Video restrictions list** displays all existing video restrictions on camera devices across all sites, with live restrictions displayed at the top of the list and then restrictions on recorded footage (playback restrictions).

Only operators assigned permissions to see and manage restrictions can open the **Video restrictions list**.

You can select one or more restrictions to edit the restriction settings or remove the restrictions but you can only edit or remove restrictions on cameras located on the site you are currently logged on to.

Some actions will not be possible if different restriction types (Live and Playback) have been selected, for example it is not possible to view restriction settings if the selection consists of different restriction types.

### Hidden or undisplayed live restrictions

If a video restriction only exists on a non-camera device, (for example on a camera microphone or on camera speakers), the live restriction will exist but will not be displayed in the **Video restrictions list** because the **Video restrictions list** only displays existing video restrictions on camera devices.

When a live restriction is applied on a camera, all devices are included in the restriction. When the live restriction is removed, the restriction will be removed for all devices of the hardware (microphones, cameras, speakers, and metadata) but if the live restriction removal is only partially successful, some devices may still contain restrictions. If these devices are microphones or speakers, and/or is metadata, the remaining restriction will not be displayed in the **Video restrictions list** but the camera itself will still be restricted.

You can force the hidden live restriction to be displayed in the **Video restrictions list** by creating a new restriction on the camera containing the hidden live restriction. This will update the existing live restriction and display it in the list so it is no longer hidden.

### Searching and filtering the list

If there are many restrictions in the list, you can apply filters to the list to reduce the number of restrictions.

You can also locate specific restrictions by using the **Search** field. The **Search** field will filter the list by applying the search criteria to all restriction headlines and descriptions.

#### Search

Search the restriction list by entering a part of the restriction headline or description in the **Search** field.

#### Filter

Apply one or more filters to narrow and reduce the number of restrictions displayed in the list. The defined filters are cumulative. The filtered list can also be searched if necessary.

#### Restriction type:

- **All:** Displays all (live and playback) restrictions in the list.
- **Playback:** Displays only playback restrictions in the list.
- **Live:** Displays only live restrictions in the list.

#### Interval/Created at:

- **Today:** Displays all restrictions that have been created today.
- **Yesterday:** Displays all restrictions that were created yesterday.
- **Last 7 days:** Displays all restrictions that have been created within past 7 days.
- **All:** Displays all restrictions with a start interval.



- **Custom:** Define your own date interval as a filter.

**Created by:**

- **All:** Displays all restrictions created by any user, including you.
- **Only me:** Displays all restrictions created by you.

**Cameras:**

- **All:** Displays all restrictions for all cameras.
- **Select:** Displays restrictions on the selected cameras only.

**Video restrictions list settings**

Name	Description
<b>Headline</b>	<p>The title of the restriction.</p> <p>When filtering the <b>Video restrictions list</b>, the contents of the <b>Headline</b> and <b>Description</b> fields are included in the search filter.</p> <p>Only available for playback restrictions when editing.</p>
<b>Description</b>	<p>A longer, more detailed description of the restriction.</p> <p>When filtering the <b>Video restrictions list</b>, the contents of the <b>Headline</b> and <b>Description</b> fields are included in the search filter.</p> <p>Only available for playback restrictions when editing.</p>
<b>Interval start</b>	Adjust the start date and time for the video sequences you want to restrict
<b>Interval end</b>	Adjust the end date and time for the video sequences you want to restrict.
<b>Add camera</b>	<p>Click to select more cameras to add to the restriction.</p> <p>Only available for playback restrictions when editing.</p>
<b>Remove all</b>	<p>Click to remove all cameras from the restriction.</p> <p>Only available for playback restrictions when editing.</p>

## Video restriction status messages

Message	Description and result	Scenarios and solution
Restriction created / removed / updated successfully	<p>All went well.</p> <p><b>Result:</b></p> <p>The video restriction is created, updated, or removed.</p>	
Restriction created / removed / updated successfully	<p>If the creation, update or removal of a video restriction was not entirely successful, a message is displayed, and the progress bar is yellow.</p> <p>Click <b>Details</b> to see what went wrong.</p> <p><b>Result:</b></p> <p>The video restriction is created, updated, or removed but without including some of the selected cameras and/or their related devices. Some devices may still contain restrictions.</p>	<p><b>Scenario:</b> Some of the recording servers with devices included in the video restriction are offline.</p> <p><b>Solution:</b> Wait for the recording server to come online.</p> <p><b>Scenario:</b> Your system administrator has changed your video restrictions user rights after you logged into XProtect Smart Client.</p> <p><b>Solution:</b> Contact your system administrator.</p>
Restriction created / removed / updated successfully	<p>If the creation, update, or removal of a video restriction is not successful, a message is displayed, and the progress bar is red.</p> <p>Click <b>Details</b> to see what went wrong.</p> <p><b>Result:</b></p> <p>The video restriction is not created, updated, or removed.</p>	<p><b>Scenario:</b> All the recording servers with devices included in the video restriction are offline.</p> <p><b>Solution:</b> Wait for the recording servers to come online.</p> <p><b>Scenario:</b> The management server is offline.</p> <p><b>Solution:</b> Wait for the management server to come online.</p>

# Investigating and documenting incidents

## XProtect Smart Client - Investigating and documenting incidents

XProtect Smart Client – Investigating and documenting incidents provides a comprehensive guide on how to investigate and document security incidents using XProtect Smart Client.

### Subjects covered

Use this guide to help manage and document incidents and ensure a thorough and accurate investigation process.

The guide covers tasks such as the following:

- Viewing recorded video
- Performing advanced searches
- Creating evidence locks
- Exporting video and audio for documentation purposes

### Intended audience

The intended audience for this guide includes security personnel, operators, and technical staff responsible for managing and operating XProtect Smart Client within their organizations.

## Investigating incidents

### Viewing recorded video

You investigate incidents mainly in playback mode by using the main timeline to browse recorded video. To view recorded video, you must find a view that shows video from the cameras that you are interested in. The views are available in the **Views** pane. For each camera that appears in a view, different actions are available, for example taking snapshots or launching search. See [The camera toolbar \(camera view items\) on page 95](#). If something catches your attention, you can zoom in to take a closer look using the virtual joystick.

You can perform advanced searches on the **Search** tab and use the search results as a starting point for further investigation or actions, for example exporting and bookmarking.

If the incident is associated with an alarm, go to the **Alarm Manager** tab, or select a view where the **Alarm List** has been added.

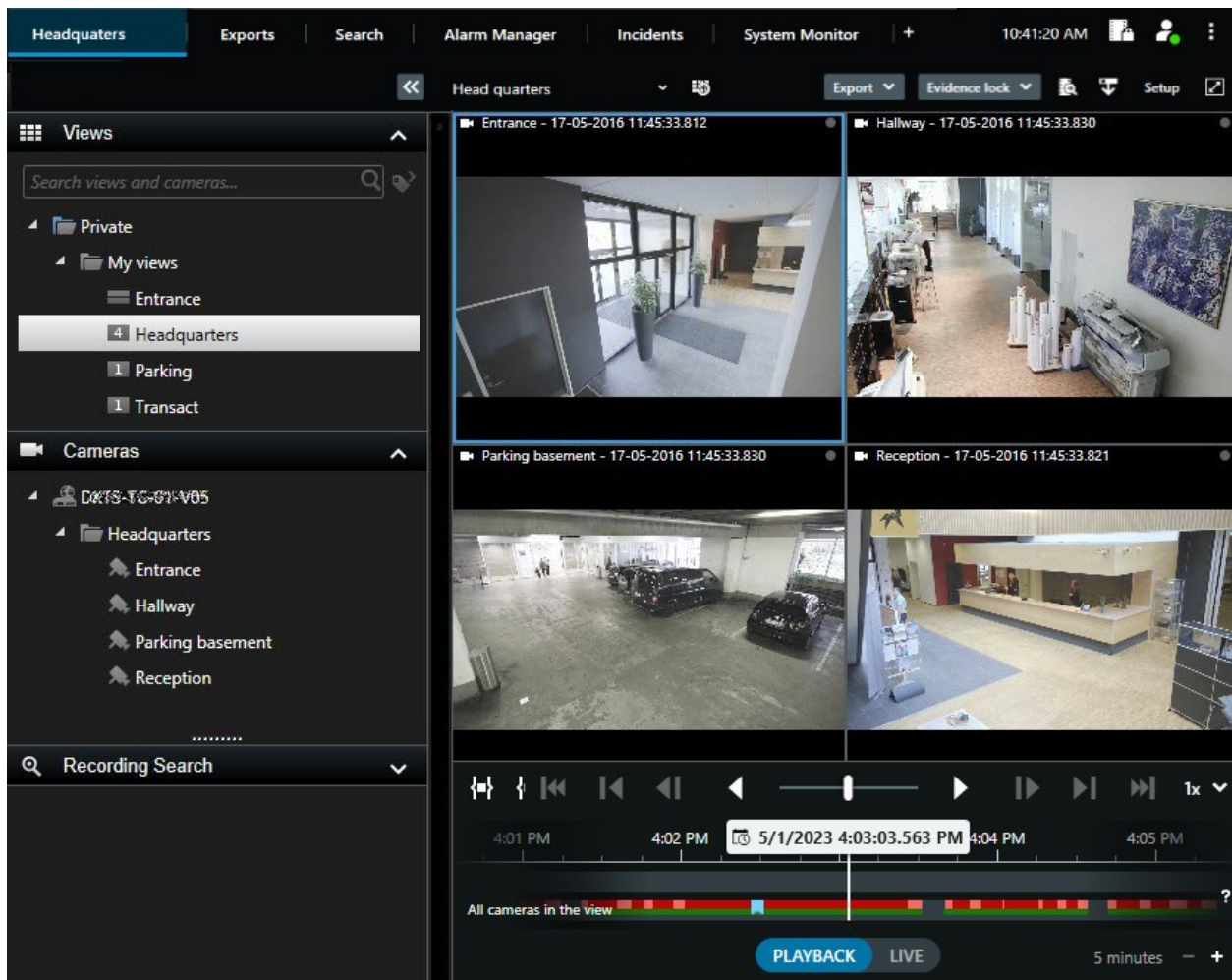
If you have an **Incidents** tab in XProtect Smart Client, you have XProtect® Incident Manager. See the [XProtect Incident Manager documentation](#). If you do not have XProtect Incident Manager or want to investigate incidents with the built-in XProtect Smart Client functionality, you use the features and methods described in this section.

### Watch a quick video tutorial?



## View recorded video in playback mode

In playback mode, all cameras in a view display recordings from the same time shown in the main timeline. You can play back or browse recordings by using the controls and features in the main timeline.



1. Select a view in the tree structure or use keyboard shortcuts. See [Default keyboard shortcuts on page 99](#)
2. Switch to playback mode.
3. Browse using the main timeline. See [Navigating the recordings from the timeline on page 59](#).

4. Optionally. Perform various actions on the camera toolbar. See [The camera toolbar \(camera view items\) on page 95](#).
5. Optionally. Select a time span for exporting video. See also [The timeline controls on page 59](#) and [Exporting video, audio, and still images on page 220](#).
6. Optionally.  
Create an evidence lock.

#### Watch a quick video tutorial?




## View recorded video independently of the main timeline

If you want to review video in a view item, you can play back the video independently of the other video in the view. In playback mode, the playback is independent of the selected main timeline. In live mode, the playback is independent of the live video.




You can't use this feature for view items with hotspots, carousels, or Matrix content.

1. Select the view item and from the camera toolbar, select **Independent playback** .

The top bar for the view item with the camera turns yellow, and the independent playback timeline appears:



- In live mode, the video starts playing from 10 seconds before the time you selected **Independent playback**.
  - In playback mode, if playing, the video jumps 10 seconds in the opposite direction. If paused, the video remains paused at the current time.
2. To see the recorded video from another time, drag the independent playback timeline.
  3. To synchronize the recorded video from all cameras in your view to the independent playback time,

select **Use the selected time on the playback timeline** .

Now, the video is synchronized to the time you initially selected for the independent playback in playback mode.

**Watch a quick video tutorial?**



## View recorded video on the Search tab

The search results are basically video sequences that you can play back:

- Preview the search results. See also [Preview video from search results on page 190](#).
- Play back the search results in full screen mode or in a detached window. See also [Open search results in detached windows on page 189](#).

## Searching

### Searching

If you have many view groups, views, cameras, and a lot of recorded video it can be difficult to find the relevant video. XProtect Smart Client has various search features besides the navigation features on the main timeline that can help you.

You can search for:

- A view or a camera. Including characteristics and descriptions that your system administrators has added to your cameras.
- Content and data in video sequences. For example, video sequences with:
  - Motion
  - Bookmarks
  - Alarms\*
  - Events\*
  - People\*\*
  - Vehicles\*\*
  - Location data about where the video was recorded\*\*

\*) Requires XProtect Corporate or XProtect Expert.

\*\*) Requires XProtect Corporate or XProtect Expert. Also requires that your system administrator has enabled the feature and given you user permissions.

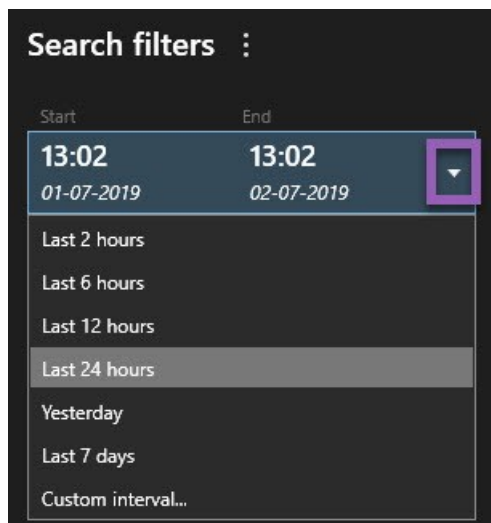
The search features are available mainly on the **Search** tab, but they are integrated with viewing video in live and playback mode.

## Search for multiple criteria in video sequences

You can search for a combination of criteria in video sequences if you have XProtect Corporate or XProtect Expert.

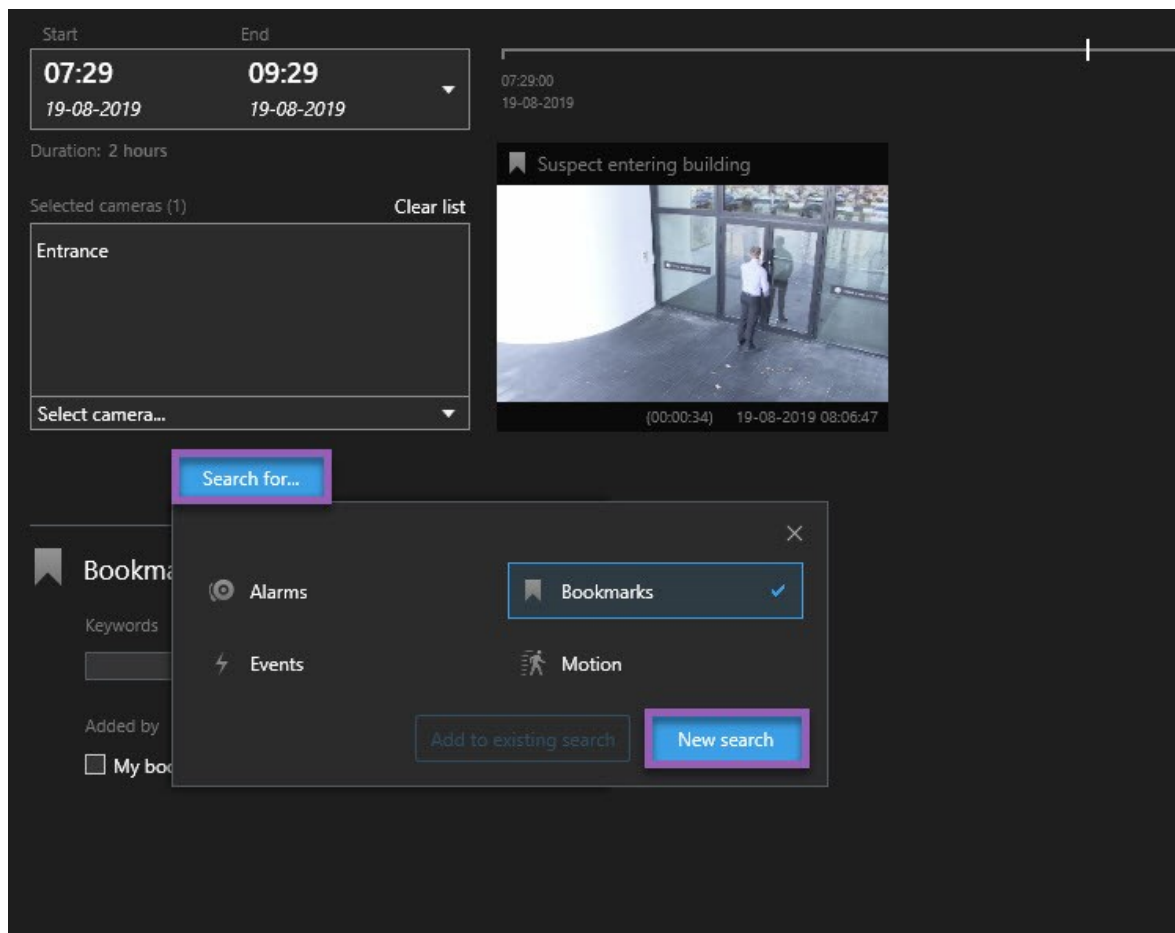
When you have found the relevant video sequences you can, for example, send the video sequences for export, bookmark the video sequences or other.


1. Open the **Search** tab.
2. On the **Start** and **End** time filter selector, select the arrow to select a predefined time span, or define your own **Custom interval**.

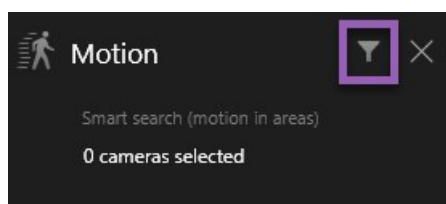


3. On the **Selected cameras** list filter selector, use the **Select camera** search field to find cameras or views and then select the cameras which video sequences you want to search in.


4. Select **Search for** to select one or more search categories.

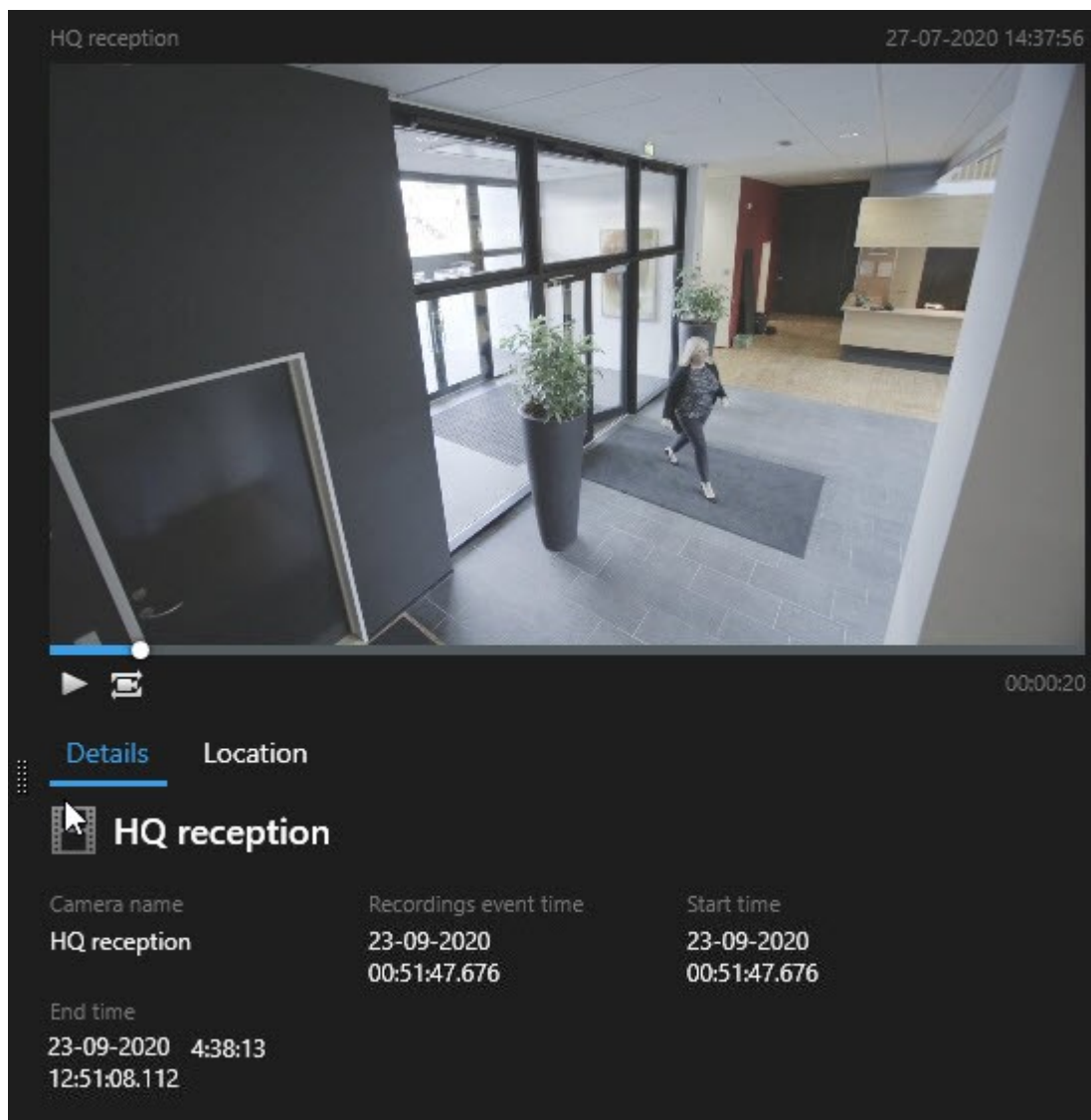


5. For each search category that you have added, select **Add or remove filters to refine results**  to refine your search. See also [FAQ: searching on page 205](#).



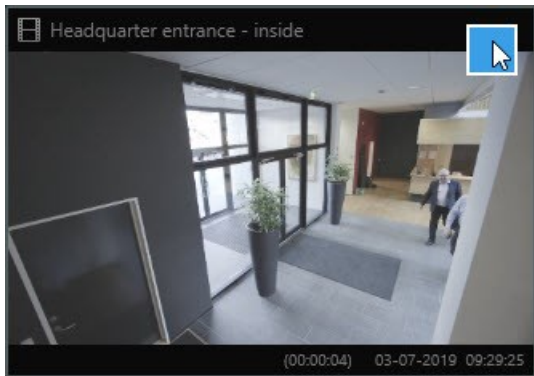


- To preview the video of a search result, select the search result and, in the preview pane, select **Play forward** .



To play back the video sequence in full-screen mode, double-click the search result.

7. To make the action bar appear, hover over the search results, one by one, and select the blue check box that appears.



The blue action bar appears:



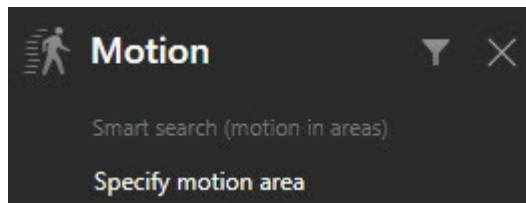
## Search for motion in defined areas

You can search for video recordings with motion within defined areas of the video footage. For example, in a doorway monitored by multiple cameras to find persons entering the doorway.

1. On the **Search** tab, select a start and end time.
2. Select the cameras that you want to include in your search.
3. Select **Search for > Motion > New search**. Recordings that corresponds with your selections are shown as thumbnail images in the search results pane.

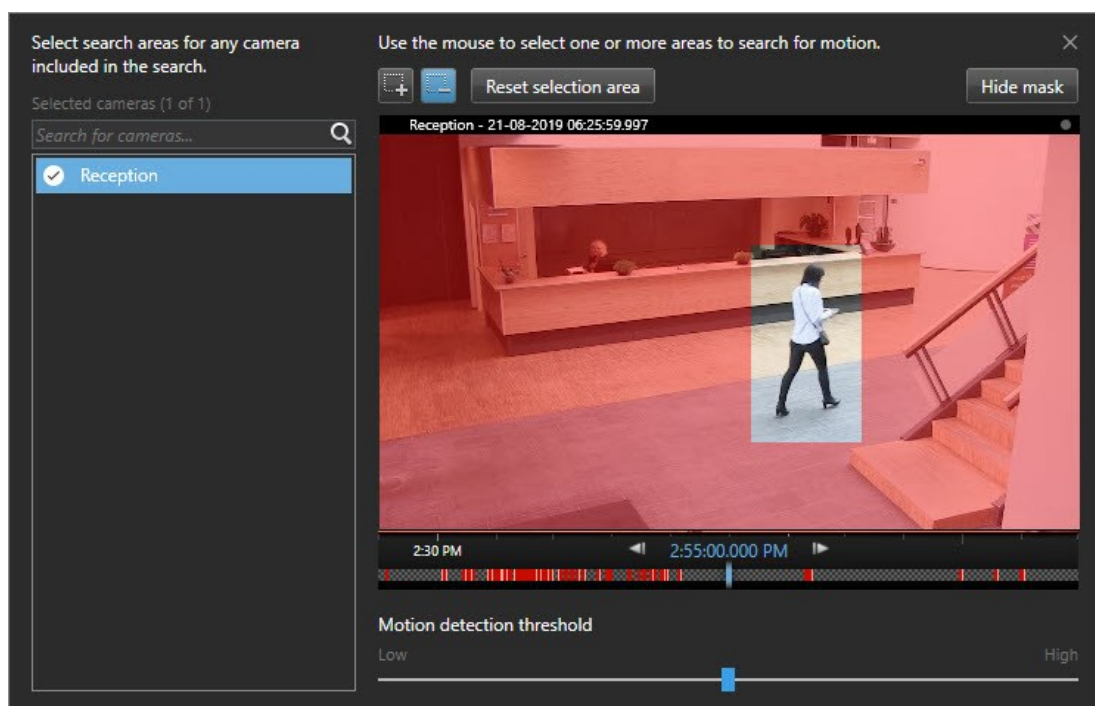
4. To find motion in selected areas only:

1. Below **Motion**, select **Specify motion area**.




A dialog box appears with a list of the cameras that you selected in step 2.

2. Select a camera and in the red preview area, select and drag to unmask at least one area. The system look for motion only in that area.



3. Optional. Use the slider to adjust the motion sensitivity. See [Motion search thresholds on page 180](#).
4. Repeat step 2 and 3 for all the cameras you want to define search areas for. Motion within the selected areas are highlighted with yellow boxes.
5. Select a search result to see the video in a preview window.

6. Optional. Select the blue check box  for one or more search results and then an action in the blue action bar at the bottom of the search result pane to:

- Add the video to an export
- Apply bookmarks or evidence locks to the video
- View the video in a new view
- Add a snapshot and the information about the video to a PDF report
- Take a snapshot of the video

**Watch a quick video tutorial?**



## Motion search thresholds

When you search for motion in selected areas of a camera, you can adjust the motion threshold. The motion threshold determines how sensitive the motion search mechanism is:

- The higher the threshold, the more motion is required to activate motion detection. Likely, this will produce fewer search results
- The lower the threshold, the less motion is required to activate motion detection. Likely, this will produce more search results

## Search for bookmarks

You can find incidents that are bookmarked by you or others for any number of cameras.


1. Select the cameras that you want to include in your search.
2. Click **Search for > Bookmark > New search**. If the database has any bookmarked recordings, they appear as thumbnail images in the search results pane.
3. Optionally, enter a keyword to filter the search results. The keyword can be:
  - The full **Bookmark ID**, for example no.000004
  - Who the bookmark was added by, for example site\user2
  - Any text that appears in the **Headline** or in the **Description**





By default, the system will search for the keyword both in the **Headline** and in the **Description**. Use **Search for keyword in** to change that.

4. To preview the video sequence and bookmark details, select a search result and play back the video in the preview pane on the right-hand side.

HQ reception
27-07-2020 14:36:29



00:00:26

Details
Location

## Reception

<p>Camera name</p> <p><b>HQ reception</b></p> <p>End time</p> <p><b>23-09-2020 12:51:08.112</b></p> <p>Description</p> <p>-</p>	<p>Bookmarks event time</p> <p><b>23-09-2020 00:51:47.676</b></p> <p>Added by</p> <div style="background-color: #ccc; width: 100px; height: 20px; margin: 2px;"></div> <p>Headline</p> <p><b>Reception</b></p>	<p>Start time</p> <p><b>23-09-2020 00:51:47.676</b></p> <p>Bookmark ID</p> <p><b>no.000001</b></p>
---	---	--

5. To view the recording in full-screen mode, double-click the search result.

6. To perform other actions, for example editing the bookmark, hover over the search result and select the check box ☒. The action bar is displayed.



#### Watch a quick video tutorial?



## Search for alarms

When you search for video recordings associated with alarms, you can apply search filters to show only search results with certain alarms, for example alarms in a certain state that are assigned to a specific operator.

1. Select the cameras that you want to include in your search.
2. Click **Search for > Alarms > New search**.
3. Apply search filters to narrow down search results. You can filter for:
  - **Priority**
  - **State**
  - **ID** - Type the full ID to filter for it
  - **Owner**
  - **Server** - available only if you are using Milestone Federated Architecture™



If you are using Milestone Federated Architecture™, the **Priority** and **State** filters are applied across all connected sites.

#### Watch a quick video tutorial?



## Search for events

When you search for video recordings associated with events, you can apply search filters to show only search results with certain events, for example events that come from a specific source or server.

Steps:

1. Select the cameras that you want to include in your search.
2. Click **Search for > Events > New search**.
3. Apply search filters to narrow down search results. You can filter for:
  - **Source**
  - **ID** - Type the full ID to filter for it
  - **Server** - available only if you are using Milestone Federated Architecture™

## Search for people



This search category and its search filters are only available if they were enabled by your system administrator.

When you search for video recordings that include people, you can apply search filters to show only search results with people that have certain characteristics, for example people of a certain age or height.

1. Select the cameras that you want to include in your search.
2. Click **Search for > People > New search**.
3. Apply search filters to narrow down search results. You can filter for:
  - **Age** - Filter for people in a certain age range
  - **Gender** - Filter for males or females
  - **Height** - Filter for people in a certain height range
  - **Face** - Select the check box to limit search results to people whose face is visible

## Search for vehicles



This search category and its search filters are only available if they were enabled by your system administrator.

Searching for vehicles is also available if you have XProtect® LPR installed in your system.

For more information, ask your system administrator

When you search for video recordings that include vehicles, you can apply search filters to show only search results with certain vehicles, for example a vehicle with a certain license plate that was issued by a certain country.

1. Select the cameras that you want to include in your search.
2. Click **Search for > Vehicles > New search**.
3. Apply search filters to narrow down search results. You can filter for:
  - **Color** - Filter for vehicles of certain colors
  - **License plate** - Type a part of a license plate number or the full license plate number to filter for it
  - **Country** - Filter for license plates that were issued by certain countries



This search filter is only available if you have XProtect® LPR installed in your system.

- **Vehicle speed** - Filter for vehicles moving at a certain speed
- **Vehicle type** - Filter for types of vehicles, for example trucks
- **Match list** - Filter for license plates that are part of certain match lists



This search filter is only available if you have XProtect® LPR installed in your system.

## Search for video at locations



This search category and its search filters are only available if they were enabled by your system administrator.



When you search for video recordings recorded at a certain location, you can apply search filters to show only search results in a specific location.

1. Select the cameras that you want to include in your search.
2. Click **Search for > Location > New search**.
3. Apply search filters to narrow down search results. You can filter for geographic coordinates by specifying the latitude and longitude coordinates and the radius of the search area.

## Search results, settings, and actions

### Investigate your search results

There are different ways of investigating incidents that you have found on the **Search** tab:

- Open the search result in a detached window in playback mode. See also [Open search results in detached windows on page 189](#).
- Open the search result in a detailed view. Do one of the following:
  - In the list of search results, double-click the search result to view it in full screen mode. Double-click again to return to the list of search results.
  - If you're previewing your search result in the preview area, double-click inside the video image. The search result opens in full screen mode. Double-click again to return to the preview area.

### The search timeline on the Search tab

The search timeline gives you an overview of how the search results are distributed. You can also navigate the search results.

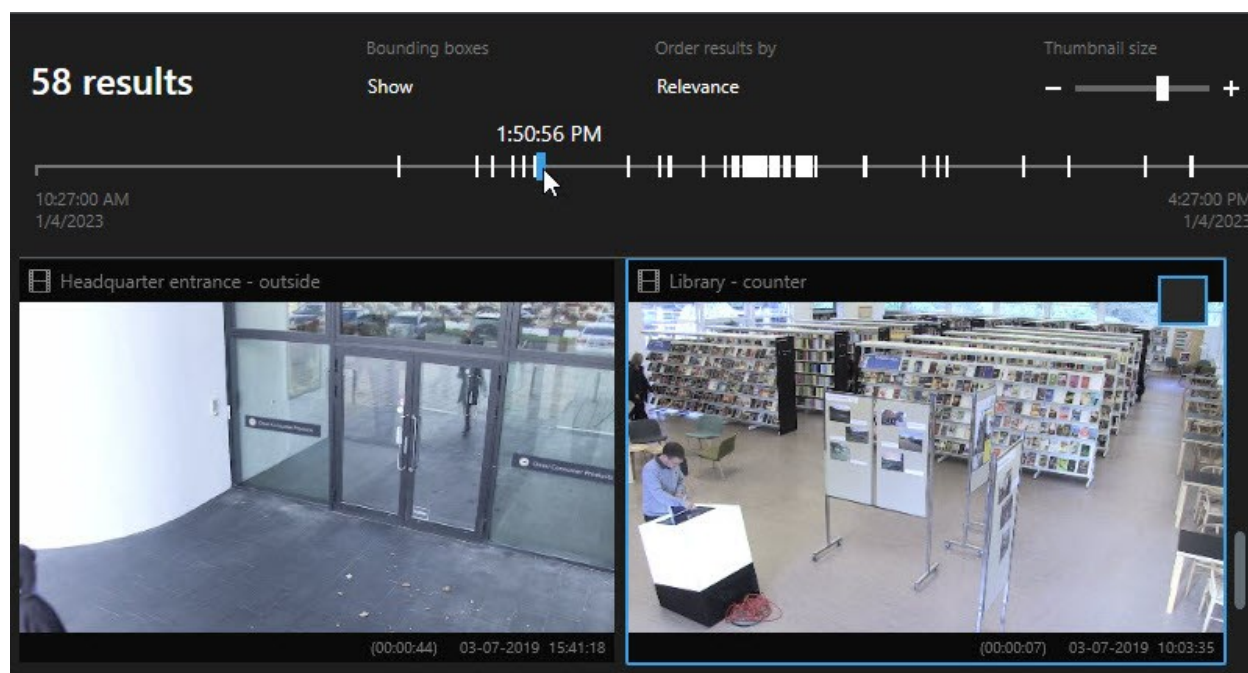
The scope of the search timeline changes according to the selected time span, for example **Last 6 hours**.



The white markers indicate where the search results are.

Individual markers may indicate that there are multiple search results. By hovering over the markers, information is displayed about the time and the cameras that recorded the events or incidents.

To navigate the search results, click a marker. The marker turns blue, and the associated search result is marked with a blue border.



If the marker that you select shows more than one search result, the first search result is marked.





If a marker indicates more than 10 search results, a message will inform you about the number of search results and the number of associated cameras.







### Actions available from search results

Based on your search results, there are multiple actions available. Some actions are available in the blue action bar, others in the preview area.



The actions available may differ depending on your user permissions.

Action	Description
	<p>Add the selected sequences to the <b>Exports</b> tab &gt; <b>Export list</b>.</p> <p>All the sequences that you add to the <b>Export list</b> are ready for export on the <b>Exports</b> tab. See also <a href="#">Exporting video, audio, and still images on page 220</a>.</p>
	<p>Create PDF reports with information about the search results, for example still images from the video sequences.</p>

Action	Description
	Bookmark multiple search results at the same time.
	Edit multiple bookmarks at the same time.
	Add evidence locks to protect the video sequences and data from related devices, for example audio, from being deleted.
	Open multiple search results in a detached window, where you can view the video in live or playback mode, export, create evidence locks, and retrieve recordings from devices and cameras belonging to interconnected VMS systems.
	Take multiple snapshots of your search results at the same time.
	When you are previewing video, you can transfer the current time to the independent playback timeline. This is useful, for example, if you want to look at related cameras in playback mode at the time that an incident took place.

### MIP-related actions

There may be additional actions available, related to third-party software. The MIP SDK is used to add these additional actions.

### Merged search results

If you are using multiple search categories, and the search results overlap in time, they are merged into one. In some situations into multiple search results. This happens when different search criteria match video from the same camera within the same time span. Instead of returning different search results that show basically the same video sequences, XProtect Smart Client simply gives you one search result that contains all details, for example the camera name, indications of event time, and search categories.

Examples:

#### Find vehicle on Memory Lane 15

Suppose you want to find a vehicle of the type truck on Memory Lane 15 within the last two hours. To configure your search:

1. Select 10 cameras placed in the right area.
2. Set **Duration** to **Last 2 hours**.
3. Add the search category **Vehicles** and filter on **Truck**.
4. Add the search category **Location** and filter on the geo coordinates of the address and a search radius.
5. Select the **Match all criteria** check box.



For more information, see [Search for vehicles on page 184](#) or [Search for video at locations on page 184](#).

### Find bookmarked alarm

Two days ago an alarm went off in your XProtect VMS system. To make it easy to find the alarm again, you bookmarked it. Now you want to find the bookmark again to make an export. To configure your search:

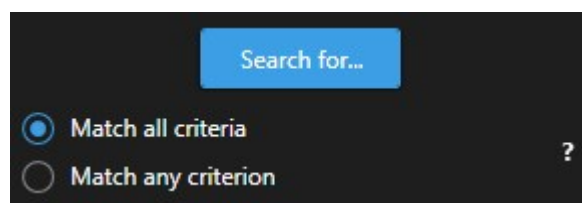
1. If you remember which camera recorded the incident, select the camera. Otherwise, select a range of possible cameras.
2. Set **Duration** to **Last 24 hours**, or specify a **Custom interval**.
3. Add the search categories **Bookmarks** and **Alarms**.
4. Select the **Match all criteria** check box.



For more information, see [Search for bookmarks on page 180](#) or [Search for alarms on page 182](#).

### Matching any or all search criteria

If you are using XProtect Corporate or XProtect Expert, you can use multiple search categories in the same search. While configuring your search, specify whether your search must match any or all the search categories.



Matching all criteria gives you fewer but more accurate search results. In addition, if the search results overlap, they are combined into fewer results. See also [Merged search results on page 187](#).

Matching any criterion gives you more but less accurate search results.





Actions that are normally available in the action bar may not be available for merged search results. This happens if the action that you are trying to perform cannot be used with one of the search categories. See also [After selecting a search result, certain actions may not be available in the blue action bar. on page 207](#)

### Start search from cameras or views

If you are looking for something specific in one or more video streams, you can start search from a single camera, or from an entire view. The search workspace opens in a new floating window.

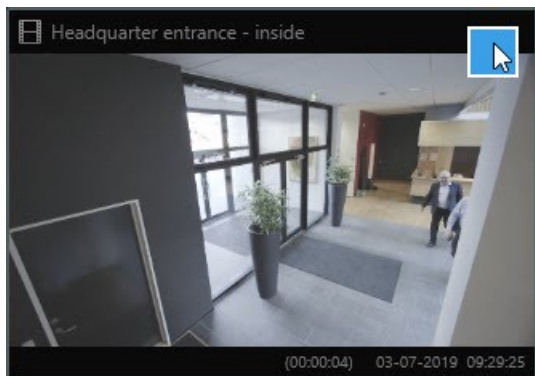
Steps:

1. Switch to live or playback mode.
2. To search a single camera:
  1. Hover over the view item. The camera toolbar appears.
  2. Click . A new **Search** window opens, and a search for recorded video starts immediately based on the camera in the view item.
3. To search all cameras in a view:
  1. Make sure the correct view is open.
  2. At the top of the view, click . A new **Search** window opens, and a search for recorded video starts immediately based on the cameras in the view.
  3. Depending on your goal, change the time span, search categories and filters, or similar. For more information, see [Searching on page 174](#).

### Open search results in detached windows


You can open a search result in a new window. The window opens in playback mode allowing you to investigate the incident using the main timeline and perform other actions, for example exporting video.

1. Hover over the search result and select the blue check box that appears.



2. The blue action bar appears:

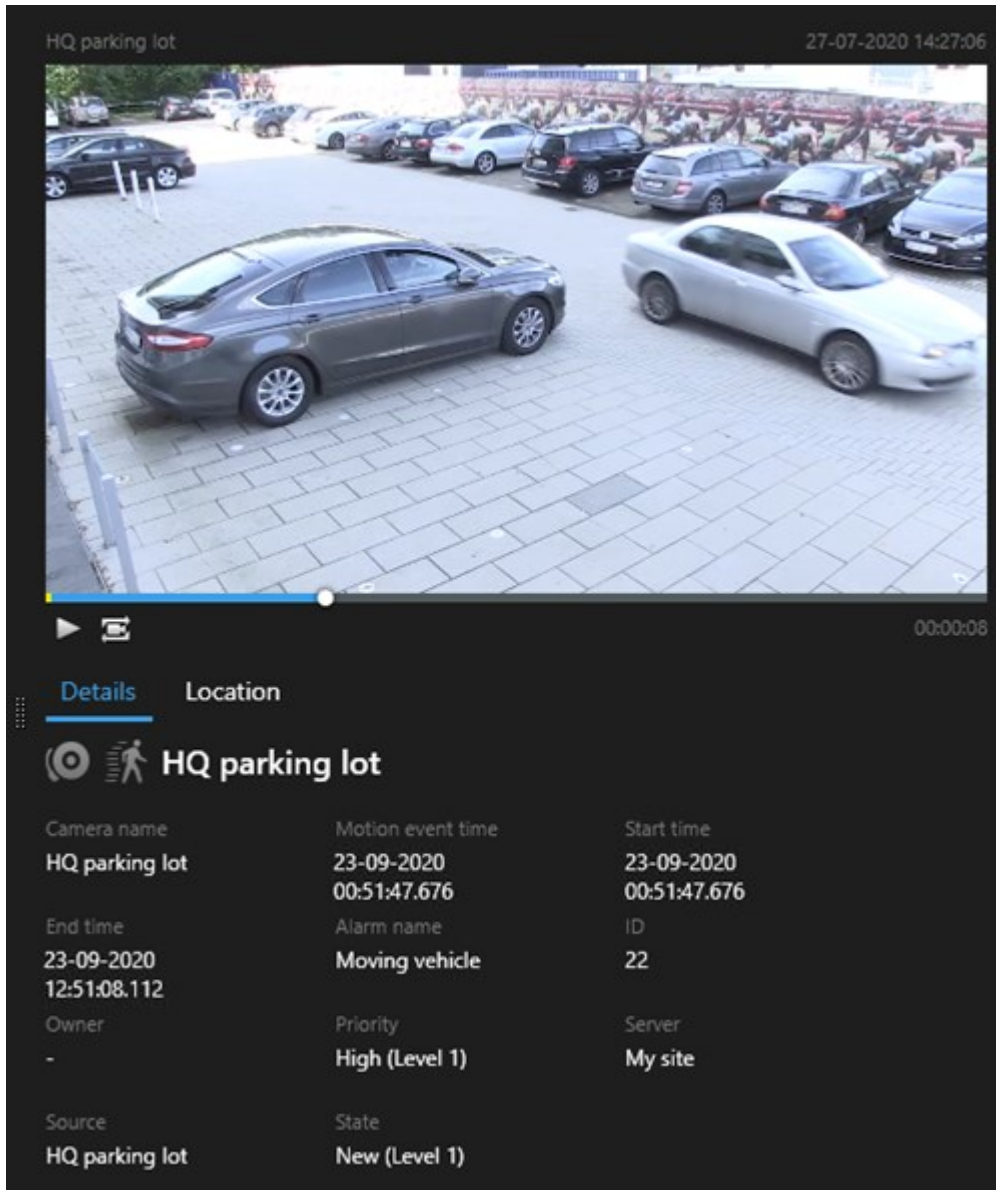



3. Click  to open the search result in a new floating window in playback mode.
4. To move the window to a different monitor, click and drag the window and release when appropriate.

### Preview video from search results

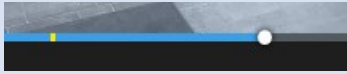
To determine whether you have found the video sequence you were looking for, you can do a quick preview.

1. When you have run a search on the **Search** tab, select a search result. A still image from the associated video sequence appears in the preview area.

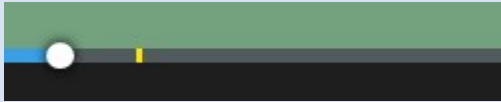


2. Click  to play back the video.
3. To preview the video in full-screen mode, double-click the individual search results. Double-click again to return to the search results.
4. Scroll with your mouse wheel to zoom in or out. You can even click and drag to zoom in on a specific area.

The yellow marker in the search timeline indicates the event time. Hover over the marker to view the event time.



Multiple markers appear in the same search timeline when search results are combined.



This happens, for example, if you have searched for **Motion** and **Vehicles**, and the search result match both criteria. In this example, one marker would indicate when the motion started. The other marker would indicate when the vehicle was identified as a vehicle.

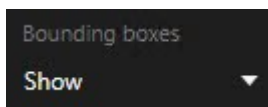
### Show or hide bounding boxes during search

During search, bounding boxes help you identify objects, for example based on motion detection. You can turn the bounding boxes on or off.



The bounding boxes mostly appear in the thumbnail images of your search results. However, if your VMS system is configured to search for metadata, bounding boxes may also appear when you preview video from the search results.

1. Go to the **Search** tab and run a search.
2. In the upper-right corner below **Bounding boxes**, do one of the following:
  - Select **Show** to make the bounding boxes appear
  - Select **Hide** to hide the bounding boxes



### Search sorting options

You can sort your search results by:



Name	Description
<b>Relevance</b>	<p>This sorting option is only available if you are using one of these products:</p> <ul style="list-style-type: none"> <li>• XProtect Corporate</li> <li>• XProtect Expert</li> </ul> <p><b>Relevance</b> means different things depending on how your search is configured:</p> <ul style="list-style-type: none"> <li>• None or one search category selected - the search result with the newest event time is displayed first</li> <li>• Multiple search categories selected/<b>Match any criterion</b> - the search result with most matching search categories is displayed first. If two search results have the same number of matching search categories, the search result with the newest event time is displayed first</li> <li>• Multiple search categories selected/<b>Match all criteria</b> - the search result with most event times is displayed first. If two search results have the same number of event times, the search result with the newest event time appears first</li> </ul>
<b>Newest event time</b>	Search results with the most recent event time appear first.
<b>Oldest event time</b>	Search results with the oldest event time appear first.
<b>Newest start time</b>	Search results with the most recent start time appear first.
<b>Oldest start time</b>	Search results with the oldest start time appear first.

## Locating cameras on maps

### Locate cameras while searching

If your VMS system is configured to use smart map , you can view the geographical location of the cameras in a smart map preview while searching for video and related data.

### Requirements

- You are using one of these XProtect products:

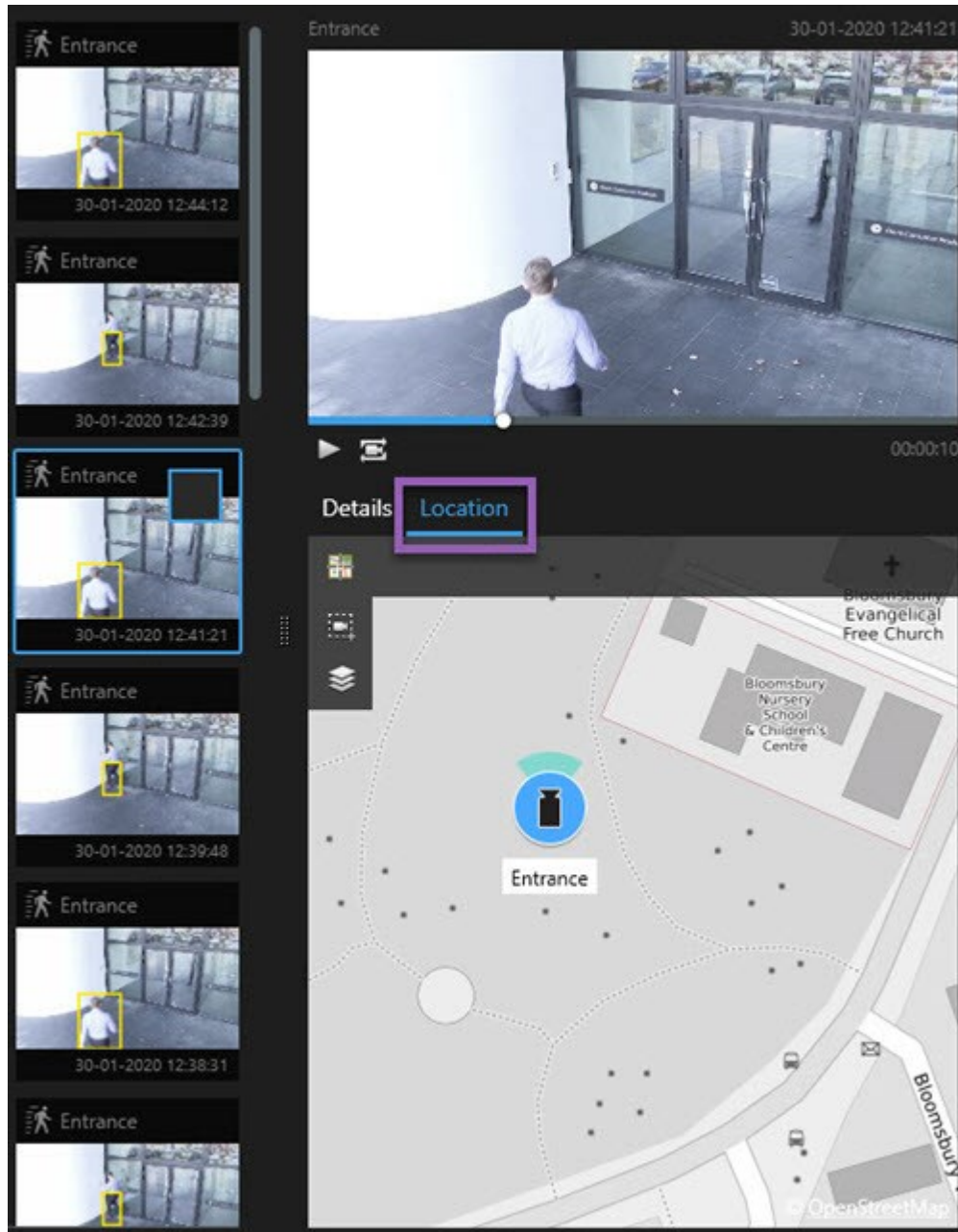
- XProtect Corporate
- XProtect Expert




- Cameras must be geographically positioned. If in doubt, ask your system administrator

Steps:

1. Select the search result that you are interested in.



2. In the preview area, click **Location**. The camera is displayed in its geographic context.
3. To get an overview of the surroundings, you can zoom out with the scroll wheel on your mouse, or if the camera is a PTZ camera, you can pan.
4. To return to the camera, click  **Re-center**.





Source cameras and related cameras are defined in XProtect Management Client as part of the alarm definition.

### Camera icons



The icons described in this topic appear only in the **Location** area on the **Search** tab. For camera icons on smart maps, see [How alarms look on a smart map on page 122](#).

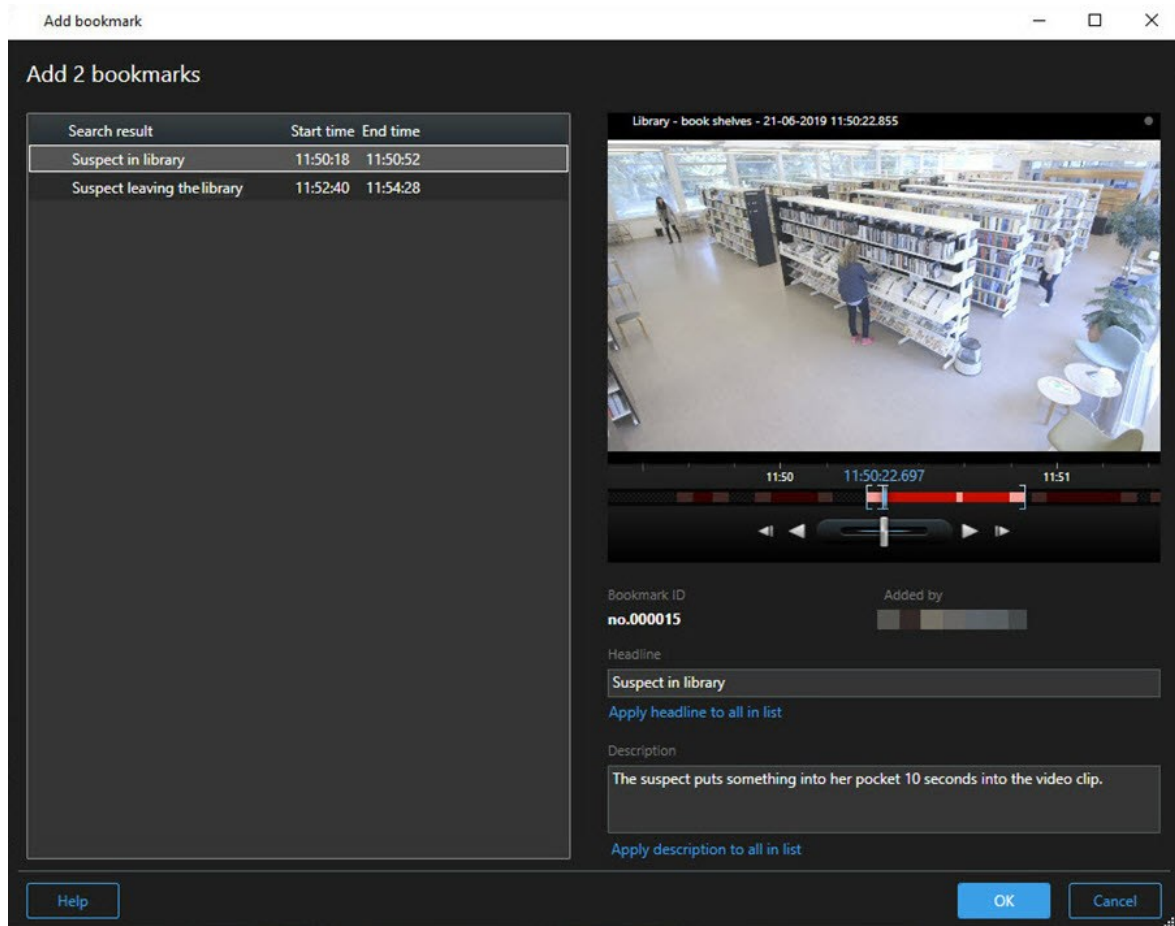
- Gray background indicates that you have *not* selected the camera
- Blue background indicates that you have selected the camera

Icon	Tabs/modes	Description
	Search tab	The camera is not associated with any of the search results.
	Search tab	You have selected the search result that the camera is associated with.

### Bookmark search results

To document or share incidents that you have found by searching, you can bookmark multiple search results at the same time. Bookmarking incidents allows you or other operators to find the incidents later.

1. For each search result that you want to bookmark, hover over it and select the blue check box .
2. In the blue action bar, click . A window appears. The picture reflects the situation where you have selected two search results.



3. Select the search results one by one to add details to the bookmarks and follow these steps:
  1. To change the default time span, drag the handles in the search timeline to a new position.



2. Enter a headline and possibly also a description of the incident.
3. If you want the same headline or description to apply to all the bookmarks, click:
  - **Apply headline to all in list**
  - **Apply description to all in list**
4. Click **OK** to save the bookmarks. A progress bar informs you when the bookmarks are created.





If XProtect Smart Wall is set up in your system, click **Display on Smart Wall** to send a bookmark to a monitor in a Smart Wall.

### Take snapshots from search results

To save and share still images from your search results, you can take multiple snapshots at the same time.

Steps:


1. When you have performed your search, hover over the search results, one by one, and select the check box .
2. In the blue action bar, click  and select **Create snapshot**. A progress bar informs you when the snapshots are created.
3. To locate the snapshots on your computer, go to the location that is specified in the **Settings** dialog > **Application** > **Path to snapshots**.


### Edit bookmarks from search results

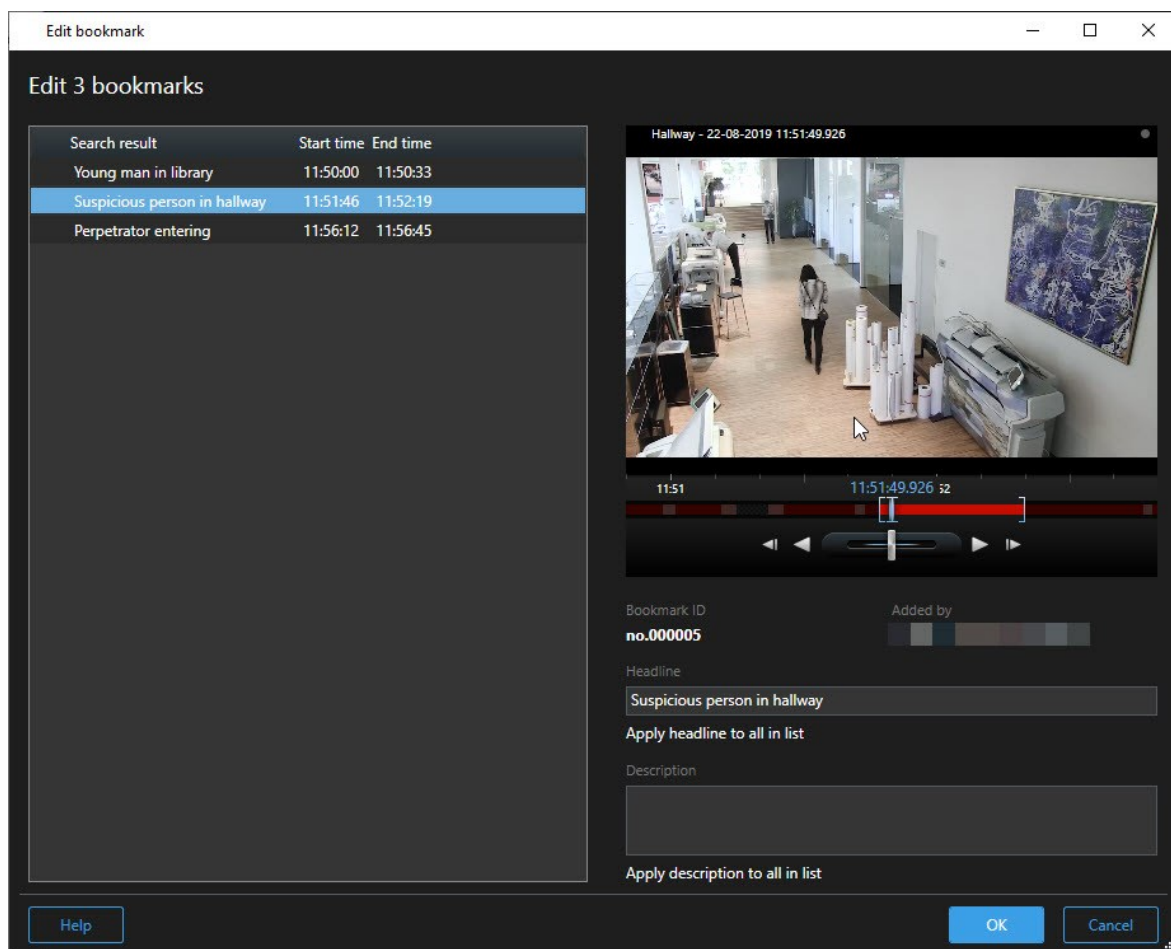
You can edit the details of bookmarks in your system, for example the time span, headline, and description. You can also edit multiple bookmarks at the same time.

#### Requirements

You must have the user permissions to edit bookmarks. This is done by your system administrator in Management Client under **Roles** > **Overall Security**.

1. On the **Search** tab, find the bookmarks that you want to edit. When you perform the search, make sure that you have selected **Search for** > **Bookmarks**.
2. For each bookmark that you want to edit, hover over it and select the blue check box .

3. In the blue action bar, click . A window appears.




4. Select the search results one by one to edit the details, for example time span, headline, and description.
5. Click **OK** to save your changes. A progress bar informs you when the changes are saved.



If XProtect Smart Wall is set up in your system, click **Display on Smart Wall** to send the bookmarks a video wall.

### Transfer the search time to the main timeline

When you are previewing a search result on the **Search** tab, you can synchronize the time in main timeline with the time in the search timeline. This is useful if, for example, you have found an incident, and you want to investigate what happened at that time on other cameras.

1. On the **Search** tab, select a search result.
2. In the preview area, click  to transfer the current time in the search timeline to the main timeline. You will stay on the **Search** tab.



3. To check other related cameras, switch to playback mode and select a view that contains the cameras that you are interested in. The main timeline is now in sync with the search result.

## Saving and opening searches

### Managing your searches



This feature is only available in certain XProtect VMS systems. For more information, see the product comparison chart:

<https://www.milestonesys.com/products/software/xprotect-comparison/>

You can save your searches to reuse them and share them with other operators. Depending on your user permissions, you can also access and use the searches made by others, unless they are private. When a search has been saved, you can:

- Change the name and description, and make the search private or public.
- Modify how the search is configured, for example by adding or removing cameras or by adjusting the search categories.
- Delete the searches as they become obsolete.


### Save searches

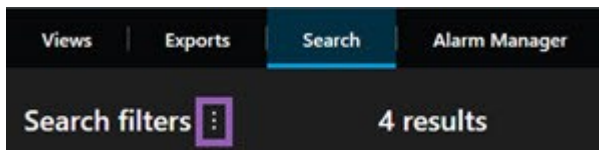
You can save your searches, so you can reuse them later or share them with other operators.

### Requirements

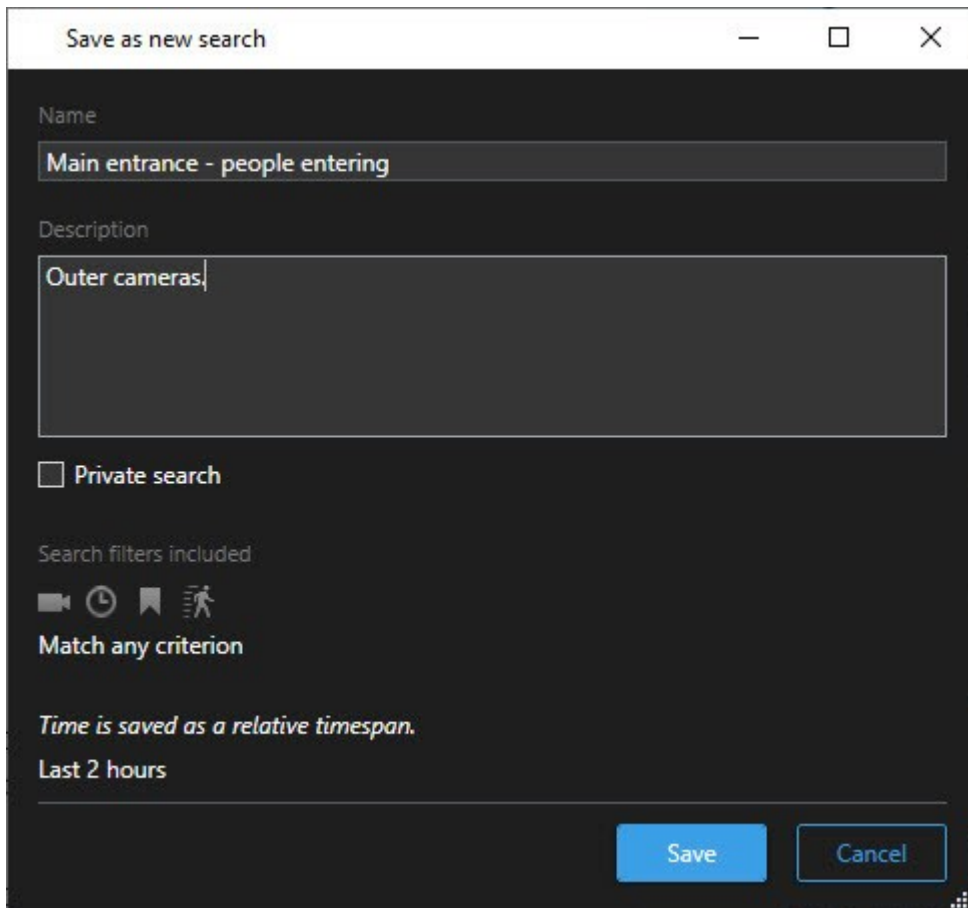
To save new searches that will be available to other users of your VMS system, the **Create public searches** user permission must be enabled on your role in XProtect Management Client.



1. On the **Search** tab, configure your search. See [Searching on page 174](#).
2. Click  to the right of **Search filters**.



3. In the list that appears, click **Save as**. A window appears.



4. Select a name that will make it easy for you to find the search, and possibly also a description. Later, when you use keywords to find the search, the search includes both the **Name** and the **Description** fields.
5. To make the search visible only to you, select the **Private search** check box.
6. Click **Save**. A progress bar informs you when the search is saved.



To get an overview of saved searches, click  and then **Open and manage searches**.

### Watch a quick video tutorial?



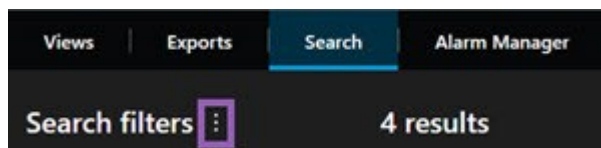
### Find and open saved searches

You can find and open saved searches.

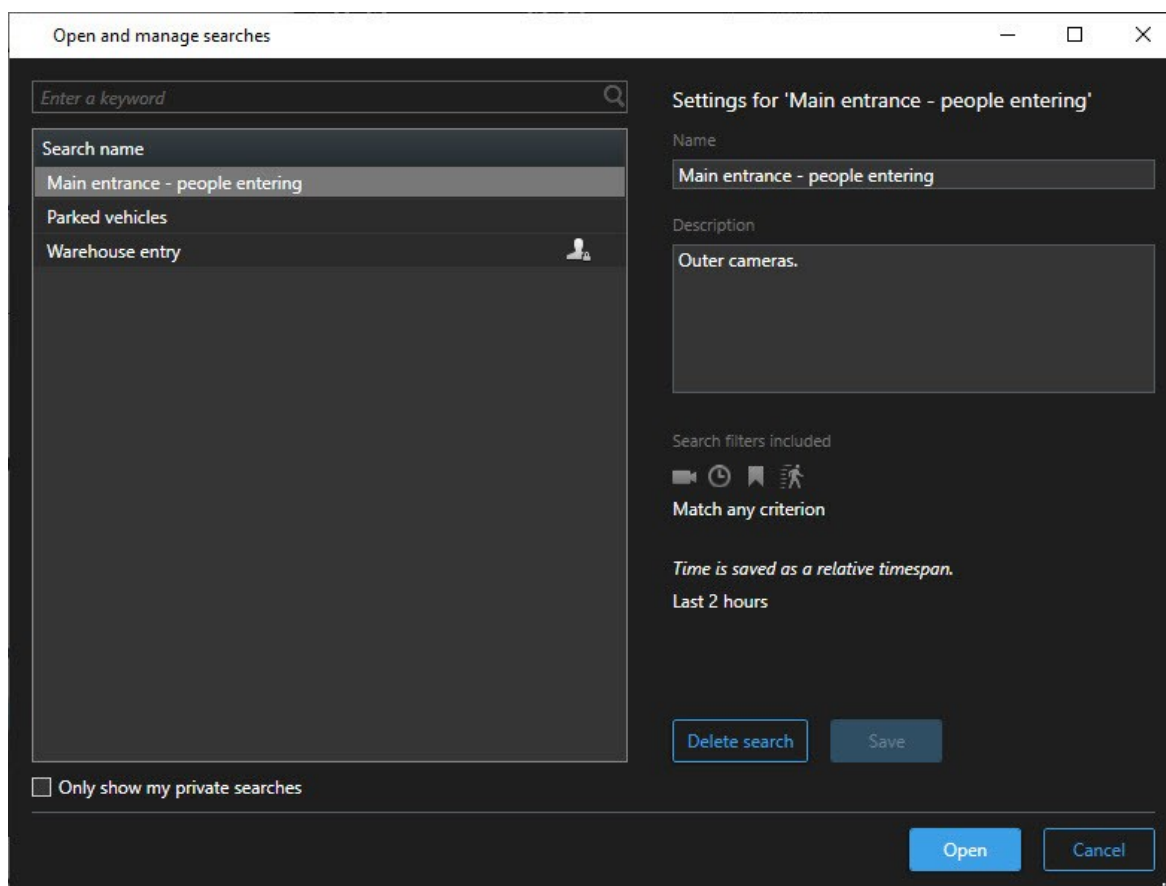
### Requirements

To find and open public searches, the **Read public searches** user permission must be enabled on your role in XProtect Management Client.

1. On the **Search** tab, click  to the right of **Search filters**.



2. In the list that appears, click **Open and manage searches**. A window appears.



3. Find and double-click the search that you want to open, or click **Open**. Immediately, the search is run.



If many searches are listed, you can use keywords to find the search. The search includes both the **Name** field and the **Description** field.

4. You can modify the search, for example by adding cameras. Click  > **Save** to save the changes.

**Watch a quick video tutorial?**



### Edit the details of a saved search

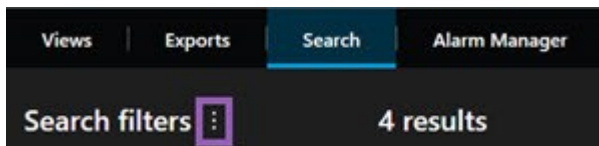
You can change the details of a saved search.

#### Requirements

The following user permissions are enabled on your role in XProtect Management Client:

- To edit a public search, the **Edit public searches** user permission must be enabled

1. On the **Search** tab, click  to the right of **Search filters**.



2. In the list that appears, click **Open and manage searches**. A window appears.
3. Find and select the search that you want to change.
4. Make your changes, for example by entering a name for the search, and click **Save**.

### Change how a search is configured

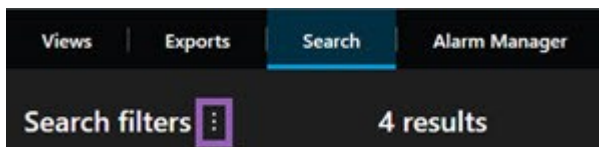
You can change how the search is configured, for example the search categories.

#### Requirements

The following user permissions are enabled on your role in XProtect Management Client:

- To edit a public search, the **Edit public searches** user permission must be enabled

1. On the **Search** tab, click  to the right of **Search filters**.




2. In the list that appears, click **Open and manage searches**. A window appears.

- Find and double-click the search that you want to open, or click **Open**. Immediately, the search is run.



If many searches are listed, use the search function to find the search.

- Modify the search, for example by adding cameras, and click  > **Save**.

### Delete a saved search

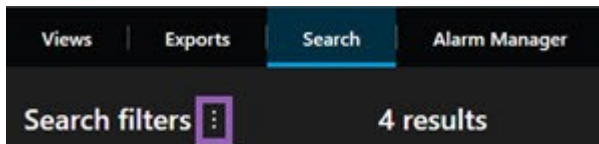
If the searches become obsolete, you can delete them.

#### Requirements

The following user permissions are enabled on your role in XProtect Management Client:

- To delete a public search, the **Delete public searches** user permission must be enabled

- On the **Search** tab, click  to the right of **Search filters**.




- In the list that appears, click **Open and manage searches**. A window appears.
- Find and select the search that you want to delete.
- Click **Delete search**.

### Create a temporary view through search

You can quickly create a temporary view by searching for cameras.

- On the **Views** tab, use the **Search views and cameras** field to search for cameras.

Additionally, you can select  next to the search field to use common search keywords.


- Select a view from the search results.
- Select one or more cameras (use **Ctrl** or **Shift** to select multiple cameras) and then press **Enter** to create the temporary view.

If you want to save your view, on the workspace toolbar, select **Setup**.

### FAQ: searching


**Can I start search from individual cameras?**

Yes. When you are looking at a specific camera in live or playback mode, you can send the camera to a new

**Search** window. To start search, click  in the camera toolbar.

### Can I start search from all cameras in a view?

Yes. When you are looking at cameras in a view in live or playback mode, you can send these cameras to a new

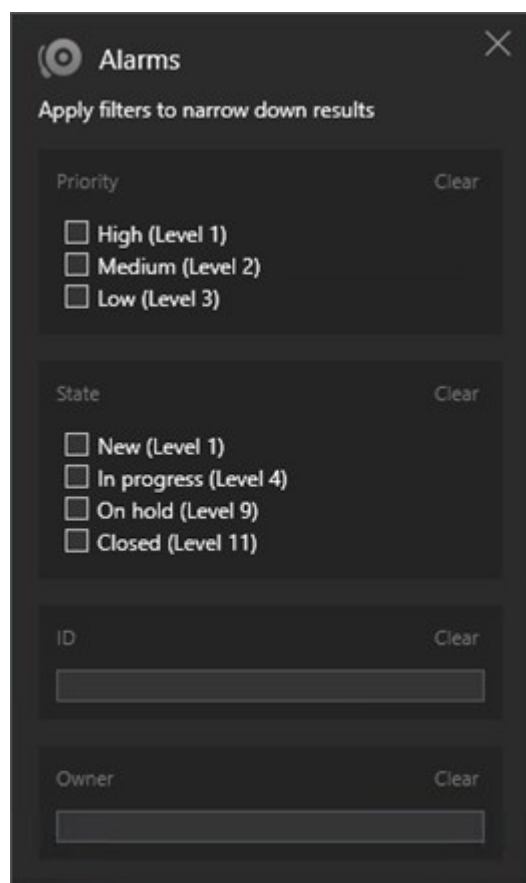
**Search** window. To start search, click  above the view.

### I am running a search, but even after a while XProtect Smart Client still seems to be searching. Why is that?

If the **Duration** covers a wide timespan, for example two weeks, or you have selected many cameras, there may be thousands of search results, and it may take a while for XProtect Smart Client to find all the search results.

Milestone recommends that you refine your search to narrow down the search results.

### How do filters work with search?



When you apply multiple filters, for example both **Priority** and **State**, you filter for results that match all the applied filters.

When you select multiple values within one filter, for example **High**, **Medium**, and **Low** within the **Priority** filter, you filter for results that match at least one of those values.

### Why are some of the thumbnail images grayed out?

A grayed out thumbnail image in the list of search results means that currently no recordings are available for the camera at trigger time. There may be multiple reasons, for example that the recording server is down.

### Why is the action that I need not available in the action bar?

After selecting a search result, certain actions may not be available in the blue action bar.



This happens if you select a search result that matches more than one search category at the same time, and the action that you are trying to perform does not support one of those search categories.

Example: You search for **Bookmarks** and **Motion**, and one of the search results contain both motion and a bookmark. In this case, editing or deleting the bookmark is not possible.



The scenario described in this section may also apply to actions pertaining to third-party software that is integrated with your XProtect VMS system.

### Why is the action that I need only applicable to some of my search results?

If you are trying to use one of the actions in the blue action bar on multiple search results, you may see a tool tip informing you that the action can only be applied on a subset of the search results.



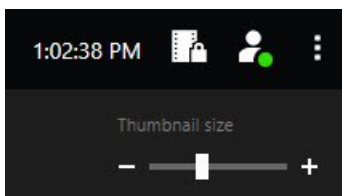
This happens when at least one of the selected search results is not supported by the action that you are trying to perform.



The scenario described in this section may also apply to actions pertaining to third-party software that is integrated with your XProtect VMS system.

### The thumbnail images in the search results are too small. How do I make them bigger?

You can increase the size of the thumbnails by dragging the slider in the image to the right.



### I am trying to save a new search. Why is the Private search check box disabled?

If the **Private search** check box is grayed out and preselected, you do not have the permissions to **Create public searches**. The search that you are about to save is only available to you.

**I am trying to open or find a search. Why is the Only show my private searches check box disabled?**

If the **Only show my private searches** check box is grayed out and preselected in the **Open search** or **Manage searches** window, you do not have the permissions to **Read public searches**. You can only view your own private searches.

**I have changed a search. Why can I not save the changes?**

If you change how an existing search is configured, for example if you have added a camera, and the **Save** button is disabled, you do not have the permission to **Edit public searches**. Also, you will not be able to change the details of the search, for example the name and description.

**Why can I not delete a search?**

If the **Delete** button is disabled in the **Manage searches** window, you do not have the permission to **Delete public searches**.

**What happened to smart search?**

When the **Sequence Explorer** tab was retired, smart search was moved to the **Search** tab. To use the smart search feature, create a search, select **Motion**, and finally unmask an area. See also [Search for motion in defined areas on page 178](#).

**What is the difference between start time and event time?**

When you search for video recordings on the **Search** tab, each search result has a start time, end time, and event time. The start time and end time indicate the beginning and end of an event, respectively. The event time is the most interesting or important part of the video sequence. For example, if you are searching for motion, the event time is when the motion starts. Or, if you are identifying objects, the event time is the time of the most reliable identification.

**I am searching for bookmarks. Will the search find bookmarks where the start time or end time falls outside of the search timespan?**

Yes. As long as there is an overlap in time, bookmarks will be found. Here is an example: If the search timespan is today between 1:00 pm and 3:00 pm, and there is a bookmark where the start time is today 11:00 am and the end time is today 2:00 pm, then the bookmark will be found.

**What is a relative timespan?**

When you save a search where you have selected a predefined timespan, for example **Last 6 hours**, you will be notified that the timespan is relative. It means that the last six hours are relative to your current time. Regardless of when you run the search, it will always return search results from the last six hours.

## Troubleshooting: searching

### Error messages and warnings

#### Unable to create report



You have tried to create a surveillance report based on one or more search results, but the report could not be created. There may be different reasons:

- You have already created a report with the same name in the same location, and the report is currently open. To resolve the issue, close the report, and try again.
- You do not have the user permissions to save reports in the report destination. To resolve the issue, specify a different path in the **Create report** window.

**You cannot open this search, because certain data sources are not available to you**

These are some of the possible reasons why you cannot open the search:

- The person who created the search used one or more search categories that are not available to you. To resolve the issue, create a new search.
- The search that you are trying to open uses search categories that are not available in the version of XProtect Smart Client that you are using. To resolve the issue, download a newer version of XProtect Smart Client.
- The search categories that are not available to you may require additional licenses. Please contact your system administrator.

**This device has not been placed on the smart map**

You have selected a search result, but the associated device is not displayed on the smart map in the preview area. The reason is that the device has not been geographically positioned. To resolve this issue, do one of the following:

- Go to your smart map and add the device. See [Add devices to smart map on page 290](#).
- Ask your system administrator to specify the geo coordinates in the device properties in XProtect Management Client.

## Working with recordings from edge storage and Milestone Interconnect

### Recordings from edge storage and Milestone Interconnect

There are two types of cameras with edge storage:

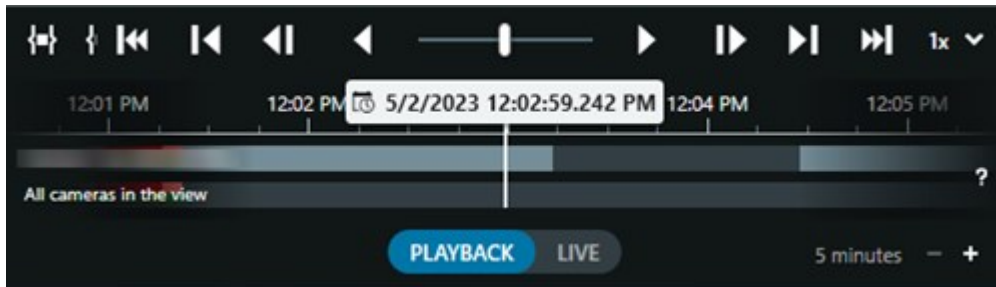
- Cameras with memory cards on which the recordings are saved.
- Interconnected cameras that are part of another XProtect VMS installation and that you have access to through Milestone Interconnect™.

When you have the necessary user permissions, you can manually retrieve recordings from cameras with edge storage. Retrieval of recordings can also happen automatically through rules defined by your XProtect VMS administrator. See also the Milestone Interconnect setups section in the administrator manual for XProtect VMS.

## The main timeline and edge retrieval

If you select a camera with edge storage, the light and medium gray colors on the timeline tracks show whether the recordings on an edge storage are retrieved to your local recording server:



- The light gray color with the legend **Unknown** indicates that the recordings are not retrieved. Before a retrieval attempt, you can't see if there are recordings to retrieve from the edge storage.
- The medium gray color with the legend **Data requested** indicates that retrieval is in process.



When the recordings are retrieved, the timeline tracks use the same colors as for all your recordings. See [Color legend on page 58](#).

## Retrieve recordings manually

You can manually retrieve recordings to store them on your recording servers. Usually, you do this when an incident has occurred that you want to investigate and/or when you need to store the recordings for a longer time.

1. Select a camera with edge storage.
2. In the main timeline, select **Set start and end time on timeline**  to select the start and end time of the relevant recordings.
3. In the workspace toolbar in the top-right corner, select **Retrieve data** .
4. Optionally, select more cameras that you want to retrieve recordings from.
5. Select **Start retrieval**.

In the notification area at the top, you can view the progress or stop the retrieval job.

## View all edge retrieval jobs

If you want to see all ongoing and recent retrieval jobs started by rules, yourself, or other operators, in the top-right corner, in the **Settings and more** menu, select **Server jobs**. You can see the status of the retrieval jobs and stop ongoing jobs if needed.

## Using evidence locks

### Evidence locks

With the evidence lock functionality, you can protect video sequences from being deleted, for example while an investigation or trial is ongoing. This protection also covers audio and other data from devices related to the selected cameras.

You can add, edit, and delete evidence locks, but you can also export them and play back video with evidence locks. You can create evidence locks when in playback mode or on the **Search** tab.

Once an evidence lock is in place, the system prevents the data from being deleted automatically based on the retention time of the system.



Depending on your user permissions, you may be able to create, view, edit, and delete evidence locks.

### Create evidence locks in playback mode

You can create an evidence lock to prevent video recordings and related data from being deleted.

1. In the main timeline, select **Set start and end time on timeline** or **Set start and end time in calendar**.



2. Select the start and end time for the video sequences you want to protect from deletion.
3. Select the cameras that have video sequences and data from related devices that you want to protect.

4. In the upper right corner, click **Evidence lock > Create**. A window appears.



5. Give the evidence lock a headline and, optionally, a description.
6. For information about the remaining fields, see [Evidence lock settings on page 216](#).
7. Click **Create**. If the evidence lock was created successfully, you can click **Details** to see what went well and what did not. See [Evidence lock status messages on page 217](#).

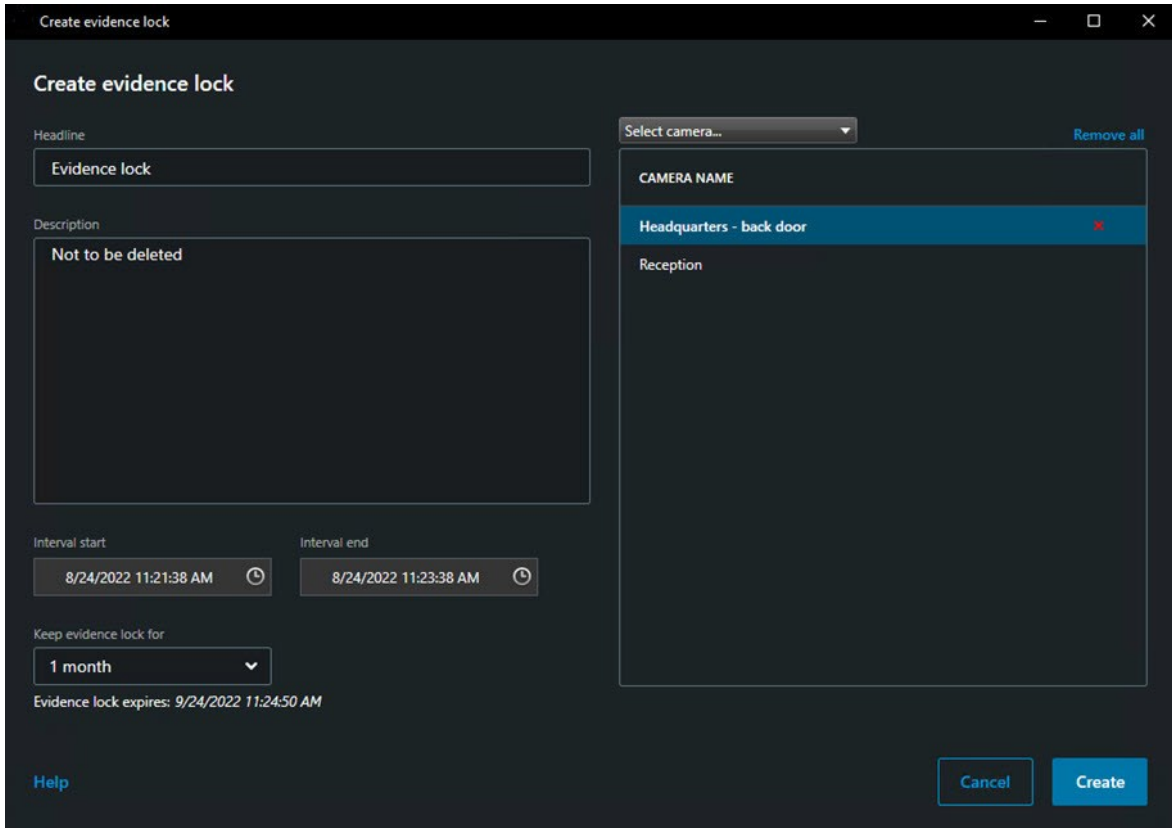
## Create evidence locks on the Search tab

You can create an evidence lock to prevent video recordings and related data from being deleted.

1. In the list of search results, select the video sequences that you want to protect from being deleted. The action bar appears. Data from related devices will also be protected.



2. Click  >  **Create evidence lock**. In the window that appears, the cameras associated with the selected search results are listed.



**Create evidence lock**

Headline  
Evidence lock

Description  
Not to be deleted

Interval start  
8/24/2022 11:21:38 AM

Interval end  
8/24/2022 11:23:38 AM

Keep evidence lock for  
1 month

Evidence lock expires: 9/24/2022 11:24:50 AM

Select camera... Remove all

CAMERA NAME

Headquarters - back door

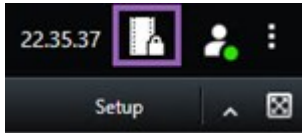
Reception

Help Cancel Create

3. Give the evidence lock a headline and, optionally, a description.
4. The time span covers all the selected search results. To change the time span, use the **Interval start** and **Interval end** fields.
5. For information about the remaining fields, see [Evidence lock settings on page 216](#).
6. Click **Create**. A window appears informing you about the progress of the evidence lock. Click **Details** to see what went well and what did not. See [Evidence lock status messages on page 217](#).

## View evidence locks

1. Switch to playback mode.
2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.
3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.



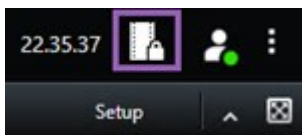
A list of existing evidence locks with devices that you have permission to access appears.

4. Search for text in the headlines and descriptions, sort the different columns and/or use the filter options to make it easier to find the wanted evidence lock.
5. Select an evidence lock and click **Details** to see the cameras included in the evidence lock and other information.

## Edit evidence locks

Depending on your user permissions, you can edit evidence locks, for example time interval, cameras, and how long to keep the evidence lock.

1. Switch to playback mode.
2. In the upper the right corner, click **Evidence lock** and select **View**, or select **Evidence lock** on the global toolbar.

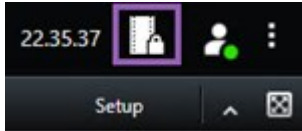


3. Select an evidence lock and click **Details**. A window appears.
4. To make the interval of the evidence lock shorter or longer, use the **Evidence lock interval start** and **Evidence lock interval end** fields.
5. To change the time that the evidence lock is valid for, select a value in the **Keep evidence lock for** list.
6. When done, click **Update**.
7. A window shows if the update was successful. Click **Details** to see what went well and what did not. See also [Evidence lock status messages on page 217](#).

## Play back video with evidence locks

You can always play back video in playback mode regardless if the video is protected or not. If you want to play back video sequences that are included in a specific evidence lock, do the following:

1. Switch to playback mode.
2. In the upper right corner, click **Evidence lock** and select **View**.
3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.



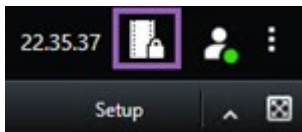
A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Play back**. A new window opens and you can see a view with all the cameras in the evidence lock.
5. Use one of the timeline controls to go to a specific time or simply click **Play forward**.

## Export locked video evidence

When you export evidence locks, also the data from devices related to the cameras is included in the export.

1. Switch to playback mode.
2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.
3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.



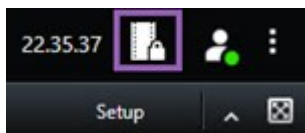
A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Add to export list**.
5. Continue with the export process. See [Adjusting export settings on page 222](#) and [Create an export on page 223](#).

## Delete evidence locks

When you delete an evidence lock, you do not delete the video sequences but do only remove the protection of them. If the video sequences are older than the system's default retention time, the system informs you about this and you can keep the evidence lock to prevent that the video sequences are automatically deleted by the system after the removal of the protection.

1. Switch to playback mode.
2. In the upper right corner, click **Evidence lock** and select **View**.
3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.



A list of existing evidence locks with devices that you have permission to access appears.

4. Select one or more evidence locks and click **Delete**.
5. A window shows if the deletion was successful. Click **Details** to see what went well and what did not.  
See also [Evidence lock status messages on page 217](#).

## Evidence lock settings

Name	Description
<b>Headline</b>	The headline of the evidence lock.
<b>Description</b>	A description of the evidence lock.
<b>Interval start</b>	Adjust the start date and time for the video sequences you want to protect.
<b>Interval end</b>	Adjust the end date and time for the video sequences you want to protect.
<b>Keep evidence lock for</b>	<p>Specify for how long you want to keep the evidence protected.</p> <p>Depending on your user permissions, you have the following options: hour(s), day(s), week(s), month(s), year(s), indefinite, or user-defined.</p> <p>If you select <b>User-defined</b>, click the calendar button to select a date and then adjust the time manually.</p> <p>When done, the date and time for when the evidence lock expires is shown.</p>
<b>Select camera</b>	Click to select more cameras to include in the evidence lock.
<b>Create playback video restriction</b>	Create a playback video restriction on the same video sequence you are creating an evidence lock for.



Name	Description
	The video restriction is not connected to the evidence lock and must be edited, maintained and removed manually.
<b>Remove/Remove all</b>	Click to remove one selected camera or all cameras from the evidence lock.

## Evidence lock filters

Name	Description
<b>Lock interval</b>	Filter your evidence locks based on the start time of the interval they are protected in. Available options are today, yesterday, last 7 days and all.
<b>Created</b>	Filter your evidence locks based on when they were created. Available options are today, yesterday, last 7 days, all and custom interval. If you select custom interval, you select the start and end date in a calendar.
<b>Expiry date</b>	Filter your evidence locks based on when they expire. Available options are today, tomorrow, next 7 days, all and custom interval. If you select custom interval, you select the start and end date in a calendar.
<b>Users</b>	Filter for evidence locks created by all users or just by you.
<b>Cameras</b>	Filter for evidence locks with data from any camera or select one or more cameras that must be included in the evidence locks.

## Evidence lock status messages

Message	Description and result	Scenarios and solution
<b>Succeeded</b>	All went well.	

Message	Description and result	Scenarios and solution
	<p><b>Result:</b></p> <p>The evidence lock is created/updated/deleted.</p>	
<b>Only partially successful</b>	<p>If the creation, update or deletion of an evidence lock was not entirely successful, an only partially successful message is shown and the progress bar is yellow. Click <b>Details</b> to see what went wrong.</p> <p><b>Result:</b></p> <p>The evidence lock is created/updated/deleted but without including some of the selected cameras and/or their related devices.</p> <p>Additionally, this can be because a recording server is offline, in which case the evidence lock is configured, but not yet applied on the actual video. In this case, the evidence lock will be applied to the video when the recording server becomes available. You can verify that the locks are applied by looking at the size of the lock. An indication of size means that the lock is applied.</p>	<p><b>Scenario:</b> Some of the recording servers with devices included in the evidence lock are offline.</p> <p><b>Solution:</b> Wait for the recording server to come online.</p> <p><b>Scenario:</b> One or more devices have recordings on recording servers that are not upgraded to 2020 R2 or later.</p> <p><b>Solution:</b> Upgrade the recording servers to version 2020 R2 or later.</p> <p><b>Scenario:</b> Your system administrator has changed your evidence lock user permissions after you logged into XProtect Smart Client.</p> <p><b>Solution:</b> Contact your system</p>

Message	Description and result	Scenarios and solution
		administrator.
<b>Failed</b>	<p>If the creation, update or deletion of an evidence lock is not successful, a failed message is shown and the progress bar is red. Click <b>Details</b> to see what went wrong.</p> <p>Result:</p> <p>The evidence lock is not created/updated/deleted.</p>	<p><b>Scenario:</b> All the recording servers with devices included in the evidence lock are offline.</p> <p><b>Solution:</b> Wait for the recording servers to come online.</p> <p><b>Scenario:</b> The management server is offline.</p> <p><b>Solution:</b> Wait for the management server to come online.</p> <p><b>Scenario:</b> Only for update and deletion: You do not have user permissions to one or more devices in the evidence lock.</p> <p><b>Solution:</b> Contact your system administrator.</p> <p><b>Scenario:</b> One or more devices have recordings on recording servers that are not upgraded to 2020</p>

Message	Description and result	Scenarios and solution
		<p>R2 or later.</p> <p><b>Solution:</b> Upgrade the recording servers to version 2020 R2 or later.</p>

## Exporting

### Exporting video, audio, and still images

If you need to document an incident that has occurred, for example, to provide legal evidence, you can export a video sequence from XProtect Smart Client. If you need to prove that the video evidence has not been tampered with, you can export it in the XProtect format. If you use this format, you can "lock" the evidence behind a digital signature that verifies the authenticity of the exported video.

You export video and associated audio in different formats. Depending on your VMS system, you can also export still images and other types of data that might be available.

### Types of formats for exports



XProtect Smart Client enables you to export in one or more of the following formats:

Format	Description
<b>XProtect format</b>	Use the XProtect format to include the XProtect Smart Client – Player along with the export. The XProtect Smart Client – Player is the only media player that can play this format. To verify that the exported evidence has not been tampered with, select <b>Export settings &gt; XProtect format &gt; Include digital signature</b> . This setting enables the <b>Verify signatures</b> button in the XProtect Smart Client – Player.
<b>Media player format</b>	<p>Use a format that does not require you to know how to use XProtect, and that most media players can play. You only need to have a media player installed to play this format.</p> <p>There are two ways to export in media player format:</p>

	<ul style="list-style-type: none"> <li>• <b>Individual files:</b> Exports a file for each video sequence you have added to the export list. See also <a href="#">Media player format settings—individual files on page 232</a>.</li> <li>• <b>Combined file:</b> Exports a single file that contains all the video sequences you have added to the export list. There are two layout types of combined file. See also <a href="#">Media player format settings—combined file on page 233</a>.</li> </ul>
<b>Still images</b>	Export a still image file from each frame for the time period you have selected.




## Add video sequences to the Export list

You must add video sequences to the **Export list** before you can create the export. You can add files from several places in XProtect Smart Client:

1. From the **Exports** tab, in the **Export list**, select **Add item** to add the video sequences.
2. From the **Search** tab, for each search result to export, select the blue check box , then select **Add to export list** in the blue action bar. To select all your search results, select one search result and press **Ctrl+A**. In the blue action bar that is displayed, select **Add to export list** .

3. From the **View** tab, in **Playback** mode, you have two options for adding video sequences to the **Export list**:


#### Option 1:

1. In the timeline, select **Set start and end time on timeline**  to select the start and end time of the sequence to export.
2. For each item to include in the export, select the associated check box . If you want to export all your search results at the same time, choose the **Select all** button  on the workspace toolbar in the upper-right corner.
3. Select **Export > Export** to add the selected video sequences to the **Export list**. This action automatically takes you to the **Exports** tab. Alternatively, select **Export > Add to export list** to add the selected video sequences to the **Export list** while you remain in playback mode and can add more sequences to the export list.

#### Option 2:

1. In the **Evidence lock list**, select an existing evidence lock.
2. Select **Add to export list** to add the selected video sequence with evidence lock to the **Export list** and to stay in playback mode, or select **Evidence lock > View > Evidence lock list**.



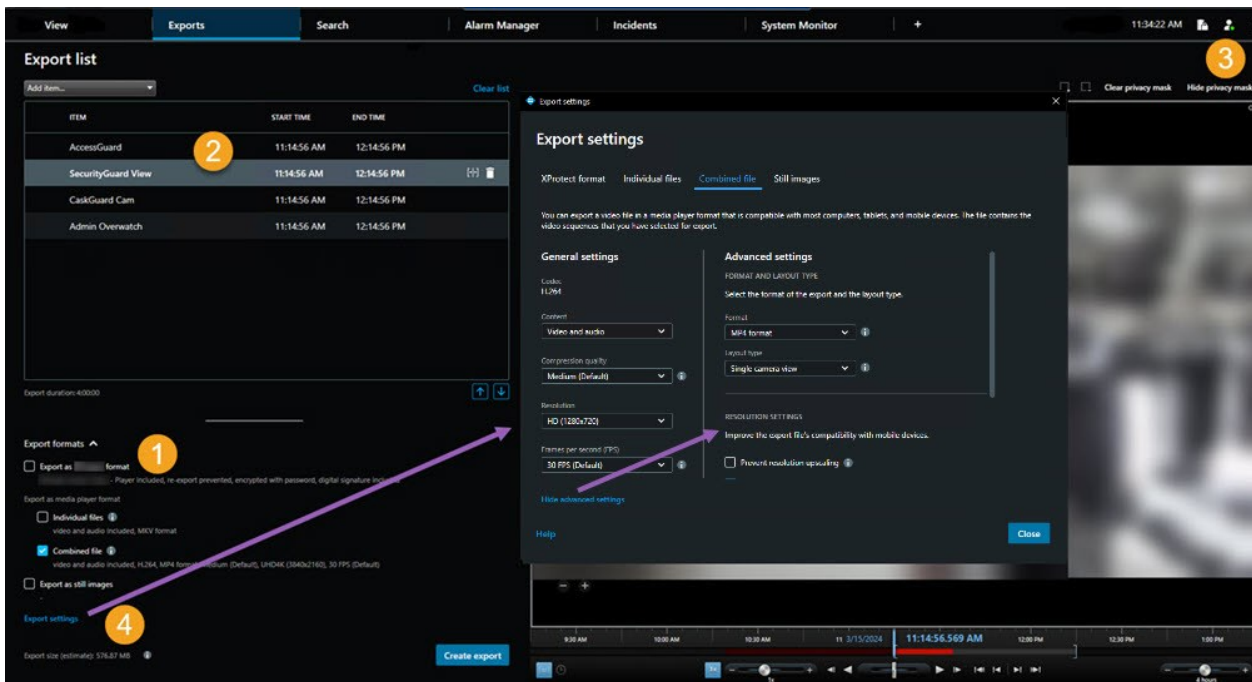
To export several video sequences from the same camera on the **Export list**, select the sequence and click the split camera icon .

#### Watch a quick video tutorial?



## Adjusting export settings

When you have added at least one video sequence to the **Exports** tab > **Export list**, you must also select at least one export format. See [Types of formats for exports on page 220](#). Optionally, you can adjust export settings. See [Export formats on page 229](#).



Under the **Export list**, select at least one export format. See [Types of formats for exports on page 220](#).

For each video sequence on the **Export list**, you can change the **Start time** and the **End time**.

You can add privacy masks to video sequences to cover different video areas. See also [Add privacy masks to recordings during export on page 225](#).

For each format, you can change the **Export settings**. See [Export formats on page 229](#).

## Create an export

When you have added at least one video sequence to the exports list you are ready to generate and export the video.

1. Select an export format:
  - **Export as XProtect format:** if you need to verify that the exported evidence has not been tampered with, export in XProtect format. See also [XProtect format settings on page 230](#).
  - **Individual files** or **Combined file:** export files that can be played in most media players and do not require that the recipient knows how to use XProtect. You only need to have a media player installed to play this format. See also [Media player format settings—individual files on page 232](#) and [Media player format settings—combined file on page 233](#).
  - **Export as still images:** export a still image file from each frame you've selected for export. See also [Still image format settings on page 235](#).
2. Select **Export settings** to adjust the export settings for the export format you've selected. See also [Adjusting export settings on page 222](#).







## Add privacy masks to recordings during export

When you export video, you can add privacy masks to cover selected areas. When someone watches the exported video, the areas with privacy masks appear as solid blocks.



The privacy masks you add here apply to all the video sequences in the current export from the camera you selected in the **Export list**. If you remove a privacy mask from one video sequence, it is also automatically removed from all other video sequences for that camera. The export may already include privacy masks which your system administrator has already defined for certain cameras. See also [Privacy masking on page 113](#).

1. On the **Exports** tab > **Export list**, select the camera you want to add a privacy mask to.
2. For each area you want to add a privacy mask to, click the  button, and drag the pointer over the area.
3. To remove a part of a privacy mask, click the  button, and drag the pointer over the area you want to remove a privacy mask from. Repeat this step for each part you want to remove.



To temporarily hide privacy masks, click and hold the **Hide privacy mask** button.

4. Click **OK** to return to the **Exports** tab.



The preview image contains an invisible grid with cells. If the area you select includes any portion of a cell, the system adds a privacy mask to the entire cell. The result can be that the system adds a privacy masks to slightly more of the image than you intended.



If you export video that contains privacy masks, the export process may take significantly longer and the export file size may be larger than usual, particularly if you export in the XProtect format.



## Storyboards

The storyboard function helps you paste together video sequences from one camera or from multiple cameras into one cohesive flow. You can use the sequence of events, the storyboard, as proof of evidence in internal investigations or the court of law.

You can skip all sequences that are not relevant and avoid wasting time looking through long sequences of video that you do not need. Also, you avoid wasting storage space on stored sequences that do not contain relevant video.

## Export storyboards

You can create a storyboard by pasting together video sequences into one cohesive flow and then export it.

1. In playback mode, start by opening a view that contains items that you want to add to your storyboard.
2. In the timeline, click .
3. Select the start time and the end time for the storyboard.
4. For each item in the view that you want to add, select the corresponding check box  and click **Export > Add to export list**.

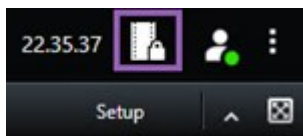
Repeat steps 1-4 until you have added all items that you need for your storyboard.

5. Continue with the export process. See [Adjusting export settings on page 222](#) and [Create an export on page 223](#).

## Export locked video evidence

When you export evidence locks, also the data from devices related to the cameras is included in the export.

1. Switch to playback mode.
2. On the workspace toolbar in the upper-right corner, click **Evidence lock** and select **View**.
3. If you want to stay in live mode instead of in playback mode, select **Evidence lock** on the global toolbar.



A list of existing evidence locks with devices that you have permission to access appears.

4. Select an evidence lock and click **Add to export list**.
5. Continue with the export process. See [Adjusting export settings on page 222](#) and [Create an export on page 223](#).

## View exported video

The exports that you create are stored in the folder that you specified in the **Create export** window > **Export destination** field.

To view the exported video immediately after creating it:

1. In the upper-right corner of XProtect Smart Client, select **Export details**.

In the **Export details** window > **Export location** field, a link shows the location of the output folder.

2. Click the link to open the output folder and to access the exported files.



If you exported video at a previous point in time:

1. Go to the folder where you store exports. The default location is C:\Users\[username]\Documents\Milestone\Video Export. You can check the folder location in the **Create export** window > **Export destination** field. This works only if you always use the same export destination.
2. Depending on the output format, open the relevant folder and double-click the video file or still image. If the format is **XProtect format**, double-click the Smart Client – Player file with the .exe extension.

## Surveillance reports

### Printing or creating surveillance reports

Depending on your needs, you can either print surveillance reports on the fly based on still images from surveillance cameras, or you can create surveillance reports that you save to your computer.

See also [Print alarm reports on page 152](#) and [Get statistics on alarms on page 152](#).


### Print surveillance report from single cameras

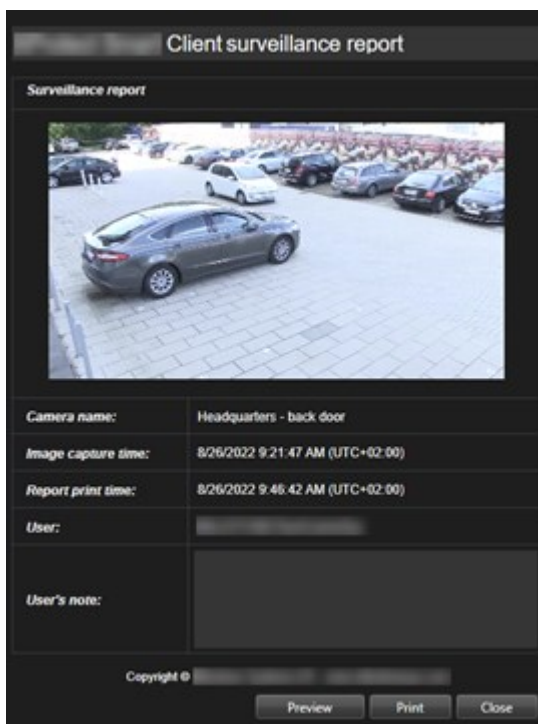
You can print single still images and related information from live cameras or from recorded video. Notes that you add are also printed.

1. To print a recorded still image, switch to playback mode.
2. To print a live still image, switch to live mode.
3. Open the view that contains the camera you are interested in.

4. Hover over the view item. The camera toolbar appears.



5. Click the  icon. A window appears.





6. Add notes if required.
7. Click **Print**. The Windows **Print** dialog appears.
8. If necessary, change the print settings and print. Otherwise, just click **Print**.




You can also print information about alarms if your organization uses the alarm handling features. See [Alarms on page 145](#).

### Create reports from search results

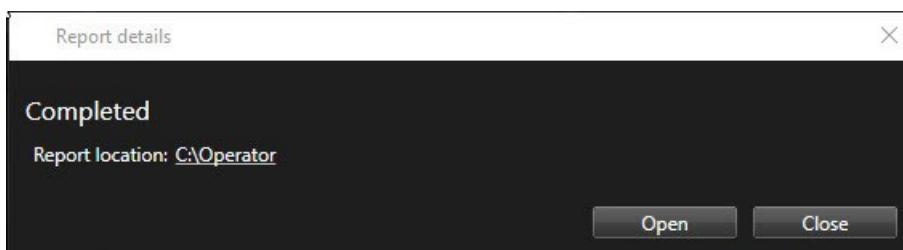
Based on search results, you can create a surveillance report that contains information about the events or incidents, for example still images, event time, information about the cameras, and notes. The report is saved as a PDF file.

1. Go to the **Search** tab and run a search.
2. For each search result that you want to include in the report, hover over it and select the blue check box .
3. In the blue action bar, click . A window appears.

4. Change the default report name into something meaningful. In the report, the name is displayed as the page header.
5. To change the folder that the report is saved to, in the **Report destination** section, click  and select a different folder.
6. Optionally, write a note in the **Report note** field.
7. Click **Create**. A progress bar shows that the report is generated.




8. When the report is generated, select **Details** from the progress bar.
9. Select **Open** to open the report or click the link to open the report's destination folder.



To change the layout of the report, open the **Settings** dialog, click **Advanced**, and then select a different value in the **PDF report format** list.

## Copy images to clipboard

You can copy single still images from selected cameras. Copied images can then be pasted (as bitmap images) into other applications, such as word processors, e-mail clients, etc. You can only copy a single image from one camera at a time.

- On the camera toolbar, click the **Copy to clipboard** button  to copy an image



You can now paste (CTRL+V) the image into your application of choice.

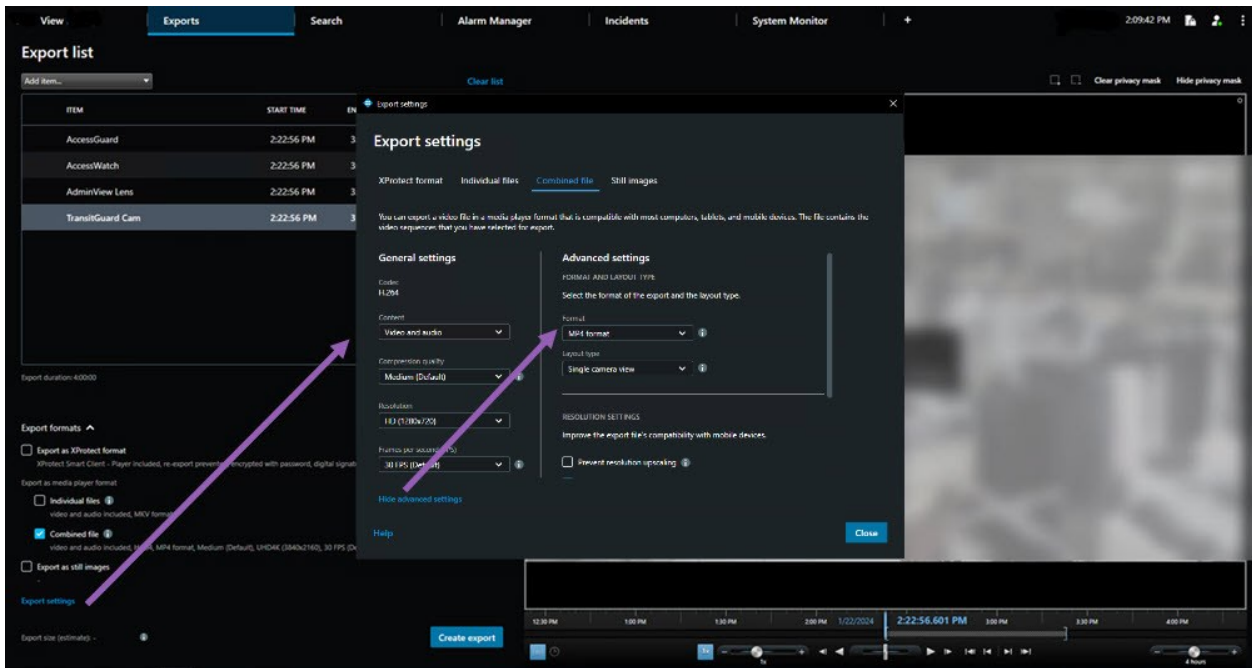
## Export formats and settings

### Export formats

On the **Exports** tab, you can choose which formats to use for the export:

- [XProtect format settings on page 230](#)
- [Media player format settings—individual files on page 232 and Media player format settings—combined file on page 233](#)
- [Still image format settings on page 235](#)

For each format, you can change the **Export settings**:



Your system administrator specifies which formats and which export settings are available to you.

For security reasons, only the XProtect format is available by default. Please contact your system administrator to enable other export formats.


Your export settings are saved. These settings are available the next time you export. If a setting is not available, you do not have permissions to access it.

### XProtect format settings

Choose the XProtect format to create an export that can only be opened on a Windows computer in XProtect Smart Client – Player.




To open exports that are created in XProtect version 2020 R1 or later, you must use XProtect Smart Client version 2020 R1 or later.

Name	Description
<b>Include XProtect Smart Client – Player</b>	Include the XProtect Smart Client – Player application with the exported data. The exported data can only be viewed with the XProtect Smart Client – Player.
<b>Prevent re-export</b>	Prevent your recipients from re-exporting the data in any format to ensure that the data has not been tampered with.
<b>Encrypt with password</b>	<p>Encrypt the export using the encryption standard AES-256. When you select <b>Export &gt; Create export</b>, you are asked to enter a password that is at least eight characters long.</p> <p>To open and view the exported data, the recipient of the export must enter the password.</p>
<b>Include digital signature</b>	<p>Include a digital signature to your exported database. Depending on your surveillance system settings, the video or audio might already contain a signature. If this is the case, these signatures will be verified during export and if successfully verified, added to the export. If verification fails, the export for the device will also fail. When opening the exported files, the recipients can verify the signature in XProtect Smart Client – Player.</p> <div>  <p>If you do not include a digital signature, neither the signature from the server or the export will be included, and the export will succeed even if the video or audio has been tampered with.</p> </div> <p>Digital signatures can be excluded during the export process in two different situations:</p> <ul style="list-style-type: none"> <li>• If there are areas with privacy masks, digital signatures for the recording server will be removed from the export</li> <li>• If the data you are exporting is very close to the current date and time, the digital signature for the recording server might not be included for the whole sequence. In this case, only part of the export will have digital signatures added</li> </ul> <p>The export process will complete, but when you verify the signatures, you will see that the digital signatures for the recording server were removed or partially OK.</p>
<b>Comments</b>	Open the <b>Add comments to export</b> window, where you can add comments to individual cameras or to the export project as a whole.

### Media player format settings—individual files

Choose the media player format **Individual files** to export standard video or audio sequences as individual files that the recipient can view or listen to on computers with a standard media player installed. The computer must also have the codec you use for the export installed.

To get the smallest export size possible, select the MKV media player format. If not enabled, please contact your system administrator.

Name	Description
<b>Content</b>	Export video only, audio only, or both video and audio.
<b>Format</b>	Export video in AVI format or in MKV format.
<b>Codec</b>	<p>Your choice of codec affects the quality and size of the AVI file.</p> <p>You can change the codec, but Milestone recommends that you keep the default codec settings, unless you have a good reason to change them.</p> <div>  <p>The codec that you use must be similar to the one you have on the computer where you intend to play the exported video.</p> </div>
<b>Include timestamps</b>	Add the date and time from the VMS system to the exported video. The timestamp is displayed at the top of the exported video.
<b>Reduce frame rate</b>	Reduce the frame rate for the export. Every second image is included, but the export is still played back in real-time.
<b>Video texts</b>	Open the <b>Video texts</b> window where you can create pre- and post-texts for the AVI file. These texts are added to all cameras in the export file and displayed as still images before ( <b>Pre-slides</b> ) or after ( <b>Post-slides</b> ) the video.



**MKV format:** If you have not used privacy masking in video recorded in JPEG or MPEG-4/H.264/H.265 formats, no transcoding takes place on recorded video in the export. The recorded video is kept in the original quality. In contrast, if you have used privacy masks or have recorded video using any other codec, recorded video is transcoded into JPEG in the export.



### Media player format settings—combined file

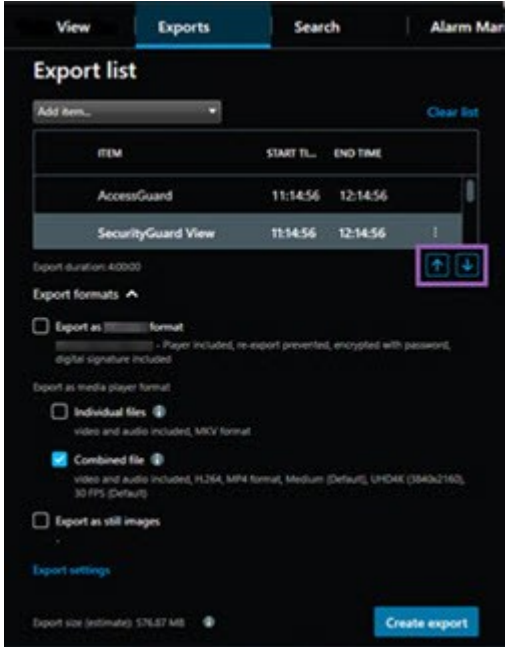
Choose the media player format **Combined file** to export several video or audio sequences from various cameras combined into one file that the recipient can view or listen to on computers with a standard media player installed.

#### General settings

Name	Description
<b>Codec</b>	Displays the codec of the exported video.
<b>Content</b>	Choose video, audio, or both.
<b>Compression quality</b>	The compression quality determines the size of the file you export. The higher the compression quality you choose for the encoder to apply, the bigger the file size you get.
<b>Resolution</b>	The option you select determines the maximum resolution of the output file.  Because multiple video sequences are combined into one video file, the resolution and aspect ratio of individual cameras can change during playback, but only to a lower resolution than you've selected.
<b>Frames per second (FPS)</b>	Frames per second indicate the number of frames shown per second. The higher the number of frames, the bigger the file size you get.

#### Advanced settings

Name	Description
<b>Format and layout type</b>	<b>Format</b> Export video in the MKV format or in the MP4 format.  <b>Layout type</b>



Name	Description
	<ul style="list-style-type: none"> <li>• <b>Single camera view:</b> The exported file plays back the sequences according to the order you have arranged the cameras in the export list. Before you start an export, use the arrows to reorder the files in the export list.</li> </ul>  <ul style="list-style-type: none"> <li>• <b>Adaptive view:</b> The exported file plays back the video in the order it was recorded. If video sequences were recorded at the same time, they are also played back at the same time.</li> </ul>
Resolution settings	<p>To control the output resolution and improve the export file's compatibility with mobile devices, you can use these options:</p> <ul style="list-style-type: none"> <li>• <b>Prevent upscaling:</b> To prevent video from low-resolution cameras from being scaled up and thereby looking grainy, you can select this option to avoid increasing output resolution beyond its original size.</li> <li>• <b>Add padding:</b> Combining video sequences from different cameras into one file can change the resolution during playback which some media players do not support. This option adds padding around the video to ensure that the resolution is the same throughout.</li> </ul>
Additional information	<ul style="list-style-type: none"> <li>• <b>Include timestamps:</b> Displays the video's time of recording as an overlay on the video.</li> <li>• <b>Include camera names:</b> Displays the camera name as an overlay on the video.</li> </ul>

### Still image format settings

Choose the still image format to export a still image for each frame of each video sequence. The images are in the JPEG format.

Name	Description
<b>Include timestamps</b>	Add the date and time from the VMS system to the exported images. The timestamp will be displayed at the top of the exported images.


### Settings on the Exports tab

Name	Description
<b>Export list</b>	<p>Lists the items selected for export, for example video sequences.</p> <p>For each item, you can change the time span by clicking the start time or the end time. After selecting a new date and time, click <b>Go To</b>. You can also change the time span by dragging the handles underneath the preview area.</p> <p>Click an item to see a preview of the sequence in the preview area.</p> <p>You can remove an item from the <b>Export list</b> by clicking the <b>Remove</b> icon  next to it. If you want to split the item into two, click the <b>Split</b> icon  in the preview area.</p>
<b>Add item</b>	Use the <b>Add item</b> button to select other items that you want to include in the export.
<b>Remove all</b>	Use the <b>Remove all</b> button to clear the <b>Export list</b> .
<b>Export name</b>	The program automatically fills this in with the local date and time, but you can rename it.
<b>Export destination</b>	<p><b>Path</b> - when you specify a path, the folders you specify do not have to be existing ones. If they do not already exist, they are created automatically.</p> <p>A path may already be suggested in this field.</p> <p><b>Media burner</b> - you can specify a burner that you want to send the export to. In this way, you create the export and make sure it is written directly to an optical media in one go.</p>

Name	Description
<b>Privacy mask</b>	<p>Click to add privacy masks to the video. The privacy masks cover the selected area with a solid, black area.</p> <p>The privacy masks that you add here only apply to the current export and for the selected video. The export may already include video with privacy masks configured by your system administrator. For more information, see <a href="#">Privacy masking on page 113</a>.</p>

## Repair a database exported in XProtect format

If an exported database in XProtect format is corrupt, you can repair it by opening it with XProtect Smart Client – Player.

1. Open the folder that contains the exported video and run the SmartClient-Player.exe file.
2. If the exported video is password protected, enter the password.
3. Select **Connect**.
4. Select the **Setup** button in the upper-right corner.
5. Expand the **Overview** pane and select **Open database** .



Do never attempt to open a live database or live archive with XProtect Smart Client – Player, as this may damage the indexing of your recordings, and as a result, they become unavailable.

6. Select the folder containing the relevant exported database. The default folder for databases with exported video is C:\Users\[user name]\Documents\Milestone\Video Export\[name of export]\Client Files\Data\Metadata\[name of device]. When you select an exported database, the device name appears next to the **Camera**, **Microphone**, or **Speaker** field.



If the system cannot identify a camera, for example, when you open archived recordings, the device name will be **Unknown** and all three types of devices will be added as **Unknown** devices (even if they don't exist) with the exported database file name assigned. If there is no device, the field contains **N/A**.

7. If the exported database you're trying to open is corrupt, the wizard repairs it.

## FAQ: exporting

### Can I export audio too?

When exporting in the media player and in the XProtect formats, you can—if your surveillance system supports this—include recorded audio in the export. Export in the XProtect format is only available if connected to selected surveillance systems. When exporting in the still image format, you cannot include audio.



#### **If I export a bookmarked sequence, what is included in the export?**

The entire bookmarked sequence (see [Adding bookmarks on page 155](#)) is included, from the specified start to the specified end time.

#### **Can I include local video clip files in my export?**

No, you can only include sequences from cameras or other devices that are connected to your VMS system.

#### **If I export a sequence, what is included in the export?**

The entire sequence, from the first image of the sequence to the last image of the sequence.

#### **If I export a sequence with an evidence lock, what is included in the export?**

All data protected from deletion is included: all the cameras and data from devices related to the cameras, from the first to the last images of the selected interval.

#### **Can I export fisheye lens recordings?**

Yes, provided your surveillance system supports the use of 360° lens cameras (i.e. cameras using a special technology for recording 360° images).

#### **What can I do to reduce the file size of the export?**

You cannot compress the export files to reduce the size of the export. To get the smallest export size possible, select the MKV media player format. If not enabled, please contact your system administrator.

#### **Why can't I specify an export path?**

You can usually specify your own path, but if you are connected to certain types of surveillance systems, the surveillance system server may control the export path setting and you cannot specify your own path. See [Your organization's XProtect products and extensions on page 27](#).

#### **Why have digital signatures been removed in my exported video?**

There are two scenarios where digital signatures are excluded during the export process:

- If there are areas with privacy masks, digital signatures for the recording server will be removed in the export.
- If the data you are exporting is very close to the current date and time, the digital signature for the recording server might not be included for the whole sequence.

The export process will complete, but when you verify the signatures, you will see that the digital signatures for the recording server were removed or only partially added.

#### **Can I protect the evidence I export from being tampered with or ending in the wrong hands?**

Yes. When you export in the XProtect format, you can protect the exported evidence with a password and add a digital signature to the exported material. You can also prevent your recipients from re-exporting the material. See [XProtect format settings on page 230](#).

## Troubleshooting: Exporting

### At least one database file is using an unsupported encryption algorithm

If you see this warning, your current XProtect VMS system uses AES-256 for encrypting exported video data to comply with the FIPS 140-2 security standard. However, the system which was used to create the export uses a different encryption standard.

To resolve the issue, do one of the following:

- Re-export the video data using an upgraded version of XProtect Smart Client. The version must be equal to or newer than your current version
- Though Milestone recommends always using the latest version of XProtect Smart Client, you can open the export using an older version of XProtect Smart Client in offline mode
- Open the export on a computer where FIPS mode is disabled. See also <https://docs.microsoft.com/en-us/windows/security/threat-protection/fips-140-validation#using-windows-in-a-fips-140-2-approved-mode-of-operation>



Milestone recommends that you password-protect your data. To do this, select the **Encrypt with password** check box in the **Export settings** window > **XProtect format**.

### Could not validate the integrity of this project...

No tampering key is included in the video export. Either the tampering key was removed, or the video export was created using a stand-alone third-party application based on the MIP SDK 2020 R2 or older. If the tampering key is missing, there is no way of verifying the authenticity of the video project file.

To resolve the issue, do one or more of the following:

- Request a new video export and make sure the tampering key is included
- Re-export the video data using a third-party application which is based on MIP SDK 2020 R3 or later

### The export result window displays Completed with errors, Failed, or Partly failed.

If you export in media player format and as a combined file, do not delete or rename one of the video sequences in the export list before the export is ready. If you do, the deleted or renamed video sequences are not included in the export.

You must create a new export.

# Monitoring the health of your system

## XProtect Smart Client - Monitoring the health of your system

XProtect Smart Client – Monitoring the health of your system provides a detailed guide on how to monitor the health and performance of XProtect Smart Client.

### Subjects covered

Use this guide to ensure that you can oversee system health, identify potential issues, and maintain optimal performance.

The guide covers tasks such as the following:

- Checking server connections
- Using the **System Monitor** to monitor system status
- Observing client resource usage, including CPU, RAM, and GPU loads

### Intended audience

The intended audience for this guide includes system administrators, IT professionals, and technical staff responsible for managing and maintaining XProtect Smart Client within their organizations.

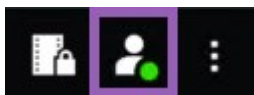
## Checking the server connection

### Check the status of your server connection

You can check the status of your server connection, for example, to see if you are using an older security model (HTTP) or the newest security model (HTTPS).

If multiple sites are connected through Milestone Federated Architecture, you can also check the connected sites. Milestone Federated Architecture enables organizations to connect related but physically separate XProtect VMS systems. For example, such a setup can be relevant for chains of shops.

1. On the global toolbar, select the **User profile** button.



2. Select **Login information** and check the status of your connection. The status can be **Secure - Connected**, **Non-secure - Connected**, or **Not connected**.



If your XProtect Smart Client is connected to a XProtect VMS system or a federated site using the older security model (HTTP), a **Not secure** information message is shown to the left of the global toolbar.

## Monitoring your system in XProtect Smart Client

### Monitor your system

The **System Monitor** tab gives you an overview of the current status of your servers, connected devices, and the computer running XProtect Smart Client.

For more information, see [Default tabs on page 53](#).

### System Monitor tab with Milestone Federated Architecture

If you run Milestone Federated Architecture™, the **System Monitor** tab is divided into two parts:

- One pane displays a hierarchical tree-structure representing your federated architecture
- The other pane is a browser-based area with relevant system data for the selected server

Click any server in the site pane to see its system data.

If you move away from the tab or log out of the system and come back, the **System Monitor** tab remembers which server is selected in your federated architecture and continues to display system data from this server.

You can drag the **System Monitor** tab to an independent window to monitor multiple servers.

### Monitor client resources

The number of cameras in a view together with the resolution, frame rate, and codec results in a load on your PC running XProtect Smart Client. To observe the current load on **CPU**, **RAM**, and **NVIDIA GPU** resources:

1. Click and drag the **System Monitor** tab to undock it to a detached window.
2. Select **This computer**.
3. Select a view to monitor the load of the current view.

Servers	Cameras	This computer	
CPU usage: <b>15%</b>		GeForce GTX 1080	GeForce GTX 1080
RAM usage: <b>11%</b>		Decoding usage: <b>0%</b>	Decoding usage: <b>0%</b>
		Rendering usage: <b>12%</b>	Rendering usage: <b>0%</b>
		Memory usage: <b>9%</b>	Memory usage: <b>3%</b>



If your client PC has additional NVIDIA display adapters installed, the load on these GPU's are also visible.





If the load is too high, you can add GPU resources to your PC by installing multiple NVIDIA display adapters. Milestone does not recommend the use of Scalable Link Interface (SLI) configuration of your NVIDIA display adapters.

## Creating views

### XProtect Smart Client - Creating views

XProtect Smart Client – Creating views provides details on how to create and manage views within XProtect Smart Client.

#### **Subjects covered**

Use this guide to organize and customize your video management interface to keep track of activity and ensure smooth operations.

The guide covers tasks such as the following:

- Set up private and shared views
- Add various types of content like cameras and maps
- Configure view properties to optimize the display and functionality of video feeds

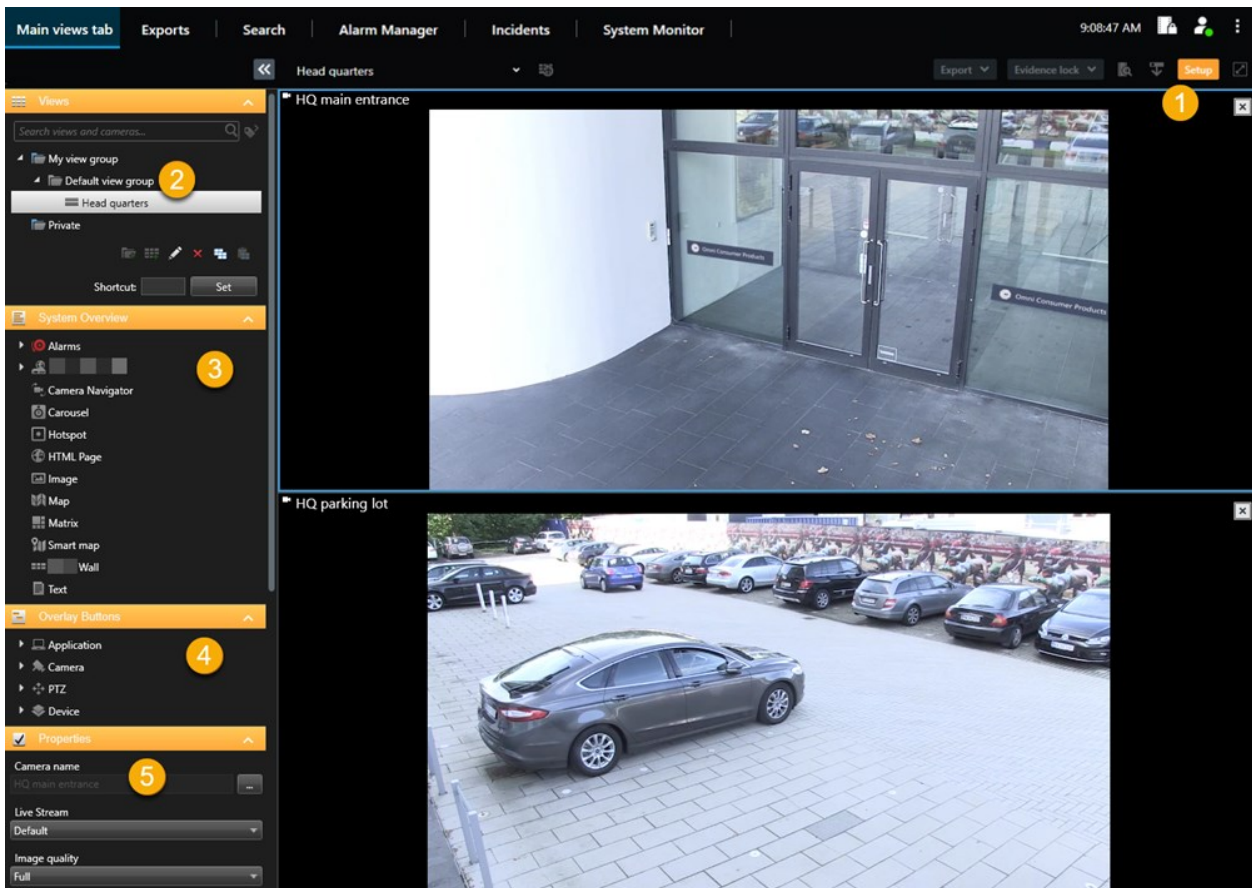
#### **Intended audience**

The intended audience for this guide includes security personnel, operators, IT professionals, and technical staff responsible for managing and operating XProtect Smart Client within their organizations.

### Setup mode

#### Setup mode

In setup mode, you can create views for your devices and other types of content, you can add overlay buttons, and set the properties for the cameras and other types of devices.



Number	Name	Description
1	Setup	When you enter setup mode, parts of the user interface are highlighted.
2	Views	Create views and groups for your views. See <a href="#">Creating views on page 244</a> .
3	System overview	Add cameras and other types of devices and content to your views. See <a href="#">Adding content to views on page 244</a> .
4	Overlay buttons	Add overlay buttons to cameras to trigger auxiliary commands. See <a href="#">Overlay buttons on page 250</a> .
5	Properties	Set the camera properties. See <a href="#">The camera settings (Properties pane) on page 257</a> .

## Creating views

### Private and shared views

Views can be shared or private.

- **Shared views:** available to multiple users, typically created by system administrators or supervisors.
- **Private views:** available only to the user who created them.

You can create private views if you have permission to switch to setup mode. Private views are stored under the **Private** folder and are available for you from any computer when logged in to XProtect Smart Client.

The **Views** pane contains:

- A **Private** folder: contains your private views, accessible from any computer when logged in. This can include an automatically generated default view with video from all your cameras.
- **Shared** folders: contain view groups with shared views. Protected folders have a padlock icon and cannot be modified by regular users.

## Creating views

Creating views involves a series of overall steps that you typically complete in the following order:

1. If want to save a new view under a new group, you create the group first. See [Create a view group on page 245](#).
2. You create the view itself. See [Create a view on page 245](#).



Consider if copying and adjusting an existing view is faster than creating a new one. See [Copy a view or view group on page 246](#).

3. You add content to the view. See [Adding content to views on page 244](#).
4. (optional) You assign shortcut numbers to the view to enable users to switch between views quickly. See [Assign a shortcut number to a view on page 246](#).
5. (optional) You add overlay buttons to the different camera view items in a view to enable the users to trigger actions directly from the views. See [Add an overlay button to a camera view item on page 251](#).

## Adding content to views


You can add various types of content to your views, such as video from cameras or maps. For a full list of content types, see [Content in view items on page 30](#).

When creating shared views for a group of users, ensure:

- Users have the necessary permissions to view the content.
- Users have the same or a later version of XProtect Smart Client that supports the features.

## Create a view group


You can make it easier to find and manage your views by organizing them into groups. Your system administrator may already have set up some groups, but you can usually create your own within existing view groups.

1. On the workspace toolbar, select **Setup**.
2. On the **Views** pane, select the **Private** or shared view group that you want to add a group to.
3. At the bottom of the **Views** pane, select **Create new group** .
4. Name the group.
5. Select **Setup** again to exit setup mode and save your changes.

You can now create views within your new group.

## Create a view

To create new views with different layouts and content combinations:

1. On the workspace toolbar, select **Setup**.
2. On the **Views** pane, select the view group to add the view to.
3. At the bottom of the **Views** pane, select **Create new view** .
4. Choose a layout and number of view items.



5. Name the view.
6. Select **Setup** again to exit setup mode and save your changes.




If your system administrator changes camera properties and user permissions in the XProtect VMS system, it may require you to re-create one or more views.

## Create a temporary view through search

You can quickly create a temporary view by searching for cameras.

1. On the **Views** tab, use the **Search views and cameras** field to search for cameras.

Additionally, you can select  next to the search field to use common search keywords.




2. Select a view from the search results.
3. Select one or more cameras (use **Ctrl** or **Shift** to select multiple cameras) and then press **Enter** to create the temporary view.

If you want to save your view, on the workspace toolbar, select **Setup**.

## Copy a view or view group

You can copy a view or a group with all its views and paste them to another place on the **Views** pane.

If you have permissions, you can also copy a private view to a shared view group, making it available to more users.

1. On the workspace toolbar, select **Setup**.
2. Select the view or group you want to copy.
3. At the bottom of the **Views** pane, select **Copy** , or press **CTRL+C**.
4. Browse to where you want to paste the view, select **Paste** , or press **CTRL+V**.
5. To rename the copied view or group, right-click it and select **Rename** .

## Assign a shortcut number to a view

Assign shortcut numbers to views so you can quickly switch between views. See [Default keyboard shortcuts on page 99](#).

1. Select the view you want to assign a shortcut number to.
2. On the workspace toolbar, select **Setup**.
3. At the bottom of the **Views** pane, in the **Shortcut** field, enter a shortcut number, and then press **Set**.


The shortcut number appears in parentheses before the view name.

4. Select **Setup** again to exit setup mode and save your changes.

## Adding video to view items

### Add a camera to a view

To view video from a camera, you must first add the camera to a view.

1. On the workspace toolbar, select **Setup**.
2. Select the view.
3. On the **System overview** pane, select a server  and expand the folders to find the relevant cameras.



If a server has a red icon, it is unavailable, and its cameras are not listed.

4. Select a camera and drag it to a view item, or select a folder to add all cameras within it to your view.



**Check permissions for shared views:** Ensure that users have permission to view video from the cameras in your shared view. If in doubt, contact your system administrator.

5. On the **Properties** pane, specify camera properties (for example, live stream and PTZ click mode). See [The camera settings \(Properties pane\) on page 257](#).
6. Select **Setup** again to exit setup mode and save your changes.

### Define the dimension of the video in a view item

You can choose to maintain the original dimensions of the video or stretch it to fill the view item.

1. On the workspace toolbar, select **Setup**.
2. Select the view and the camera view item containing the video stream you want to adjust.
3. On the **Properties** pane, use the **Maintain image aspect ratio** option:
  - Select to keep the dimensions of the original video. This option can result in black space around the video.
  - Clear to stretch the video to fill the view item. This option fills the view item uniformly but may distort the video.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

## Show/hide the camera title bar and indicators

The camera title bar and video indicators provide useful status information (for example, recording status), but hiding them can free up space for the video.

1. On the workspace toolbar, select **Setup**.
2. Select the relevant view and camera view item.
3. On the **Properties** pane, under **Display settings** and **Use default display settings**, select or clear **Show title bar**.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.



If you choose not to display the title bar, you won't see the visual indicators for motion and events. As an alternative, you can use sound notification.

See also [View the status of live video on page 85](#).



## Show bounding boxes around important objects

If you have cameras or integrations that can identify the whereabouts of objects and send metadata to your XProtect VMS, the XProtect VMS can place visual indicators called bounding boxes around the objects in the video.

The bounding boxes help you monitor the whereabouts of important objects for your organization and business.

1. On the workspace toolbar, select **Setup**.
2. Select the relevant view and the camera view item.
3. On the **Properties** pane, under **Display settings**, select **Show bounding box layer**.
4. Select **Bounding box providers** to enable the metadata device. If there is only one provider, it is automatically selected.
5. Select **Setup** again to exit setup mode and save your changes.

Bounding boxes also appear when you:

- Export video in the XProtect format. See [Export formats on page 229](#).
- Print still images. See [Printing or creating surveillance reports on page 227](#).

If bounding boxes don't appear, see [Troubleshooting: No video or bounding boxes on page 101](#).

## Remove jitter from live video

Live video may sometimes jitter due to minor bandwidth or network issues. Jitter appears as irregular movement, such as choppy video when a person is walking. To smooth out live video, you can add a small buffer before displaying it in XProtect Smart Client. Although this buffering introduces a slight delay, the video appears smoother.

### Important considerations

- Delayed response: Avoid using video buffering for pan-tilt-zoom (PTZ) cameras if you need instant response for joystick operations, because the delay can be noticeable.
- Memory usage: Video buffering can increase memory usage, so keep it as low as possible.

To remove jitter:

1. On the workspace toolbar, select **Setup**.
2. Select the view and the camera view item with the live video stream you want to smooth.
3. On the **Properties** pane, under **Video buffering**:
  - Select **Use default video buffer** to use the buffer defined by your system administrator. See also [Application settings on page 327](#).
  - Clear **Use default video buffer** and expand the **Video buffer** list to select a buffer from **None** to **Maximum - (2 seconds)**.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. If you don't see **Video buffering** on the **Properties** pane, in the **Settings and more** menu, select **Settings**, and on the **Functions** tab, set **Setup > Edit video buffering** to **Available**. See also [Functions settings on page 331](#).
5. Select **Setup** again to exit setup mode and save your changes.

## Adding camera commands to camera view items

### Overlay buttons

If a camera offers auxiliary commands, you can give direct access to the commands in live mode by adding overlay buttons to the camera view item displaying the video. You can add overlay buttons to perform tasks like activating speakers, triggering events, or moving PTZ cameras.

- **Permissions:** You can add overlay buttons for auxiliary commands even if you do not have permission to perform them. Users with the appropriate permissions will be able to use these buttons. In setup mode, overlay buttons you lack permission to use will appear dimmed, and they will not be visible in live mode.
- **Documentation:** Refer to the camera's documentation to see which auxiliary commands are available.

Overlay buttons appear when you move your mouse over individual camera view items in live mode.



### Add an overlay button to a camera view item



You can add overlay buttons to your camera view items to perform tasks such as activating speakers, triggering events, or moving PTZ cameras directly from your views.

Overlay buttons appear when you move your mouse over individual camera view items in live mode.

You can add as many overlay buttons as you need.

1. Select the view where you want an overlay button.
2. On the workspace toolbar, select **Setup**.
3. In the **Overlay buttons** pane, select and drag the command to the camera view item.
4. Place and resize the overlay button.



5. To change the text of the overlay button, double-click it, then select the check box  to save your change or  to discard the changes.
6. Select **Setup** again to exit setup mode and save your changes.

### Replace a camera but keep its settings

You can replace a camera in a view but retain the settings for that view item.

1. On the workspace toolbar, select **Setup**.
2. In the **Views** pane, select the view and camera view item to replace.
3. In the **Properties** pane, select the ellipses button next to the **Camera name** field.
4. Select the new camera.
5. Select **Setup** again to exit setup mode and save your changes.

## Add a carousel to a view

A carousel view item shows live video from each camera in a camera group in rotation so you're aware of what is happening in your area.

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag the **Carousel** item to a view item.
4. In the **Carousel setup** window, under **Cameras**, double-click each camera to add to the carousel.
5. In the **Selected cameras** list, arrange the cameras to define the sequence.
6. Enter the display duration for the cameras in the carousel. You can specify a value for all or for each camera.
7. (optional) Adjust the carousel's settings on the **Properties** pane under **Carousel setup**.



The **Live stream** setting on the **Properties** pane apply to all cameras in the carousel.

8. Select **Setup** again to exit setup mode and save your changes.

## Add a hotspot to a view

A hotspot view item displays video feeds in a higher resolution enabling users to see details more clearly while also saving bandwidth on your remote connections.

There are two types of hotspots:

- Global hotspots: Displays the selected camera regardless of which view the camera is in.
- Local hotspots: Displays only the selected camera if the camera is within the same view.




It's recommended to add a hotspot to the largest view item, such as the large view item in a 1+7 view.

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag the **Hotspot** item to the relevant view item.
4. (optional) On the **Properties** pane, modify the properties for the hotspot.
5. Select **Setup** again to exit setup mode and save your changes.

## Add Matrix content to a view

Matrix view items enable users to share live video feeds with each other to improve awareness and collaboration around incidents. Rules defined by your system administrator can also trigger the sharing of Matrix content when specific incidents occur..

You can add as many Matrix view items to a view as required, so that you can watch Matrix-shared video in multiple view items at the same time. The first Matrix view item you add is the primary one, the second the secondary, and so on, which determines how the video is shown. You can change the ranking when in setup mode.

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag the **Matrix** item to the required view item. A Matrix icon  appears.
4. On the **Properties** pane, define the Matrix properties.
  - **Window index:** If you have more Matrix view items, select which one is the primary Matrix view item, the secondary and so forth. The primary view item shows the latest Matrix-triggered video, the secondary shows video from the previous, and so forth.
  - **Connection settings:** Select the primary Matrix view item to specify the **TCP port** (default 12345) and **Password** for transferring Matrix-triggered video from XProtect VMS server to the XProtect Smart Client view. All Matrix view items in the view inherit the settings. Contact your system administrator about which port number or password your organization uses.
5. Select **Setup** again to exit setup mode and save your changes.

## Change the PTZ click mode

The PTZ click mode determines how you move a PTZ camera with your mouse. You can set the default PTZ click mode for a camera view item based on your preferences.

1. On the workspace toolbar, select **Setup**.
2. Select the view and the camera view item with a PTZ camera.
3. On the **Properties** pane, expand the **PTZ click mode** list and choose:
  - **Use default:** Select to use the PTZ click mode defined by your system administrator. Users can't change this setting.
  - **Click-to-center:** Choose this if you often pan to fixed objects, such as moving from a door to a window.
  - **Virtual joystick:** Choose this if you often track moving objects.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

## Playing sound notifications

### Sound notifications

You can enable sound notifications for camera view items to alert you when special attention is needed such as motion detection or event triggers, even if you're not actively viewing live video. These notifications are only active for the views that are currently open and visible.

You and your system administrator can configure that a sound notification is played when:

- Motion is detected.
- Events happens.



XProtect Smart Client only plays sound notifications from selected, open, and visible views. If you minimize a window or maximize a camera view item, you won't receive sound notifications from the hidden view items.

### Play sound notifications on motion

If you do not actively view live video all the time, you can configure XProtect Smart Client to play a simple sound notification when motion is detected in the video.

1. On the workspace toolbar, select **Setup**.
2. Select the view and the camera view item you want to enable sound notifications for.
3. On the **Properties** pane, in the **Sound on motion detection** list select:
  - **Always off**: Disable sound notifications for motion detection.
  - **Always on**: Play a sound notification for detected motion.



The amount of sound notifications depends on the motion detection sensitivity configured by your system administrator.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

#### Play sound notification on event

You can configure XProtect Smart Client to play sound notifications when specific events related to a camera occur.

##### Prerequisite:

Your system administrator must have configured notifications on events on the XProtect VMS system server.

1. On the workspace toolbar, select **Setup**.
2. Select the view and the view item you want to enable sound notifications for.
3. On the **Properties** pane, in the **Sound on motion detection** list select:
  - **Always off**: Disable sound notifications for events.
  - **Always on**: Play a sound notification for each detected event.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

## Improving bandwidth, CPU, and GPU usage

### Bandwidth, CPU, and GPU usage improvement

The best way to improve the overall performance of your XProtect VMS system and XProtect Smart Client installations is for the system administrator to configure the cameras to send multiple streams and configure your XProtect VMS system to use adaptive streaming.

The following information provides alternative ways of improving network bandwidth and CPU and GPU usage in XProtect Smart Client when you create your views.

### Select a fixed live stream

If your system administrator has set up camera to send multiple streams, you can choose a live stream that uses less bandwidth.

1. On the workspace toolbar, select **Setup**.
2. On the **Views** pane, select the view and the camera view item to replace.
3. On the **Properties** pane, expand the **Live stream** list and select your preferred live stream option.



If your XProtect VMS uses adaptive streaming, select **Default**.



To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

### Only refresh live streams with motion

To reduce network bandwidth and CPU usage, you can configure XProtect Smart Client to refresh a camera view item only when motion is detected. When there is no motion, a still image from the latest detected motion is shown with a gray overlay and the message **No motion**.

This setting can significantly reduce your computer's CPU usage, depending on the motion detection sensitivity configured by your system administrator.



1. On the workspace toolbar, select **Setup**.
2. Select the view and the camera view item to refresh only when there's motion.
3. On the **Properties** pane, select **Update on motion**.



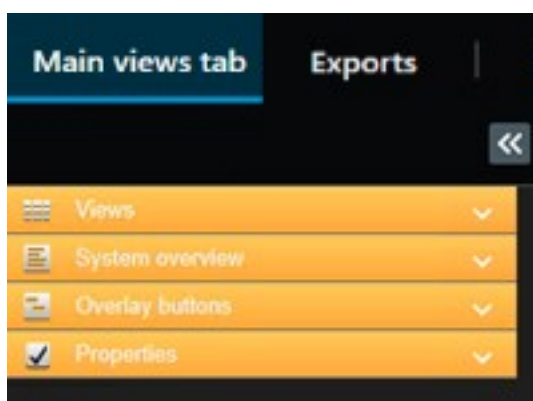
To apply the same settings for all camera, hotspot, and carousel view items, define the settings for one view item, then select **Apply To All** in the **Properties** pane.

4. Select **Setup** again to exit setup mode and save your changes.

## The camera settings (Properties pane)

You can fine-tune how video is displayed in camera view items, adjust how you pan, tilt, and zoom using your mouse or joystick, and set up sound notifications for motion detection.

To customize these settings, in **Setup** mode, in the **Properties** pane, you can view and edit properties for the selected camera.



Setting	Description
Ellipse button next to <b>Camera name</b>	<a href="#">Replace a camera but keep its settings on page 251</a>
<b>Live stream</b>	<a href="#">Select a fixed live stream on page 256</a>
<b>PTZ click mode</b>	<a href="#">Change the PTZ click mode on page 253</a>
<b>Maintain Image Aspect</b>	<a href="#">Define the dimension of the video in a view item on page 247</a>

Setting	Description
Ratio	
Update on motion	<a href="#">Only refresh live streams with motion on page 256</a>
Sound on motion detection	<a href="#">Play sound notifications on motion on page 254</a>
Sound on event	<a href="#">Play sound notification on event on page 255</a>
Display settings	<a href="#">Show/hide the camera title bar and indicators on page 248</a> <a href="#">Show bounding boxes around important objects on page 249</a>
Video buffering	<a href="#">Remove jitter from live video on page 249</a>
Apply to all	Select to quickly apply the properties you selected for one camera view item on all camera view items in the view.

## Adding other content to view items

### Adding alarms

#### Add an alarm list to a view

To enable operators to quickly focus on and respond to incidents, you can add a prioritized alarm list to one view item and an alarm preview to another.

Typically, both the alarm list and alarm preview are placed within the same view:

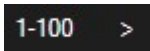
- The alarm list displays prioritized alarms with multiple filtering options.
- The alarm preview shows the video related to the selected alarm.

To add an alarm list and preview:

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, expand **Alarms** and drag the **Alarm List** to a view item.
4. Drag the **Alarm Preview** to another view item.
5. Select **Setup** again to exit setup mode and save your changes.

### Alarm list settings


In setup mode, you can select whether or not you want to see the alarms or events grouped by servers in a navigation tree and how many alarms or events you want the list to display at a time. This is also where you specify whether you want the alarm list to display alarms or events.

Name	Description
<b>Show navigation tree</b>	Select to display the navigation tree on the left of the alarm list. The navigation tree lets you view alarms or events grouped by server and filter for alarms with different states.
<b>Max. rows to fetch</b>	<p>Controls the maximum number of lines to fetch and display in the alarm list. By default, the alarm list displays up to 100 alarms or events at a time. This provides a good response time because retrieving and displaying larger numbers of alarms or events can take time. If there are more than 100 alarms or events, click the following button to view and retrieve the next 100 alarms:</p>  <p>In the field, you can set the maximum numbers of rows from 1 to 999.</p>
<b>Data Source</b>	<p>Select whether you want to display a list of alarms or events in the <b>Alarm List</b>.</p> <p>The event list does not display system or user-generated events, such as motion detection or archive failure.</p>

### Alarm preview settings

If alarms or events have video associated with them, when you select a particular alarm in the **Alarm List**, the alarm preview displays the recorded video from the selected alarm or event. If there are many cameras associated with an alarm, or if you have selected more than one alarm, the preview displays several previews. If there is no video associated, the alarm preview will be gray. You can change the alarm preview's properties in setup mode.

Name	Description
<b>Show duplicate</b>	Select to display video from duplicate cameras several times in the alarm preview. The alarm preview reflects what is selected in the alarm list. Because you can select multiple

Name	Description
<b>cameras</b>	alarms or events, video from the same camera may appear several times in the alarm preview if some of the selected alarms or events relate to the same camera.
<b>Show event source cameras</b>	<p>Select to display video (if any) from the camera for which the alarm or event has been set up on the surveillance system server.</p> <div>  We do not recommend clearing this field. </div>
<b>Show related cameras</b>	Select to display video from related cameras in the alarm preview. You can display associated video from up to 16 related cameras for a single alarm or event. You cannot determine the number of related cameras in the XProtect Smart Client; the number may vary from alarm to alarm, and is specified as part of the surveillance system configuration.
<b>Show overlay</b>	Only relevant if using the alarm preview together with a plug-in capable of displaying overlay information, such as lines tracking the paths of moving objects, or similar. This is not default functionality in the XProtect Smart Client.

## Add a smart map to a view

If you have created a smart map with a virtual presentation of the protected area and the locations of all cameras and security devices added to the XProtect VMS, you can add this smart map to your views to improve situational awareness

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag an existing **Smart map** item to a view item in your view.
4. Select **Setup** again to exit setup mode and save your changes.

## Add a map to a view

If you have created a virtual map of an area, including the locations of all cameras and security devices added to the XProtect VMS, you can add this map to your views to improve situational awareness.

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag the **Map** item to a view item in your view.

4. Select either **Create new map** or **Use existing map**. A triangle next to a map name indicates that the map might include at least one sub-map. The sub-maps are also added.
5. If you have selected **Create new map**, in the **Name** field, enter a name for the map
6. Select **Browse** to find and select the image file you want to use as a map.
7. Select **Setup** again to exit setup mode and save your changes.

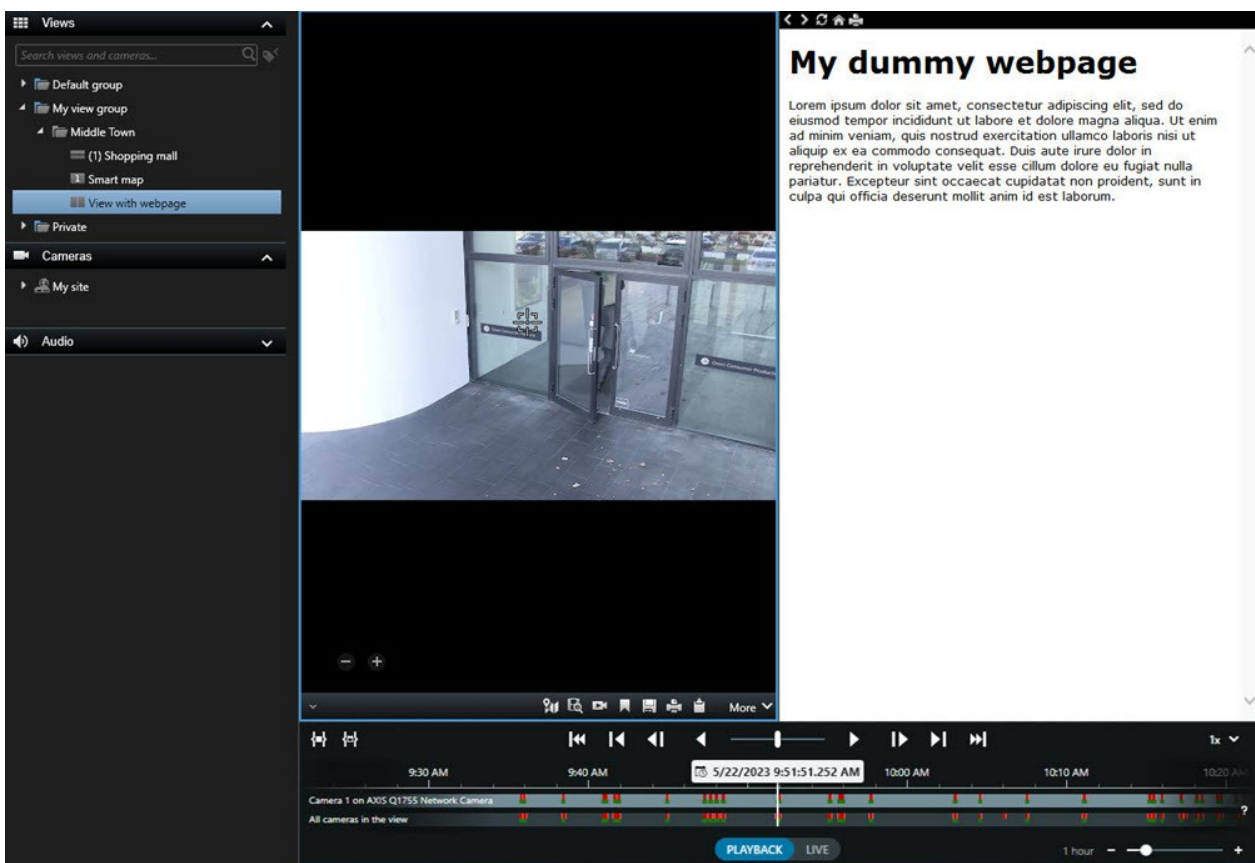


If your view includes a map view item, also having a hotspot view item enables users to quickly select different cameras on the map and view their video in the hotspot

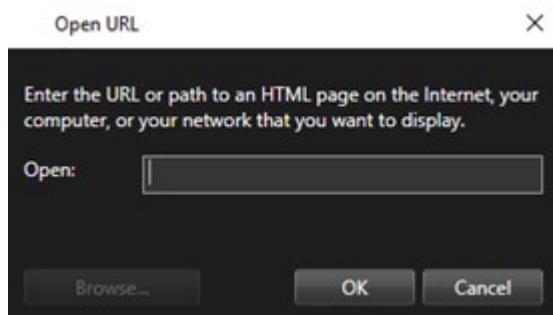
## Add a web page to a view

You can embed web pages into your views, such as online instructions or company web pages, alongside the video from cameras or other content.

The supported formats are HTML, PHP, and ASP.





1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, select and drag the **HTML page** item to one of the view items.



4. Enter the web address of the web page.
5. Expand the **Properties** pane to verify the web page properties and change them if needed. See [Web page properties on page 262](#).
6. Select **Setup** again to exit setup mode and save your changes.

See also [Scripting HTML page for navigation on page 322](#).

### Web page properties

Property	Description
<b>Display mode: Standard</b>	Uses Microsoft Edge for web pages located on a web server using HTTP or HTTPS.
<b>Display mode: Compatibility</b>	<p>Uses Internet Explorer for web pages that:</p> <ul style="list-style-type: none"> <li>• Are located locally (computer, network, or on an FTP server)</li> <li>• Use other network protocols than HTTP and HTTPS</li> <li>• Contain scripts designed to interact with XProtect Smart Client</li> <li>• Use an older version of HTML</li> </ul>
<b>Scaling</b>	<p>Select the scaling of the web page.</p> <div>  <p>This option is only available if the display mode is set to <b>Compatibility</b>.</p> </div>
<b>Hide toolbar</b>	Select to hide the navigation toolbar  .

### Troubleshooting: Attempts to add a web page to a view

These scenarios can occur when you add a web page to a view item:

#### **I am getting a script error when adding a web page to a view**

The web page uses scripts that are not supported by the browser used to render the web page. Changing the **Display mode** in the web page properties might resolve the issue.

#### **I am getting a script error when loading a view that contains a web page**

The web page uses scripts that are not supported by the browser used to render the web page. Changing the **Display mode** in the web page properties might resolve the issue.

#### **I have used scripting to add navigation buttons or clickable images to my HTML page, but the HTML page does not work as intended. Consider the following:**

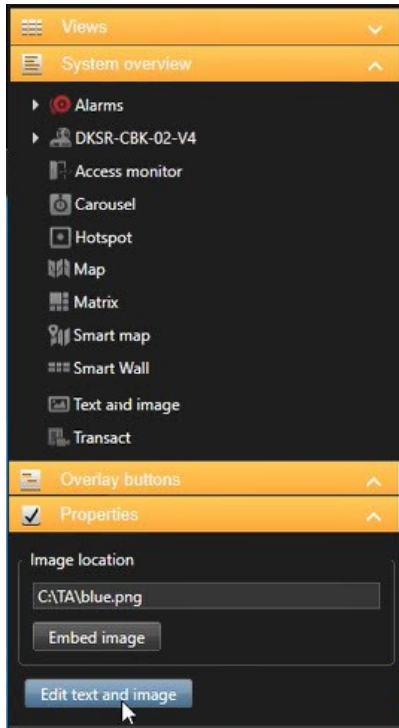
- Have you set **Display mode** to **Compatibility**? Only **Compatibility** mode supports scripting.
- Have you used the correct syntax in your HTML code?
- Is HTML scripting enabled in XProtect Management Client or in the **Client.exe.config** file?
- Does the intended audience have the user permissions to access certain cameras, views, features, or tabs in XProtect Smart Client?

### Add a text and an image to a view

You can add text content and still images to view items inside a view.

For example, you might want to send a message or instructions to operators or post a work schedule for security personnel. The character limit is 1,000 characters. An still image can, for example, be a snapshot of a suspect or a map with emergency exits.

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag the **Text and image** item to a view item.



4. In the editor, enter a text and add a relevant image file.
5. To make the image available to others, on the **Properties** pane, select **Embed image**. The file is now stored in the system.
6. Select **Setup** again to exit setup mode and save your changes.

To change your text or change the image after you have saved, select **Setup** again, and then select **Edit text and image** on the **Properties** pane.



You can insert tables from products such as Microsoft Word and Microsoft Excel, but you cannot make changes to them.



# Configuring functionality for all users

## XProtect Smart Client - Configuring functionality for all users

XProtect Smart Client – Configuring functionality for all users provides a comprehensive guide on setting up and optimizing XProtect Smart Client.

### Subjects covered

Use this guide to configure XProtect Smart Client to meet specific needs and improve system performance and usability.

The guide covers tasks such as the following:

- Enabling adaptive streaming
- Configuring hardware acceleration
- Setting up patrolling profiles
- Creating maps
- Managing devices and overlays

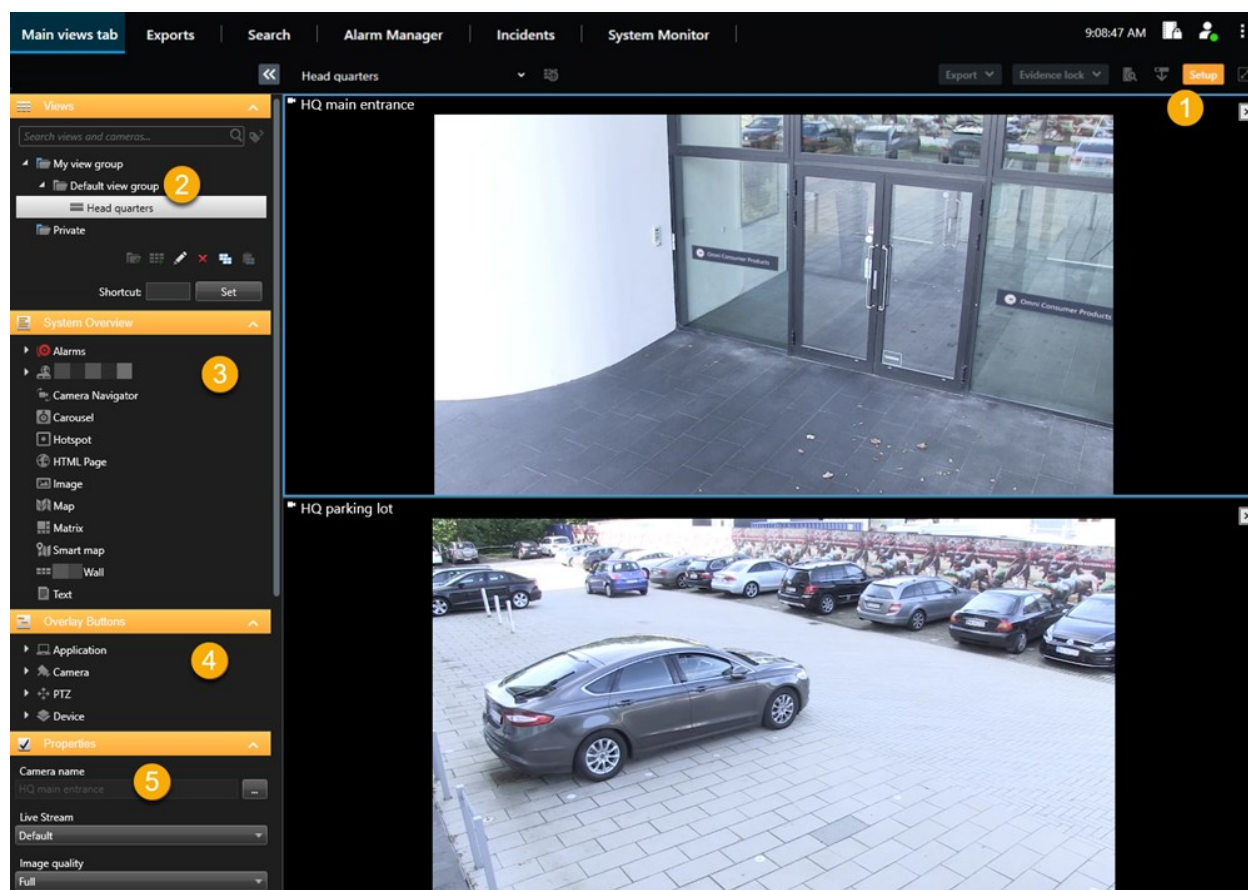
### Intended audience

The intended audience for this guide includes system administrators, IT professionals, security personnel, operators, and technical staff responsible for configuring and managing XProtect Smart Client within their organizations.

## Setup mode

### Setup mode

In setup mode, you can create views for your devices and other types of content, you can add overlay buttons, and set the properties for the cameras and other types of devices.



Number	Name	Description
1	Setup	When you enter setup mode, parts of the user interface are highlighted.
2	Views	Create views and groups for your views. See <a href="#">Creating views on page 244</a> .
3	System overview	Add cameras and other types of devices and content to your views. See <a href="#">Adding content to views on page 244</a> .
4	Overlay buttons	Add overlay buttons to cameras to trigger auxiliary commands. See <a href="#">Overlay buttons on page 250</a> .
5	Properties	Set the camera properties. See <a href="#">The camera settings (Properties pane) on page 257</a> .

## Enabling adaptive streaming

### Adaptive streaming advantages and requirements

Adaptive streaming improves the decoding capability and performance of the computer running XProtect Smart Client. This is useful when you view multiple live video streams in the same view.

To take advantage of adaptive streaming, your cameras must have multiple streams defined with different resolutions. This enables XProtect Smart Client to automatically select the closest match to the resolution requested by the view item. Now XProtect Smart Client does not have to scale down the default streams with an unnecessary high resolution. This reduces the load on the CPU and GPU decoding resources and reduces the load on the network.

To ensure the video quality, the closest match is defined as equal or higher than the resolution requested by the view item if possible. This is to avoid the upscaling of the streams. The table below shows the video streams that adaptive streaming selects based on view item requests from XProtect Smart Client.

Resolution requested by a view item	Closest match of available video streams	
636 x 477	Video stream 1	640 x 480 (VGA)
644 x 483	Video stream 2	1280 x 720 (WXGA-H)
1920 x 1080	Video stream 3	1920 x 1080 (FHD)
1920 x 1440	Video stream 4	3840 x 2160 (4K UHD-1)

When zooming, the live video stream requested is always the one with the highest resolution.



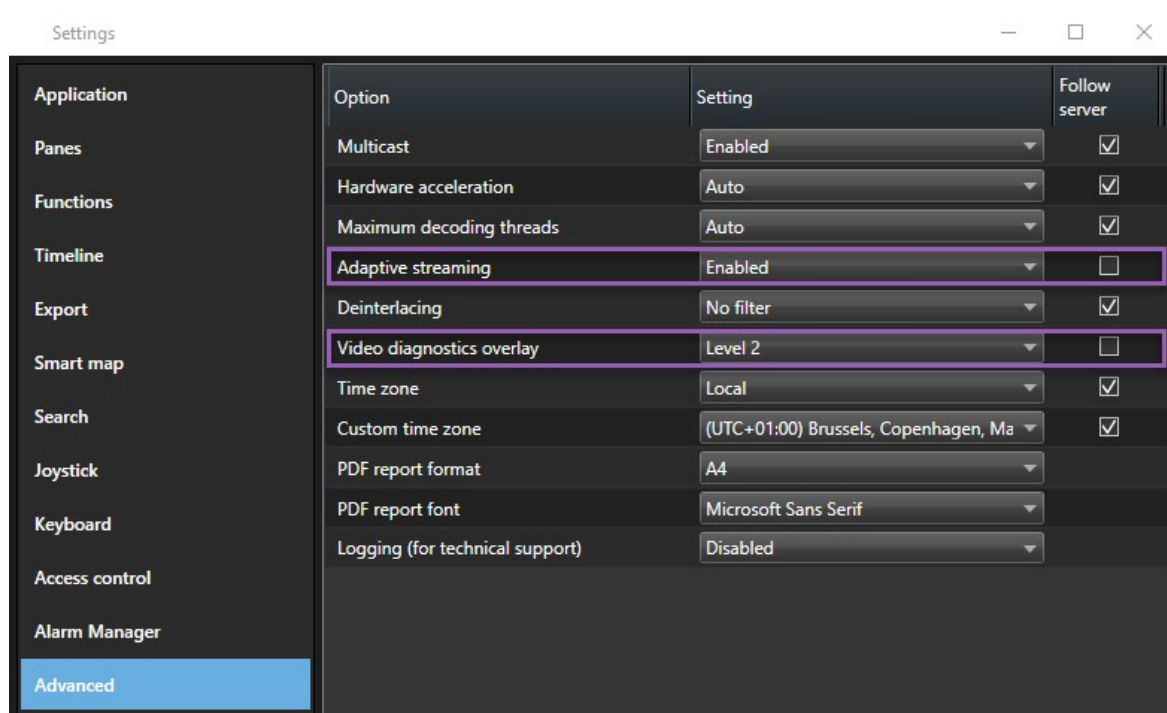
Bandwidth usage is often reduced when the resolution of the requested streams is reduced. Bandwidth usage also depends on other settings in the configurations of the defined streams.

### Enable adaptive streaming

Enable adaptive streaming to improve the performance of computers running XProtect Smart Client.

1. From the **Settings and more** menu, select **Settings**.
2. On the **Advanced** tab, select **Adaptive streaming**.
3. There are two settings for adaptive streaming: **Disabled** and **Enabled**.

Select **Enabled**.



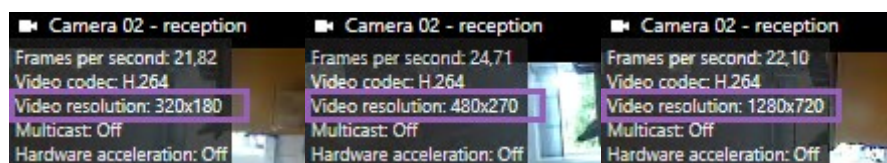
4. Go to **Video diagnostics overlay**.
5. To make the current video resolution of the stream visible, select **Level 2**.



This setting applies to all view items. The default setting is **Hide**.

6. The video diagnostics overlay should now be **Enabled**.

Try to resize the view window from small to large, large to small and check if the **Video resolution** value changes.



If the value doesn't change, continue to examine your available live video streams from your cameras so you can enable adaptive streaming, if possible.

## Check available live video streams

To take advantage of adaptive streaming, two or more live video streams with different resolutions must be configured in your camera settings.



The only supported video resolution format for adaptive streaming is **width x height**. Video resolution formats presented from a camera as 720p, mode2, VGA or a like are not supported.

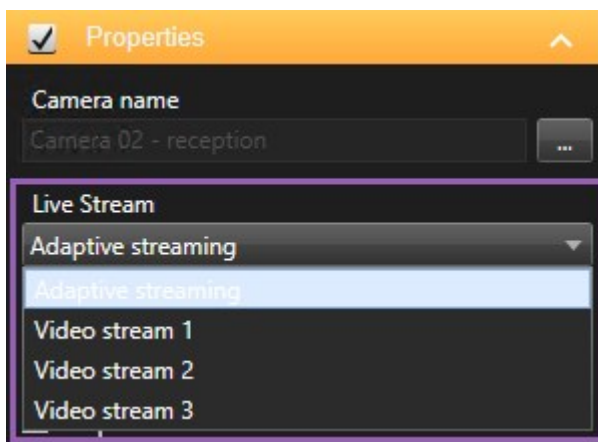


Not all cameras support multi-streaming.

Multi-streaming allows multiple streams per device to be configured on the server. If multiple streams are configured and adaptive streaming is enabled, you can select **Adaptive streaming** or one of the other available streams.

To make sure that **Adaptive streaming** is configured in a view:

1. Click **Setup** to configure the view.
2. In **Properties**, click the **Live stream** dropdown list, and the list of available live video streams appears.
3. Check if two or more live video streams are available and select **Adaptive streaming**.

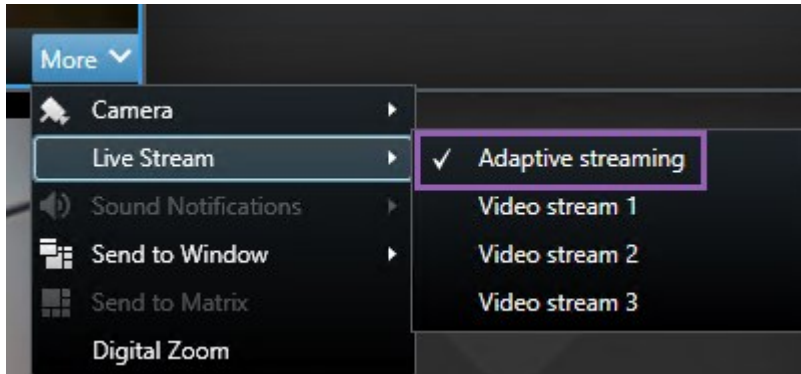


If only one live video stream is available, add more live video streams for the camera in XProtect Management Client.

4. Click **Setup** to close the view configuration.

To make sure that **Adaptive streaming** is selected in a **Live** view item:

1. Click the **More** dropdown list.
2. Select **Live stream**, and the list of available live video streams appears.
3. Check if two or more live video streams are available and select **Adaptive streaming**.



## Enabling hardware acceleration

### Hardware acceleration advantages and requirements

Hardware acceleration improves the decoding capability and performance of the computer running XProtect Smart Client. This is particularly useful when you view multiple video streams with high frame rate and high resolution.



XProtect Smart Client supports hardware accelerated decoding using Intel® and NVIDIA® GPUs. Milestone does not recommend the use of Scalable Link Interface (SLI) configuration of your NVIDIA display adapters.

You can only use hardware acceleration with the operating systems Microsoft® Windows® 10 (build 1809), Windows® Server 2016, or later versions.

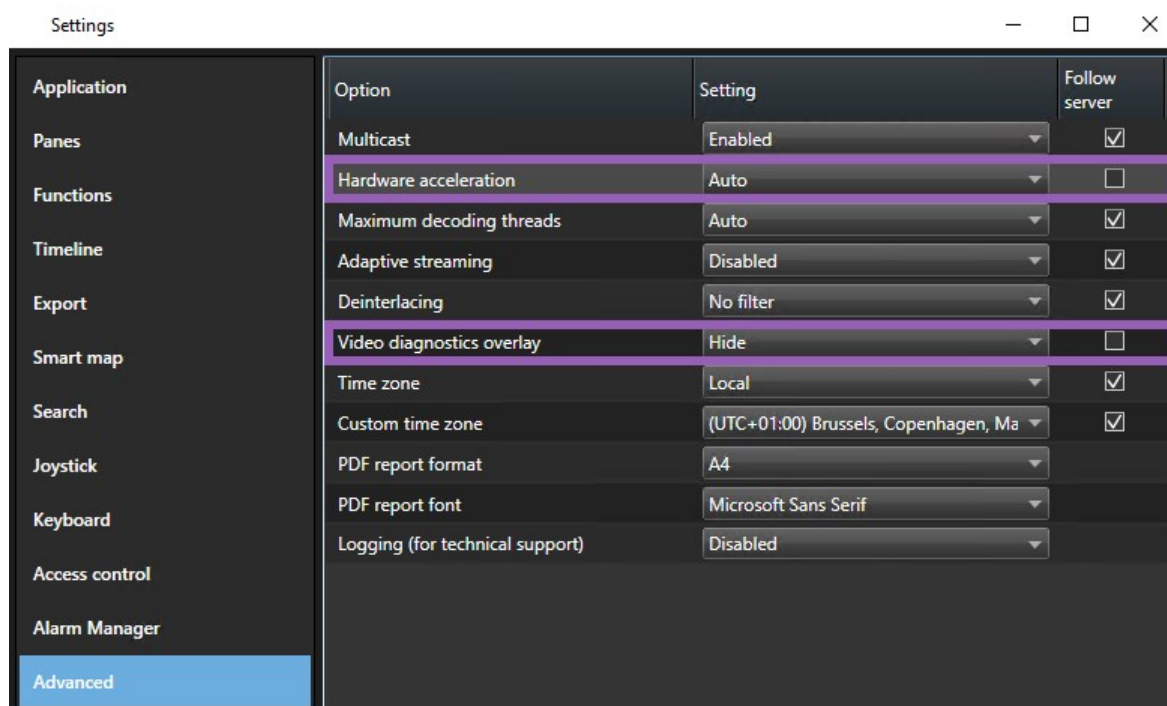


Only non-virtual environments are supported.

## Check hardware acceleration settings

1. Go to **Settings > Advanced > Hardware acceleration**.
2. There are two settings for hardware acceleration: **Auto** and **Off**.

Select the default setting **Auto**.

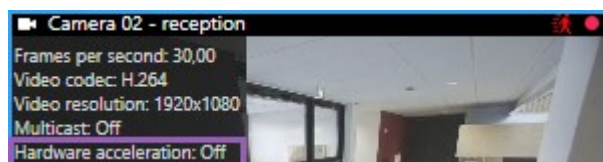


3. Go to **Video diagnostics overlay**.
4. To make the current status of the stream, including the GPU resource used for hardware acceleration visible, select **Level 2**.



This setting applies to all view items. The default setting is **Hide**.

The video diagnostics overlay status for **Hardware acceleration** can be: **Intel**, **NVIDIA** or **Off**.



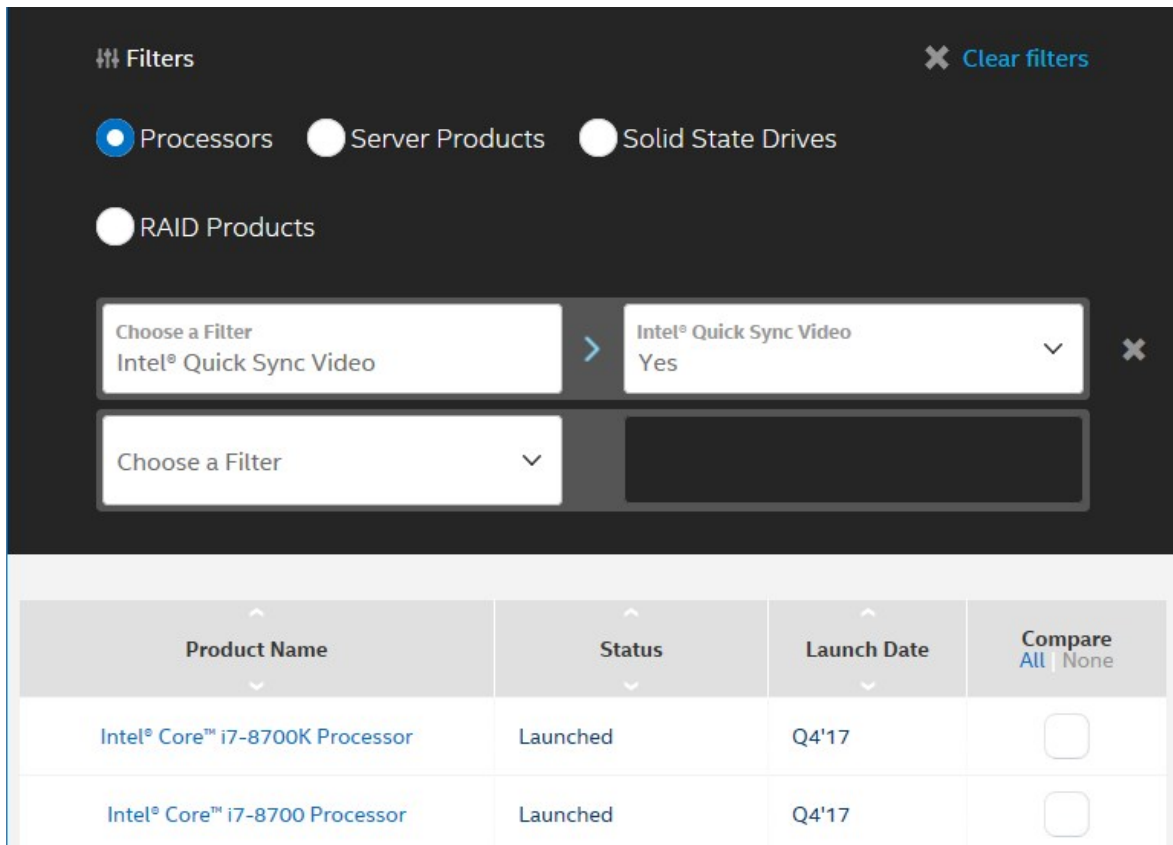
If the status is **Off**, continue to examine your computer so you can enable hardware acceleration, if possible and make sure that all hardware acceleration resources are utilized.

5. Use the **System Monitor** to check the current XProtect Smart Client decoding performance. See [Monitor client resources on page 240](#).

## Check CPU Quick Sync support

To verify that your processor supports Intel Quick Sync Video:

1. Visit the Intel website  
([https://www.intel.com/content/www/us/en/ark/featurefilter.html?productType=873&0\\_QuickSyncVideo=True](https://www.intel.com/content/www/us/en/ark/featurefilter.html?productType=873&0_QuickSyncVideo=True)).
2. In the menu, set **Processors** and **Intel Quick Sync Video** filter to **Yes**.
3. Find your CPU in the list.



Filters ✕ Clear filters

☒ Processors ☐ Server Products ☐ Solid State Drives

☐ RAID Products

Choose a Filter  
Intel® Quick Sync Video

Intel® Quick Sync Video  
Yes

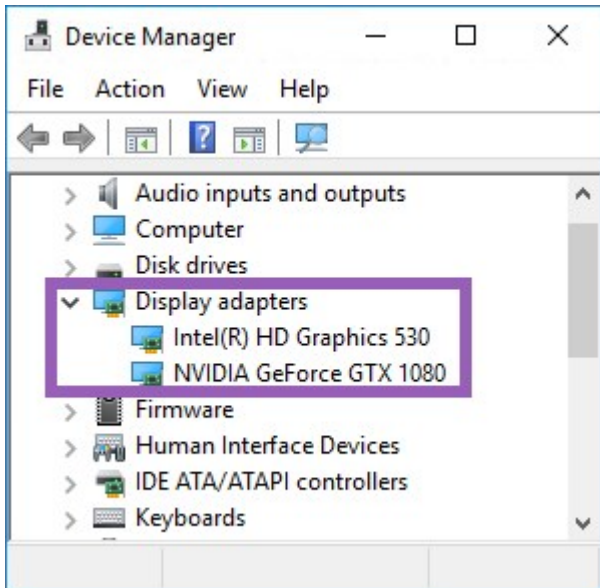
Choose a Filter

Product Name	Status	Launch Date	Compare All   None
Intel® Core™ i7-8700K Processor	Launched	Q4'17	<input type="checkbox"/>
Intel® Core™ i7-8700 Processor	Launched	Q4'17	<input type="checkbox"/>

## Examine the Device Manager

Make sure that an Intel or NVIDIA display adapter is present in Windows Device Manager.





You can connect your displays to any display adapter available. If a more powerful display adapter is available in your computer, typically NVIDIA or AMD®, connect your displays to this adapter to use all available GPU resources for hardware accelerated decoding and rendering.



Not all NVIDIA display adapters supports hardware acceleration. See [Check NVIDIA hardware acceleration support on page 273](#).

If the Intel display adapter is not present, enable the Intel display adapter in the BIOS. See [Enable the Intel display adapter in the BIOS on page 274](#).

## Check NVIDIA hardware acceleration support

NVIDIA products have different compute capabilities.



Hardware accelerated decoding using NVIDIA GPUs requires compute capability version 6.x (Pascal) or newer.

To find the compute capability version of your NVIDIA product, visit the NVIDIA website (<https://developer.nvidia.com/cuda-gpus/>).

## Enable the Intel display adapter in the BIOS

If another display adapter card, for example NVIDIA or AMD, is available in your computer, the onboard Intel display adapter may be disabled, and you must enable it.

The Intel display adapter is located on the motherboard as a part of the CPU. To enable it, look for graphics, CPU or display settings in the computer BIOS. The vendor's motherboard manual may be helpful to find the relevant settings.



If changing the settings does not enable the onboard Intel display adapter, you can try to move the display adapter card to another slot and then connect the display to the motherboard. In some cases, this can enable the onboard display adapter.

## Update the video driver

Make sure that the driver version for all your display adapters are updated to the newest version available from Intel or NVIDIA.



The Intel driver version provided by the PC vendor can be an older version and may not support Intel Quick Sync Video.

There are two ways of updating your video driver. Manual download and install or using a driver update utility.

### Intel

Manual download and install:

1. Go to the Intel download website (<https://www.intel.com/content/www/us/en/download-center/home.html>).
2. Enter the name of your integrated display adapter.
3. Manually download and install the driver.

For automatic detection and updates of Intel components and drivers:

1. Download Intel Driver and Support Assistant (<https://www.intel.com/content/www/us/en/support/detect.html>).
2. Run the assistant to auto search for the drivers.
3. Choose to update the driver for Graphics.

### NVIDIA

Option 1: Manually find drivers for my NVIDIA products.

1. Go to the NVIDIA download drivers website (<https://www.nvidia.com/Download/index.aspx/>).
2. Enter the name of your product and the operating system.
3. Manually download and install the driver.

Option 2: Automatically find drivers for my NVIDIA products.

1. Go to the NVIDIA download drivers website (<https://www.nvidia.com/Download/index.aspx/>).
2. Select **GRAPHICS DRIVERS**.
3. Your system is scanned.
4. Download and update the driver.

## Check memory modules configuration

If your system supports more than one memory channel, you can increase the system performance by making sure that a minimum of two channels have a memory module inserted in the correct DIMM slot. Refer to the motherboard manual to find the correct DIMM slots.

Example:

A system with two memory channels and a total of 8 GB of memory obtains the best performance using a 2 x 4 GB memory module configuration.

If you use a 1 x 8 GB memory module configuration, you only use one of the memory channels.

## Configuring patrolling profiles


### Patrolling profiles


Patrolling profiles are the definitions of how patrolling should take place. This includes the order in which the camera should move between preset positions and how long it should remain at each position. You can create an unrestricted number of patrolling profiles and use them in your rules. For example, you may create a rule specifying that one patrolling profile should be used during daytime opening hours and another during nights.

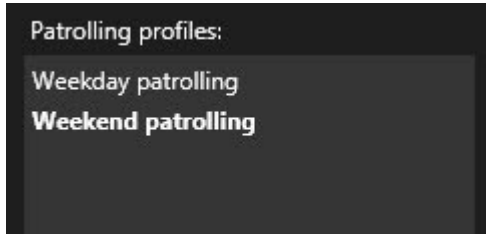
Depending on your surveillance system, you can create, edit, and delete patrolling profiles. See [Your organization's XProtect products and extensions on page 27](#).

### Add patrolling profile

When you add a patrolling profile, you and other users can see the new patrolling profile in the PTZ menu.

1. In the view, select the relevant PTZ camera where you want to add a new patrolling profile.
2. On the camera toolbar, click the PTZ icon  to open the PTZ menu.
3. Click **Manage patrolling profiles** to open the dialog box.

4. Follow the steps below and click **OK** to close the **Manage patrolling profiles** window.
5. Click  below the **Patrolling profiles** list to add a new patrolling profile.
6. Enter a name for the profile and press **Enter**. You can always rename it later.



The new patrolling profile is added to the **Patrolling profiles** list. You can now specify the positions and other settings for the patrolling profile.

## Specify positions in a patrolling profile

1. Select the patrolling profile:

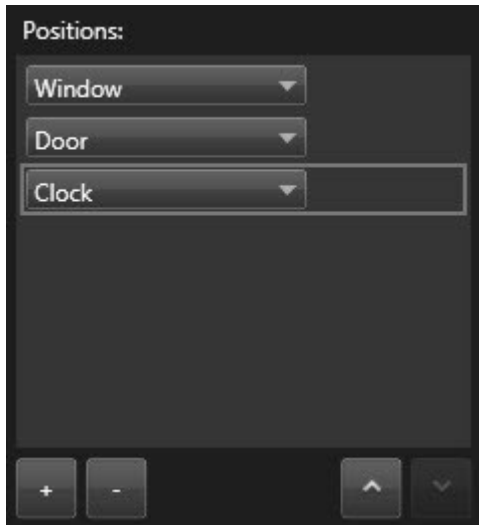


2. Click  below the **Positions** list to add a preset position.

PTZ presets are defined by your system administrator. Depending on your user permissions, you can define PTZ presets by selecting **Manage PTZ presets**. See [Define a preset position for a PTZ camera on page 107](#).

3. In the list, select a PTZ preset.

- Repeat adding presets until you have selected all necessary positions in the patrolling profile:



- Use the up or down arrows to move a PTZ preset in the list.

The camera uses the PTZ preset at the top of the list as the first stop when it patrols according to the patrolling profile. The PTZ preset in the second position from the top is the second stop, and so forth.

## Specify the time on each position in patrolling profile

When patrolling, the PTZ camera by default remains for five seconds on each position specified in the patrolling profile.

To change the number of seconds:

- Select the patrolling profile in the **Patrolling profiles** list.
- Select the PTZ preset that you want to change the time for in the **Positions** list:



- Specify the time in the **Time on position (sec)** field.
- If required, repeat for other presets.

## Specify an end position for a patrolling profile


You can specify that the camera should move to a specific position when patrolling ends. You do that by selecting an end position on the patrolling profile.

1. Select the patrolling profile in the **Patrolling profile** list.
2. Below **On finish, go to**, select one of the presets from the drop-down list as the end position.



You can select any of the camera's PTZ presets as the end position, you are not limited to the presets used in the patrolling profile. You can also choose not to specify an end position at all, but to keep the default setting: **No end position**.

## Delete patrolling profile

To delete an existing profile, select the profile and click .

## Creating a geographical overview

### Differences between maps and smart maps

XProtect Smart Client includes map features that can help you visualize your surveillance system and quickly respond to incidents.

- **Maps:** this type of map is based on still images that do not contain geographical references. You can add devices such as cameras, microphones, and recording servers. You can also add alarms, events, and access controls that let you interact with your surveillance system directly from the map. You must manually position device and feature elements on the map. For more information, see [Maps on page 131](#).
- **Smart map:** this type of map uses a geographic information system to accurately reflect geography in the real world. These advanced features can give you a more exact overview of your cameras in multiple locations.

You can also:

- Use the Bing Maps and the Google Maps services (available in XProtect® Corporate and XProtect Expert only).
- Use the Milestone Map Service as geographic backgrounds.
- Use the OpenStreetMap map project as geographic backgrounds.
- Add computer-aided design (CAD) drawings, shapefiles, and images as overlays (CAD files are available in XProtect® Corporate and XProtect Expert only.)



Maps and smart maps are not interchangeable. If you are using maps, you can use the image file as a smart map, but you must add the devices again. You cannot transfer maps with devices to a smart map but you can link a smart map to maps. For more information, see [Links on smart map on page 297](#).

## Creating smart maps

### Using smart maps

Before you can take advantage of smart map features, you must complete a few configuration tasks in XProtect Smart Client.

You can only view a smart map if it has been added to a view.

See also [Add a smart map to a view on page 279](#). For more information, see [Smart Maps on page 118](#).

### Add a smart map to a view

If you have created a smart map with a virtual presentation of the protected area and the locations of all cameras and security devices added to the XProtect VMS, you can add this smart map to your views to improve situational awareness

1. Select the view.
2. On the workspace toolbar, select **Setup**.
3. On the **System overview** pane, drag an existing **Smart map** item to a view item in your view.
4. Select **Setup** again to exit setup mode and save your changes.

### Geographic backgrounds

You can use the following services as the geographic backgrounds of your smart map:

- Bing Maps
- Google Maps
- Milestone Map Service
- OpenStreetMap

After you have selected the geographic background, you can add the devices, for example cameras, and custom overlays, for example shapefiles. For more information, see [Custom overlays on page 285](#).

### Types of geographic backgrounds

After you have added a smart map to a view, you can use one of the following geographic backgrounds:

- **Basic world map:** use the default geographic background provided in XProtect Smart Client. This map is intended for use as a general reference, and it does not contain features such as country boundaries, cities, or other details. However, like the other geographic backgrounds, it does contain geo-reference data
- **Bing Maps:** connect to Bing Maps

- **Google Maps:** connect to Google Maps



Bing Maps and Google Maps are available in XProtect® Corporate and XProtect Expert only. The use of both services requires internet access.

- **Milestone Map Service** - connect to a free map provider. After you enable Milestone Map Service, no further setup is needed.

See [Enable Milestone Map Service on page 281](#)

- **OpenStreetMap** - connect to:

- A commercial tile server of your own choice
- Your own, online or local tile server

See [Change OpenStreetMap tile server on page 282](#)

- **None** - this option hides the geographic background. Note that the geo-reference data remains there. See also [Layers on smart map on page 283](#).

By default, Bing Maps and Google Maps display satellite imagery. You can change the imagery, for example to aerial or terrain, to see different details.


### [Change geographic backgrounds on smart maps](#)

By default, the basic world map displays when you add a smart map to a view. After you have added the smart map to a view, you can select a different geographic background. Every user who uses the smart map sees the new background the next time that they display this view.

### Requirements

Geographic backgrounds from Bing Maps and Google Maps are available only in XProtect® Corporate and XProtect Expert. Your system administrator must also make them available in XProtect Management Client.

To change the background:

1. Select the view that contains the smart map.
2. In the toolbar, click  **Show or hide layers and custom overlays**.
3. Under **Geographic backgrounds**, select the background and the type of detail that you want to display. For example, if you want to see topographical information, select **Terrain**. If you want to see roads, select **Road**.



## Enable Milestone Map Service

Milestone Map Service is an online service with which you can connect to a tile server of Milestone Systems. This tile server uses a free, commercially available map service.

After you enable Milestone Map Service on your smart map, the smart map uses Milestone Map Service as its geographic background.

### Requirements

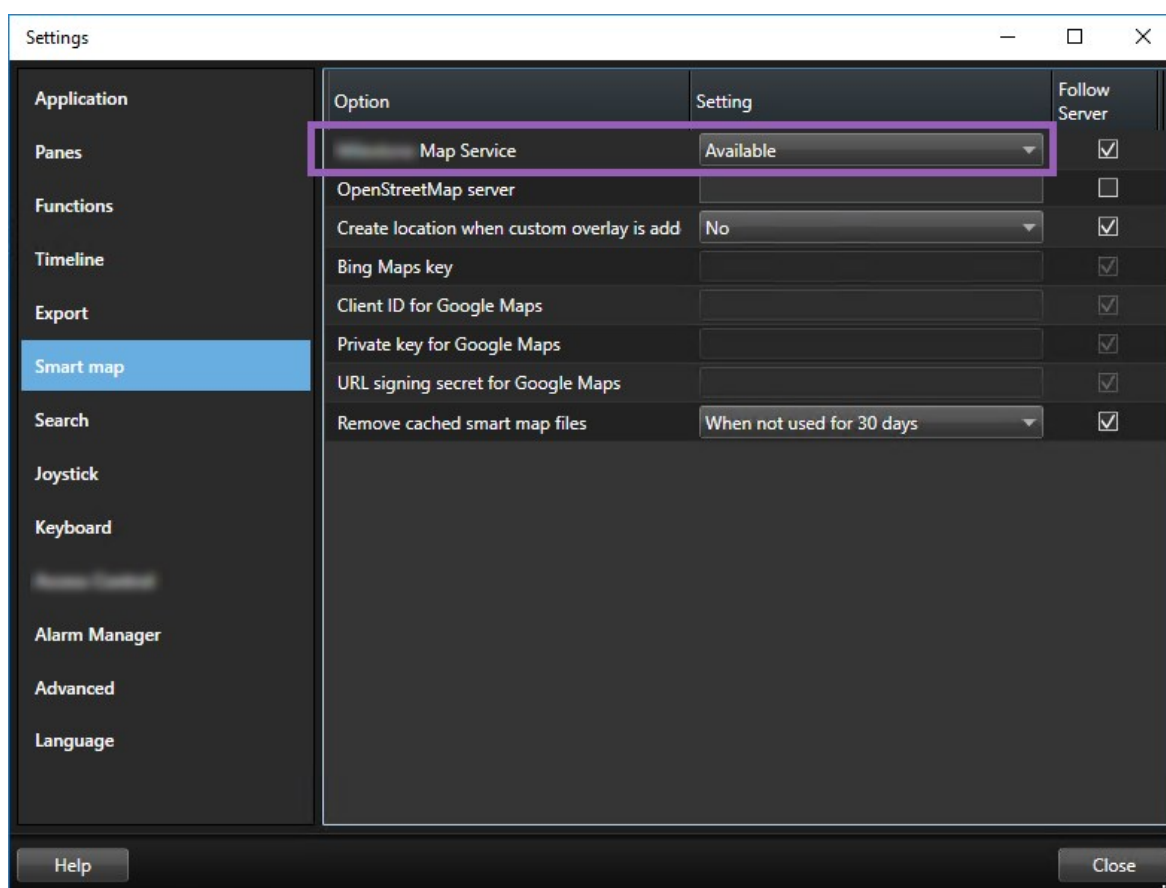
If the Milestone Map Service field is grayed out, you don't have the necessary user permissions to enable or disable the service. Contact your system administrator to help you enable the feature in XProtect Management Client.



Milestone Map Service requires internet access.

Steps:

1. On the global toolbar, select **Settings and more** and then **Settings** .



2. In the left section, click **Smart map**.

3. In the **Milestone Map Service** field, select **Available**.
4. Click **Close**. Next time you load your smart map, it uses Milestone Map Service as the geographic background.

### OpenStreetMap tile server

If you use OpenStreetMap as the geographic background for your smart map, you need to specify a tile server. You can specify a local tile server, for example if your organization has its own maps for areas such as airports or harbors, or you can use a commercial tile server.



To use a local tile server, you do not need internet access.

The tile server address can be specified in two ways:

- In XProtect Management Client - you set the tile server address on the Smart Client profiles. The server address applies to all XProtect Smart Client users assigned to the Smart Client profiles
- In XProtect Smart Client - you set the tile server address in the **Settings** dialog. The server address applies only to that installation

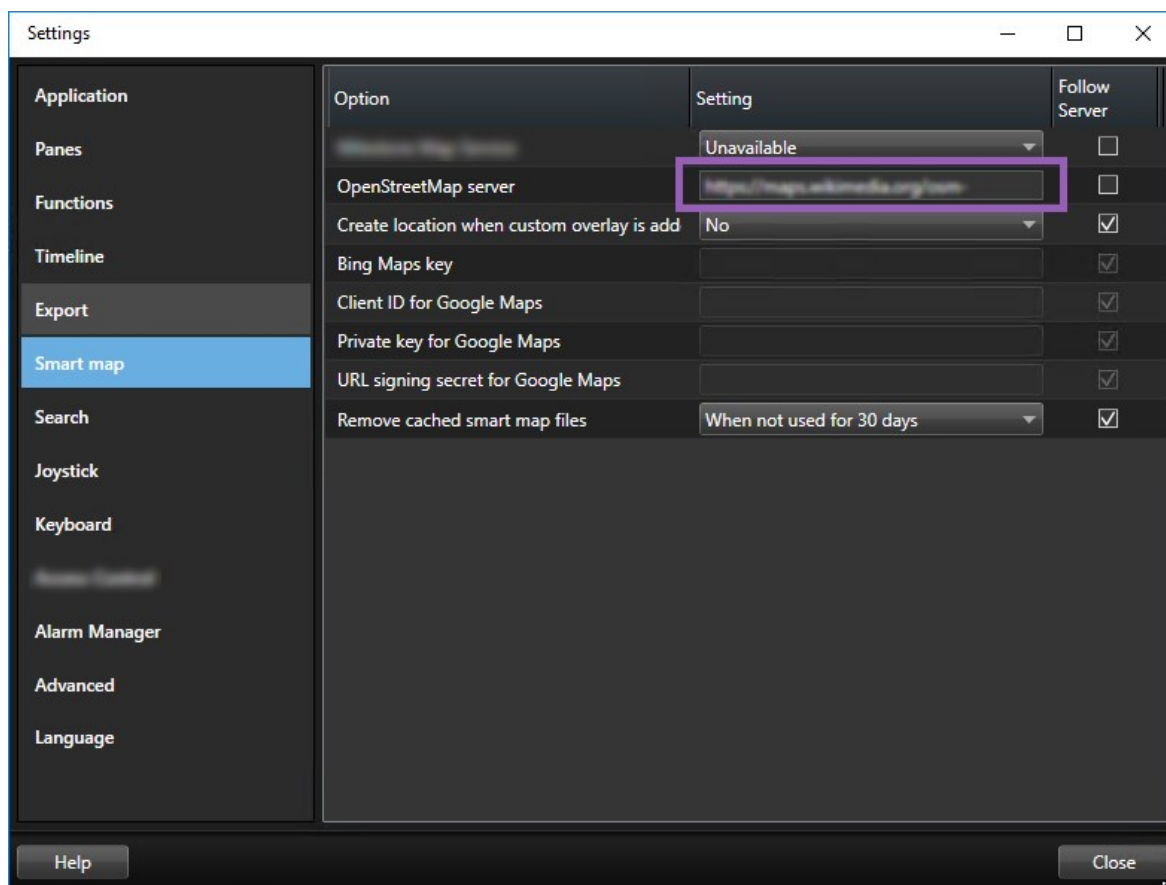
### Change OpenStreetMap tile server

#### Requirements

If the tile server specified server-side has been locked for editing, the field is grayed out and you cannot change the server address. Contact your system administrator to help you enable the feature in XProtect Management Client.

Steps:

1. On the global toolbar, select **Settings and more**  and then **Settings** .



2. In the left section, click **Smart map**.
3. In the **OpenStreetMap server** field, do one of the following:
  - Enter the server address. If the field is grayed out, it has been locked server-side
  - To use the server specified server-side, if any, select the **Follow server** check box
4. Click **Close**. Next time you load your smart map, it will use the OpenStreetMap server that you have specified.



If no server address is specified, or the server address is invalid, then OpenStreetMap is not available as a geographic background.

## Showing or hiding layers on smart map

### Layers on smart map

You can turn layers on and off on your smart map depending on what you want to see.

A smart map has multiple layers. Each layer contains different elements.

You can hide the elements on a smart map layer. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

Layer	Elements
System elements	Cameras, access control units, and other devices. Links and locations.
Custom overlays	Bitmap images, CAD drawings, and shapefiles.
Geographic backgrounds	The basic world map or one of the following services: <ul style="list-style-type: none"><li>• Bing Maps</li><li>• Google Maps</li><li>• Milestone Map Service</li><li>• OpenStreetMap</li></ul>



Bing Maps and Google Maps are available as geographic backgrounds only if your system administrator has enabled them in XProtect Management Client. For more information, see [Geographic backgrounds on page 279](#).

### Order of layers

All system elements of each type are on the same layer. For example, all cameras are on the same layer. If you hide the camera layer, all cameras are hidden. From top to bottom, layers for system elements are arranged in the following order: locations, cameras, links, and geographic background. You cannot change this order.

The geographic background is always the lowest layer on a smart map. You can switch between geographic backgrounds, but you can select only one geographic background at a time.


Custom overlays are added as separate layers, and are stacked in the order in which they were added to the smart map. You rearrange the order by configuring default settings for the map.

### Example

A city planner has a shapefile that shows the city boundaries, and a shapefile that includes all major roads within the city. The planner can arrange the order of layers so that the roads display on top of the city boundaries. This gives a general view of where cameras are in the city, and the ability to zoom in to see the name of the street that a particular camera is on.

### Show or hide layers on a smart map

You can show or hide layers on your smart map, including the geographical background. This feature is useful when you want to focus on a specific element or simplify the display on the smart map.

1. Select your smart map.
2. On the toolbar, select  **Show or hide layers and custom overlays**.
3. To show or hide the layers with **System elements** and **Custom overlays**, select or clear the check boxes.




Hiding the **System elements** layer mutes all microphones until you show the layer again. Manually muted microphones remain muted.

4. To hide the **Geographic background** layer, select **None**.

The geo-references still apply to the smart map even if the geographic background layer is hidden.

### Specify default settings for smart map

After adding a smart map to a view, and you have added the overlays, cameras, and links, you can specify the default settings for the custom overlays. You can also delete custom overlays to clean up.

1. Click **Setup**.
2. Click  **Manage default settings**.
3. Do any of the following:
  - To show or hide an overlay, select or clear the check box
  - To rearrange the order, use the drag handle in front of the overlay to drag it to a new position in the list. Layers are ordered from top to bottom in the list
  - To delete an overlay, hover the pointer over the overlay, and then click **Delete**
4. Click **Save**.

### Adding, deleting, or editing custom overlays

#### Custom overlays

You can add the following types of files as custom overlays on a smart map in XProtect Smart Client:

- **Shapefile** - can contain geo-spatial vector data, such as points, lines, polygons, and attributes that represent objects on a map, such as walls, roads, or geographical features like rivers or lakes. For example, city planning and administration offices often use shapefiles because they scale well when you zoom in and out, and their file size is often smaller than CAD drawings or bitmap images

- **CAD** - a computer-aided design (CAD) drawing is useful as an overlay because, like shapefiles, CAD data can use a coordinate system and spatial reference to provide accurate geographical context. For example, you can use a detailed ariel map or a road map of a location
- **Image** - if you have an image file, such as the floor plan of a building, you can add it as an overlay on the smart map. You can use the following types of image files: PNG, BMP, GIF, JPG, JPEG, PHG, TIF, and TIFF



To put custom overlays into focus, you can temporarily hide other types of layers. See [Layers on smart map on page 283](#).

## Custom overlays and locations

You can quickly jump to custom overlays that you have added to your smart map as described in [Go to a custom overlay on your smart map on page 125](#). However, in the settings, you can establish a connection between custom overlays and locations. This means that whenever you add a new custom overlay, XProtect Smart Client creates a location with the same name as the overlay on the exact same spot on the map. The location of the custom overlay now becomes available in the **Select a location** list.



The overlay and location are not linked. For example, you can delete or rename the location without changing the overlay, and vice versa.




To turn on this feature, see [Add locations to custom overlays \(smart map\) on page 287](#).

## Add custom overlay on smart map

Increase the level of detail on your smart map by adding custom overlays. When you add a custom overlay, XProtect Smart Client creates a location with the same name as the overlay.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.
2. Click  **Add a custom overlay**:
  - If the overlay is geo-referenced, click anywhere on the smart map. XProtect Smart Client uses the geo-reference information to place the overlay in the correct geographic location. Additionally, the smart map will center on the overlay at a default zoom level
  - If the overlay is not geo-referenced, go to the point on the map where you want to add the element, and then click the point on the smart map



Before you add an overlay, it's a good idea to zoom in to the place on the map where you want to put it. This makes it easier to accurately position the overlay.

3. Enter a name for the overlay.
4. Depending on the file type you select:
  - **Image** - select the image file, and then click **OK**
  - **Shapefile** - select the SHP file. If you have a PRJ file, XProtect Smart Client will find it, and you can just click **OK**. If you do not have a PRJ file, you can reposition the overlay manually after you add it. You can also apply fill- and line colors. Adding colors can make the shapefile stand out more on the smart map
  - **CAD** - select the DWG file. If you have a PRJ file, click **OK**. If you do not have a PRJ file, and you want to use geo-referencing to position the file on the smart map, enter the spatial reference identifier (SRID), and then click **OK**. If you do not have a PRJ file or an SRID, you can reposition the overlay manually after you add it





For more information about the types of overlays, see [Custom overlays on page 285](#).

### Add locations to custom overlays (smart map)

You can configure XProtect Smart Client to automatically add locations to custom overlays on your smart map. This allows you to jump to the custom overlays through the **Select a location** list.


Steps:

1. On the global toolbar, select **Settings and more**  and then **Settings** .
2. Go to the **Smart map** tab.
3. In the **Create location when layer is added** list, select **Yes**.
4. Close the dialog to save the changes.



For more information, see [Custom overlays and locations on page 286](#).

### Delete custom overlay on smart map

1. Select the view that contains the smart map, and then click **Setup**.
2. In the toolbar, click  **Manage default settings**.
3. Hover the pointer over the custom overlay, and then click **Delete**.
4. Click **Save** to delete the custom overlay.
5. Optional: If a location was created for the custom overlay, you might want to delete that as well. For more information, see [Locations on smart map on page 298](#).

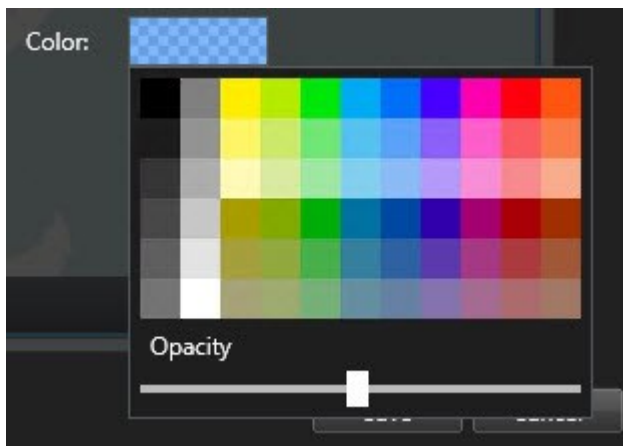
### Make areas in shapefiles more visible (smart map)



This topic is relevant only if you are using shapefiles with polygons.

If you want to use a shapefile on your smart map that consists of polygons in close proximity, you may need to distinguish the individual polygons from each other. You do that by decreasing the opacity of the color you pick for the shapefile. The borders of the polygons will stand out.

1. Follow the steps described in [Add custom overlay on smart map on page 286](#).
2. When selecting the color, drag the **Opacity** slider to the left until you are ok with the level of transparency.



3. Click **Save**.

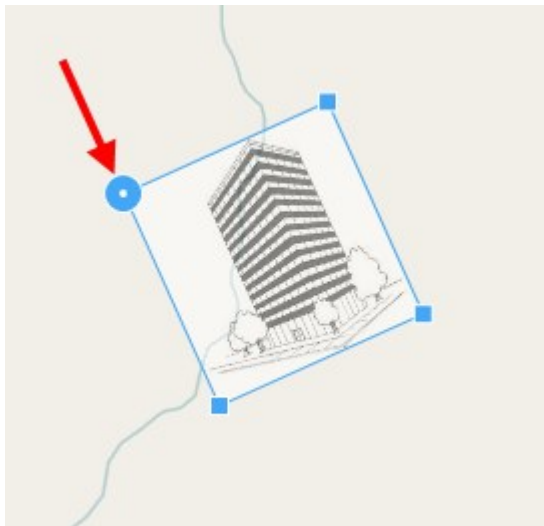


### Adjust position, size, or alignment of custom overlay

You can move an overlay to a different place on the map, make it larger or smaller, and rotate it. For example, this is useful if your overlay is not geo-referenced, or the overlay is geo-referenced but for some reason does not align exactly with the geographic background.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.
2. Right-click the overlay, and select **Edit position**.
3. To resize or rotate the overlay:
  - Click and drag a corner handle
  - To rotate the overlay around a specific point, move the pivot point to that place on the map. Then click and drag a corner handle



4. To move the overlay on the map, click and drag the overlay.
5. To save the change, click **Save**.

### Adding, deleting, or editing devices on smart map

#### Devices on a smart map

You can add devices to a smart map in their actual positions in your environment. This gives you a good overview of your surveillance system, and can help you respond to a situation. For example, if you want to follow a suspect during an ongoing incident, you can click the cameras on the map to view their footage.

After you add a camera to a smart map, you can adjust the field of view for the camera icon so that it reflects the field of view of the actual camera. This makes it easy to find the camera that is covering a particular area. Additionally, you can select an icon to represent the camera on the map, which can help you identify the type of camera on the map.

You can work with the following device types on smart maps:

- Cameras
- Input devices
- Output devices
- Microphones

### Add devices to smart map

If the geo-coordinates of the device have been specified in XProtect Management Client by your system administrator, the device will automatically be positioned on the smart map when you add it. If not, you must position the device yourself in its exact geographic location.





If your system administrator has specified the geo-coordinates of the device, you can easily find the device on a smart map. Contact your system administrator to enable Smart Maps in XProtect Smart Client.

1. Select the view that contains the smart map, and then click **Setup**.

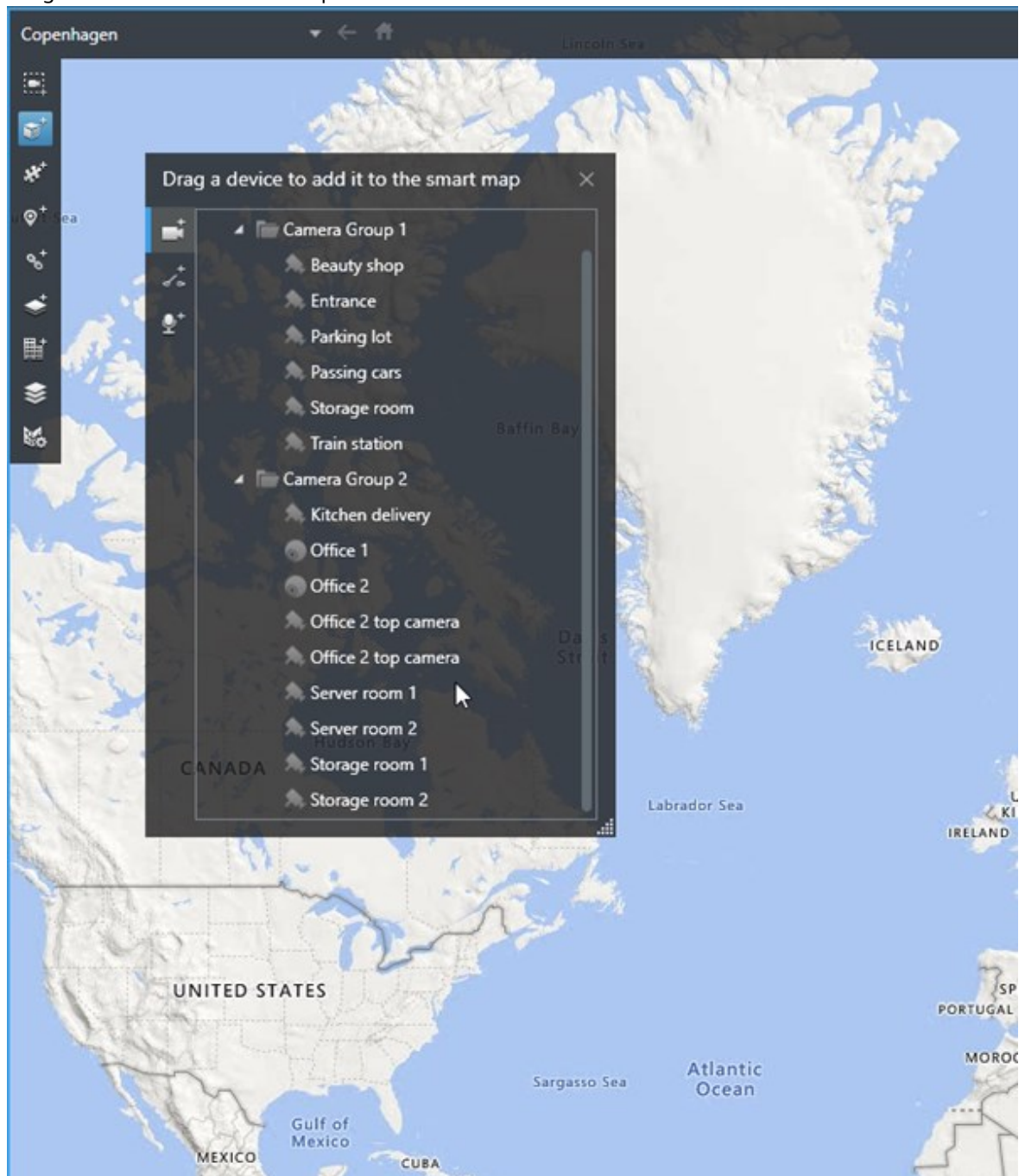
2. To add a device or a group of devices:



Before you add the device, it's a good idea to zoom in to the location on the map. This makes it easier to accurately position the device if the device has no geo-coordinates.

- Expand the **System overview** pane, find the device or device group, and then drag it to the point on the smart map where you want to display it. You can drag devices afterward to reposition them
- On the smart map toolbar, select  **Add a device**, and then select the device type.
  - Example: In the case of a camera, select  **Add a camera**, and then select the camera.

- Drag the device to the smart map



3. To save the change, click **Setup** to exit setup mode.

### Change field of view and direction of camera

Once the camera has been added to the smart map, you can change field of view and direction by adjusting the camera icon.



If you are zoomed out on the map, you may have to zoom in until the field of view is displayed.

1. Select the view that contains the smart map that you want to work with.
2. Click **Setup** to edit the camera icon.
3. Click the camera icon.

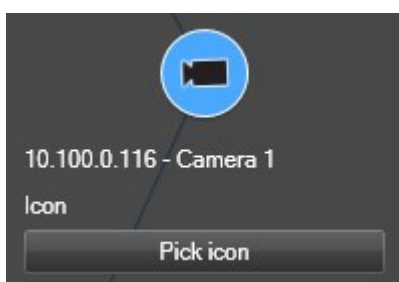


4. Use the rotate handle to point the camera in the right direction.
5. To adjust the width, length, and angle of the field of view, click and drag the handles at the front edge of the field of view.
6. To save your changes, click **Setup** to exit setup mode.

### Select or change device icon

You can choose a device icon that matches the type of device that you are using.


1. Select the view that contains the smart map that you want to work with.
2. Click **Setup**, and then double-click the device icon on the map.



3. Click **Pick icon**, and then select the icon for the device.
4. Click **Setup** again to save the change.

### Show or hide device information

You can show or hide information about devices on a smart map. This is useful, for example, when you want to increase or reduce the amount of content on your smart map.

1. Select the view that contains the smart map that you want to work with.
2. Click  **Show or hide layers and custom overlays**.
3. Select or clear the check boxes for the information to show or hide.

### Remove devices from smart map

You can remove devices, for example if devices have been physically removed or were added by mistake. By removing a device, the positioning information of the device, for example the geo coordinates, are removed from your VMS system.

#### Requirements

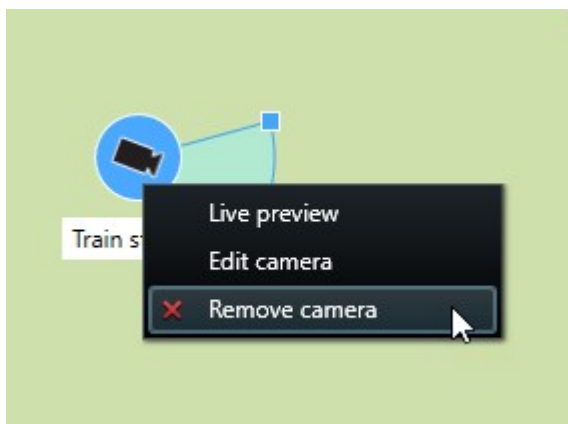
These user permissions must be enabled in XProtect Management Client:

- Editing of smart maps
- Editing of devices


Steps:

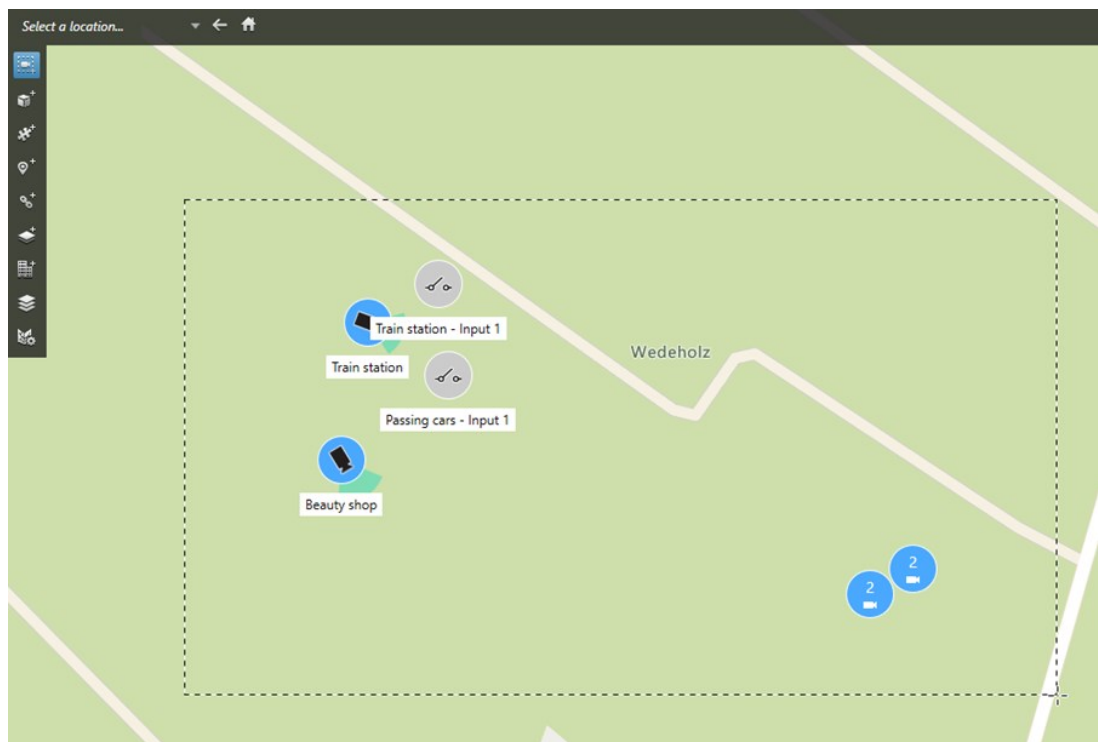
1. Navigate to the device that you want to remove.
2. On the workspace toolbar, select **Setup**.
3. To remove a single device, right-click the device and click **Remove**.

Example: In the case of a camera, click **Remove camera**.



4. To remove several cameras:

1. On the smart map toolbar, click  **Select multiple cameras**.



2. Click and drag to select multiple cameras. Other types of devices, for example input devices, are not included in the selection.
  3. Right-click and select **Remove cameras**.
5. To remove several devices that are not cameras:
1. On the smart map, press and hold Ctrl.
  2. While holding down Ctrl, click the devices that you want to remove.
  3. Right-click one of the selected devices and select Remove.
6. Select **Setup** again to exit setup mode and save your changes.



You can also delete a single device by selecting it and then pressing **DELETE** on your keyboard.




## Adding, deleting, or editing links on smart map

### Links on smart map

You can add links that go to locations on your smart map, or go to the static maps in XProtect Smart Client. This lets you quickly visit locations, or display another type of map without changing to another view. You cannot link to another smart map. For more information, see [Differences between maps and smart maps on page 278](#).

Links display locations and maps as follows:

- A link to a location displays the location in the current view. To return to a location that you previously viewed, click  **Back** on the smart map toolbar
- A link to a map displays the map in a detached window. This lets you access both types of maps at the same time. You can view and interact with the map but you cannot make changes in the detached window, such as adding cameras




If you color code links, or want to make them more visible on the map, you can specify a color for the link. By default, links to smart map locations are blue, and links to legacy maps are red. If you use a different color, it is a good idea to use the same color for each type of link. For example, this can make it easier to distinguish between links when you use layers to filter items on the map.

### Add link to smart map location or map

Adding links to your smart map lets you quickly visit locations, or display another type of map without changing to another view.

Steps:

1. Select the view that contains the smart map, and then click **Setup**.
2. Go to the point on the map where you want to add the link.
3. In the map toolbar, click  **Add a link**, and then click the point on the map where you want the link to be.
4. Specify whether you want to link to a smart map location, or a map, and then click **Add**.
5. Enter a name for the link.



You can display the title of the link on the smart map if you select **Icon and text** as the display style. Typically, names indicate where the link takes you.

6. In the **Destination** field, select the map or location that the link goes to.
7. In the **Display style** field, specify whether to display the name and link icon, or only the link icon on the map.
8. Optional: Click **Color** to specify a color for your link.

### Edit or delete link on smart map

Once you have added a link on your smart map, you can edit or delete it.

Steps:

1. On the workspace toolbar, select **Setup**.
2. To edit the link, right-click the link and select **Edit link**.
3. To delete the link, do one of the following:
  - Right-click the link and select **Delete link**
  - Select the link and press **DELETE** on your keyboard

### Adding, deleting, or editing locations on smart map

#### Locations on smart map


You can create locations at the points on the smart map that are of interest to you. For example, you can create locations for your home office, and satellite offices. Not only do locations give you a full picture of your environment, they are also useful for navigating the smart map.



Depending on your configuration, when you add a custom overlay, XProtect Smart Client may add a location with the same name as the overlay. For example, this makes it easier to go to the overlay on the smart map when you are zoomed out. The overlay and location are not, however, linked. For example, you can delete or rename the location without changing the overlay, and vice versa. For more information, see [Locations on smart map on page 298](#).

#### Home locations for smart map

Home locations are specific to the view item they are set in. You can have different home locations in different view items. If a home location is not specified for a view item, the view item displays the whole world, regardless of the type of background you are using. This is also the case if you delete the home location.



While you are working with the smart map, you can click  **Home** to return to the home location. This is similar to resetting the smart map in the view. You return to the default settings for the view item, and the system deletes the history of the locations you visited.



Selecting a new home location affects everyone who uses the view item. If someone else had set another location as home, you are changing their setting.

### Add location to smart map

To keep track of the places that are of interest to you, you can add locations that allow you to quickly navigate to those places on the smart map.

1. Select the view that contains the smart map, and click **Setup**.
2. If needed, pan and zoom in to the point on the smart map where you want to add the location.
3. In the toolbar, click  **Add a location**, and then click the point on the smart map.
4. Give the location a name, and then add the following optional details:
  - Specify a zoom level to apply when someone goes to the location on the smart map
  - Select a color for the location icon. Color-coding locations is useful, for example, for distinguishing between types of locations. This could be based on the function of the location or its type, or indicate the location's priority
  - Optional: Make the location your home location. The smart map centers on this location, and applies the default zoom level setting for it, when you click  **Home**

### Edit or delete location on smart map

Once you have added locations on your smart map, you can delete them or edit the settings, for example deleting the home location.

Steps:

1. On the workspace toolbar, select **Setup**.
2. To edit a location, right-click the location and select **Edit location**.
3. To delete a location, do one of the following:
  - Right-click the location and select **Delete location**
  - Select the location and press **DELETE** on your keyboard

### Linking between locations

For example, you can create a patrol route by creating a series of links between locations. Create a link at location A that goes to location B, and a link at location B that goes to location C, and so on. For more information, see [Links on smart map on page 297](#).

## Adding, deleting, or editing buildings on smart map

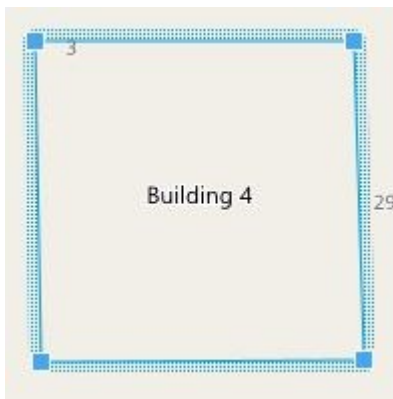
### Buildings on smart map

Buildings on the smart map are depicted as polygons with four edges. Once added, you can adjust the dimensions, angles, and size to match the actual shape and position of the building.

If the building is a multistory building, you can start adding levels and add cameras to the individual levels. This allows you to navigate the cameras inside the building, level by level.

To help you illustrate the interior of a level, you can add custom overlays to levels, for example an image illustrating a floor plan. For more information, see [Add floor plans to levels \(smart map\) on page 304](#).

Buildings are automatically given a name, for example **Building 4**. Milestone recommends that you change the name. This makes it easier for you to distinguish buildings from one another.




### Add buildings to smart map

Instead of using images or shapefiles to illustrate buildings, you can add an outline of a building. Afterwards, you can change the dimensions, angles, and size to match the shape and position of the actual building.

### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. On the workspace toolbar, select **Setup**.
2. Navigate to the place on the smart map, where you want to position the building.
3. Click  and place the cursor in the relevant position on the smart map.
4. Click again. A rectangle is added to the smart map. If zoomed out, the zoom level automatically increases.
5. If necessary, use the corner handles to adjust the shape and position of the actual building.
6. Select **Setup** again to exit setup mode and save your changes.

### Edit buildings on smart map

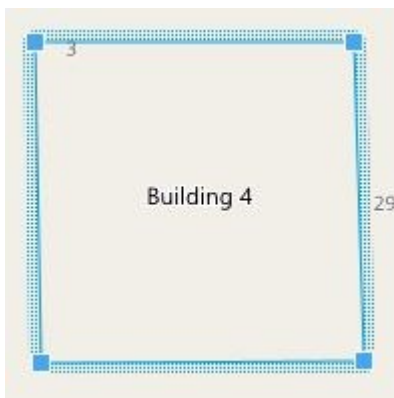
Once a building has been added to the smart map, you can change the name of the building, and adjust the position, the size, dimensions, and angles. You can also add, remove, or reorder levels.



#### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. On the workspace toolbar, select **Setup**.
3. Click anywhere inside the building. A blue-ridged border indicates that you can edit the building.



4. To rename the building, go to the top of the right-side pane and click . Change the name and click . To cancel, press **Esc**.
5. To adjust the corners, click and drag them to a new position.
6. To add or remove levels, see [Add or remove levels from buildings on page 302](#).
7. Select **Setup** again to exit setup mode and save your changes.

### Delete buildings on smart map

If a building is no longer needed, you can delete it. Next time someone logs into XProtect Smart Client or reloads, the building is gone.

#### Requirements


Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. Open the smart map.
2. On the workspace toolbar, select **Setup**.
3. Do one of the following:

- Right-click the building and select **Delete**
- Select the building, and press **DELETE** on your keyboard



An alternate way of deleting a building: In the  **Manage default settings**, scroll down to the **Buildings** section, hover on the building, click **Delete** and then **Save**.

## Managing levels and devices in buildings (smart map)

### Devices and levels in buildings

When you add a device to a building, by default, the device is associated with the default level if one has been specified. Otherwise, the device is assigned to the first level. However, you can change this and associate the device with any other level, or several levels at the same time.

More facts:

- If no levels are selected, the device is visible on all levels
- If you add a building on top of a device that is already positioned, by default, the device is associated with all levels
- If you expand the boundaries of a building so that it covers a device that is already positioned, the device is associated only with the level that is selected



If you readjust the boundaries of the building so that it no longer covers the device, the device is no longer associated with the building.

### Floor plans and devices in buildings

To help you visualize the interior of the levels in a building, you can add floor plans as custom overlays. With a floor plan in place, it is easier to precisely position the device. For more information, see [Add floor plans to levels \(smart map\) on page 304](#).

The devices that you position are associated with levels, not custom overlays. If you delete a level inside a building with devices and a custom overlay, the devices stay in their geographical position, but are no longer associated with the level. However, the custom overlay is deleted together with the level.

If you reorder a level, both the devices and the custom overlay stay with the level. The devices maintain their geographical position.

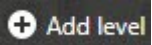
### Add or remove levels from buildings

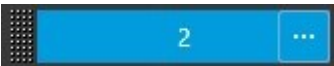
After adding a building to your smart map, you can add any number of levels. The first level is assigned the number **1**, the next **2**, and so forth. Afterwards, you can rename and reorder the individual levels.


### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

#### Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. Select the building. A pane appears on the right-hand side.
3. Click the **Setup** button to enter setup mode.
4. Click **Add level** .
5. To edit the level name:

1. Click the dots  and select **Rename**.
2. Enter a new name.


6. To delete a level, click the dots  and select **Delete**. Devices on this level stay in their geographical position, but they are no longer associated with the level.
7. Click **Setup** to exit setup mode.

#### Change order of levels in buildings (smart map)

##### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

#### Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. Select the building. A pane appears on the right-hand side showing you the levels of the building.
3. On the workspace toolbar, select **Setup**.
4. Click and drag the dotted area  to the correct position. Any associated devices and custom overlays stay with the level.
5. Select **Setup** again to exit setup mode and save your changes.

#### Set default level for buildings (smart map)

If a particular level in a building is more relevant than others, for example the ground floor, you can set that level as the default level. When you open your smart map and go to the building, automatically the default level is selected.


If you navigate away from the building and back, XProtect Smart Client brings you to the level where you left off.


##### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

#### Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. Select the building. A pane appears on the right-hand side showing you the levels of the building. The default level is highlighted.

3. Click **Setup** to enter setup mode. Notice the asterisk . It indicates where the current default level is.

4. On the level you want to set as the default level, click the dots .

5. Select **Set as default**.
6. Select **Setup** again to exit setup mode and save your changes.


### Add floor plans to levels (smart map)

You can add custom overlays, for example floor plan images, to the levels in your building to help you illustrate the interior of a level inside a building. As you navigate the levels, automatically the associated floor plans are displayed.

### Requirements

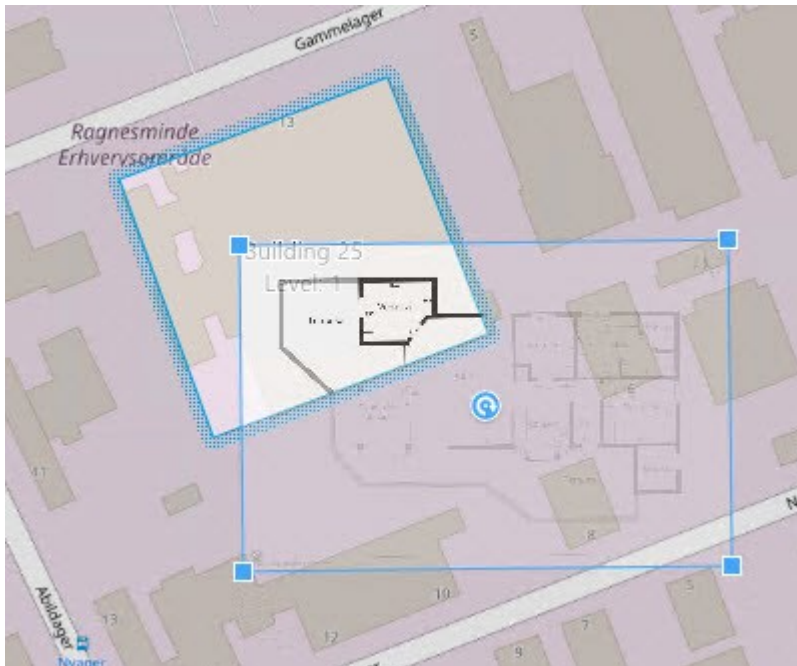
Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. Select the building. A pane appears on the right-hand side showing you the levels of the building.
3. On the workspace toolbar, select **Setup**.
4. Select the level where you want to add the custom overlay.
5. In the upper left corner, click  **Add a custom overlay**, and then click anywhere inside the building outline. A window appears.
6. Select the type of custom overlay. For more information, see [Custom overlays on page 285](#).



7. Select the location on your computer where the file is stored and click **Continue**. The custom overlay is displayed as a blue outline.



8. Drag it onto the outline of the building and use the pivot point and corner handles to rotate and reposition the custom overlay.
9. In the bar at the top, click **Save**.
10. Select **Setup** again to exit setup mode and save your changes.

### Delete floor plans on levels (smart map)

If a floor plan on a level inside a building has changed, you may need to replace the custom overlay illustrating the floor plan. Milestone recommends that you delete the old floor plan, before adding a new one.

### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. Navigate to the building on your smart map. If necessary, zoom in.
2. Select the building. A pane appears on the right-hand side showing you the levels of the building.
3. On the workspace toolbar, select **Setup**.
4. Select the level where the custom overlay is.
5. Right-click anywhere on the custom overlay and select **Delete custom overlay**.
6. Select **Setup** again to exit setup mode and save your changes.



To edit the position or size of the floor plan, right-click the custom overlay and select **Edit position**. Now you can move, rotate, and change the size of the custom overlay.

### Add devices to buildings (smart map)

After creating a building and adding levels, you can add devices to the building. If you've specified a default level, the devices are associated with it. If not, the devices are associated with the first level. You can change the level and associate the device with any of the levels in the building.

#### Requirements

Smart map editing has been enabled on your Smart Client profile in XProtect Management Client.

Steps:

1. Go to the building on your smart map. Zoom in if needed.
2. On the workspace toolbar, select **Setup**.
3. To add a device, click its icon.

Example: in the case of a camera, click  **Add a camera**.

4. Click again on the location to position the device. A window is displayed.
5. Select the device and click **OK**. For each device to add, repeat steps 3-5.
6. To associate a device with one or more levels, right-click the device and select the required levels.
7. Select **Setup** again to exit setup mode and save your changes.



If you haven't selected any level, the device is visible on all levels.

#### FAQ: smart map

##### Can I remove devices from my smart map?

Yes. See [Remove devices from smart map on page 295](#).

##### Can I show the same device on multiple levels in a building?

Yes, you start by placing the device on one level. Next, right-click the device, select **[device] visible on levels** and then specify additional levels that you want the device to be associated with.

##### Can I adjust the building outline to match a round building?

On the smart map, building outlines are square. Milestone recommends that you use the corner handles to adjust the shape of the building to cover the actual building.

##### What files types can I use as floor plans in a building?

You can use any of the supported custom overlays:

- Shapefiles
- CAD drawings
- Images

See [Custom overlays on page 285](#).

### What is the maximum size of custom overlays?

The maximum size of custom overlays are as follows:

- CAD drawings: 100 MB
- Images: 50 MB
- Shapefiles: 80 MB



The maximum size can be adjusted by changing the values in the **client.exe.config** file. Please contact your system administrator.

### Can I add multiple floor plans to the same level?

Yes, you can add any number of floor plans to the same level, for example one for the north-wing and one for the south-wing.

### What if a device in a building is not associated with any levels?

In that case, the device is visible on all levels.

Dissociating a device from the levels in a building is relevant, for example, if the device is located inside an elevator. When you add a device to a building, automatically the device is associated with the selected level. To dissociate the device, in setup mode, right-click the device, select **[device] visible on levels**, and make sure that no levels are selected.

### If I move a building with a floor plan, will the floor plan move with it?

No, the floor plan stays in its original, geographic location and is visible only in setup mode. You must manually reposition the floor plan.

### If I reorder a level within a building, will the devices stay with the level?

Yes, the devices stay with the level.

### What happens to floor plans and devices when I delete a building?

The floor plans are deleted, but the devices remain.

## Troubleshooting: Smart map

### Problems

#### I don't see any devices on my smart map

If you don't see any cameras or other devices on your smart map, the system elements layer is likely hidden. To enable it, see [Show or hide layers on a smart map on page 285](#).

### **My device doesn't appear on the smart map**

If one or more devices should appear on the smart map, but don't, then it's likely that the devices haven't been geographically positioned.

To resolve this issue, either:

- Drag the devices onto the smart map from the device hierarchy. You can only do this action if device editing is enabled on your user profile.
- Or ask your system administrator to specify the geo-coordinates in the device properties in XProtect Management Client

### **Error messages and warnings**

#### **Cannot save the map. Cannot perform the operation.**

You're trying to add devices to a smart map manually in XProtect Smart Client. A probable cause is that you're running XProtect Smart Client 2017 R1 against an installation of XProtect Corporate 2017 R2. XProtect Smart Client looks for the position of the device on the event server, but in version 2017 R2 or newer of XProtect Corporate the geo coordinates are stored on the management server.

To resolve the issue, upgrade XProtect Smart Client to version 2017 R2 or newer.

#### **This device has not been placed on the smart map**

You have selected a search result, but the associated device is not displayed on the smart map in the preview area. The reason is that the device has not been geographically positioned. To resolve this issue, do one of the following:

- Go to your smart map and add the device. See [Add devices to smart map on page 290](#).
- Ask your system administrator to specify the geo coordinates in the device properties in XProtect Management Client.

## **Creating maps**

### **Add maps to views**

You can add existing maps to views or create new ones.

1. On the workspace toolbar, select **Setup**.
2. In the **System overview** pane, drag the **Map** item to a position in the view. A window appears.
3. Select either **Create new map** or **Use existing map**. A triangle next to a map name indicates that the map might have one or more sub-maps. Sub-maps and the elements they contain are also added.

4. In the **Name** field, enter a name for the map. The name will be displayed in the title bar of the position.



If you leave the **Name** field blank and click **Browse**, the **Name** field displays the name of the image file you select.


5. Click **Browse** to browse for the image file to use as a map.
6. Click **Open** to select image file.
7. Click **OK**.
8. Select **Setup** again to exit setup mode and save your changes.




If you are connected to a surveillance system that supports Milestone Federated Architecture, you can only add maps from the surveillance system server you logged in to.

## Map settings

In setup mode, you can use the **Properties** pane to adjust a number of settings for individual maps.

Name	Description
Home map	Displays the map that forms the basis of the particular map view. The field is read-only, but you can change the map by clicking the selection button  to open the <b>Set up map</b> window.
Rename map	Edit the name of your map.
Change background	Change the map, but keep the elements on the map in their relative positions to each other.
Icon size	The <b>Icon size</b> drop-down list lets you select the size of new elements added to the map, ranging from <b>Tiny</b> to <b>Very large</b> . You can re-size icons on the map by pulling the sizing handles in the corners of the icons.
Show name	The <b>Name</b> check box lets you enable/disable whether names of elements are displayed when adding new elements.

Name	Description
	<div>  <p>If you have added an element to the map and the element name is not displayed on the map, right-click the required element and select <b>Name</b>. If you do not want the element name displayed, right-click the name and select <b>Delete text</b>. <b>Icon size</b> drop-down list lets you select the size of new elements added to the map, ranging from <b>Tiny</b> to <b>Very large</b>. You can re-size icons on the map by pulling the sizing handles in the corners of the icons.</p> </div>
<b>Allow pan &amp; zoom</b>	Select to allow pan and zoom on the map in live mode.
<b>Auto maximize map</b>	Select to automatically maximize the map to full screen in Live mode when the XProtect Smart Client has not been used for the number of seconds defined in <b>Timeout</b> . The maximum number of timeout seconds is 99999.
<b>On mouse over</b>	Select to display a live video preview when you move the mouse over a camera.
<b>Use default display settings</b>	<p>Select to define that the preview window looks the same as your other views. Clearing this check box lets you define the <b>Title bar</b> and <b>Live indicator</b> settings for previews.</p> <p><b>Title bar:</b> select to display a title bar with the name of the camera.</p> <p><b>Live indicator:</b> select to display the indicator for live video, which flashes green when the image is updated. See <a href="#">View the status of live video on page 85</a>. You can only select <b>Live indicator</b> if you have also selected <b>Title bar</b>.</p>
<b>Status visualization</b>	Select to graphically display the status of the elements added to a map. See <a href="#">View status details on maps on page 137</a> .
<b>Enable status details support</b>	When selected, you can see status details on cameras and servers in live and playback mode.
<b>Automatically change map on alarm</b>	Select to automatically change the map in the preview when you select an alarm to display the map for the camera that the alarm relates to.

Name	Description
<b>Only show on hover</b>	Select to only show camera view zones and PTZ presets when you move your mouse over the camera, view zone or preset. This setting is useful if you have several cameras on a map with overlapping view zones or several presets. The default value is to show view zones and presets.

### Tools in the map toolbox

The map toolbox consists of a number of tools for configuring the map. Selecting either **Camera**, **Server**, **Microphone**, **Speaker**, **Event**, or **Output** opens the **Element selector** with a list of cameras, servers, microphones, speakers, events, and output, allowing you to place these elements on the map.

### The right-click menu for maps

By right-clicking maps or map elements on the **Setup** tab, you get access to a shortcut menu.

### Change the background of a map

If you need to update the map but want to keep all the information on it, you can just replace the map background (if you have the necessary map edit user permissions). This allows you to keep all your cameras, and other elements in their relative positions on a new map. Select **Change map background**, by right-clicking the map or in the **Properties** pane.

### Remove the map

Right-click the map in the view, and select **Remove Map**. This will remove the entire map, including added elements representing cameras, microphones, speakers, etc. The map is only removed from the view. The image file will still exist on the surveillance system, and can thus be used for creating a new map.

You can also remove a map through the **Map overview**.

### Add and remove elements from maps

1. In setup mode, right-click the map and select **Toolbox**.
2. In the toolbox, click the required element icon to open the **Element selector** window.
3. You can use the filter to quickly find a required element: enter a search criterion to narrow down the list of displayed elements to fit your search criterion.
4. Select the element and drag it onto the map.
5. To remove an element, right-click the unwanted element (camera, hot zone, server, event, output, microphone, or speaker) and select **Remove [element]**.

6. To move an element, click and drag it to a new position on the map.
7. To change the orientation of an element, select it and place your mouse over one of the element's sizing handles. When the mouse pointer changes appearance to a curved arrow, click and drag the element to rotate it.



You can use the selector tool from the toolbox to select and move elements on a map, or to pan the map.



If your map has a color that makes it difficult to see the elements on the map, try creating a text box and fill it with a color that makes it stand out from the map. Add the required elements to the map, then drag them into the text box.



#### Add a hot zone to a map

1. In setup mode, right-click the map and select **Toolbox** (see [Tools in the map toolbox on page 311](#)).
2. In the toolbox, select the **Hot zone** tool:





3. Move the mouse pointer onto the map. The mouse pointer now displays the hot zone icon and a small white cross to indicate that hot zone drawing is enabled.



To draw the hot zone, click the map where you want to start drawing the hot zone. The starting point is now indicated by a large blue dot—also known as an anchor—on the map:



The hot zone drawing tool makes straight lines only; if you want a rounded hot zone border, you must use several small straight lines.

4. Click the hot zone starting point to complete drawing the hot zone. The hot zone is now outlined with a dotted line, indicating that no sub-map has been attached to the hot zone.



You can alter the outline of a hot zone by pulling the hot zone anchors.

5. To attach a sub-map to the hot zone, double-click the dotted hot zone to open the **Map Setup** window.


You can change the color of the hot zone using the color tool. Using different colors for hot zones helps users differentiate between adjacent hot zones.




If you are connected to a surveillance system that supports Milestone Federated Architecture (see [Your organization's XProtect products and extensions on page 27](#)), a maximum of 20 hot zones on a single map can point to maps from other surveillance system servers. There is no such limit for hot zones pointing to maps belonging on the server to which you are logged in.

## Change the appearance of map elements

You can change the color of texts, backgrounds, hot zones, etc. on maps to differentiate map elements from each other.

1. In **setup** mode, right-click the map and select **Toolbox**.
2. Select the element that you want to change.
3. In the toolbox, select the color fill tool . This will open the **Color selection** window.



Use the color picker tool  to use an existing color from the map.

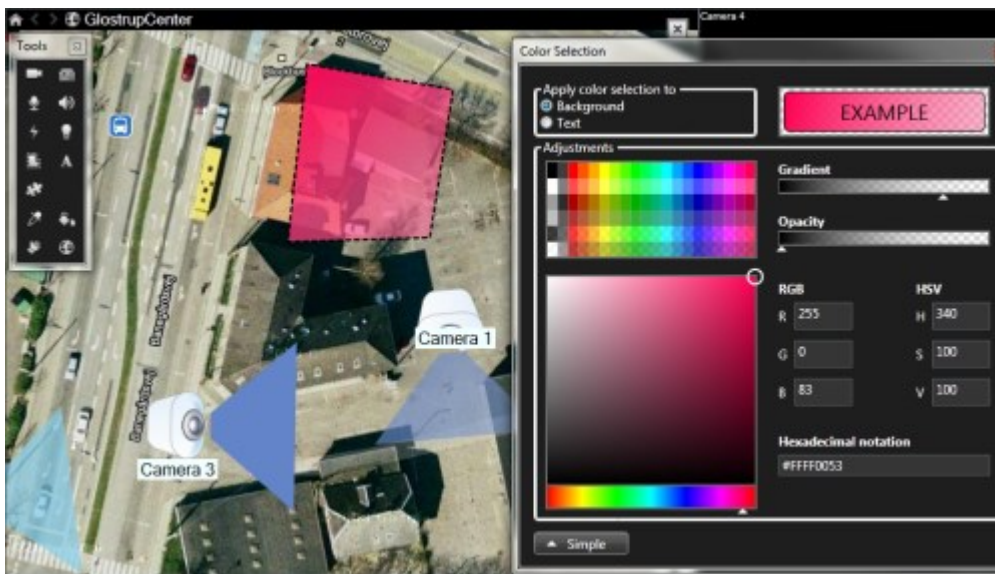
4. Only relevant for text elements: Select whether you want the color change to apply to text or background.
5. Select the color from the color palette—you can see a preview of the selected color in the EXAMPLE box.
6. Click the map element to fill it with the new color.

### Adjusting Gradient

Use the **Gradient** slider to adjust how the element color fades from left to right.

Dragging the slider to the far right will make the element color fade instantly. Dragging the slider to the far left will make the element color almost not fade at all.

Drag the **Gradient** slider to the required level, then click the map element to apply color and gradient.

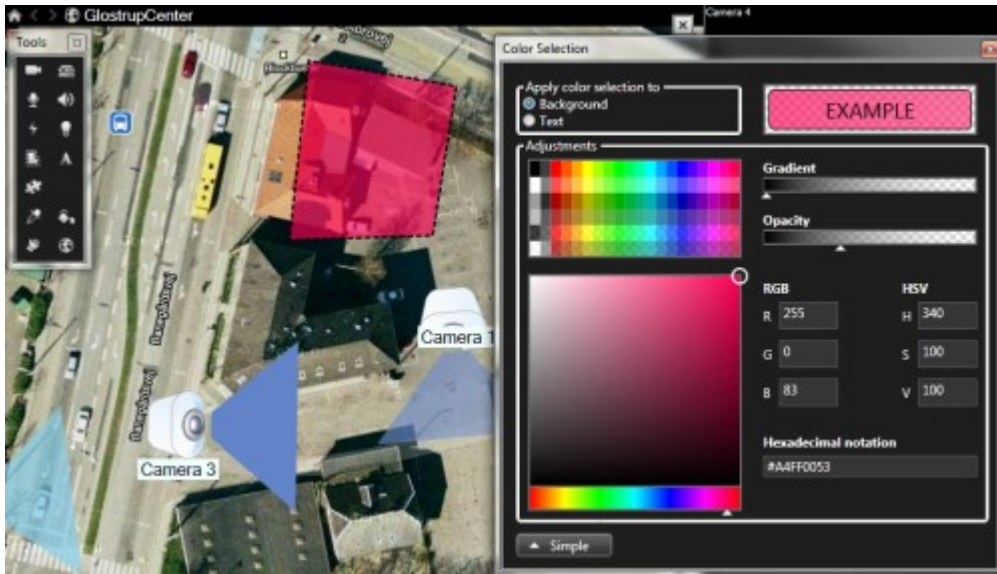


### Adjusting Opacity

Use the **Opacity** slider to adjust the transparency of the color fill.

Dragging the **Opacity** slider to the far right will make the color completely transparent, while dragging the **Opacity** slider to the far left makes the color completely solid.

Drag the **Opacity** slider to the required level, then click the map element to apply color and opacity.



### Advanced Color Change

You can fill map elements with any color you like. Click the **Color selection** window's **Advanced** button to access the advanced color selection options. Do one of the following:

- Use the color slider to select the main color shade, then drag the color circle to select the required tone.
- Enter the hexadecimal color code in the **Hexadecimal notation** field.

### Edit and rotate labels on a map

All elements on a map have a label, making it easy to identify them.

If you have a great number of elements on a map, it can be difficult to have enough room for all the labels. You can edit the name of the devices, by selecting the label and then entering a new (shorter) name for the device.



When you rename a label, you are only changing the label on the map, not the name of the camera or element in the system.

You can also make sure your labels don't overlap by rotating them. To rotate a label on a map:

- Select the label and place your mouse over one of the sizing handles. When the mouse pointer changes appearance to a curved arrow, click and drag the label to rotate it



Another way to save space on a map is to select only to show view zones and PTZ presets on hover (see [Map settings on page 309](#)).

### Add/edit text on a map

You can insert text anywhere on the map, for example, to inform users of maintenance situations.

1. In setup mode, right-click the map and select **Toolbox**.
2. In the toolbox, select the text tool:



3. In the **Font selection** window, edit your text settings.



You can always edit your text settings; click the required text box and select the text tool from the toolbox, then change the text settings for the selected text box.

4. On the map, click where you want to place the text.
5. Enter your text. Press **ENTER** on your keyboard to make the text box expand downwards.



You can use the color fill tool to change the text color and background.



You can move the text box around; select the selector tool, grab the text box on the map, and move the text box.

### FAQ: maps

#### Which image file formats and sizes can I use for maps?

You can use bmp, gif, jpg, jpeg, png, tif, tiff, and wmp file formats for maps.

Image file size and resolution should preferably be kept under 10 MB and 10 megapixels. If you use larger image files, this can cause low performance in the XProtect Smart Client. You cannot use images larger than 20 MB and/or 20 megapixels.

Maps are displayed in the XProtect Smart Client on the basis of the graphic file's properties, and adhering to Microsoft standards. If a map appears small, you can zoom in.

#### Can I change the background of a map but keep the cameras in their relative positions?

Yes. If you need to update the map but want to keep all the information on it, you can just replace the map background (if you have the necessary map edit user permissions). This allows you to keep all your cameras, and other elements in their relative positions on a new map. Select **Change map background**, by right-clicking the map or in the **Properties** pane.

## Migrating from a map to a smart map

### Migration from a map to a smart map

You can use the Map Migration Tool to migrate from the maps functionality to smart maps in a few steps. The Map Migration Tool enables you to transfer existing map images from the maps functionality to the smart map, so you don't need to manually add items to the smart map. Smart maps are more advanced than maps. They can connect with map services like Google Maps or Bing Maps and, in advanced multi-site setup, enable you to monitor multiple sites from a central location.

With smart maps, you can:

- connect existing offline maps with online map services like Google Maps, Bing Maps, OpenStreet Map, or the Milestone Map service.
- access the maps of other locations from a one, central map in XProtect Smart Client if your Milestone XProtect VMS is part of a Milestone Federated Architecture setup.
- get visual feedback right away: when an alarm is triggered, the smart map shows the exact location of the alarm, allowing you to quickly assess and respond to the situation.

### Migrating from a map to a smart map with the Map Migration Tool

Use the Map Migration Tool to migrate map images and the position of devices and access control units from your existing map to a smart map.

Prerequisites:

- Back up your configuration before you proceed with the map migration to avoid scenarios where you unintentionally move items on the smart map.
- To set up a new smart map, you must have at least one view set up with a free view item.
- You must have access to setup mode in XProtect Smart Client.

To migrate your items from a map to smart map:

1. On the top ribbon of XProtect Smart Client, enter setup mode.
2. On the left-hand toolbar of the smart map, click **Add a custom overlay or import a map**.
3. Place your mouse cursor over the position on the smart map where you want to add the map image, then click to place it.
4. In the **Add custom overlay** window, specify the following
  - (Optional) Give the map image a name. If you didn't enter a name of the map overlay, the map is automatically given the same name as the file name of the map overlay.
  - Select **Maps** as your overlay type and from the drop-down list, select the map to add.
5. Review the information message. Make sure that your system configuration is already backed up.

6. Place the imported map overlay in a geographically correct context on the smart map. You can resize, move, or rotate the map overlay to match the correct position or building layout on the smart map.

When you're satisfied with the size and position of the map overlay, save the changes.

7. If your map contains any devices or access control units, select if you want to migrate the image map only or all items.
8. If you have selected to import all items and some of the items have already been added to the smart map, you might need to change their position. Select if you want to keep the current position or change it.

When you've made your choice, a Windows Desktop notification is displayed to confirm that you've now added the items.

Repeat this process for each map image to add to your smart map. If you need to, you can add the same map image to the smart map again, for example, to update the position of existing items on the smart map.

## Creating scripts

### Login scripts

#### Scripts for logging into XProtect Smart Client

You can use scripting to control parts or all of the login procedure in XProtect Smart Client.

- If using **Basic authentication** or **Windows authentication**, you can make the XProtect Smart Client login window open with a pre-filled server address and user name fields so users only have to enter a password to log in.
- If using **Windows authentication (current user)**, you can make the XProtect Smart Client connect to the surveillance system automatically, based on the user's current Windows login.

Scripting the login procedure based on **Basic authentication** or **Windows authentication** requires that you add non-encrypted, sensitive information to an SCS file that you store locally with the XProtect Smart Client program files:

- Host name
- Username
- Password



Storing non-encrypted information may compromise the security of your system or GDPR compliance. The information in the SCS file can be read:

- By anyone who can access the file
- In the memory footprint of the XProtect Smart Client application that was started by the SCS file or a command-line that delivers the username and password

Milestone recommends that you use **Windows authentication (current user)**. If you must use **Basic authentication** or **Windows authentication**, you should limit access to the SCS file.

### Scripting for log in - parameters

You can use these parameters:

#### ServerAddress

Refers to the URL of the Management server that XProtect Smart Client connects to.

The following example shows the XProtect Smart Client login window with *http://ourserver* in the **Server address** field:

```
Client.exe -ServerAddress="http://ourserver"
```

The default authentication type is **Windows authentication (current user)**. Unless you change this, using the **AuthenticationType** parameter (described in the following section), the login window automatically displays the current Windows user in the **User name** field.

#### UserName

Refers to a specific user name.

The following example shows the XProtect Smart Client's login window with *http://ourserver* in the **Server address** field, and **Tommy** in the **User name** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy"
```



This parameter is relevant only for **Windows authentication** and **Basic authentication**. You use the **AuthenticationType** parameter to control which authentication method to use.

## Password

Refers to a specific password.

The following example shows the XProtect Smart Client's login window with *http://ourserver* in the **Server address** field, **Tommy** in the **User name** field, and **T0mMy5Pa55w0rD** in the **Password** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD"
```



This parameter is relevant only for **Windows authentication** and **Basic authentication**. You use the **AuthenticationType** parameter to control which authentication method to use.

## AuthenticationType

Refers to one of XProtect Smart Client's three possible authentication methods: **Windows authentication (current user)** (called **WindowsDefault** in startup scripts), **Windows authentication** (called **Windows** in startup scripts), or **Basic authentication** (called **Simple** in the startup scripts).

The following example shows the XProtect Smart Client login window with *http://ourserver* in the **Server address** field, **Basic authentication** selected in the **Authentication** field, **Tommy** in the **User name** field, and **T0mMy5Pa55w0rD** (masked by asterisks) in the **Password** field:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD" -AuthenticationType="Simple"
```

If you use **Windows authentication**, the example is:

```
Client.exe -ServerAddress="http://ourserver" -UserName="Tommy" -
Password="T0mMy5Pa55w0rD" -AuthenticationType="Windows"
```

If you use **Windows authentication (current user)**, the **UserName** and **Password** parameters would not be necessary, and the example looks like this:

```
Client.exe -ServerAddress="http://ourserver" -
AuthenticationType="WindowsDefault"
```

## Script

Refers to a full path to an .scs script (a script type targeted at controlling the XProtect Smart Client).



The following example uses an .scs script to login:

```
Client.exe -Script=c:\startup.scs
```

Example of an .scs script for logging in to *http://ourserver* with the current Windows user:

```
<ScriptEngine>
```

```
<Login>
```

```
<ServerAddress>http://ourserver</ServerAddress>
```

```
<AuthenticationType>WindowsDefault</AuthenticationType>
```

```
</Login>
```

```
</ScriptEngine>
```

You can use many of the XProtect Smart Client's function calls (see [View a list of function calls](#)) to add further functionality to .scs scripts. In the following example, we have added a line so the .scs script from the previous example will also minimize the XProtect Smart Client application:

```
<ScriptEngine>
```

```
<Login>
```

```
<ServerAddress>http://ourserver</ServerAddress>
```

```
<AuthenticationType>WindowsDefault</AuthenticationType>
```

```
</Login>
```

```
<Script>SCS. Application.Minimize();</Script>
```

```
</ScriptEngine>
```

### Format

Valid parameter formats are:

```
{-, /, --}param{ , =, :} ( (".'")value (",'"))
```

Examples:

```
-UserName Tommy
```

```
--UserName Tommy /UserName:"Tommy" /UserName=Tommy -Password 'Tommy'
```

## HTML page scripts for navigation

### Scripting HTML page for navigation

You can use scripting to create HTML pages that let you switch between views. HTML pages can be added to your views, so they appear together with video from your cameras.

Example: In an HTML page, you can insert a clickable floor plan of a building that allows operators to simply click a part of the floor plan to instantly switch to a view that displays video from that part of the building.

### Requirements

- If your XProtect VMS system supports Smart Client profiles, you must enable HTML scripting on the required Smart Client profiles in XProtect Management Client.
- If your XProtect VMS system does not support Smart Client profiles, you must enable HTML scripting in the **Client.exe.config** file.

### Example of an HTML page with button navigation

A very quick solution is to create an HTML page with buttons for navigation. You are able to create a wide variety of buttons on the HTML page. In this example, we will just create two types of buttons:

- **Buttons for switching between the XProtect Smart Client's views**

Required HTML syntax:

```
<input type="button" value=" Buttontext" onclick="SCS. Views.SelectView
('Viewstatus.Groupname. Viewname');">
```

Where **Viewstatus** indicates whether the view is shared or private (if the HTML page is to be distributed to several users, the view **must** be shared).

Example from a real button:

```
<input type="button" value="Go to Shared Group1 View2" onclick="SCS.
Views.SelectView('Shared.Group1. View2');">
```

This button would allow users to go to a view called **View2** in a shared group called **Group1**.

**Buttons for switching between live and playback mode:** Bear in mind that, depending on the users' permissions, some users may not be able to switch to a mode.

Required HTML syntax for **Live mode**:

```
<input type="button" value="Buttontext" onclick="SCS. Application.ShowLive
();">
```

Required HTML syntax for **Playback mode**:

```
<input type="button" value="Buttontext" onclick="SCS.
Application.ShowBrowse();">
```



For advanced users it is possible to create many other types of buttons using the approximately 100 different function calls available for the XProtect Smart Client.

In the following we have created two shared groups in the XProtect Smart Client. We have called them **Group1** and **Group2**. Each group contains two views, called **View1** and **View2**.

We have also created an HTML page with buttons allowing users to switch between our four different views as well as between the live and playback modes. When viewed in a browser, our HTML page looks like this:



HTML page with buttons for navigating between views and tabs

We have saved the HTML page locally, in this case on the user's C: drive. When the HTML page is to be used for navigation, saving the HTML page locally is necessary to open it in compatibility mode. See [Add a web page to a view on page 261](#).

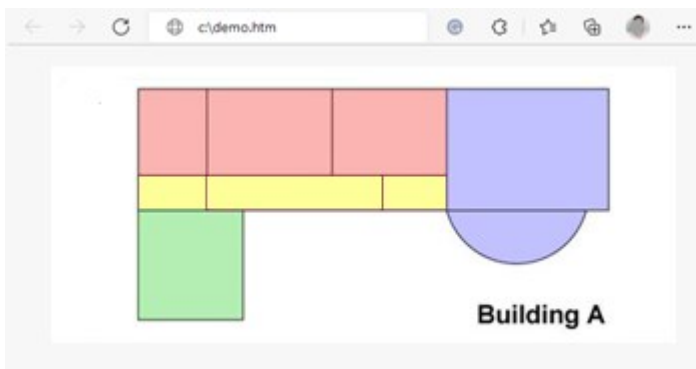
When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: C:\myfolder\file.htm). Saving the HTML page on the user's desktop or in the user's **My Documents** folder will not work properly due to the way Windows constructs the path to such locations.

We then imported the HTML page into the required XProtect Smart Client views.

#### Example of an HTML page with image map navigation

You can create an HTML page with more advanced content, for example, an image map allowing users to switch between views.

In the following example we have kept the two groups and two views from the previous example. Instead of using buttons, we have created an HTML page with an image of a floor plan, and created an image map based on the floor plan. Viewed in a browser, our HTML page looks like this:



HTML page with image map for navigating between views

For this example, we divided the floor plan into four colored zones, and defined an image map area for each zone. Users can click a zone to go to the view displaying cameras from that zone.

For instance, the red zone on our image map mirrors the **Go to Shared Group2 View2** button from the previous example. If you click the red zone, you will go to **View2** in **Group2**.

### Importing the HTML page

Importing a navigation HTML page into a view is in principle no different from importing any other type of HTML page into a view in the XProtect Smart Client. See [Add a web page to a view on page 261](#).



- The HTML page should be stored locally on the operator's computer
- For the navigation to work properly, you may want to import the HTML page into several views

### System administrator's check list

To create and distribute navigation HTML pages to XProtect Smart Client operators, do the following:

1. **Create** the required HTML page. The navigation controls in the HTML page must match the views users see in the XProtect Smart Client. For example, in order for a button leading to **View1** to work, a view called **View1** must exist in users' XProtect Smart Client installations. If you intend to distribute the HTML page to a group of users, the views in which the HTML page will be used should be placed in shared groups.
2. **Save** the HTML page locally on each computer on which it will be used. When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: C:\myfolder\file.htm). Saving the HTML page on the user's desktop or in the user's **My Documents** folder will not work properly due to the way Windows constructs the path to such locations.
3. **Import** the HTML page into the required views in XProtect Smart Client. See [Add a web page to a view on page 261](#).
4. **Test** that the navigation controls on the imported HTML page work as intended.





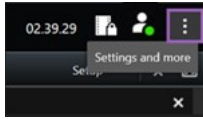
For information about troubleshooting, see [Troubleshooting: Attempts to add a web page to a view on page 263](#).

## Access to user assistance

### Enable or disable access to the user assistance

If your system administrator has given you permission, you can enable or disable direct access to the user assistance in XProtect Smart Client.

1. On the global toolbar, select **Settings and more**  and then **Settings** .



2. From the **Application** tab and in the **Help** list, select one of the following options:
  - **Unavailable** to disable the user assistance.

When you press **F1**, nothing happens. Context-sensitive links and **Help** buttons within XProtect Smart Client are no longer visible.
  - **Available** to enable the user assistance.

When you press **F1**, the relevant topic in the XProtect Smart Client user assistance is opened. Context-sensitive links and **Help** buttons are available.

# Overview of XProtect Smart Client settings

## XProtect Smart Client - Settings overview

XProtect Smart Client – Settings overview is a guide on how to configure and customize the settings of the XProtect Smart Client.

### Subjects covered

The purpose of this guide is to help you optimize the use of XProtect Smart Client by adjusting your work environment according to your specific needs and preferences.

The guide is organized into the following categories according to the tab settings within the application:

- General application settings as well as settings for panes, timeline, joystick, keyboard, and language
- Options for export, map, search, alarms and access control



### Intended audience

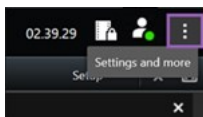
The intended audience for this guide includes system administrators, IT professionals, and technical staff responsible for managing and configuring XProtect Smart Client within their organizations.

## Opening the Settings window

### The Settings window

The **Settings** window lets you control which features and elements, for example, language selection, joystick setup and keyboard shortcut setup, you want to use on each of the tabs.

- On the global toolbar, select **Settings and more**  and then **Settings** .





## The different settings tabs





### Application settings

Application settings let you customize the general behavior and look of your XProtect Smart Client.

If available, the **Follow server** column lets you specify that you want your XProtect Smart Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
<b>Application maximization</b>	<p>Specify how windows in XProtect Smart Client react when you click the <b>Maximize</b> button.</p> <p>To avoid that the Windows taskbar is covered when you maximize a window, select <b>Maximize as normal window</b>.</p>
<b>Camera error messages</b>	<p>Specify how the XProtect Smart Client displays camera-related error messages. These can be displayed as an overlay on top of the camera image or on a black background, or hidden completely.</p> <div>  <p>If you <b>Hide</b> the camera error messages, there is a risk that the operator overlooks that the connection to a camera has been lost.</p> </div>
<b>Server error messages</b>	<p>Specify how the XProtect Smart Client displays server-related message texts. These can be displayed as an overlay on top of the camera image or on a black background, or hidden completely.</p>
<b>Live video stopped message</b>	<p>Specify if the XProtect Smart Client displays a message when a camera is connected but the camera is not sending live video feed. The message can be displayed as an overlay on top of the camera image or on a black background, or hidden completely.</p>
<b>Default for camera title bar</b>	<p>Select whether to show or hide the camera title bar. The title bar displays the name of the camera and the colored indicators signifying events, detected motion, and video recordings.</p> <div>  <p>You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.</p> </div>
<b>Show current time in title bar</b>	<p>Specify whether to show or hide the current time and date (of the computer running the XProtect Smart Client) in the title bar.</p>
<b>Show in empty view positions</b>	<p>Specify what to show if there are empty view items in views, for example, you can select a logo or have just a black background displayed.</p>



Name	Description
View grid spacer	Specify the thickness of the border between view items in views.
Default image quality	<div>  <p>Specifying a default quality of video viewed in XProtect Smart Client is only relevant if you are viewing JPEG streams. If you are viewing other codecs like H264 and H265 and reduce the quality, you will increase the bandwidth, CPU, and GPU usage when re-coding to JPEG.</p> </div> <p>Note that image quality also affects bandwidth usage. If your XProtect Smart Client is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server by selecting <b>Low</b> or <b>Medium</b>.</p> <div>  <p>You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.</p> </div>
Default frame rate	<p>Select a default frame rate for video viewed in the XProtect Smart Client.</p> <div>  <p>You can override this setting on individual cameras by adjusting camera properties for the camera(s) in setup mode.</p> </div>
Default video buffer	<p>If you require very smooth display of live video, without any jitter, it is possible to specify a video buffer.</p> <div>  <p>Video buffering can significantly increase memory usage for each camera displayed in a view. If you do need to use video buffering, keep the buffering level as low as possible.</p> </div>
Default PTZ click mode	Specify a default PTZ click mode for your PTZ cameras. Options are click-to-center or virtual joystick. You can override this setting on individual cameras by selecting a different default PTZ click mode for the camera.
Start mode of	Specify in which screen mode the main window of XProtect Smart Client opens after

Name	Description
main window	you have logged in. Options are <b>Full screen</b> , <b>Maximized</b> , <b>Window</b> and <b>Last</b> .
Restore windows and tabs	<p>Specify whether you want to restore the windows and tabs left open when you last logged out of XProtect Smart Client. Options are:</p> <ul style="list-style-type: none"> <li>• <b>Last:</b> Always restore all windows and tabs you had open when you logged out of XProtect Smart Client.</li> <li>• <b>None:</b> Never restore the windows and tabs you had open when you logged out of XProtect Smart Client.</li> <li>• <b>Ask:</b> When logging in, you're asked if you want to restore your XProtect Smart Client windows and tabs from last session.</li> </ul>
Hide mouse pointer	<p>Specify whether you want the mouse pointer to be hidden after a period of inactivity. You can specify how much time you want to elapse before hiding the mouse pointer. The default option is after 5 seconds. Options are:</p> <ul style="list-style-type: none"> <li>• Never</li> <li>• After 5 seconds</li> <li>• After 10 seconds</li> <li>• After 20 seconds</li> <li>• After 30 seconds</li> </ul> <p>If you move the mouse after a period of inactivity, it is enabled immediately.</p>
Snapshot	<a href="#">Take a snapshot to share on page 142.</a>
Path to snapshots	Specify the path indicating where you want your snapshots to be saved to.
Help	Choose whether to make help available in XProtect Smart Client. If you disable it, pressing F1 won't do anything, context-sensitive links will disappear, and you won't be able to access help from the <b>Settings and more</b> menu.
Timestamp on snapshot	Choose to show or hide timestamps on snapshots. If you choose <b>Show</b> , the timestamps also appear on printed and copied snapshots.

Name	Description
<b>Camera name on snapshot</b>	Choose to show or hide camera names on snapshots. If you choose <b>Show</b> , the camera names also appear on printed and copied snapshots.
<b>Video tutorials</b>	Specify whether the user should be able to access video tutorials for XProtect products from the <b>Settings and more</b> menu.

## Panes settings

The **Panes** settings let you specify whether you want a pane to appear on a particular tab.



Some panes may contain functionality which may not be available to you, either because of your user permissions or the surveillance system you are connected to.

The **Mode** column displays where the pane is available, the **Function** column lists the name of the pane, and the **Setting** column lets you specify whether you want the pane to be available or unavailable.

If available, the **Follow server** column lets you specify that you want your XProtect Smart Client to follow the recommended settings of the server. Certain settings may already be server-controlled, in which case configuration on the server decides whether you can override the settings.



## Functions settings

The **Functions** settings let you specify the functions (for example, playback in live mode) that you want to display on a particular XProtect Smart Client tab.

The **Mode** column displays where the pane is available, the **Function** column displays the name of the function, and the **Setting** column lets you specify whether or not you want the pane to be available.

If available, the **Follow server** column lets you specify that you want your XProtect Smart Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case configuration on the server decides whether or not you can override the settings.

Name	Description
<b>Live &gt; Camera playback</b>	The ability to play back recorded video from individual cameras while in live mode.

Name	Description
<b>Live &gt; Overlay buttons</b>	The ability to view and use overlay buttons in live mode for activating speakers, events, output, moving PTZ cameras, clearing indicators from cameras, etc.
<b>Live and Playback &gt; Bookmark</b>	<p>Select whether you want to add quick or detailed bookmarks from the view item toolbar or through ready-made overlay buttons in live or playback mode. Enabling or disabling this option in playback mode controls whether or not the corresponding button is enabled on the <b>Search</b> tab.</p> <div>  Depending on your user permissions, access to adding bookmarks from some cameras may be restricted. </div>
<b>Live and Playback &gt; Print</b>	The ability to print in live or playback mode. Enabling or disabling this option in playback mode controls whether or not the corresponding button is enabled on the <b>Search</b> tab.
<b>Live and Playback &gt; Bounding boxes</b>	<p>The ability to show bounding boxes on live video in live mode or on recorded video in playback mode on all cameras. Bounding boxes are used for, for example, tracking objects.</p> <div>  The bounding box feature is only available if connected to certain surveillance systems and to cameras that support metadata. Depending on your user permissions, access to bounding boxes from some cameras may be restricted. </div>
<b>Playback &gt; Independent playback</b>	<p>The ability to play back recorded video from individual cameras independently in playback mode, where all cameras in a view otherwise by default display recordings from the same point in time (the playback time).</p> <p>See <a href="#">View recorded video independently of the main timeline on page 173</a>.</p>
<b>Setup &gt; Edit overlay buttons</b>	The ability to add new or edit existing overlay buttons in setup mode. To add overlay buttons, the <b>Overlay buttons</b> list must be set to <b>Available</b> (you manage this on the <b>Panes</b> tab in the <b>Settings</b> window).
<b>Setup &gt; Edit video buffering</b>	The ability to edit video buffering is part of the camera properties in setup mode. To edit video buffering, the <b>Setup</b> tab's <b>Properties</b> pane must also be made available (you manage this on the <b>Settings</b> window's <b>Panes</b> tab).

## Timeline settings

The **Timeline** settings let you specify the general settings for the timelines in XProtect Smart Client.

If available, the **Follow server** column lets you specify that you want your XProtect Smart Client to follow the recommended settings of the server. Certain settings are server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Incoming audio Outgoing audio Additional data Additional markers Bookmarks Motion indication All cameras timeline	See <a href="#">Configure what to show on the timeline tracks on page 98</a> .
Playback	See <a href="#">Configure playback of gaps between recordings on page 98</a> .
Hide the timeline during inactivity Hide the timeline in Smart Wall views	See <a href="#">Hide the main timeline on page 98</a>

## Export settings

The **Export** settings let you specify general export settings.

If available, the **Follow server** column lets you specify that you want XProtect Smart Client to follow the recommended settings of the server. Certain settings may already be server-controlled, in which case, configuration on the server decides whether you can override the settings.

Name	Description
Export to	Select the path that you want to export to.


Name	Description
<b>Privacy mask</b>	<p>Select whether you want to cover areas with privacy masks in the exported video.</p> <p>The privacy masks that you add here only apply to the current export and for the selected video. The export may already include video with privacy masks configured by your system administrator. These privacy masks are configured in Management Client &gt; <b>Devices</b> &gt; camera &gt; <b>Privacy masking</b>.</p>
<b>Media player format</b>	Select whether or not you can export in the media player format.
<b>Media player format - Video texts</b>	Select whether you want video texts to be optional, required or unavailable when you export in the media player format. With video texts, the user can add overlay text on the exported recordings.
<b>Media player format - Video codec properties</b>	Select whether you want codec configuration to be available or not when you export in the media player format. The codec properties depend on the selected codec. Not all codecs support this option.
<b>XProtect format</b>	Select whether or not you can export in the XProtect format.
<b>XProtect format - Project comments</b>	Select whether you want project comments to be optional, required, or unavailable when you export in the XProtect format.
<b>XProtect format - Device comments</b>	Select whether you want device comments to be optional, required, or unavailable when you export in XProtect format.
<b>Still image export</b>	Select whether or not you can export still images.

## Smart map settings

Enter the Bing Maps key or Google Maps client ID or key for the Bing Maps API or Google Maps API that you use.



You can edit these settings only if your administrator has allowed you to in XProtect Management Client.

Name	Description
<b>Milestone Map Service</b>	Specify whether Milestone Map Service can be used as a geographic background. If you select <b>Unavailable</b> , XProtect Smart Client does not display it as an option.
<b>OpenStreetMap server</b>	To use a different tile server (see <a href="#">Change OpenStreetMap tile server on page 282</a> ) than the one specified by your system administrator, enter the server address here.
<b>Create location when layer is added</b>	Specify whether to create a location when a user adds a custom overlay. For more information, see <a href="#">Add custom overlay on smart map on page 286</a> .
<b>Bing Maps key</b>	Enter or edit the private cryptographic key that you generated for the Bing Maps API.
<b>Client ID for Google Maps</b>	Enter or edit the client ID that you generated for the Google Static Maps API.
<b>Private key for Google Maps</b>	Enter or edit the private cryptographic key that you generated for the Google Static Maps API.
<b>URL signing secret for Google Maps</b>	Enter the signing secret that you retrieved for the Google Static Maps API.
<b>Remove cached smart map files</b>	<div>  <p>If you are using Google Maps as your geographic background, files are not cached.</p> </div> <p>Smart map saves to the cache folder on your local computer so that it can load faster. Use this setting to specify how often you want to remove the cached files.</p>

## Search settings

The search settings let you customize the behavior of parts of the search functionality, mainly on the **Search** tab.

Name	Description
<b>Auto-play video clip in preview area</b>	By default, when you select a search result, video in the preview area is paused at the event time. To make it start playing automatically, select <b>Yes</b> .
<b>Loop video clip in preview area</b>	By default, when you preview video from a search result, the video sequence is played back only once. To make it loop, select <b>Yes</b> .

## Joystick settings



You can control most PTZ cameras with a joystick, but not all PTZ cameras support joystick control.

When you add a new joystick, it is given a default pan-tilt-zoom (PTZ) configuration that you can customize.

Name	Description
<b>Disable all joysticks</b>	Select to disable all your joysticks.
<b>Add</b>	Select if you want to add a joystick for navigating in the video and the user interface. See <a href="#">Add a joystick for video and user interface navigation on page 80</a> .
<b>Select joystick</b>	Select from the list of available joysticks.
<b>Axis setup: Name</b>	There are three axes: <ul style="list-style-type: none"> <li>• X-axis (horizontal)</li> <li>• Y-axis (vertical)</li> <li>• Z-axis (the depth or zoom level)</li> </ul>
<b>Axis setup: Invert</b>	Select to change the default direction the camera moves in when you move the joystick. For example, select to move a PTZ camera to the left when you move the joystick to the right and move down when you move the joystick towards you.




Name	Description
<b>Axis setup: Absolute</b>	Select to use a fixed rather than a relative positioning scheme (moving the joystick moves the joystick-controlled object based on the object's current position).
<b>Axis setup: Action</b>	Select the function for an axis: <ul style="list-style-type: none"> <li>• Camera PTZ Pan</li> <li>• Camera PTZ Tilt</li> <li>• Camera PTZ Zoom</li> <li>• No action</li> </ul>
<b>Axis setup: Preview</b>	Test the effect of your selections. When you have selected a function for the axis you want to test, move the joystick along the required axis to view the effect, indicated by a movement of the blue bar.
<b>Dead zone setup: Pan/Tilt</b>	Specify the dead zone for the joystick's pan and tilt functions. The further you drag the slider to the right, the larger the dead zone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to the far left disables the dead zone (only recommended for high-precision joysticks). Use the <b>Axis setup</b> preview to test the effect of your dead zone settings.
<b>Dead zone setup: Zoom</b>	Specify dead zone for the joystick's zoom function. The further you drag the slider to the right, the larger the dead zone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to the far left disables the dead zone (only recommended for high-precision joysticks). Use the <b>Axis setup</b> preview to test the effect of your dead zone settings.
<b>Button setup: Name</b>	The name of the button.
<b>Button setup: Action</b>	Select one of the available actions for the required joystick button.
<b>Button setup: Parameter</b>	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view item for the <b>Copy the selected camera view item</b> parameter, enter 2;1 to have the camera copied to the floating window (window 2), in the first view item (view item 1).

Name	Description
	If your device's manufacturer has configured buttons for key-sequence support and the action you have chosen for the button supports it, you can leave the parameter field empty in the <b>Settings</b> window. In such cases, enter the parameter on the fly by first entering the key sequence on your device and then pressing the button to trigger the action.
<b>Button setup:</b> <b>Preview</b>	Verify that you are configuring the right button, press the corresponding button on the joystick. The relevant button will display in blue in the Preview column.



## Keyboard settings

Keyboard settings let you assign your own shortcut key combinations to particular actions in the XProtect Smart Client. The XProtect Smart Client also features a small number of default keyboard shortcuts immediately ready for use. See [Default keyboard shortcuts on page 99](#).

Name	Description
<b>Press shortcut key</b>	Enter the key combination you want to use as a shortcut to a particular action.
<b>Use new shortcut in</b>	<p>Select to define how you want to apply the shortcut:</p> <ul style="list-style-type: none"> <li>• <b>Global:</b> On all of the XProtect Smart Client tabs</li> <li>• <b>Playback mode:</b> Only on tabs with views</li> <li>• <b>Live mode:</b> Only on tabs with views</li> <li>• <b>Setup mode:</b> Only in setup mode</li> </ul>
<b>Categories and Commands</b>	<p>Select a command category and then select one of the associated commands. If you want all your views listed to allow you to create keyboard shortcuts for individual views, select the <b>Views.All</b> category.</p> <div>  <p>Some commands only work when the keyboard shortcut is used in certain contexts. For example, a keyboard shortcut with a PTZ-related command will only work when using a PTZ camera.</p> </div>

Name	Description
Parameter	If relevant, specify a parameter for the command or action. For example, if you want to specify the window and view item for the <b>Copy the selected camera view item</b> command, enter 2;1 to have the camera copied to the floating window (window 2), in the first view item (view item 1).


## Alarm Manager settings



Name	Description
Start video playback second(s) before alarm	Start video playback some time before the alarm was triggered. This is useful when, for example, you want to see the moments before a door was opened.
Preview the most recent alarm	When this check box is selected, the selection in the alarms list will change to the most recent list item when a new alarm is triggered. If the check box is not selected, the selection in the alarms list will stay unchanged when a new alarm is triggered.
Play sound notifications for alarms	Specify whether you want alarms to play sound notifications.  <div>  If the field is grayed out, it has been locked by your system administrator in XProtect Management Client. </div>
Show desktop notifications for alarms	Specify whether you want desktop notifications for alarms to be displayed. They will only appear when XProtect Smart Client is running.  <div>  If the field is grayed out, it has been locked by your system administrator in XProtect Management Client. </div>
Use server settings	Select this check box to use the settings specified by your system administrator in XProtect Management Client.

## Advanced settings


The **Advanced** settings let you customize advanced XProtect Smart Client settings. If you are not familiar with the advanced settings and how they work, just keep their default settings. If you connect to some surveillance systems, you have a **Follow server** column. You can use this column to make XProtect Smart Client follow the recommended settings of the server as set up in the Smart Client profiles. You may experience that certain settings are already server-controlled, in which case configuration on the server decides whether or not you are able to override those settings.

Name	Description
<b>Multicast</b>	<p>Your system supports multicasting of live streams from recording servers to clients. If multiple XProtect Smart Client users want to view live video from the same camera, multicasting helps saving considerable system resources. Multicasting is particularly useful if you use the Matrix functionality, where multiple clients require live video from the same camera.</p> <p>Multicasting is only possible for live streams, not for recorded video/audio.</p> <p><b>Enabled:</b> is the default setting. In the XProtect Management Client, the recording servers and cameras must also have the functionality enabled to make multicasting from servers to clients available.</p> <p><b>Disabled:</b> multicasting is not available.</p>
<b>Hardware acceleration</b>	<p>Controls if hardware-accelerated decoding is in use. The load on the CPU is high in a view with many cameras. Hardware acceleration moves some of the CPU load to the Graphics Processing Unit (GPU). This improves the decoding capability and performance of the computer. This is useful, mainly if you view multiple H.264/H.265 video streams with a high frame rate and a high resolution.</p> <p><b>Auto</b> is the default setting. It scans the computer for decoding resources and always enables hardware acceleration if available.</p> <p><b>Off</b> disables hardware acceleration. Only the CPU processes the decoding.</p>
<b>Maximum decoding threads</b>	<p>Controls how many decoding threads are used to decode video streams. This option can help you improve performance on multi-core computers in live as well as playback mode. The exact performance improvement depends on the video stream. This setting is mainly relevant if using heavily coded high-resolution video streams like H.264/H.265—for which the performance improvement potential can be significant—and less relevant if using, for example, JPEG or MPEG-4. Note that multi-threaded decoding generally is memory-intensive. The ideal setting depends on the</p>

Name	Description
	<p>type of computer you use, the number of cameras you need to view, and on their resolution and frame rate.</p> <p><b>Normal</b> means that no matter how many cores your computer has, it will only use one core per view item with a camera.</p> <p><b>Auto</b> is the default setting. Auto means that the computer uses as many threads per view item with cameras as it has cores. However, the maximum number of threads is eight, and the number of threads actually used may be lower, depending on which codec (compression/decompression technology) is used.</p> <p>Advanced users can manually select the number of threads used, with a maximum of eight. The number you select represents a maximum; the number of threads actually used may be lower, depending on the codec (compression/decompression technology).</p> <div>  <p>This setting affects all view items with cameras, in all views, in live as well as playback mode. You cannot specify the setting for individual view items with cameras or views. Because this setting may not be equally ideal for all of your view items with cameras and views, we recommend that you monitor the effects and, if required, re-adjust the setting to achieve the optimum balance between performance improvement and memory use.</p> </div>
<b>Adaptive streaming</b>	<p>Controls if adaptive streaming is in use. The load on the CPU and the GPU is high in a view with many cameras. Adaptive streaming enables XProtect Smart Client to automatically select the live video streams with the best match in resolution to the streams requested by the view items. This decreases the load on the CPU and the GPU and thereby improves the decoding capability and performance of the computer.</p> <p><b>Disabled</b> is the default setting. No automatic stream selection is done.</p> <p><b>Enabled</b> scans the XProtect system configuration for available streams and selects the best matching ones for the selected view.</p>

Name	Description
	<div>  Even though adaptive streaming can be enabled when only one stream is available, you must have at least two streams per camera with different resolutions to take advantage of adaptive streaming. </div> <div>  This setting affects all views in live mode. </div>
Deinterlacing	<p>Interlacing determines how an image is refreshed on a screen. The image is refreshed by first scanning the odd lines in the image, then scanning every even line. This allows a faster refresh rate because less information is processed during each scan. However, interlacing may cause flickering, or the changes in half of the image's lines may be noticeable. With Deinterlacing, you convert video into a non-interlaced format. Most cameras do not produce interlaced video, and this option will not impact quality or performance of non-interlaced video.</p> <p><b>No filter</b> is the default setting. No deinterlacing is applied, so the characteristic jagged edges may show up in images if objects are moving. This is because the even and odd lines of the full image are weaved together to compose the full resolution picture. However, these are not captured at the same time by the camera, so objects in motion will not be aligned between the two sets of lines, causing the jagged-edge effect. Performance impact: None.</p> <p><b>Vertical stretch top field:</b> This option only uses the even lines. Each odd line will be “copied” from the previous (even) line. The effect is that jagged edges do not appear, but this is at the expense of reduced vertical resolution. Performance impact: Less expensive than the <b>No filter</b> option because only half the number of lines will need post-processing.</p> <p><b>Vertical stretch bottom field:</b> This option only uses the odd lines. Each even line will be “copied” from the following (odd) line. The effect is that jagged edges do not appear, but this is at the expense of reduced vertical resolution. Performance impact: Less expensive than the <b>No filter</b> option because only half the number of lines will need post-processing.</p> <p><b>Content adaptive:</b> This option applies a filter to areas of the image where jagged edges would otherwise show up. Where no jagged edges are detected, the image is</p>

Name	Description
	left untouched. The effect is that jagged edges are removed and full vertical resolution is preserved in the areas of the image where no jagged edges are perceived. Performance impact: More expensive than the <b>No filter</b> option because the total CPU cost per decoded and rendered frame is increased by around 10%.
<b>Video diagnostics overlay</b>	<p>View the settings and performance level of the video stream in the selected view. This is helpful when you must verify settings or diagnose a problem.</p> <p>Select between these options:</p> <p><b>Hide:</b> No video diagnostics overlay. Default setting.</p> <p><b>Level 1:</b> Frames per second, video codec, and video resolution.</p> <p><b>Level 2:</b> Frames per second, video codec, video resolution, multicast, and hardware acceleration status.</p> <p><b>Level 3:</b> Debug level. Mainly for system administrators to troubleshoot or optimize system performance.</p>
<b>Time zone</b>	<p>Change the time zone, for example if the time that is displayed in the camera title bar does not match your current time. Select a predefined time zone or a custom time zone:</p> <ul style="list-style-type: none"> <li>• <b>Local:</b> The time zone of the computer running the XProtect Smart Client</li> <li>• <b>Server time zone:</b> The time zone of the server</li> <li>• <b>UTC</b></li> <li>• <b>Custom time zone:</b> If you want a particular time zone, select this option and then select from the list of available time zones in the <b>Custom time zone</b> field.</li> </ul>
<b>Custom time zone</b>	If you have selected <b>Custom</b> in the <b>Time zone</b> field, you can select any time zone known by the computer. This is useful if two users in different time zones need to view an incident—having the same time zone makes it easier to identify and establish that they are watching the same incident.
<b>PDF report format</b>	Select A4 or letter format for your PDF reports. You can create reports of events.

Name	Description
PDF report font	Select a font to be used in your PDF reports.
Logging (for technical support)	<p>Enable the logging of application events, for example when alarms are triggered. This is mainly to help technical support troubleshoot issues that may occur in XProtect Smart Client.</p> <p>There are three different log files:</p> <ul style="list-style-type: none"> <li>• ClientLogger.log</li> <li>• MIPLogger.log</li> <li>• MetadataLogger.log</li> </ul> <p>The logs are located here on the machine where XProtect Smart Client is installed: C:\ProgramData\Milestone\XProtect Smart Client\Logs.</p> <div>  <p>These logs are different from the <b>System logs</b> in XProtect Management Client.</p> </div>

## Language settings

Specify the language version of your XProtect Smart Client, including whether you want the user interface elements to be displayed right-to-left. Select from the list of available languages and then restart the XProtect Smart Client for the change to take effect. See [Change the language of XProtect Smart Client on page 79](#).

## Access control settings

Select whether or not you want access request notifications to pop up in XProtect Smart Client.



If the **Follow Server** field is selected, your system administrator controls the setting of **Show access request notifications**.



## Glossary

### A

#### **access control**

A security system that controls the entering of persons, vehicles, or others into a building or area.

#### **adaptive streaming**

A feature that improves the video decoding capability and thereby the general performance of the computer running XProtect Smart Client or another video viewing client.

#### **alarm**

Incident defined on surveillance system to trigger an alarm in XProtect Smart Client. If your organization uses the feature, triggered alarms are displayed in views that contain alarm lists or maps.

#### **archiving**

The automatic transfer of recordings from a camera's default database to another location. This way, the amount of recordings you are able to store will not be limited by the size of the camera's default database. Archiving also makes it possible to back up your recordings on backup media of your choice.

#### **aspect ratio**

Height/width relationship of an image.

#### **AVI**

A popular file format for video. Files in this format carry the .avi file extension.

### B

#### **bookmark**

An important point in a video recording, marked and optionally annotated so that you and your colleagues will easily be able to find it later.

### C

#### **cardholder**

A person that possesses a card that is recognizable to an access control system and gives access to one or more areas, buildings or similar. See also access control.

#### **carousel**

A particular position for viewing video from several cameras, one after the other, in a view in XProtect Smart Client.

#### **cluster**

a grouping of devices or plug-in elements – or a combination - on the smart map displayed visually as a circular icon with a number. Clusters appear on certain zoom levels indicating the number of devices or plug-in elements within a particular geographical area.

#### **codec**

A technology for compressing and decompressing audio and video data, for example in an exported AVI file.

#### **CPU**

Short for "central processing unit", the component in a computer that runs the operating system and applications.

#### **custom overlay**

A user-defined, graphic element that users can add to a smart map, for example to illustrate a floor plan in a building, or to mark borders between regions. A custom overlay can be an image, a CAD drawing, or a shapefile.

### D

#### **deadzone**

A deadzone determines how much a joystick handle should be allowed to move before information is sent to the system. Ideally, a joystick handle should be completely vertical when not used, but many joystick handles lean at a slight angle. When

joysticks are used for controlling PTZ cameras, even a slightly slanting joystick handle could cause PTZ cameras to move when it is not required. Being able to configure deadzones is therefore often desirable.

### **DirectX**

A Windows extension providing advanced multimedia capabilities.

## **E**

### **event**

A predefined incident occurring on the surveillance system; used by the surveillance system for triggering actions. Depending on surveillance system configuration, events may be caused by input from external sensors, by detected motion, by data received from other applications, or manually through user input. The occurrence of an event could, for example, be used for making a camera record with a particular frame rate, for activating outputs, for sending e-mails, or for a combination thereof.

### **evidence lock**

A video sequence that is protected, so it cannot be deleted.

### **external IDP**

An external entity that can be associated with the XProtect VMS to manage user identity information and provide user authentication services to the VMS.

## **F**

### **FIPS**

Short for "Federal Information Processing Standards".

### **FIPS 140-2**

A U.S. government standard that defines the critical security parameters that vendors must use for encryption before selling the software or hardware to U.S. government agencies.

### **fisheye lens**

A lens that allows the creation and viewing of 360° panoramic images.

### **FPS**

Frames Per Second, a measure indicating the amount of information contained in video. Each frame represents a still image, but when frames are displayed in succession the illusion of motion is created. The higher the FPS, the smoother the motion will appear. Note, however, that a high FPS may also lead to a large file size when video is saved.

### **frame rate**

A measure indicating the amount of information contained in motion video. Typically measured in FPS (Frames Per second).

## **G**

### **GOP**

Group Of Pictures; individual frames grouped together, forming a video motion sequence.

### **GPU**

Short for "graphics processing unit", which is a processor designed to handle graphics operations.

## **H**

### **H.264/H.265**

A compression standard for digital video. Like MPEG, the standard uses lossy compression.

### **hotspot**

A particular view item for viewing magnified and/or high quality camera images in XProtect Smart Client views.

## **I**

### **i-frame**

Short name for intraframe. Used in the MPEG standard for digital video compression, an I-frame is a single frame stored at specified intervals. The I-

frame records the entire view of the camera, whereas the following frames (P-frames) record only the pixels that change. This helps greatly reduce the size of MPEG files. An I-frame is similar to a keyframe.

## J

### JPEG

An image compression method, also known as JPG or Joint Photographic Experts Group. The method is a so-called lossy compression, meaning that some image detail will be lost during compression. Images compressed this way have become generically known as JPGs or JPEGs.

## K

### keyframe

Used in the standard for digital video compression, such as MPEG, a keyframe is a single frame stored at specified intervals. The keyframe records the entire view of the camera, whereas the following frames record only the pixels that change. This helps greatly reduce the size of MPEG files. A keyframe is similar to an i-frame.

## L

### layer

The geographic background on a smart map, a custom overlay, or a system element, for example a camera. Layers are all the graphic elements that exist on the smart map.

### LPR

Short for "license plate recognition".

## M

### MAC address

Media Access Control address, a 12-character hexadecimal number uniquely identifying each device on a network.

### map

1) XProtect Smart Client feature for using maps, floor plans, photos, etc. for navigation and status visualization. 2) The actual map, floor plan, photo, etc. used in a view.

### Matrix

A product integrated into some surveillance systems, which enables the control of live camera views on remote computers for distributed viewing. Computers on which you can view Matrix-triggered video are known as Matrix-recipients.

### Matrix-recipient

Computer on which you can view Matrix-triggered video.

### MIP

Short for "Milestone Integration Platform".

### MIP element

A plug-in element added through the MIP SDK.

### MIP SDK

Short for "Milestone Integration Platform software development kit".

### MKV

Short for "Matroska Video". An MKV file is a video file saved in the Matroska multimedia container format. It supports several types of audio and video codecs.

### MP4

A popular file format for video. Files in this format carry the .mp4 file extension.

### MPEG

A group of compression standards and file formats for digital video, developed by the Moving Pictures Experts Group (MPEG). MPEG standards use so-called lossy compression as they store only the changes between keyframes, removing often considerable amounts of redundant information: Keyframes stored at specified intervals record the

entire view of the camera, whereas the following frames record only pixels that change. This helps greatly reduce the size of MPEG files.

## O

### **operator**

A professional user of an XProtect client application.

### **output**

Data going out of a computer. On IP surveillance systems, output is frequently used for activating devices such as gates, sirens, strobe lights, and more.

### **overlay button**

A button appearing as a layer on top of the video when you move your mouse cursor over individual view items with cameras when in live mode. Use overlay buttons to activate speakers, events, output, move PTZ cameras, start recording, clear signals from cameras.

## P

### **P-frame**

Short name for predictive frame. The MPEG standard for digital video compression uses P-frames together with I-frames. An I-frame, also known as a keyframe, is a single frame stored at specified intervals. The I-frame records the entire view of the camera, whereas the following frames (the P-frames) record only the pixels that change. This helps greatly reduce the size of MPEG files.

### **pane**

Small groups of buttons, fields and more located in the left side of the XProtect Smart Client window. Panes give you access to the majority of the XProtect Smart Client features. Exactly which panes you see depends on your configuration and on your task, for example on whether you are viewing live video when in live mode or recorded video when in playback mode.

### **patrolling profile**

The exact definition of how patrolling with a PTZ camera is carried out, including the sequence for moving between preset positions, timing settings, etc. Also known as a "patrol scheme".

### **port**

A logical endpoint for data traffic. Networks use different ports for different types of data traffic. Therefore, it is sometimes, but not always, necessary to specify which port to use for particular data communication. Most ports are used automatically based on the types of data included in the communication. On TCP/IP networks, port numbers range from 0 to 65536, but only ports 0 to 1024 are reserved for particular purposes. For example, port 80 is used for HTTP traffic which is used when viewing web pages.

### **PoS**

Short for "Point of Sale" and typically refers to a cash register or cashier counter in a retail shop or store.

### **preset position**

Can be used for making the PTZ camera automatically move in different defined directions when particular events occur, and for specifying PTZ patrolling profiles.

### **privacy mask**

A blurred or solid color that covers an area of the video in the camera view. The defined areas are blurred or covered in live, playback, hotspot, carousel, smart map, smart search, and export modes in the clients.

### **PTZ**

Pan-tilt-zoom; a highly movable and flexible type of camera.

### **PTZ patrolling**

The automatic turning of a PTZ camera between a number of preset positions.

## Q

### **QVGA**

A video resolution of 320×240 pixels. QVGA stands for "Quarter Video Graphics Array" and is named as such because the resolution 320×240 pixels is a quarter of the size of the standard VGA resolution which is 640×480 pixels.

## R

### **recording**

In IP video surveillance systems, the term recording means saving video and, if applicable, audio from a camera in a database on the surveillance system. In many IP surveillance systems, all of the video/audio received from cameras is not necessarily saved. Saving of video and audio in is in many cases started only when there is a reason to do so, for example when motion is detected, when a particular event occurs, or when a specific period of time begins. Recording is then stopped after a specified amount of time, when motion is no longer detected, when another event occurs or similar. The term recording originates from the analog world, where video/audio was not taped until the record button was pressed.

## S

### **SCS**

File extension (.scs) for a script type targeted at controlling XProtect Smart Client.

### **Sequence Explorer**

The Sequence Explorer lists thumbnail images representing recorded sequences from an individual camera or all cameras in a view. The fact that you can compare the thumbnail images side-by-side, while navigating in time simply by dragging the thumbnail view, enables you to very quickly assess large numbers of sequences and identify the most relevant sequence, which you can then immediately play back.

### **smart map**

A map functionality that uses a geographic information system to visualize devices (for example, cameras and microphones), structures, and topographical elements of a surveillance system in geographically accurate, real-world imagery. Maps that use elements of this functionality are called smart maps.

### **smart search**

A search feature that lets you find video with motion in one or more selected areas of recordings from one or more cameras.

### **Smart Wall control**

A graphical representation of a video wall that allows you to control what is displayed on the different monitors.

### **Smart Wall preset**

A predefined layout for one or more Smart Wall monitors in XProtect Smart Client. Presets determine which cameras are displayed, and how content is structured on each monitor on the video wall.

### **snapshot**

An instant capture of a frame of video at a given time.

### **still image**

A single still image.

## T

### **TCP**

Transmission Control Protocol; a protocol (i.e. standard) used for sending data packets across networks. TCP is often combined with another protocol, IP (Internet Protocol). The combination, known as TCP/IP, allows data packets to be sent back and forth between two points on a network for longer periods of time, and is used when connecting computers and other devices on the Internet.

### **TCP/IP**

Transmission Control Protocol/Internet Protocol; a combination of protocols (i.e. standards) used when connecting computers and other devices on networks, including the Internet.

## **V**

### **view**

A collection of video from one or more cameras, presented together in XProtect Smart Client. A view may include other content than video from cameras, such as HTML pages and still images. A view can be private (only visible by the user who created it) or shared with other users.

### **VMD**

Video Motion Detection. In IP video surveillance systems, recording of video is often started by detected motion. This can be a great way of avoiding unnecessary recordings. Recording of video can of course also be started by other events, and/or by time schedules.

### **VMS**

Short for "Video Management Software".

## **X**

### **XProtect Transact**

Product available as an add-on to surveillance systems. With XProtect Transact, you can combine video with time-linked Point of Sale (PoS) or ATM transaction data.



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#### About Milestone

Milestone Systems is a leading provider of open platform video management software; technology that helps the world see how to ensure safety, protect assets and increase business efficiency. Milestone Systems enables an open platform community that drives collaboration and innovation in the development and use of network video technology, with reliable and scalable solutions that are proven in more than 150,000 sites worldwide. Founded in 1998, Milestone Systems is a stand-alone company in the Canon Group. For more information, visit <https://www.milestonesys.com/>.

